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Jennifer F. Ducray
Durban University of Technology, Durban, South Africa

Colette M. Kell
Durban University of Technology, Durban, South Africa

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Strengthening University–NGO Collaborations through Participatory Action Research: A training initiative for Community Health Workers in inner-city Durban

Jennifer F. Ducray and Colette M. Kell

Abstract
Academic–community partnerships hold the potential to strengthen vital workforce capacity, particularly in resource-constrained settings. Such a setting is the primary health care (PHC) landscape of postapartheid South Africa, where community health workers (CHWs) play a critical role in delivering PHC to underserved communities and rely on in-service training in order to obtain the knowledge and skills they require to deliver quality care. Yet CHW in-service training is often fragmented, has limited practical components, and is insufficiently responsive to CHWs' lived experiences. This study reports on a Participatory Action Research (PAR)-informed university–NGO collaboration aimed at strengthening CHW and clinic staff capacity within a PHC clinic in urban South Africa. Rooted in a participatory needs assessment, the training collaboration integrated academic expertise and institutional resources with frontline knowledge to deliver context-relevant, practice-based training. Participants reported perceived improvements not only in clinical knowledge and practice but also in confidence, professional identity, agency, and awareness of personal well-being. The study reinforces the value of PAR as a highly suitable methodology for academic institutions seeking engaged scholarship in university–NGO partnerships. Alongside the CHW staff development outcomes, the study yielded a five-pillar PAR-informed framework. Derived from iterative researcher reflections and discussions throughout the study, this framework could help guide future university–community collaborations seeking to enhance relevance, empowerment, and sustainability in similar continuing education initiatives.

Keywords: *University–community partnership, engaged scholarship, continuing education, PAR, CHW training*

Fortalecimiento de la colaboración entre universidades y ONG mediante la investigación-acción participativa: una iniciativa de formación para trabajadores de salud comunitaria en zonas urbanas de Durban

Jennifer F. Ducray y Colette M. Kell

Resumen
Las alianzas entre el ámbito académico y socios comunitarios tienen el potencial de fortalecer capacidades laborales, especialmente en entornos con recursos limitados. Un ejemplo de ello es el sistema de atención primaria de salud (PHC) (por sus siglas en inglés) en la Sudáfrica posterior al apartheid, donde los agentes de salud comunitaria (CHW) (por sus siglas en inglés) desempeñan un papel crucial en la prestación de atención primaria de salud a comunidades desatendidas; estos trabajadores dependen de la formación continua en el puesto de trabajo para adquirir los conocimientos y habilidades necesarias para brindar una atención de calidad. Sin embargo, dicha formación suele ser fragmentada, contiene pocos componentes prácticos y no responde adecuadamente a las experiencias vividas por CHW. Este estudio analiza una colaboración entre una universidad y una ONG, basada en Investigación-Acción Participativa (PAR) (por sus siglas en inglés), cuyo objetivo fue fortalecer las capacidades de los trabajadores de salud comunitaria y del personal clínico en un centro de atención primaria en una zona urbana de Sudáfrica. A partir de una evaluación participativa de necesidades, esta iniciativa integró la experiencia académica y los recursos institucionales con el conocimiento práctico de quienes trabajan en primera línea, ofreciendo una capacitación basada en la práctica y adaptada al contexto. Los participantes señalaron mejoras no solo en sus conocimientos y prácticas clínicas, sino también en su confianza, identidad profesional, capacidad de acción y conciencia sobre su propio bienestar personal. El estudio reafirma el valor de PAR como una metodología adecuada para instituciones académicas que buscan desarrollar una labor académica comprometida con la comunidad a través de alianzas con ONG. Además de los resultados obtenidos por los CHW en su desarrollo profesional, el estudio dio lugar a un marco de trabajo basado en PAR y estructurado en cinco pilares. Este marco, que surgió

de la reflexión y el debate continuo entre los investigadores a lo largo del estudio, puede servir de guía para futuras colaboraciones entre universidades y socios comunitarios que busquen potenciar la relevancia, el empoderamiento y la sostenibilidad en iniciativas similares de formación continua.

Palabras clave: *Colaboración universidad-socio comunitario, labor académica comprometida con la comunidad, educación continua, investigación-acción participativa, formación de trabajadores de salud comunitarios*

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Universidad San Francisco de Quito

Introduction

Academic–community partnerships have been recognized as important mechanisms for expanding workforce capacity in resource-constrained settings (Ruffolo et al., 2023; World Health Organization, 2016). The South African primary health care (PHC) landscape is just such a setting, where a shortage of skilled professionals threatens service delivery and development goals (National Department of Health, 2011). The World Health Organization (WHO) encourages the integration of community health workers (CHWs) as a way to reduce inequities in access to health services (World Health Organization, 2016), and in postapartheid South Africa, CHWs form an integral component of the PHC system, where they play a critical role in extending essential health services to underserved, excluded, and vulnerable populations (Hermann et al., 2009). CHWs are broadly defined as "any health worker who delivers health care services and is trained within the context of the intervention but does not possess formal professional, certified, or degreed tertiary education" (Languza et al., 2011). Their roles typically encompass preventive and health-promotive activities, including community-based health education, counseling and testing, adherence support, and psychosocial care (World Health Organization, 2020). However, the effectiveness of CHWs remains constrained by the absence of standardized training frameworks and inadequate institutional support, which limit their capacity to deliver consistent and high-quality care (D'Ambruoso et al., 2023).

Although many CHWs receive in-service training by medical professionals, such training is often delivered by overburdened doctors and nurses who themselves lack formal pedagogical preparation (Languza et al., 2011). CHWs have also reported dissatisfaction with in-service training due to its poor quality, irregular delivery, limited practical components, inadequate training facilities and resources, as well as misalignment with workplace realities (Javanparast et al., 2012). The current study emerged in response to training challenges experienced by PHC staff of a prominent local nongovernment organization (NGO), the Denis Hurley Centre (DHC).

The DHC is a nonprofit organization serving marginalized communities, such as the homeless and refugee populations, in inner-city Durban, South Africa (Denis Hurley Centre, 2023a). Its mission is centered on alleviating hunger, restoring dignity, and providing holistic PHC. Health services are delivered primarily through the "Usizo Lwethu" Clinic (ULC; an isiZulu name that translates to "our help"), where three registered nurses and a social worker are supported by a team of six CHWs (Denis Hurley Centre, 2023b). The ULC operates within a broader South African PHC landscape, which is defined by systemic deficiencies, particularly in high-density, low-resource urban settings (Maphumulo & Bhengu, 2019). These include a shortage of qualified health-care professionals, which leads to excessive workloads and subsequent burnout (Kredo et al., 2020; Magaisa & Dorasamy, 2025). In addition, staff are at times constrained by limitations of important resources such as vital medication and basic equipment (Magaisa & Dorasamy, 2025). Among these challenges, CHW training remains a priority. University-led CHW training programs in similar resource-constrained settings have demonstrated positive outcomes, including improved service delivery, increased CHW competence, and enhanced community trust in PHC services (Scheffler & Mash, 2023). The Durban University of Technology is positioned about 2 miles (3 km) from the DHC, opening up the potential for convenient CHW training collaborations.

Beyond the potential to address workforce development needs, university–community partnerships offer unique opportunities for engaged scholarship and service-learning. Accordingly, the CHW training initiative was intentionally conceptualized as more than a workforce development intervention, but a mutually beneficial partnership creating opportunities for both research and service-learning activities while ensuring that community priorities and service delivery needs remained the main focus.

Study Aim

This study aimed to identify and address the training needs of CHWs and clinic staff at an urban PHC clinic through a university–NGO partnership guided by participatory action research (PAR). A secondary aim was to explore the utility of PAR as an approach for supporting engaged scholarship and service-learning within such collaborations.

Methodology

Study Setting

The study took place at the ULC, which provides free PHC to individuals who live in, or commute through, Durban (Denis Hurley Centre, 2023b). CHWs are responsible for delivering many of the clinic's frontline services, such as testing and counseling for human immunodeficiency virus (HIV) and tuberculosis (TB); oversight of patients in the "directly observed therapy" (DOT) program; substance-abuse support; and wound management (cleaning, dressing, and suture removal). In addition, CHWs are encouraged to perform preventive and promotive functions by educating patients and thus improving health literacy of the community whenever possible. Beyond providing services within the clinic, the DHC conducts daily outreach activities using a mobile clinic staffed by CHWs.

CHWs at DHC do not receive formal certified training but rely on regular in-service instruction to gain the knowledge and skills required to perform their duties. At the ULC, this historically consisted of ad hoc guidance provided by senior staff to junior colleagues, supplemented by scheduled training sessions led by the volunteer doctor. However, this training is conducted amid the constraint of clinic demands, potentially putting additional pressure on senior staff. Recognizing these limitations, the Director of the DHC, together with the ULC manager, proposed a structured program of professional development. This initiative, developed in collaboration with the Faculty of Health Sciences at Durban University of Technology, offered a potentially sustainable approach to strengthening the knowledge and skills among all ULC staff and optimizing the effectiveness of the CHWs in the clinic.

Research Population, Sampling, and Groups

The target sample for this study comprised all staff involved with the daily operations of the ULC. The sampling strategy was intentionally structured to capture a range of roles, including both qualified senior staff and CHWs, to ensure a comprehensive understanding of the clinic's functioning and training needs. To promote in-depth discussion and candid information sharing, participants were divided into two groups. The first comprised management and professional staff (five participants), whereas the second comprised CHWs involved in various aspects of health-care delivery for the clinic (six participants), with a total of 11 participants. Inclusion criteria were personal involvement in any aspect of medical care provision for the ULC, along with the provision of informed consent. Lack of informed consent was the sole exclusion criterion.

Participatory Action Research: Substantiating Its Choice and Outlining the PAR Cycle

The PAR methodology was selected to guide the study. This qualitative approach, grounded in pragmatism, was chosen for its capacity to maximize impact by ensuring that the resultant training intervention directly addressed the specific needs and lived reality of the target population. PAR seeks not only to develop an understanding of a specific community and the challenges it faces but also to facilitate positive change and empower those involved by active participation (Gamage, 2025). By centering the voices of the clinic staff, this approach provided an opportunity to foster a sense of agency within, and ownership of, the intervention. Finally, PAR offers a reflexive cycle of targeted action and critical reflection, the outcomes of which form the basis for further collaboration, thus strengthening the potential for sustainable engagement (Hall et al., 2017).

A PAR cycle is typically comprised of four main phases: planning, action, observation, and reflection (Kemmis & McTaggart, 2000). In the planning phase, the researchers investigate the context and the specific concerns that participants prioritize for intervention. Once the community opinions have been collated and summarized, the action phase begins. This phase often takes the form of a structured intervention, targeting the issues raised in the planning phase. The observation phase involves researchers and participants gathering evidence regarding the action and its impact. These observations critically inform the reflection phase, during which participants and researchers collaboratively evaluate their project

experience. This could, for example, include an analysis of the intervention's suitability and effectiveness, identification of further changes needed, and formulation of ideas for future growth. It also provides an opportunity for participants to strengthen connections and celebrate achievements (Lloyd-Evans, 2023).

Planning Phase: Baseline Training Needs Assessment

During the planning phase of the current project, the researchers first explored the ULC's mandate, organizational structure, and staff roles. Thereafter, two focus group sessions were conducted, one with management or professional staff and one with CHWs. The focus groups were facilitated by members of the research team, and the sessions lasted approximately one hour each, followed by a semi-structured discussion guide. As all participants possessed sufficient conversational proficiency in English, both focus groups were conducted exclusively in English. The purpose of the focus groups was to involve participants in the vital process of intervention design. Only through their context-specific knowledge and lived experience could we hope to align training with frontline requirements and thus maximize relevance. Focus group questions explored participants' roles within the clinic, challenges encountered in daily practice, previous training experiences, brainstorming perceived training needs, and selecting priorities for professional development. The data from these focus groups were used to compile the initial plans for the training intervention, which were sent to the participants for comment and verification prior to finalization. Participants were also consulted on preferred timing, duration, location, and format of training.

Action and Observation/Self-Assessment Phases: The Training Intervention

To accommodate participants' ongoing clinical responsibilities, the training program was limited to one afternoon a week. This scheduling provided the opportunity for participants to integrate new knowledge and skills into their daily clinical practice between training sessions. As a result, the action and observation phases of the project effectively ran concurrently, although observation consisted solely of peer observation. A 12-week training program was developed to address the priority training needs established during the planning phase. The program required the collaboration of three departments from the Faculty of Health Sciences: the Department of Basic Medical Sciences (BMS), the Department of Nursing, and the Department of Emergency Medical Care and Rescue (EMCR). In addition, the Department of Nursing was able to access the expertise of specialized staff from a medical waste services company.

The training program encompassed core competency areas including wound care, emergency first aid, infection control, medical waste management, and health promotion practices. University–community engagement (CE) funds supported the purchase of wound care supplies, infection control posters, printed health-literacy tools, and hepatitis B vaccinations for clinic staff. The main topics, along with the responsible university departments for delivery, are presented in Table 1.

Table 1.

Training Program

Wk	Topic	Department
1.	Principles of wound care	Nursing
2.	Wound care—practical application. Introduction session	Nursing
3.	Supervised hands-on wound care practice	Nursing
4.	Soft tissue injuries and fracture management theory and practice	EMCR
5.	Basic life support and cardiopulmonary resuscitation (CPR)	EMCR
6.	CPR practice on dummies	EMCR
7.	Waste management and infection control practices assessment by multidisciplinary team	Nursing
8.	Training in infection control practices	Nursing

9.	Training in waste management practices	Compass
10.	Introduction to health promotion skills and tools	BMS
11.	Practice using health promotion tools	BMS
12.	Certificates of participation	BMS

Incorporating Elements of Service-Learning

By way of incorporating service-learning into this CE initiative, nursing students and emergency medical care students were included in several ways. Postgraduate nursing students were assigned a credit-bearing problem-based learning task related to infection control and waste disposal in the clinic. This involved observing clinic operations for a morning and compiling findings into project reports, which formed the foundation for the CHW training on medical waste disposal and infection control. Postgraduate nursing students and emergency medical care students were also incorporated into various noncredit-bearing activities. For example, nursing students demonstrated the right practice of trolley setup, wound dressing, and disposal procedures, while senior emergency medical care students participated in the practical training sessions on first aid and CPR, where they assisted participants by ensuring the correct technique. This was with a view to offering students an opportunity to gain insights through engaging with frontline health-care workers operating in underserved environments.

Reflection Phase: Follow-Up Focus Groups

The reflection phase was formalized in post-intervention focus group discussions, which utilized the same two groups of participants as those established in the planning phase. These focus group discussions lasted approximately one hour each and were audio-recorded with permission and transcribed. To ensure confidentiality, each participant was assigned an alphanumeric identifier (e.g., M1 represents participant 1 of the management/professional staff group, and CHW2 represents participant 2 of the Community Health Workers' group). The prompts used to encourage reflection in the focus groups included the participants' experiences of the training program, perceived impacts on practice, the usefulness of donated resources, suggestions for improvement, and priorities for future collaborative training initiatives. Participants were made aware beforehand that all feedback was helpful, and were encouraged to offer both positive insights and constructive criticisms based on their experiences. This was emphasized to help mitigate reporting bias due to the dual nature of the researchers (participating in intervention design, delivering two of the 11 training sessions, and then also facilitating the focus group reflection sessions).

Data Analysis

Focus group recordings were transcribed by the primary researcher. Verbatim transcription was employed, but minor grammatical corrections and light editing were applied to enhance readability, while ensuring the retention of the participants' original intended meaning. Thematic analysis was conducted using the six-phase approach developed by Braun and Clarke (2006). Data analysis began with both researchers familiarizing themselves with the transcripts while simultaneously noting preliminary ideas for coding. Initial codes were then generated through a combination of deductive coding (guided by the primary areas of enquiry explored during the reflection phase) and inductive coding (which emerged from a close reading of the transcripts). These codes were then organized into potential themes and subthemes, which were reviewed in relation to the data set to ensure that insights were adequately represented. In keeping with the iterative practice, the researchers continually refined and defined the themes throughout the ongoing data analysis. Any differences in interpretation were discussed between the researchers until consensus was reached regarding the final themes. Representative quotations were selected to illustrate key findings.

Ethics

Gatekeeper permission was obtained from the Director of the DHC, and all aspects of the research were approved by the Durban University of Technology Institutional Research Ethics Committee (IREC043/24).

Participants were fully informed about the purpose and nature of the research; they signed voluntary consent forms, and confidentiality was upheld by replacing participant names with participant codes.

Trustworthiness

Trustworthiness was enhanced through detailed transcription, prolonged engagement with participants across multiple stages of the PAR cycle, reflexive engagement with the data, and researcher triangulation during analysis. Coding and theme development were undertaken collaboratively by both researchers through iterative engagement with the transcripts. Emerging codes, themes, and interpretations were discussed throughout the analysis process until consensus was reached regarding the final thematic structure. Although formal member checking was not undertaken, the emergent themes were informally discussed with participants during a subsequent training session. Participants indicated that the findings accurately reflected their experiences of the intervention and the issues raised during the focus group discussions. The conceptual five-pillar framework developed by the researchers was not presented to participants for validation. Nevertheless, participants played a central role in identifying training priorities and reflecting on the intervention, ensuring that the findings remained grounded in their experiences.

Results

Across both focus groups, participants expressed predominantly positive views of the intervention. While participants were invited and encouraged to identify limitations and suggest improvements, no specific criticisms of the training program itself emerged. Instead, suggestions for improvements focused primarily on future training priorities, additional support needs, and opportunities to strengthen ongoing collaboration. Although all participants contributed to the discussions, levels of verbal participation varied, with some participants contributing extensively while others indicated agreement through shorter responses and nonverbal engagement. Quotations were therefore selected to illustrate themes rather than to represent every participant proportionally. Quotations included are from four out of six CHW participants and all of the management or professional staff participants.

As outlined in the methodology, prompts for the post-intervention focus group discussions centered on four key areas for reflection: the nature of the training intervention, the impact of the training intervention, material donations sponsored, and future planning ideas. These areas served as the deductive foundation for the main themes, while subthemes emerged inductively from iterative data analysis.

The Nature of the Training Intervention

The first theme captured participants' experiences related to the "who," "when," and "how" of the training intervention. These insights were valuable not only for identifying the strengths and weaknesses of the intervention as implemented but also for informing practical considerations for the planning of future training interventions.

Facilitators

Participants found the facilitators to be highly knowledgeable. Their external perspective was seen as beneficial for introducing current ideas and offering alternative ways of approaching everyday challenges. Participant reporting would suggest that this helped to broaden the clinic staff's understanding of best practice and contributed to a better-informed approach to service delivery.

> The facilitators were very good. I found them very knowledgeable. CHW6

> Although we do quite a bit of training in house, I think it's always useful to have an outside voice to say, "Oh, have you thought it this way?" or often the outside didn't necessarily come with a new idea but encourages the people in the room to share ideas. M5

> It's been helpful for [the clinic manager] to have people with a Health Sciences background with whom she can discuss things. M5

Design, Delivery, and Logistics

Participants were invited to provide feedback on the suitability of logistical aspects of the training program such as frequency, scheduling, medium of instruction, course duration, and communication processes. Overall, these elements of the program were reported as suitable by participants. This positive reception is likely attributable to the collaborative nature of the PAR process, through which participants were actively involved in shaping the planning and design of the intervention, thereby ensuring that the training aligned with their practical and contextual needs.

> Everything related to the program was perfect for me. CHW1

> One of the big advantages is that there's a regular input of training. One of the problems of an organization as busy as we are, is that we know the things that are worth doing, but we don't always get around to doing them. So being forced, I mean really! By agreeing to scheduling every week or every second week, is a big advantage. M5

Value of Hands-On Practical Sessions

The hands-on components of the training were praised by most participants, who described these sessions as both enjoyable and engaging. These practical activities were viewed as particularly effective in reinforcing theoretical content and strengthening skills. Participants also reported that the experiential nature of the sessions contributed to increased self-confidence.

> We were hands-on. They really made us [do things practically] and not just listen. We practiced. We were really demonstrating to ourselves.M1

> Everyone participated and took turns. Nobody [lost concentration] and the skills, the skills they were there! M2

> Practical is more important for me than the theory. CHW1

The Impact of the Training Intervention on Practice and Professional Identity

The multifaceted impact of the training intervention emerged as the most prominent theme during the post-intervention focus group discussions. Participants reported that the training influenced not only their knowledge base and daily clinical practice but also their sense of personal agency. Staff members described a renewed sense of pride in their work, igniting a desire for ongoing learning and professional development.

Strengthening and Updating Clinical Knowledge and Skills

Participants noted that the training helped to cast light on areas where their knowledge was limited, while serving to update skills and information that had become outdated.

> I mean, we've been working here as stale as we could be. But the day you started, you just started shaking us. It was really an eye opener because you'd find that from some of the things we last did in training. Especially with the CPR. That was really great. We were made to be hands-on and then that was a great one because really we were outdated, because we find that when we trained it was something else. Now it was an updated kind of planning.M1

> There was not much infection control in this clinic. So, thanks to you guys and well done to [named colleague] who kept on fighting about this infection control and when you came really and it's still going on. For instance, yesterday were doing hand washing. Now which is far different from what we were doing. We were given some items also like there's been boxes of dressing, you know, those little packs. And for all these years, we didn't have all of them. We

> were just touching here and there. Nothing like infection control. So, we really gained quite a lot. We appreciate you guys. M1
>
> As much as we were doing dressings, but we were not doing it right. So having had the wound dressing session, it has impacted us in a very, very good way. Even setting up our dressing trolly is very different than how it was before. M4

Application of Learning in Daily Practice

Participants described applying the training to their daily work, emphasizing how it helped them on the ground, which they felt enhanced service delivery to the community.

> It has had a good impact on how we handle our patients. M1
>
> I think that whatever can happen [in the clinic], I can be hands-on. This was a learning experience for work purposes, and also a benefit at home. M3
>
> When we are in the field, we are trying to remember what we have learned, and we find we do apply what we learned from you guys. CHW6
>
> We gained, we really gained a lot! All in all, this clinic has been upgraded in many ways. M1

Recognition of the Importance of Staff Well-being, Safety, and Self-Care

Participants reported that their learning extended beyond medical facts and procedures to include other vital considerations in their work. These included the importance of maintaining composure during crisis situations and a growing personal awareness of the need for self-care. Clinic staff are routinely exposed to trauma and stressful events, and several participants acknowledged how such experiences affect their own well-being.

> I now remember in all these things, that safety comes first. Especially for CPR. As much as it is exciting, when you are willing to help a person, you must check the surroundings first before you intervene. Don't just rush in because you have the knowledge and put yourself in [the way of danger] trouble. CHW5
>
> I am a panicky person, but what I have learnt that whatever is happening, you need to be calm first, then act. M3
>
> Sometimes you go home empty.M4
>
> We really need psychological support. Even before we see trauma, just for us to cope, because we see a lot of things. CHW5

Enhanced Sense of Agency, Pride, and Motivation to Learn

A particularly rewarding theme to emerge from participants' feedback was the positive effect of the training intervention on staff morale, increasing their sense of self-worth and purpose. Participants expressed pride in assuming their new role of students, gratitude for the opportunity to acquire new knowledge, and eagerness to further develop their skills.

> We ended up being in the training like we are in university ourselves.M1
>
> Yes, we are university students. M4
>
> We were really updated and we're still being updated. Because the guys keep on coming with this and that and we are learning, we really at school. Which is good because we're dealing with patients every day. So that has a had a good impact on how we handle our patients. M1

> I am still learning. Sometimes when others are doing dressings, I just go and watch so that I won't forget things. CHW5
>
> We still need to improve some areas since we are in a learning process. Each and every day brings new cases. CHW6
>
> If there's anything that comes up that can that help us to [refresh our knowledge] or to acquire new knowledge, I'm very pleased to attend. CHW2

Value and Utilization of Donated Materials

The third thematic area explored the usefulness of the donated materials that had accompanied the training, including dressing supplies and health-literacy tools. Participants expressed gratitude for these contributions, noting that the items were well utilized in daily practice and added value to service delivery.

> We were given some items like boxes those little packs [of sterile dressings]. And for all these years, we didn't have them [making infection control difficult]. M1
>
> I work mainly in the DOT program. When a person comes for the first time, I use the [health literacy book] to cover sections I see are relevant to that patient. It's so relevant. CHW6

Future Training and Resource Needs

With a view to ensuring sustainability, the fourth thematic area in PAR post-intervention feedback concerned exploring ideas for future training needs. Four subthemes emerged: (1) refresher training on previously covered topics, (2) new areas of medical training, (3) staff support sessions, and (4) a donations wish list.

Participants expressed a desire for refresher sessions on wound care, suture removal, and CPR to reinforce and maintain competency. They also identified several new topics for future training, including infectious diseases such as hepatitis, tropical diseases carried by migrant populations, and sexually transmitted diseases. Additional training needs expressed by participants included developing basic counseling skills for clinic staff working with patients experiencing trauma or living with HIV. They requested additional health-literacy education, covering topics such as hygiene practices for homeless individuals, care of bedridden patients, and responding to substance-abuse challenges.

Requests for information sessions on staff support centered on several areas, including strategies for managing difficult patient interactions (such as sexual misconduct by patients), psychological self-care tools to address stress and trauma commonly experienced by clinic staff, and approaches to manage conflict within the workplace.

During the brainstorming of future interventions, participants also identified the ongoing need for specific material resources should additional project funds become available. Requested items included splints; a sterilizer; linen; disposable supplies such as bin bags, gloves, and gauze; ear-syringing equipment; and clinic scrubs.

The emerging themes demonstrate both the immediate value of the intervention and the broader potential of collaborative, participatory approaches to support CHW and clinic staff development in resource-constrained settings. The discussion that follows will consider the main findings (as reported through participant feedback) in light of the aims and objectives of this study, and the existing literature. Based on the authors' reflections, it will then outline several recommendations for similar training partnerships.

Discussion

The aim of this study was to harness the collective strengths of a university–NGO partnership to identify and address the training needs of staff at an urban PHC clinic. It aimed to achieve this through the PAR methodology so as to explore the utility of this approach in such collaborations. This study demonstrated

that a PAR-informed university–NGO partnership was a useful approach for context-responsive CHW capacity development within a resource-constrained PHC setting, while also supporting engaged scholarship and opportunities for service-learning. Participants reported benefits extending beyond clinical knowledge and skills to include enhanced confidence, professional identity, and awareness of well-being.

Participatory Co-Design as a Response to Persistent CHW Training Challenges

A persistent challenge in the in-service training of CHWs is the mismatch between externally designed programs and the lived realities of frontline practice, often resulting in limited applicability and sustainability (Javanparast et al., 2012). Feedback received from participants suggests that the PAR-driven training needs analysis and co-design process mitigated these challenges by grounding the intervention in the articulated priorities of clinic staff themselves, with the perspectives of both senior and junior staff intentionally included through the focus group design. As a result, training relevance was enhanced, and the program successfully targeted context-specific knowledge and performance gaps. Participants' lived experiences were acknowledged and validated, strengthening their sense of ownership of the program. Moreover, the reported satisfaction with training logistics, frequency, and delivery suggests that participatory planning facilitated alignment with the operational constraints of a busy NGO clinic. These findings support existing evidence that participatory approaches enhance contextual fit and program acceptability (Cornish et al., 2023). By actively involving CHWs and clinic staff in shaping the intervention, the study moved beyond consultation toward shared ownership, thereby strengthening both engagement and accountability (Feekery, 2024).

Integrating Academic Expertise Without Undermining Local Knowledge

A key objective of this study is to integrate CHWs' lived experience with the pedagogical and disciplinary expertise of health sciences academics, and the findings suggest that this integration is both feasible and beneficial. The involvement of a multidisciplinary team of academic specialists enabled access to high-level subject expertise while alleviating the training burden on DHC staff operating under constrained conditions. This redistribution of responsibility is particularly important in resource-limited PHC settings, where service delivery demands frequently limit the capacity for sustained in-house training. The ability of university facilitators to draw on institutional resources, professional networks, and senior students as demonstrators further contributed to the quality of the training. Importantly, the integration of academic expertise did not result in a top-down, prescriptive training model. Rather, the collaborative, consultative intervention design ensured that CHWs' experiential knowledge remained central to the learning process, consistent with core PAR principles (Cornish et al., 2023).

Participants' perceptions of facilitators as knowledgeable yet enabling suggest that an effective balance was achieved between technical guidance and respect for local practice. In this role, facilitators functioned as knowledge brokers and reflective mirrors, validating existing practices while introducing updated standards and alternative approaches in a manner that supported critical reflection rather than replacement of local knowledge.

Experiential Learning and Knowledge Translation into Practice

The inclusion of hands-on practical components aligned with recognized standards of practice was well received by participants. The strong endorsement of these components during reflection focus groups aligns with theoretical and empirical evidence suggesting that sustained behavior change is more likely when learning approaches are experiential, iterative, and embedded in real-world practice. Such approaches facilitate meaning-making, internalization, and contextual reinforcement of new behaviors, all of which are critical for effective practice change (Rowe et al., 2018; Wang et al., 2025). Participants' reports of applying newly acquired skills in routine clinical activities (including improved infection control, wound care, and emergency responses) suggest effective knowledge translation rather than passive knowledge acquisition, with improvements in service delivery at the point of care. Importantly, the PAR cycle of action and

reflection played a crucial role in enabling ongoing reinforcement, collective reflection, and peer learning during clinic work. This contrasts with the documented limitations of once-off training interventions for CHWs, which frequently fail to produce sustained impact due to insufficient follow-up, reinforcement, and contextual adaptation (Rowe et al., 2018).

Impact on Professional Identity, Agency, and Motivation

Participants reported gains in knowledge and skills, with training addressing gaps in clinical understanding, refreshing outdated information, and strengthening practical competencies. However, the impact of the intervention extended beyond technical capacity-building, with participants describing notable shifts in professional identity, confidence, and sense of agency. Expressions of pride, increased motivation, and self-identification as "students" suggest movement toward a more learning-oriented professional self-concept. Such identity transformation is noteworthy, as the effectiveness of CHWs has been shown to be influenced not only by skills and resources but also by self-efficacy, recognition, and perceived value within the health system (Kok et al., 2017). In this regard, the findings support existing arguments that participatory approaches can function as empowerment strategies rather than solely as training modalities (Cornish et al., 2023). Such empowerment may be particularly important in settings where CHWs face high workloads, emotional strain, and limited career progression, as strengthening professional identity and agency may contribute to improved staff retention (Kok et al., 2017).

Emergent Attention to Well-Being and the Emotional Toll of PHC Labor

An important emergent finding was participants' increased awareness of personal safety, emotional regulation, and the psychological impact of routine exposure to trauma. Although these issues were not an explicit initial focus of the intervention, they surfaced through participatory reflection, highlighting a strength of PAR: its capacity to reveal unanticipated yet critical priorities grounded in frontline experience. CHWs are increasingly recognized as emotionally burdened frontline workers; however, psychosocial support is rarely incorporated into training programs (Kredo et al., 2020; Magaisa & Dorasamy, 2025). Participants' explicit calls for psychological support and self-care training underscore the need for CHW capacity-building initiatives to extend beyond clinical competencies toward holistic worker well-being.

Material Resources as Enablers of Practice Change

The perceived value and utilization of donated materials further underscore the importance of aligning resources with participatory insights. Previous research indicates that material shortages can undermine CHW motivation and compromise practice quality, even when adequate training is provided (Olaniran et al., 2022). In this study, the intentional integration of training with appropriately selected resources enhanced the feasibility of sustained practice change, particularly in areas such as infection control and patient health education. The PAR process ensured that donated materials were not merely symbolic additions but directly responsive to locally articulated needs, thereby maximizing their relevance, uptake, and practical impact.

Comments on Engaged Scholarship and Service-Learning

Although this initiative was primarily designed as a training intervention for CHWs, it also reflected key principles of engaged scholarship and incorporated elements of both credit-bearing and noncredit-bearing service-learning. Bringle and Hatcher (2009) argues that civic engagement may occur through service, research, and teaching undertaken in partnership with communities, illustrating the frequent overlap between these three areas (Bringle & Hatcher, 2009). The present collaboration incorporated aspects of all three.

The project aligns closely with Beaulieu's et al. (2018) conceptualization of engaged scholarship, particularly through reciprocity, co-creation of knowledge, respect for community expertise, and the pursuit of socially relevant outcomes (Beaulieu et al., 2018). Rather than positioning academics as sole knowledge

producers, the PAR process recognized CHWs and clinic staff as essential contributors whose lived experiences informed training priorities, logistical arrangements, and professional development activities. Academic expertise and community knowledge were therefore integrated to address locally identified challenges within a resource-constrained PHC setting.

The collaboration also demonstrated mutual benefit. Clinic staff gained access to contextually relevant training, educational resources, and opportunities for professional growth, while the university benefited through research opportunities, student learning, and greater insight into the realities of frontline PHC practice. Student involvement in credit-bearing and noncredit-bearing activities provided opportunities to apply disciplinary knowledge in authentic community contexts, strengthening the connection between theory and practice. Students also described the experience as personally meaningful and expressed a sense of fulfillment associated with contributing to community development, and this feedback is currently being compiled for a forthcoming manuscript. These outcomes reflect the broader goals of community-engaged learning, where partnerships move beyond one-way knowledge transfer toward reciprocal learning and shared value creation.

Sustainability Considerations

During feedback, participants expressed a desire for ongoing cycles of intervention and broader collaboration. This enthusiasm points to fertile ground for sustainability and program growth, with potential for continued, long-term impact. Importantly, these articulations suggest the emergence of a learning culture rather than simply a reliance on external input.

Conclusion

This study demonstrates that PAR can provide an effective framework for university–NGO collaborations seeking to strengthen CHW capacity in resource-constrained PHC settings. By positioning CHWs as active partners in identifying needs, shaping interventions, and reflecting on outcomes, the collaboration produced training that participants perceived as relevant, empowering, and applicable to practice. The findings suggest that PAR-informed partnerships offer a promising model for workforce development while simultaneously advancing engaged scholarship through reciprocity, co-creation, and mutual benefit.

An Emergent Framework of Recommendations for Future University–NGO PAR Collaborations

Throughout the collaboration and PAR cycle, the researchers engaged in ongoing discussions and personal reflections, recording observations, thoughts, and experiences they believed may be of relevance to other university–NGO partnerships navigating similar projects. The numerous points recorded during this process were iteratively revisited, discussed, refined, checked for clarity of expression, and ultimately synthesized into five domains. It is important to note that this framework is presented here as a compilation of researcher recommendations emanating from lived experience, and not as research findings rooted in the literature or in the formal results section of this manuscript. The emergent framework, featured in Figure 1, reflects these five interrelated domains that the researchers believe together support relevance, empowerment, and sustainability.

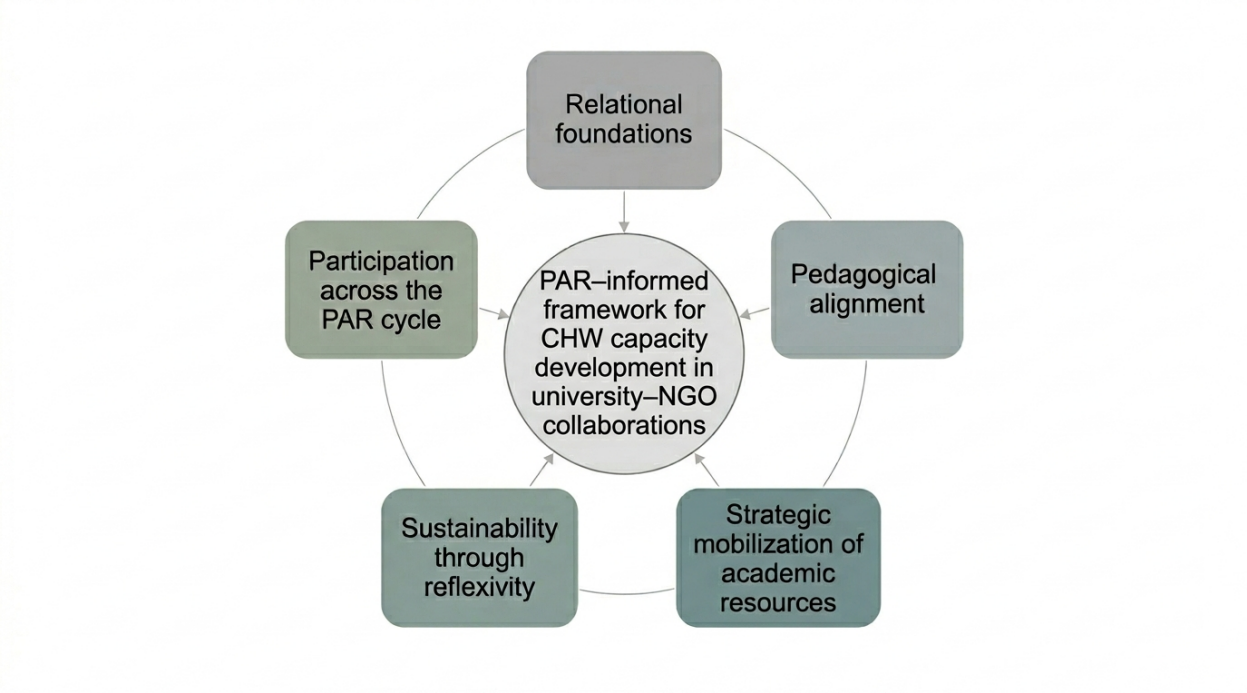


Figure 1.

PAR-informed framework for potentially sustainable CHW capacity development in university-NGO collaborations. The framework illustrates five interrelated pillars: relational foundations, pedagogical alignment, strategic mobilization of academic resources, sustainability through reflexivity, and participation across the PAR cycle. These collectively support contextual relevance, empowerment, and long-term impact in resource-constrained PHC settings.

The five pillars comprising this framework are outlined below (together with supporting references) and discussed in relation to their contribution to participatory, context-responsive CHW capacity development.

1. Relational Foundations

   Effective CE requires entering a preexisting community of practice with respect, humility, and recognition of the privilege of participation. Early and thorough consultation with community gatekeepers and clinical leadership is essential to establish shared ownership and mutual investment (CTSA Community Engagement Key Function Committee, 2011). Valuing CHWs as skilled and indispensable health system contributors, through acknowledgment, affirmation, and attentive listening, strengthens professional identity and fosters trust (Buthelezi et al., 2025). Ongoing affirmation of participants' contributions during dialogue and reflection promotes ownership, motivation, and a sustained learning culture (Kelly & Fancourt, 2021). Importantly, needs assessment should extend beyond technical skills to include emotional and psychological well-being, recognizing these as integral to effective capacity-building.

2. Pedagogical Alignment

   Pedagogical alignment requires careful planning, professional facilitation, and respect for context to ensure training is perceived as valuable and affirming of participants' professional roles (Kok et al., 2017). Experiential, hands-on learning is central, providing safe opportunities for practice, questioning, and confidence building prior to application in the workplace. Openness to repetition and refresher sessions supports retention, reinforcement, and sustained behavior change, responding directly to participants' expressed learning needs.
3. Strategic Mobilization Of Academic Resources

   Strategic mobilization of academic resources involves leveraging multidisciplinary expertise, institutional infrastructure, and educational networks to enhance training quality while distributing workload and supporting sustainability. Effective use of university resources (including teaching aids, certification, and student demonstrators) strengthens motivation, professional pride, and learning culture. Crucially, training must remain aligned with the material realities of practice, either through the provision of essential resources or by optimizing the use of existing ones, to avoid frustration and enhance feasibility of sustained practice change (Cometto et al., 2018).
4. Sustainability Through Reflexivity

   Sustainability through reflexivity is achieved by implementing well-designed PAR cycles that enable learning, adaptation, and continuity over time. An initial PAR cycle creates a foundation from which further needs and collaborative opportunities can emerge as participants recognize the value of their voice. Ongoing communication between cycles sustains momentum despite institutional constraints, while formal mechanisms such as memoranda of understanding support continuity amid organizational change. Continuous reflection and dialogue ensure responsiveness to evolving contexts, with strategic dissemination enhancing visibility and potential access to resources.
5. Participation Across the PAR Cycle

   Participation across the PAR cycle requires intentional design to ensure inclusion of all voices, particularly those marginalized by organizational hierarchies (Gamage, 2025). Attention to power dynamics and the structuring of safe, confidential spaces supports more comprehensive and authentic needs assessment. Combining differentiated participatory processes (e.g., role-specific reflection) with shared training experiences can strengthen communication, cohesion, and collective purpose. Sustained collaboration further depends on flexibility, transparent communication, and commitment to shared goals when navigating the practical constraints of inter-institutional partnerships.

Limitations and Future Research

This study was conducted in a single university–NGO partnership at one PHC site with a relatively small group of participants. While this allowed for in-depth participatory engagement, the findings are context-specific and not intended to be statistically generalizable. Transferability is instead supported through description and articulation of underlying principles rather than prescriptive outcomes.

The findings reflect outcomes from the first cycle of a PAR process. Although participants expressed strong interest in continued collaboration and, at the point of writing this article, the PAR project was in its third cycle, the long-term sustainability of training effects and practice change remains untested. Further longitudinal research is needed to assess retention of skills, durability of behavior change, and longer-term impacts on service delivery.

The dual roles of the researchers as facilitators and collaborators may have influenced participant responses, particularly positive appraisals of the intervention. While reflexivity, evaluation, and critical dialogue were used to mitigate social desirability bias, this influence cannot be fully excluded. Participants were specifically invited to suggest improvements and identify shortcomings of the intervention; however, few overtly critical reflections emerged. Instead, discussions focused primarily on future training priorities, ongoing resource needs, refresher training, and psychosocial support for staff. While this may reflect

genuine satisfaction with a collaboratively designed intervention that responded directly to participant-identified needs, the possibility that participants moderated criticism due to the researchers' involvement in the project cannot be entirely discounted. In addition, the study relied largely on self-reported perceptions of change; future research could strengthen evaluation through triangulation with observational data, clinical audits, or patient-level outcomes.

Future research should test this PAR-informed framework across diverse PHC and continuing education contexts, including rural and larger health system settings, and compare participatory approaches with more conventional training models. Given the emergent emphasis on well-being and professional identity, further studies should explicitly examine the integration of psychosocial support within CHW capacity-building and its implications for retention, resilience, and sustained engagement.

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About the Author

Jennifer F Ducray is a senior lecturer at Durban University of Technology.

Colette M Kell is a senior lecturer at Durban University of Technology.

Correspondence concerning this article should be addressed to Jennifer F Ducray: jenniferd@dut.ac.za.