

Photovoice as Community-Based Participatory Research: A Qualitative Review

Kenneth C. Hergenrather, PhD, MEd, MRC, CRC;
Scott D. Rhodes, PhD, MPH, CHES; Chris A. Cowan, MDiv;
Gerta Bardhoshi, MEd; Sara Pula, MAEd

Objective: To explore the use of photovoice as a research methodology to identify and explore community health and disability priorities. **Methods:** Published studies (n=31) that applied photovoice as a research methodology to promote and enhance individual and community change were identified and reviewed. **Results:** Findings are explored and organized by community concerns and priorities; participant recruitment, training, and camera instruction; identification

of photo assignment; photo assignment discussion; data analysis; outcomes; and evaluation of program and policy changes. **Conclusions:** Despite the limitations of the studies and/or how they are reported, findings from this review support further application of photovoice to facilitate community change.

Key words: photovoice, community-based participatory research, community health, community change, health behavior

Am J Health Behav. 2009;33(6):686-698

Many of the complex community health and disability issues that confront society in the 21st century have proven to be ill suited for traditional outside expert approaches to research which have often yielded disappointing community interventions.¹⁻⁵ Research targeted at understanding and

eliminating health disparities has begun to focus on alternative orientations to inquiry, emphasizing community involvement through partnership as integral to the research process.^{3,6-8}

Community-based participatory research (CBPR) recognizes that an outsider can work best in partnership with lay community members and community

Kenneth C. Hergenrather, Associate Professor, Department of Counseling, Human and Organizational Studies, Graduate School of Education and Human Development, Center for Rehabilitation Counseling Research and Education, The George Washington University, Washington, DC. Scott D. Rhodes, Associate Professor, Department of Social Sciences and Health Policy, Division of Public Health Sciences, Department of Internal Medicine, Maya Angelou Center for Health Equity, Wake Forest University School of Medicine, Winston-Salem, NC. Chris A. Cowan; Gerta Bardhoshi; Sara Pula, Doctoral Students, Section on Infectious Diseases, Department of Counseling, Human and Organizational Studies, Graduate School of Education and Human Development, The George Washington University, Washington, DC.

Address correspondence to Dr Hergenrather, Department of Counseling, Human and Organizational Studies, Graduate School of Education and Human Development, Center for Rehabilitation Counseling Research and Education, The George Washington University, 2134 G St NW Rm 313, Washington, DC 20037. E-mail: hergenkc@gwu.edu

representatives who are themselves experts.⁹ Through partnership, community members and representatives work together to identify and explore health and disability disparities and identify priorities. CBPR is a process to increase the value of research and knowledge for researchers and community members, to impact community well-being.

The CBPR research process typically includes (1) identification of a research question; (2) assessment of community strengths, assets, and concerns; (3) selection of priorities or targets; (4) development of research plan and data collection methodologies; (5) implementation of research plan and data collection and analysis; (6) interpretation of study findings; (7) dissemination of study findings; (8) and application of study findings to develop action plans to enhance individual and community well-being. CBPR ensures that community members are involved throughout the research process to produce data that are authentic to community experience and action (eg, intervention) that is appropriate and has meaning. Partnership creates bridges between communities and researchers, incorporates knowledge and action based upon the lived experiences of community members, and ensures the collaborative development of research to impact individual and community well-being.⁹⁻¹²

Photovoice has emerged as a methodology within CBPR. It is a flexible method that has been employed with culturally diverse groups to explore and address community needs that have included: medication adherence among persons living with HIV/AIDS,¹³ employment-seeking behavior of persons living with HIV/AIDS,¹⁴ quality of life among Huntington's Disease family caregivers,¹⁵ immigration experiences of Latino adolescents,¹⁶ health-seeking behavior of persons with intellectual disabilities,¹⁷ empowerment among Chinese women,¹⁸ HIV prevention among recently arrived immigrant Latino men,¹⁹ quality of life among African American breast cancer survivors,²⁰ health promotion practices of Tlcho women,²¹ and health promotion among homeless persons.²²

Photovoice

Photovoice as a research methodology provides participants an opportunity to take photographs that address a salient

Table 1
SHOWED

1. What do you **See** here?
2. What is really **Happening** here?
3. How does this relate to **Our** lives?
4. **Why** does this concern, situation, strength exist?
5. How can we become **Empowered** through our new understanding?
6. What can we **Do**?

community concern and present them in group discussion that empowers them to reflect on personal and community strengths, create critical dialogue, share knowledge about personal and community issues, and develop and host a forum for the presentation of their lived experiences and priorities through self-identified images, language, and context.²³ Photovoice is a qualitative research methodology founded on the principles of feminist theory, constructivism, and documentary photography. Constructivism defines learning through the individual's interactive process of developing and constructing meaning through experiences.³

Photovoice involves a series of procedures, aligned with CBPR, that include the identification of the community issues(s) of importance, participant recruitment, photovoice training, camera distribution and instruction, identification of photo assignments, discussion of photo assignments, data analysis, a community forum for policy makers and influential advocates, development of action plans, and evaluation of program and policy changes.^{3,23-25}

Participants are provided cameras to take photos; the photographs enable participants to record and reflect their strengths and concerns through photographic images. Often, photo discussions begin with a review of previous findings in the form of qualitative themes from previous photo assignments and photo discussions. Photo discussions allow participants to share and discuss the photographs they took for each photo assignment and promote critical dialogue about community strengths and concerns. Participants present their photos during a facilitated discussion by contextualizing and often using root-cause questioning known by

the mnemonic SHOWED (Table 1).^{3,9}

The data of photo discussions are analyzed like other qualitative data, through codifying data, and exploring, formulating, and interpreting themes. The themes are often developed in partnership with the participants.^{3,26} At minimum, themes are revised and validated by participants. A community forum is typically organized to reach local community members and leaders, policy makers, and advocates who are often referred to as influential advocates with whom to build partnerships for community change. Influential advocates are those persons perceived as having power to impact the issue addressed for community change. Photovoice is designed to empower persons to develop and acquire skills to become advocates for themselves and their community, enabling them to reach out to policy makers and influential advocates.^{26,27}

The concept of photovoice is based on the understanding that images teach what participants perceive as significant to define their concerns and priorities; community members have the power to define the images to shape policy; and photographs can influence policy makers, programs, and society. As a flexible process, photovoice does not necessarily require community participants to be able to read or write; therefore, the methodology also accommodates participants who do not speak English, are illiterate, or have physical or developmental disabilities. Photovoice is a unique form of CBPR that provides participants the opportunity to enhance personal power through photographing variables of community concerns, speaking in photograph discussions to collectively identify common themes, writing plans of action for change, creating community exhibits presenting themes, and collaborating with community leaders to impact change.

The purpose of this qualitative systematic review was to explore the scientific literature to identify how photovoice has been applied and explore the utility of photovoice to promote community change.

METHODS

This qualitative systematic review included a search of the literature using online electronic databases. The searches were overseen by a team of researchers with extensive experience in CBPR and

the use of photovoice. Searches were conducted to identify papers that applied photovoice. Nine literature databases were used, including CINAHL, EBSCO Academic Search Elite and Premier, ERIC, MEDLINE, PROQUEST, psycARTICLES, PsycINFO, PUBMED, and SCIEDIRECT. Each database was searched from its inception through April 2008. Terms for the search included keywords identified in the title or abstract. Keywords used in a Boolean search included photo voice, photo, photo essay, photo novella, photo-voice, photovoice, community-based participatory research, community participatory-based research, community research, participatory research, CBPR, novella, and photograph. Citations from the bibliographies of identified papers were analyzed. Relevant citations were selected for review.

This qualitative systematic review consisted of human studies that used photovoice methodology and published in English-language peer-reviewed journals. Articles that did not report sufficient information to be abstracted were excluded from the review. Exclusion criteria were (1) commentaries and editorials; (2) opinions, letters, and news sections; (3) scale development; (4) book reviews; and (5) articles not available in English.

Data Collection and Abstraction

Data were abstracted using an instrument that allowed documentation of the community concerns and priorities targeted, participants (eg, age, gender, race/ethnicity, study location), photovoice training, camera distribution and instruction, photo assignment selection, format of photo discussion (eg, length of sessions, triggers used), data analysis procedures, mode of presentation of photovoice findings (eg, community forum, photograph exhibit, identification of influential advocates), plan of action, and evaluation of implementation of the plan of action. To address interrater reliability of the data abstraction, the authors measured interrater reliability after they independently organized the studies reviewed. Cohen's kappa was reported as .85, suggesting satisfactory interrater reliability.²⁹

RESULTS

A total of 188 articles were identified, of which 31 studies met the inclusion crite-

ria. The analysis process involved 3 steps, conducted independently by the first and second author, using statements addressing the purpose in each of the 31 studies. The first step consisted of writing 31 purpose statements on separate index cards. Index cards were then grouped as topics using the words listed in the purpose statements (eg, environment, health, homeless persons). Topics were then identified by similar themes (eg, disabilities, HIV/AIDS). The final step was the grouping of themes to identify community concerns and priorities. For example, the purpose statement addressing "persons with HIV/AIDS seeking employment" would be identified by the theme of HIV/AIDS and grouped in the community concern and priority of "preventing and treating HIV/AIDS." Photovoice studies were grouped into community concerns and priorities including (1) rebuilding communities, (2) promoting health, (3) living with disabilities, (4) preventing and treating HIV/AIDS, (5) improving quality of life, and (6) assessing the effects of war. Table 2 provides a summary of studies, including the community concerns and priorities, participants, location, length of study, discussion triggers, data analysis involvement, and outcomes.

Community Concerns and Priorities

In the majority of the studies ($n=17$), the community concerns and priorities were predetermined by the authors. Several studies ($n=14$) indicated that community concerns and priorities were identified through collaboration between the authors and communities.

Of the 31 studies, over one quarter ($n=9$) addressed the issue of rebuilding communities through establishing community member trust, exploring community concerns and assets, reformulating community identity, and building competency for community members to become positive change agents.²⁹⁻³⁷

Promoting health was explored in over one fifth ($n=7$) of the studies through identifying specific health concerns addressing maternal and child health; health needs of homeless persons; healthy lifestyle behavior among undergraduate students; sexual health of non-gay-identified men who have sex with men (MSM); and the health care needs of transitioning female-to-male transsexuals, pregnant women, and immigrant

Hispanics.^{18,21,22,38-41}

Living with disabilities was the focus in 5 studies among a variety of populations including persons with chronic pain, women with learning disabilities, children with autism, persons with intellectual disabilities, and persons with chronic mental illness.^{17,44-47}

Preventing and treating HIV/AIDS were explored in 4 studies that addressed seeking employment among a community of persons living with HIV/AIDS (PLWHA), identifying the impact of HIV/AIDS on community, challenges of coping with HIV/AIDS among young people who were not HIV+, and preventing HIV among immigrant Latino men.^{14,19,42,43}

Improving quality of life was explored in 4 studies that included family caregivers of persons with Huntington's disease, breast cancer survivors, adolescent immigrants, and homeless persons.^{15,16,20,48} Finally, 2 studies explored the impact of war among youth and women.^{49,50}

Several of the studies ($n=12$) were funded. Funding resources included foundations (eg, W. K. Kellogg, Susan G. Komen, Charles Stewart Mott, Canadian Breast Cancer, National Research Foundation of South Africa), universities (eg, The George Washington University, University of Michigan, University of North Carolina Chapel Hill), centers (eg, Michigan Center for Urban African-American Aging Resource, Prevention Research Center of Michigan), and councils (eg, Social Sciences and Humanities Research Council of Canada, Washtenaw Council for the Arts).

Participant Recruitment

Among the studies reviewed, nearly all ($n=26$) reported recruitment strategies. These included convenience sampling through partnership with community groups, including community health organizations and agencies, school programs for immigrant youth, local health departments, youth centers, homeless shelters, and public elementary schools. Participants also were recruited from existing client databases of clinical studies, health-based focus groups, and an author's client caseload. The internet was used as a recruitment strategy in 2 studies.^{31,40}

Several ($n=10$) studies reported materials used for participant recruitment. The most common were information sheets, promotion flyers, and brochures.

Table 2
Community Concerns and Priorities

Study	Community Concern	Participants	Length of study/ Camera type	Discussion Trigger	Data Analysis Involvement	Outcomes
<u>Rebuilding Communities (n=9)</u>						
Castleden (2007) ³⁰	Environment and health priorities	40 adults (25 males; 15 females) Huu-ay-aht First Nation; Canada	6 months/ disposable camera	Facilitator-developed questions	Researchers and participants	Themes and advocates identified; exhibit held
Graziano (2004) ³¹	Relations between black and white gay men and lesbians	7 adults (3 males; 4 females); South Africa	90 days/ 35mm camera	PHOTO	Researchers and participants	Themes identified; exhibit held
McIntyre (2003) ³²	Experience of living in diverse communities	9 adult females; Belfast Ireland.	12 months/ disposable camera	SHOWED applied but dismissed	Researchers and participants	Themes identified; exhibit held
Nowell (2006) ³³	Significance of neighborhood and community	11 youths and 18 adults (9 males; 20 females); Battle Creek, MI, USA	5 weeks/ auto focus 35mm camera	Facilitator questions	Researchers	Themes identified
Side (2005) ³⁴	Exploration of sensitive community cultural issues	12 adult females; Moyle District of Northern Ireland	8 weeks / disposable camera	Facilitator questions	Researchers and participants	Themes identified; public exhibit held
Strack (2004) ³⁵	Youth's concerns	14 youths (7 males; 7 females); Baltimore, MD, USA	3 months/ 35 mm point shoot camera	SHOWED	Researchers and participants	Exhibit and online exhibit www.jhsph.edu/youthphotovoice)
Wang (2000) ²⁹	Personal and community action among the homeless persons	11 adults (8 males; 3 females); Ann Arbor, MI, USA	1 month/ Holga camera	SHOWED	Researchers and participants	Advocates and policy makers identified; forum and exhibit held
Wang (2004) ³⁶ & Wang (2001) ⁵¹	Community assets and concerns	41 youths and adults; Flint, MI, USA	5 months/ Holga camera	SHOWED	Researchers and participants	Themes, advocates, and policy makers identified; exhibit held
Wilson (2007) ³⁷	Identification of community issues and strengths	122 youths (57 males; 65 females); West Contra Costa County, CA, USA	9 months/ nondisposable camera	SHOWED	Researchers and participants	Themes and advocates identified; exhibit held; plan of action developed
<u>Promoting Health (n=7)</u>						
Dixon (2005) ²²	Health promotion	11 youths; Melbourne Australia	6 weeks/ disposable camera	Facilitator questions	Researchers	photos printed on a postcard
Goodhart (2006) ³⁸	Health needs of college students	75 college students; NJ, USA	ND/ disposable camera	Facilitator questions	Researchers and participants	Themes and advocates identified; exhibit held; plan of action developed
(continued)						

Table 2 (continued)
Community Concerns and Priorities

Study	Community Concern	Participants	Length of study/ Camera type	Discussion Trigger	Data Analysis Involvement	Outcomes
Hussey (2006) ³⁹	Transsexuals' access to health care	5 FTM transsexuals/ San Francisco, CA USA	7 weeks/ point and shoot camera	PHOTO	Researchers and participants	Themes identified; developed policy recommendations
Mamary (2007) ⁴⁰	Sexual health among African American men	7 adults/San Francisco CA, USA	6 months/ digital camera	PHOTO	Researchers and participants	Themes identified; exhibit (www.ourlivesphotos.com)
Moffitt (2004) ²¹	Health beliefs and health promotion practices	13 pregnant Tlcho women; Canada	36 weeks/ disposable camera	SHOWED	Participants and researchers	utility of photovoice reported
Schwartz (2007) ⁴¹	Improvement of family planning services for immigrant Hispanics	7 adults (3 males and 4 females); mid-state MO, USA	9 months/ disposable camera	SHOWED	Researcher and participants	Themes and advocates identified; exhibit held; plan of action developed
Wang (2004) ¹⁸	Family, maternal and child health concerns	60 adult residents; San Francisco, CA, USA	5 months/ disposable camera	SHOWED	Researchers and participants	Themes and advocates identified; exhibit held
Living With Disabilities (n=5)						
Baker (2006) ⁴⁴	Chronic pain	13 adults; MI, USA	6 weeks/ disposable camera	ND	ND	Pain assessment protocol developed
Booth (2003) ⁴⁵	Definition of self among mothers with learning difficulties	16 adult women; Sheffield, UK	ND/ disposable camera	Facilitator questions	Researchers and participants	Themes identified; exhibit www.workstation.org.uk/WCLUB
Carnahan (2006) ⁴⁶	Inclusion of students with autism	5 teachers and 7 students; OH, USA	ND/ disposable camera	Facilitator questions	Researchers and participants	Themes identified
Jurkowski (2007) ¹⁷	Health disparities of persons with intellectual autism	4 adult Latinos (2 males; 2 females); Chicago, IL, USA	ND/ disposable camera	Facilitator questions	Researchers and participants	Themes and advocates identified; forum held; plan of action developed
Thompson (2008) ⁴⁷	Living with chronic mental illness	5 adult (2 male; 5 female); Midwestern USA	17 months/ disposable camera	Facilitator questions	Researchers	Themes identified
Preventing and Treating HIV/AIDS (n=4)						
Hergenrather (2006) ¹⁴ & Hergenrather (2008) ³	Persons living with HIV/AIDS seeking employment	11 adults (9 males; 2 females); Washington, DC, USA	9 weeks/ digital camera	SHOWED	Researchers and participants	Themes and advocates identified; plan of action developed
Mitchell (2005) ⁴³	Impact of HIV on community	36 adults; Vulindle district of South Africa	ND/ disposable camera	Facilitator questions	Researchers and participants	Themes identified; exhibit held

(continued)

Table 2 (continued)
Community Concerns and Priorities

Study	Community Concern	Participants	Length of study/ Camera type	Discussion Trigger	Data Analysis Involvement	Outcomes
Rhodes (2007) ¹⁹	HIV prevention	9 adults/ Winston-Salem, NC, USA	ND/ disposable camera	Facilitator questions	Researchers and participants	Themes identified
Rhodes (2008) ⁴² & Rhodes (2006) ¹³	Life experiences of indigent persons	15adults (9 male; 6 female); Northwest NC, USA	ND/ disposable camera	SHOWED	Researchers and participants	Themes and advocates identified; forum held ; plan of action; policy change
Improving Quality of Life (n=4)						
Aubeeluck (2006) ¹⁵	Experiences of family caregivers	5 adults (1 male; 4 females)family carer givers of Huntington's disease patients; UK	ND/ disposable camera	ND	Researchers	Themes identified
Killion (2000) ⁴⁸	Building of intergenerational alliances to address housing needs of women	5 adult African American women; Midwest USA	6 months/ disposable camera	ND	Researchers and participants	Themes identified
Lopez (2005) ²⁰	Quality of life	13 adult African American breast cancer survivors; rural eastern NC, USA	7 months/ disposable camera	SHOWED	Researchers and participants	Themes and advocates identified; forum held; plan of action developed
Streng (2004) ¹⁶	Immigration experiences of newly arrived	10 Latino adolescents (6 males; 4 female); rural NC, USA	12 months/ disposable camera	SHOWED	Researchers and participants	Themes and advocates identified; forum and exhibit held; plan of action developed
Assessing the Effects of War (n=2)						
Berman (2001) ⁴⁹	Impact of war on social interaction	7 youths (4 males; 3 females); Canada.	ND/ disposable camera	Facilator questions	Researchers and participants	Themes identified
Williams (2003) ⁵⁰	Effects of war	22 Mayan women; Chajul, Guatemala	ND/ disposable camera	Facilator questions	Researchers and participants	Plan of action developed

Additional recruitment methods included sending letters to potential participants, distributing letters to community agencies, distributing recruitment posters, and advertising in community newsletters.^{14,18,21,22,29,34}

Participants

The mean number of participants per study was 20.9 (s.d. 25.1); the number ranged from 4 to 122. Nearly half (n=14)

had 11 or fewer participants. All studies reported the sex/gender of participants. Males and females participated in 22 studies; 6 studies were exclusively female; 2 studies were exclusively male; and 1 study was exclusively female-to-male transsexuals. Participant age was reported in the majority of studies as an age range (n=15) or a mean (n=6).

Photovoice studies were conducted in 7 countries. A majority of the studies (n=20)

were conducted in the United States; 3 were conducted in Canada; 2, in South Africa; 2, in Ireland; 2, in the United Kingdom; 1, in Australia; and 1, in Guatemala.

Incentives

To enhance participation, several (n=11) studies reported providing both monetary and nonmonetary incentives at each session and/or at the completion of the study. Five studies reported monetary incentives.^{14,29,33,48,49} The mean incentive per session was \$17.00 (s.d., 6.7), range \$10.00 to \$25.00. Hergenrather et al¹⁴ and Mamary et al⁴⁰ provided participants with monetary incentives and digital cameras. Six studies provided nonmonetary incentives (eg, photo albums, food, additional film and processing, gift cards).

Photovoice Training and Study Length

All studies reported photovoice training for participants. Training included an initial meeting with potential participants to explain the study and obtain informed consent. The majority of the studies (n=21) reported study length. A few studies (n=6) reported the study length to include the entire photovoice process (M=29.8 weeks, s.d. 26.1) range 6-71. Several studies (n=15) reported the study length to include training, taking of photographs, photo discussions, and data collection (M=21.3 weeks, s.d. 14.7) range 5-52. Nearly all studies (n=29) reported the number of photo discussion sessions (M=5.0, s.d.3.6) range 2-20. A few studies (n=7) reported the hours of time for each session (M=2.7, s.d. 1.1) range 1.5- 4.5.

Camera Type and Instruction

Nearly all studies (n=26) provided instructions for camera use. Disposable film-loaded cameras were used in 22 studies; nondisposable film-loaded cameras were used in 7 studies; and digital cameras were used in 2 studies.

Identification of Photo Assignments

The initial photo assignment and subsequent photo assignments were identified by the facilitators and presented to the participants in the majority of studies (n=23). In several studies (n=17), participants were given one photo assignment for the entire study. For example, there was one photo assignment for the "In the Frame" study. It was presented in the first

session. Participants were asked to "photograph people, places and things that are important to you."⁴⁵

In 7 studies, participants identified all the photo assignments.^{14,16,19,20,29,36,42} Examples of photo assignments ranged from questions to be answered such as "What would help us return to employment?" among unemployed PLWHA,¹⁴ a topical phase like "challenges we face" among African Americans with HIV/AIDS,⁴² to questions such as "Given what we have discussed so far, where should we go next? What should be our next photo assignment?" among African American women breast cancer survivors.²⁰

Photo Assignment Discussion

Triggers used for photo discussions were outlined in nearly all studies (n=28). Of these, several (n=12) reported photo discussions triggered by the mnemonic SHOWED (Table 1). In 2 studies, the participants felt SHOWED impeded discussion. McIntyre³² attempted to use SHOWED in a study conducted in Ireland, but within 30 minutes of discussion the participants became "frustrated" with the SHOWED process and replaced it with researcher-identified questions. Wilson et al³⁷ also reported difficulties using SHOWED with sixth-grade students and applied only 3 components of SHOWED to trigger discussion. SHOWED also was reported to be cumbersome in a photovoice study with immigrant Latino high school students in rural NC.¹⁶ A second mnemonic, PHOTO, was reported as a photo-discussion trigger in 3 studies.^{31,39,40} PHOTO triggered discussions through 5 questions: "Describe your **P**icture." "What is **H**appening in your picture?" "Why did you take a picture **O**f this?" "What does this picture **T**ell us about your life?" "How can this picture provide **O**pportunities for us to improve life?"

In the remaining 12 studies, study facilitators developed questions to trigger photo discussion. Of these, 7 reported these questions were used to trigger photo discussions among participants in a group setting. Rhodes and Hergenrather¹⁹ developed and used 4 questions to trigger photo discussion with recently arrived Latino men: "What do you see in this photograph?" "How does this photograph make you feel?" "What do you think about this?" "What can we do about it?" In the remaining 5 studies, these questions

were used when conducting individual interviews with participants.^{17,30,45,47,49} One study combined the use of facilitator-developed questions to trigger photo discussion when conducting both groups and individual interviews with participants.⁴³ Audio recording and transcribing photo discussions were reported in the majority of the studies (n=21).

Data Analysis

Of the abstracted studies, the majority (n=26) reported data analyses by both researchers and participants using CBPR approaches. Three studies that included both researchers and participants in the data analysis also reported using computer software designed to analyze qualitative data (eg, ATLAS/ti4.2, NVIVO).^{16,20,42} A small number of studies (n=4) did not report the involvement of participants in the data analysis, and one study did not report data analysis.^{15,22,33,44,47} The majority of studies (n=17) reported that the researcher completed the data analysis and then presented theme findings to participants to confirm accuracy and make modifications. In several studies (n=10), the researchers facilitated group discussions to identify participant themes. The data analyses were reported as coding, content analysis, grounded theory, ethnography within-case-analysis, cross-case synthesis, and critical reflection. Eight did not report the data analysis procedures. None of the studies reported the length of time for conducting the data analysis.

Outcomes of Photovoice

Of the studies, nearly all (n=29) reported at least one study outcome. Participant-identified photo-based themes identifying community concerns and priorities were reported in the majority (n=23) of the studies. In several studies (n=14), influential advocates and policy makers were identified by participants. The development and facilitation of community forums were reported in 9 studies. The majority of studies (n=17) reported an exhibit of participant photo-based themes. Of these exhibits, one study reported a time period of 2 weeks to arrange an exhibit. A few studies (n=3) created online exhibits to increase visibility and opportunities to teach others about the lived experiences of the participants.^{35,40,45} Plans of action were created in 10 studies.

Among the abstracted studies, 7 were comprehensive and reported 3 participant-identified components: identifying policy makers/influential advocates; holding a community forum/exhibit; and creating a plan of action. Of these studies, all reported that participants identified or confirmed the photo assignments; nearly all (n=6) applied SHOWED; and in nearly all (n=6), the authors conducted the analyses and presented the preliminary findings to participants to confirm accuracy and make modifications.^{14,16,17,20,37,41,42} In reviewing studies (n=24) that reported fewer than 3 outcome measures, all reported that photo assignments were identified by the author and the majority several (n=13) studies used photo-discussion triggers created by the authors rather than participants.

Evaluation of Program and Policy Changes

Wang²⁵ suggested that photovoice studies evaluate the impact of study findings on policy and program change. Several studies (n=9) reported changes in program or policy. Examples included developing collaborations between organizations and communities to enhance HIV/AIDS education, increasing community HIV prevention activities, and creating a PLWHA speaker's bureau.^{13,42} Other changes included placing healthy choices in school vending machines, developing a community task force, creating family planning pamphlets, developing a health literacy video for public health clinic providers, creating an intervention to improve the assimilation of immigrant Latino adolescents into high school, and using a photovoice study as the foundation for a successful grant-funded award.^{16,18,36-38,41} Although several reviewed studies reported implemented changes as outcomes, none were evaluated.

DISCUSSION

Photovoice expands the representation and diversity of participant voices that assist to define and improve the realities experienced by community members, who many times are not heard. Photovoice addresses the importance of images to identify what is significant to enable community members to become advocates for change.²³ As a CBPR methodology based in feminist theory, constructivism, and documentary photography, photovoice enables

participants to build upon experience to engage in personal and community change. In using feminist theory, participants gain power through their voice, language, and history. Photography provides participants a voice and language through which to voice salient concerns. In the “Realidad Latina” study, newly arrived Latino adolescents held a community forum at which they presented an exhibit of photos, themes, and quotations. Attendees discussed ways to meet the needs of adolescent Latinos and pursued plans of action.¹⁶ Photovoice methodology also provides opportunity from a constructivist approach to define learning through the participant’s interactive process of developing and constructing meaning through experiences. In addressing family planning services among Hispanic immigrants, participants photographed concrete examples of their experience (eg, clinics, lobbies, health care staff) through which they discussed, identified themes, developed an exhibit, and held a community forum.⁴¹ Within the realm of documentary photography, participants’ photos are used to address social issues. In the “Windows to Work” study, participants agreed to represent the social issue of nonacceptance of persons living with HIV/AIDS in the workplace by a photo of a townhouse with gruesome Halloween decorations.¹⁴

Although the sample size of photovoice studies may prohibit making generalizations, the insights and information gathered may inform researchers about the need for inquiry of the communities addressed. Small sample size allows entry into some communities that would have otherwise been restricted. The data gathered from photovoice studies may identify relevant factors potentially missing in existing models and identify intervention options.

The findings identified photovoice as a method for community members and researchers to provide equity in sharing ideas, encouraging collaborative learning, enhancing respect for community member knowledge, and facilitating change. Although this review is limited to what was reported in the 31 abstracted studies, 10 components of photovoice methodology were common throughout the majority of the studies (Table 3).

The majority of the studies reported community concerns and priorities as

Table 3
Photovoice Process

1. Identification of Community Issue
2. Participant Recruitment
3. Photovoice Training
4. Camera Distribution and Instruction
5. Identification of Photo Assignments
6. Photo Assignment Discussion
7. Data Analysis
8. Identification of Influential Advocates
9. Presentation of Photovoice Findings
10. Creation of Plans of Action for Change

predetermined by the authors. For example, the community priority was predetermined by authors and presented to the students in “View Through a Different Lens.”³⁸ However, several studies reported photovoice priorities that were identified through collaboration between authors and communities. In “Windows to Work” the authors met with the PLWHA community members to identify a community priority.¹⁴ The community priority in *Visions and Voices*⁴² was identified by a university-community partnership that included community members. Photovoice methodology minimizes the potential for the researcher’s preconceived community priority to override those of the community. It empowers the participants to confirm the researcher’s community priority or use the general community concerns and priorities to identify underlying community concerns of significance.^{9,10,12} The identification of photo assignments was also presented as facilitator identified in the majority of the studies, independent of participants; therefore negating the researcher and community role of equitable partners that should emerge in a CBPR study. Future photovoice studies should clearly present the researcher in a process-facilitating role. Such a role creates a shared commitment by the researcher and community members, accessing the wealth of assets community members bring to identify community concerns and priorities, create knowledge, and develop action plans for change.^{9,12}

Nearly all studies reported photo assignment discussions. Through discussions, researchers learn about the lived experiences of participants, their per-

ceived problems and strengths, ways they understand their community, how they receive change, and how change impacts their lives. It is the expertise of the participant's world that drives the CBPR process.^{9,12} Photo discussions were facilitated by the use of SHOWED, PHOTO, or facilitator-developed questions. Although SHOWED is presented in photovoice methodology, it is not required. Several studies (n=11) facilitated photo discussions using SHOWED. Working-class women in Ireland described the SHOWED questions as "...preventin' me from thinkin' about the photos without havin' to answer them."³² Among high-risk early adolescents in California, several had such difficulty understanding the third question, "How does this affect our lives?" that storyboarding was used to introduce the causal explanations.³⁷ In nearly all of the studies, regardless of photo-discussion trigger, the discussion of causal explanation of meaning and image occurred. Future photovoice studies would benefit from reporting the participant experience of photo-discussion triggers that are essential to promote critical dialogue among participants.

The majority of the studies reported researchers and participants collaborated in data analysis. However, the roles of the researcher and the participant varied. Several studies (n=17) reported that after the researcher completed the data analysis, themes were presented to participants to confirm accuracy and make modifications. In the "Our Lives" study, a member check-in was conducted during the last session with participants to validate the researchers' interpretation of the data.⁴⁰ In a study addressing Latinos with intellectual disabilities, after the data analysis was completed, participants were brought together in a focus group to verify that the priorities were true to the participants.¹⁷ As part of CBPR, collaborative partnerships enhance the quality, validity, and interpretation of the collected data and ensure appropriate dissemination of study findings.^{3,11,12} To align with CBPR, future studies should clearly state the process by which community members review and validate the study findings.

Several studies reported an action plan to facilitate community change. As a CBPR methodology, emphasis is placed on the strength of the community members, whose lives are impacted by the issue

addressed, and their capacity for problem-solving.^{3,9,10} The equitable partnership between the researcher and community enhances the identification of causes and solutions to community concerns from which to hold community forums, develop action plans and empower participants to become advocates for change. In the "Vision and Voices" study, participants developed the Guide to the Community-Forum Process. The guide was used in the community forum, from which action plans developed. Action plans included writing a funded foundation grant, collaborating with a public health department for HIV/AIDS prevention, and creating a substance abuse task force.⁴² Among African American breast cancer survivors, photovoice themes were used in creating the Rural African American Breast Cancer Survivorship Quality of Life Model.²⁰ Through partnership, new networks were established across organizations that cut across traditional boundaries to address social issues. With a limited number of studies reporting more than one participant-identified outcome, future photovoice studies should report how the participants create a plan of action, identify influential advocates, and hold exhibits and community forums to impact policy. Decisions regarding the approach should be developed through group consensus on information identifying the most appropriate agent to bring about community change.

Although the component of evaluation of program and policy changes was identified as a component of photovoice in 2005, only one abstracted study was conducted post-2005. It did not address program and policy changes. However, policy change is often a slow process. To create a persuasive argument, policy makers often need much data. Within a defined time period, it may be challenging to demonstrate the impact of a photovoice project on program or policy change.¹⁸ Because no studies addressed this, future photovoice studies should report the perceived impact of the action plan and influential advocates on program and policy change.

CONCLUSION

Photovoice has been applied as a CBPR method of inquiry and action to identify community priorities and effect change in a variety of settings within a variety of populations. Although this review identi-

fied differences in applications of photovoice methodology and inconsistencies in how studies were reported, a key hallmark of photovoice is its adaptability to addressing community concerns and priorities to facilitate change. To further evaluate photovoice as a CBPR methodology, future photovoice studies should report all components of photovoice methodology and address the role of community members in identifying the community concerns and photo assignments, descriptions of participant roles in the data analysis, procedures for identifying influential advocates, guidance on community forums and participant photograph exhibits, and protocols to develop and evaluate plans of action.

When working with communities, photovoice methodology enables the researcher and community members to become co-learners, bridging cultural differences and equitably sharing expertise based in personal experience and professional knowledge. Although change in community and policy can be incremental, photovoice can identify concerns and priorities that empower participants to become advocates of change for themselves and community, providing data to help influential advocates and policy makers understand the needs of their community. ^{17,31,39,42} ■

REFERENCES

- Centers for Disease Control and Prevention. Principles of Community Engagement, 1997. Atlanta: GA: Centers for Disease Control and Prevention, US Department of Health and Human Services; 1997.
- Green LW. From research to "best practices" in other settings and populations. *Am J Health Behav.* 2001;25(3):165-178.
- Hergenrather KC, Rhodes SD. Community-based participatory research: applications for health and disability. In: Kroll T, ed. *Disability and Health*. Hauppauge, NY: Nova Science Publishers Inc; 2008:59-87.
- Israel BA, Schulz AJ, Parker EA, et al. Review of community-based research: assessing partnership approaches to improve public health. *Annu Rev Public Health.* 1998;19:173-202.
- Rhodes SD, Foley KL, Zometa CS, et al. Lay health advisor interventions among Hispanics/Latinos: a qualitative systematic review. *Am J Prev Med.* 2007;33(5):418-427.
- Arnstein SR. A ladder of citizen participation. *American Institute of Planning Journal.* 1969;35(4):216-224.
- Metzler MM, Higgins DL, Beeker CG, et al. Addressing urban health in Detroit, New York City, and Seattle through community-based participatory research partnerships. *Am J Public Health.* 2003;93(5):803-811.
- Agency for Healthcare Research and Quality. (2002). Community-based participatory research. Rockville, MD. Available at: <http://www.ahrq.gov/about/cpcr/cbpr/cbpr/>. Accessed March 30, 2008.
- Rhodes SD, Benfield DL. Community-based participatory research: an introduction for the clinician researcher. In: Blessing JD, ed. *Physician Assistant's Guide to Research and Medical Literature*. Philadelphia, PA: F. A. Davis Company; 2006:105-118.
- Cornwall A, Jewkes R. What is participatory research? *Soc Sci Med.* 1995;41:1667-1676.
- Cornwall A. Towards participatory practice: participatory rural appraisal and the participatory process. In: DeKoning K, Martin M, eds. *Participatory Research in Health: Issues and Experiences*. London: Zed Books; 1996:94-107.
- Green LW, George MA, Daniel M, et al. Guidelines for participatory research in health promotion. In: Minkler M, Wallerstein, N, eds. *Community-Based Participatory Research for Health*. San Francisco, CA: Jossey-Bass; 2003:419-428.
- Rhodes SD. Visions and voices-HIV in the 21st century: indigent persons living with HIV/AIDS in the Southern USA use photovoice to communicate meaning. *J Epi Community Health.* 2006;60(10):886.
- Hergenrather KC, Rhodes SD, Clark G. Windows to work: exploring employment seeking behaviors of persons with HIV/AIDS through Photovoice. *AIDS Educ Prev.* 2006;18(3):243-258.
- Aubeeluck A, Buchanan H. Capturing the Huntington's disease spousal career experience: a preliminary investigation using the 'Photovoice' method. *Dementia: The International Journal of Social Research and Practice.* 2006;5:95-116.
- Streng JM, Rhodes SSD, Ayala GX, et al. Realidad Latina: Latino adolescents, their school, and a university use photovoice to examine and address the influence of immigration. *J Interpr Care.* 2004;18(4):403-415.
- Jurkowski JM, Paul-Ward A. Photovoice with vulnerable populations: addressing disparities in health promotion among people with intellectual disabilities. *Health Promot Pract.* 2007;8(4):358-365.
- Wang CC, Pies CA. Family, maternal, and child health through photovoice. *Matern Child Health J.* 2004;8(2):95-102.
- Rhodes SD, Hergenrather KC. Recently arrived immigrant Latino men identify community approaches to promote HIV prevention. *Am J Public Health.* 2007;97(6):984-985.
- Lopez E, Eng E, Randall-David E, et al. Quality-of-life concerns of African American breast cancer survivors within rural North Carolina: blending the techniques of photovoice

- and grounded theory. *Qual Health Res.* 2005;15(1):99-115.
21. [Moffitt P, Vollman AR. Photovoice: picturing the health of Aboriginal women in a remote northern community. *Can J Nurs Res.* 2004;36\(4\):189-201.](#)
22. [Dixon M, Hadjialexiou M. Photovoice: promising practice in engaging young people who are homeless. *Youth Studies Australia.* 2005;24\(2\):52-56.](#)
23. [Wang CC. Photovoice: a participatory action research strategy applied to women's health. *J Womens Health.* 1999;8\(2\):185-192.](#)
24. [Wang CC, Burris MA. Photovoice: concept, methodology, and use for participatory needs assessment. *Health Educ Behav.* 1997;24\(3\):369-387.](#)
25. [Wang CC. Photovoice. Available at: <http://photovoice.com>. Accessed April 30, 2008.](#)
26. [Wang C. Using photovoice as a participatory assessment and issue selection tool. In: Minkler M, Wallerstein N eds. Community-Based Participatory Research for Health. San Francisco, CA: Jossey-Bass; 2003:179-196.](#)
27. [Smith SE. Deepening participatory action research. In Smith SE, Williams DG, Johnson NA eds. Nurtured by Knowledge: Learning to do Participatory Action Research. New York: Apex Press; 1997:173-264.](#)
28. [Blackman NJ, Koval JJ. Interval estimation for Cohen's kappa as a measure of agreement. *Stat Med.* 2000;19\(5\):723-741.](#)
29. [Wang CC, Cash JL, Powers LS. Who knows the streets as well as the homeless: promoting personal and community action through photovoice. *Health Promot Pract.* 2000;1\(1\):81-89.](#)
30. [Castleden H, Garvin T, First Nation H. Modifying photovoice for community-based participatory indigenous research. *Soc Sci Med.* 2008;66\(6\):1393-1405.](#)
31. [Graziano KJ. Oppression and resiliency in a post-Apartheid South Africa: unheard voices of Black gay men and lesbians. *Cultur Divers Ethnic Minor Psychol.* 2004;10\(3\):302-316.](#)
32. [McIntyre A. Through the eyes of women: photovoice and participatory research as tools for reimagining place. *Gend Place Cult.* 2003;10\(1\):47-66.](#)
33. [Nowell B, Berkowitz S, Deacon Z, et al. Revealing the cues within community places: stories of identity, history, and possibility. *Am J Community Psychol.* 2006;37\(1\):29-46.](#)
34. [Side K. Snapshot on identity: women's contributions addressing community relations in a rural Northern Irish district. *Women's Studies International Forum.* 2005;28\(4\):315-327.](#)
35. [Strack RW, Magill C, McDonagh K. Engaging youth through photovoice. *Health Promot Pract.* 2004;5\(1\):49-58.](#)
36. [Wang CC, Morrel-Samuels S, Hutchinson P, et al. Flint photovoice: community building among youth, adults, and policy makers. *Am J Public Health.* 2004;94\(6\):911-913.](#)
37. [Wilson N, Dasho S, Martin A, et al. Engaging young adolescents in social action through photovoice. *J Early Adolesc.* 2007;27\(2\):241-261.](#)
38. [Goodhart F, Hsu J, Baek J, et al. A view through a different lens: photovoice a tool for student advocacy. *J Am Coll Health.* 2006;55\(1\):53-56.](#)
39. [Hussey W. Slivers of the journey: the use of photovoice and story telling to examine female to male transexuals' experience of health care access. *J Homosex.* 2006;51\(1\):129-158.](#)
40. [Mamary E, McCright J, Roe K. Our lives: an examination of sexual health issues using photovoice by non-gay identified African American men who have sex with men. *Cult Health Sex.* 2007;9\(4\):359-370.](#)
41. [Schwartz LR, Sable MR, Dannerbeck A, et al. Using photovoice to improve family planning services for immigrant Hispanics. *J Health Care Poor Underserved.* 2007;18\(4\):757-766.](#)
42. [Rhodes SD, Hergenrather KC, Wilkin A, et al. Visions and Voices: indigent persons living with HIV in the Southern United States use photovoice to create knowledge, develop partnerships, and take action. *Health Promot Pract.* 2008;9\(2\):159-169.](#)
43. [Mitchell C, DeLange N, Molestone R, et al. Giving a face to HIV and AIDS: on the uses of photo-voice by teachers and community health care workers working with youth in rural South Africa. *Qual Res Psychol.* 2005;2:257-270.](#)
44. [Baker T, Wang C. Photovoice: use of a participatory action research method to explore the chronic pain experience in older adults. *Qual Health Res.* 2006;16\(10\):1405-1413.](#)
45. [Booth T, Booth W. In the frame: photovoice and mothers with learning difficulties. *Disabil Soc.* 2003;18\(4\):431-442.](#)
46. [Carnahan C. Photovoice: engaging children with Autism and their teachers. *Teaching Exceptional Children.* 2006;39\(2\):44-50.](#)
47. [Thompson N, Hunter E, Murray L, et al. The experience of living with chronic mental illness: a photovoice study. *Perspect Psychiatr Care.* 2008;44\(1\):14-24.](#)
48. [Killion C, Wang C. Linking African American mothers across life stage and station through photovoice. *J Health Care Poor Underserved.* 2000;11\(3\):310-325.](#)
49. [Berman H, Ford-Gilboe M, Moutrey B, et al. Portraits of pain and promise: a photographic study of Bosnian youth. *Can J Nurs Res.* 2001;32\(4\):21-41.](#)
50. [Williams J, Lykes MB. Bridging theory and practice: using reflexive cycles in feminist participatory action research. *Fem Psychol.* 2003;13\(3\):287-294.](#)
51. [Wang CC, Redwood-Jones YA. Photovoice ethics: perspectives from Flint Photovoice. *Health Educ Behav.* 2001;28\(5\):560-572.](#)