Published in final edited form as:

Res Nurs Health. 2016 June ; 39(3): 142–153. doi:10.1002/nur.21716.

Empowering Change Agents in Hierarchical Organizations: Participatory Action Research in Prisons

Janice Penrod,

Professor and Director of the Center for Nursing, College of Nursing, The Pennsylvania State University, 129 HHD East, University Park, PA 16802

Susan J. Loeb,

Associate Professor, College of Nursing, The Pennsylvania State University, University Park, PA

Robert A. Ladonne, and

Community Partner, College of Nursing, The Pennsylvania State University, University Park, PA

Lea M. Martin

Community Partner, College of Nursing, The Pennsylvania State University, University Park, PA

Abstract

Participatory action research (PAR) approaches harness collaborative partnerships to stimulate change in defined communities. The purpose of this article is to illustrate key methodological strategies used in the application of PAR methods in the particularly challenging environment of a hierarchical organization. A study designed to promote sustainable, insider-generated system-level changes in the provision of end-of-life (EOL) care in the restrictive setting of six state prisons is used as an exemplar of the application of three cardinal principles of PAR. First, development of a collaborative network with active partnership between outsider academic researchers and insider co-researchers began with careful attention to understanding the culture and processes of prisons and gaining the support of organizational leadership, using qualitative data gathering and trust-building. During the implementation phase, promoting co-ownership of change in EOL care through the co-construction of knowledge and systems to enhance sustainable change required carefully-orchestrated strategies to maximize the collaborative spirit of the project. Co-researchers were empowered to examine their worlds and capture opportunities for change using new leadership skills role-modeled by the research team. Third, their local knowledge of the barriers inherent in the contextual reality of prisons was translated into achievable system change by production of a toolkit of formalized and well-rehearsed change strategies that collaborative teams were empowered to enact within their hierarchical prison environment.

Participatory action research (PAR) methods both engage community members as active collaborators and emphasize the ethical obligation of investigators to promote the interests of the communities studied (Resnik & Kennedy, 2011). PAR methods have been used in a variety of communities to change nursing practice in care delivery settings such as a bone marrow transplant unit in a tertiary-level hospital in Spain (Abad-Corpa et al., 2010); a

children's hospital in the United Kingdom (Beringer & Fletcher, 2011); and nursing homes in the United States (Shura, Sider, & Dannefer, 2010). Those with spinal cord injuries, diabetes, and public housing residents were the communities of focus in still other studies (Newman et al., 2011).

The purpose of this article is to illustrate key methodological strategies in the application of PAR methods in a study designed to promote sustainable insider-generated system-level changes in the provision of end-of-life (EOL) care in the restrictive setting of state prisons, in which administrators and front-line staff alike must carefully balance their responsibilities of care, custody, and control of inmates in their charge. In the following sections, a discussion of PAR as method is followed by a project overview. Finally, we present key methodological strategies used in the application of PAR in prisons, organized around the cardinal methodological principles described by McIntyre (2008).

Participatory Action Research as Method

Over the past decades, participatory research methods have been developed to build capacity and stimulate community engagement to bridge the gap between science and practice. This form of research is often labeled CBPR (community-based participatory research) or PAR in the United States, while participatory health research (PHR) is more common internationally (Wright, Roche, von Unger, Block, & Gardner, 2009). In this article, we refer to our method as participatory action research, an approach to engaging community members in a collaborative research process designed to motivate change.

Israel and colleagues (Israel, Schulz, Parker, & Becker, 1998) defined principles of community-based research. Subsequently, Wright and colleagues (2009) developed from the literature five principles of participatory health research. Most recently, a logic model of this family of approaches has been articulated in by Wallerstein and Duran (2010) and Belone and colleagues (2016). The model consists of four core dimensions: (a) contexts, (b) group dynamics, (c) intervention, (d) outcomes. Context is the social determinants (e.g., culture, environment, policies embedded in the academic and practice settings of researchers and community partners. Group dynamics are the structure, individual, and relational aspects of the partnership. When effective, these two domains (context and group dynamics) influence design and implementation of the intervention and the outcomes (e.g., change in practice and power relations). The authors describe the conceptual model as “a dynamic entity...with flexibility” (Belone et al., 2016, p. 132).

McIntyre (2008) developed a methodological approach to participatory action research organized by cardinal principles that were adopted in this project. PAR is an iterative process through which the “collective,” consisting of outsiders (i.e., academic researchers) and insiders (i.e., frontline prison staff), collaborate in prioritizing needs, designing interventions, and interpreting outcomes. This approach to research is not a step-wise or neatly phased process. As noted by McIntyre (2008), “there is no fixed formula for designing, practicing, and implementing PAR projects” (p. 2). Processes applied in PAR studies are guided by principles rather than methodological rules and are malleable, fitted to

the context and relationship between the insiders and the researchers outside the identified community.

Definition of Target Community

Clear definition of the target community is essential in PAR projects. Communities may be considered geographically: for example, a neighborhood. Other perspectives of community also may be applied. For example, a social perspective of community includes social and political networks related to the phenomenon of interest, whereas an individual perspective focuses on a sense of belonging to a particular community (McCloskey et al., 2011). Finally, a systems perspective of community includes those sectors responsible for roles that are critical to the whole of the phenomenon of interest (commonly used in health improvement studies).

Form of Engagement

The conceptualization of community shapes the form of engagement between outsider-researchers and insider-community members. Engagement refers to interactions between/ among researchers and community members across the iterative cycles of PAR. Such interactions are marked by asymmetries; that is, researchers and community members each bring unique skills, perceptions, and experiences into interactions.

Engagement strategies guide how interactions are structured to meet project objectives under the principles of PAR. Minkler and Salvatore (2012) described a continuum of engagement strategies in participative research. Lower levels of engagement include contractual and consultative strategies, which do not challenge the asymmetries between researcher and researched. The researcher creates products or interventions that are vetted through structured interactions with insiders to elicit input or feedback. Higher-level engagement strategies address asymmetries by focusing interactions on co-construction and co-control of research processes, resulting in co-ownership.

In a collaborative engagement strategy, researchers work with community insiders across project design and implementation; however, the researcher retains responsibility for project design and management. A collegiate engagement strategy creates interactions through which the unique skills of the researcher and researched are integrated in a process of mutual learning and local control of the research process.

End-of-Life Care in Prisons

Epidemiological trends among prisoner populations are surprisingly similar to those in the free-living community. Geriatric prisoners are the fastest growing age-cohort in prisons, with those age 55 and older increasing by 282% between 1995 and 2010 (Human Rights Watch, 2012). Age and lifestyle factors contribute to the incidence of comorbidity among prisoners. The vast majority (89%) of deaths in prison are attributed to advanced chronic medical conditions (Mumola, 2007). In 1976, the Supreme Court decision *Estelle v. Gamble* determined that prisoners were entitled to health care that is on par with community norms. In 1998, the Robert Wood Johnson Foundation funded a national demonstration project devoted to improving EOL care in prisons—the Guiding Responsive Action in Corrections

End-of-Life (GRACE) project. Although the GRACE project revealed the contextual challenges of EOL care in corrections and articulated best practices, only modest dissemination of programs resulted (Ratcliff, 2000).

EOL care addresses the bi-psycho-social care of persons who have a terminal illness or a progressive, life-limiting chronic condition. EOL care as may be delivered in *specialist palliative care settings*; however, “most ‘end-of-life care’ occurs in a *generalist* setting...” (Shipman et al., 2008, p. 1), which is also the case in most prisons. Barriers to enhancing EOL care in the free-living community have been reported, including top-down decision-making and a perceived lack of clinical relevance (Dunkley, Aspinall, Addington-Hall, Hughes, & Higginson, 2005). Challenges to providing EOL care are amplified in prisons, due to: (a) resistance to incorporating the philosophy of EOL care, (b) poor communications (c) suboptimal symptom control, (d) variable receptivity to research (Furman, Pirkle, O’Brien, & Miles, 2006), (e) lack of EOL care education (Iraqi & Hughes, 2007). A recurring recommendation for successfully implementing EOL initiatives in the free-living community is to focus on “effecting and sustaining change” (Pariyakoil, 2009, p. 329). This advice is especially salient in corrections health care, where interventions must be tailored to fit the context of dying in prison and the scope of practice of non-specialist clinicians who provide care to dying prisoners. In comments regarding the landmark GRACE project, Ratcliff (2000) noted “end-of-life programs in prisons across the country will require more than a cookbook of resources” (p. 509–511).

Project Overview

Setting

The overarching goal of the project was to enhance the organization’s capacity to support prisoners who suffer from advanced chronic illnesses and are aging and dying in place. The broad community of interest in this project was prisons. As this project focused on health improvement, we applied a systems perspective to define the target community. We identified settings in which the target community (i.e., stakeholders) and phenomenon of interest (i.e., provision of end-of-life care in prisons) were manifest. From an organizational perspective, the state Department of Corrections (DOC) centralized the administration of corrections services, policies, and budget across the network of State Correctional Institutions (SCIs). Each SCI operated under the direction of a superintendent (i.e., warden) who is accountable for operations including maintenance of the physical plant; security provisions; housing and food preparation for thousands of prisoners; coordination of education and work programs; management of re-entry/community transition programs; and the provision or oversight of healthcare for prisoners. Prisons are highly complex hierarchical organizations. Organizational policies were permissive of local variation, and there was wide variation in the culture or contextual features of individual SCIs.

Given the organization of prison services, we focused on a state DOC in the Mid-Atlantic region of the United States. Centralized officers of this state DOC were responsible for over 20 different institutions, housing almost 50,000 inmates in varying levels of security. Six SCIs were selected purposefully to maximize variation in the local context of prison settings within the centralized state DOC,. These six settings varied in key contextual features: (a)

populations served, (b) security level, (c) size of the inmate population, (d) specialty medical care (See Table 1). Populations ranged in size from ~1000–~3000 inmates and included both men's and women's prisons.

Security level provides an indicator of the prison context, particularly the extent to which inmates are confined and how housing units are organized (Blanco, n.d.). Maximum-security prisons house the most violent offenders, with restrictive rules for interaction with others and movement within the prison. It is common for maximum-security prisons to include sub-units, such as special housing units and solitary confinement. Close security is much like maximum security, but inmates are permitted extended time outside cells, under strict monitoring. Medium-security prisons feature dormitory-style housing units. Consistent monitoring is in effect, but prisoners have greater movement and time out of cells. Minimum-security facilities hold the lowest-level offenders—typically in dormitory style units— and permit the greatest movement inside the walls.

Specialty care services (e.g., oncology, geriatric care, or mental health) are often focused in selected SCIs to provide services most efficiently. Collectively, these characteristics influence the context of each institution. Setting selection in this study provided maximal variation of settings within the purview of the state DOC organization.

Community Stakeholders

Stakeholders were identified as those staff who contributed to end-of-life care delivery in the corrections setting. This interpretation of stakeholders guided the recruitment of participants to serve as co-researchers on the planning phase of the project. Inmates were not involved as co-researchers, based on operational concerns as well as conceptual issues. Operationally, inmates would not be released from prison to participate in collaborative team meetings. Fraternalization (staff-inmate relationships that violated the norms) was also a concern. Our focus was on enhancing organizational capacity to deliver care, so we chose to focus on stakeholder groups who were positioned to function as change agents in the organization (i.e., prison staff). Prisoners may contribute to the delivery of end-of-life care under carefully monitored programs, but they exert minimal influence on care delivery.

The views of prisoners were included in other phases of the larger project (Loeb et al., 2013; Loeb et al., 2014), when we interviewed inmates in three segmented groups: (a) current consumers of EOL care (e.g., inmates housed in the infirmary), (b) future consumers of EOL care (e.g., those with advanced life-limiting illnesses), and (c) providers of EOL care (e.g., hospice workers). They informed our understanding of the need for services and attitudes regarding delivery and augmented experiential reports from the staff members in the collaborative team. In addition, processes for instituting inmate volunteer programs to augment end-of-life care were developed for the intervention toolkit that was the focus of this initial phase.

Reducing Power Asymmetry to Enable Engagement

Because interactions of researchers and community members across the iterative cycles of PAR are marked by asymmetries, we were acutely sensitive to the asymmetry present when highly-credentialed, doctorally-prepared researchers interacted with insider-staff members

who completed high school or some college. Conversely, consider the asymmetry of the prison staff members' superior understanding of the context of corrections care in contrast to that of visiting researcher-experts. Action research focuses on creating engagement opportunities that maximize the unique contributions of individual team members while minimizing asymmetries.

We employed a collaborative model of engagement in the development and management of this project. Insider-staff from the corrections system were consulted during the conceptualization of the project, contributing to a shared understanding of significance, need, and feasibility. The researchers designed the study and secured funding, retaining responsibility for data collection, analysis, and overall project management. During the execution of the study, we transitioned to a collegiate engagement strategy. Insiders were integral partners in the implementation phase of the study, directing the design of the intervention and piloting delivery of the intervention. While not directly involved in the analysis of data, preliminary insights were routinely vetted with the insiders, providing verification or refinement of findings.

The above approach maximized engagement while meeting the time constraints imposed by a funded project and minimizing burden on the organization. University-based Institutional Review Board and Department of Corrections Research Review Committee approvals were obtained prior to engaging participants. All participants (i.e., those interviewed in Phase I and co-researchers in Phase II) provided written informed consent.

Phase I Study: Understanding the Context of EOL in the Target Community

Prior to engaging the target community to work on the problem, we needed to become familiar with the contextual features of providing end-of-life care in prison settings. To understand the state of end-of-life care in the state DOC system, in Phase I we conducted a descriptive qualitative study using semi-structured interviews of central office administrators from the state DOC and prison employees (including superintendents, management teams, and front line staff) who were involved in the care, custody, and control of the prisoner populations in six SCIs in the state system (Penrod, Loeb, & Smith, 2014).

Phase I design—Using a team approach, all team members were trained in qualitative data collection and analysis by the lead author (JP). Four senior researchers and two research assistants collected the data. The research team worked in pairs, with the senior researcher conducting the interviews and the assistants assuming responsibility for data recording. The central office administrators ($n=12$) were interviewed at the administrative offices (Penrod et al., 2014). Audio-recording was permitted in this office setting, but not all participants wished to be audiotaped, so handwritten field notes were used in these cases.

The remainder of the sample ($n=176$) consisted of prison staff members from a wide variety of service units (e.g. security, medical, chaplaincy, mental health, administrative directors, and others) contributing to the care, custody and control of prisoners. The research team visited each of the six SCIs for a two-day data collection period. Both day and evening shift staff were interviewed. Individual interviews were conducted at locations within the prison

that were convenient to the working staff. The senior researcher conducted the interviews, and an assistant was responsible for data recording.

Individual interviews were conducted using a semi-structured interview guide. The semi-structured interview focused on the course of care for dying inmates; how loss affected other inmates and staff; what was considered a good death in this SCI; barriers to EOL care; and the types of services that would improve EOL care. Follow-up questions were used to elicit experiential accounts (e.g., Can you tell me about a time when negative attitudes were expressed to you? or, Can you tell about how the death of an inmate affected you personally?) The length of the interviews varied from approximately 15 minutes to 45 minutes, depending on the participants' desire to share experiences.

Because audio-recording devices were prohibited, hand-written field notes were generated. These notes were used to guide dictation of field notes summarizing each interview after leaving the site. All data were transcribed verbatim and entered into Atlas.ti (qualitative data management system) for analysis.

Content analysis used by the team to create taxonomies of responses to each question in the interview guide. Thematic analysis was applied to identify dominant conceptual patterns. Each team member completed analyses independently prior to team discussions that guided final coding/analysis. Both within-SCI and across-SCI analyses were completed. The final analytic schema was determined by the full research team. This process was evidence-driven; that is, all analytic interpretations were rooted in the data. This approach, along with an iterative analytic process, enhanced credibility and group consensus regarding the interpretation of the data.

Phase I findings—Dying in prison was portrayed as a sad and lonely end to life. Prisons became home for inmates, and a sense of community was established around the housing unit. As care needs escalated with advanced illness, relocation to a specialty service SCI or the infirmary isolated the inmate from his/her established social network. Although not a typical occurrence, special dispensation from senior leadership in the SCI allowed privileges of movement/access, such as family or fellow inmate visits to the restricted infirmary.

Barriers to EOL care included uncaring attitudes of some staff and concerns regarding manipulative behavior by inmates. Caring actions (e.g., allowing special visits) did occur, but carers faced an undercurrent of negative attitudes or “hardening” of staff members’ attitudes, summarized as “let ‘em rot” or “who cares?” Some staff members acknowledged that inmate deaths (whether sudden and unexpected or anticipated) instilled a sense of loss, but this loss was disenfranchised and could not be openly grieved. Although SCI staff members perceived organizational support from the state DOC for quality care of dying inmates, several areas of improvement were recommended. (Further description of specific segments of the Phase I study can be found in Loeb, Penrod, Hollenbeak, & Smith, 2014; and Penrod et al., 2014.)

Phase I's implications for PAR—The nine months of the Phase I study were essential to establish the context of end-of-life care in this corrections system. The descriptive study was

critical to identify the four occupational categories most influential in providing EOL care: (a) security, (b) health care, (c) chaplaincy, (d) counselors/coordinators.

Security was pervasive in prison and directly involved in all aspects of inmates' living and dying. Security officers protected the safety of the public, prison staff, and inmates, and they also controlled movement within the SCI. Security staff were members of a subculture that functioned in a paramilitary style; that is, a clear chain of command was evident in decision-making and action. This segment of frontline staff was highly influential in shaping the climate of the institution, with the capacity to shift the balance of control, custody, and care within the SCI.

Health care workers—primarily nurses—attended to the care needs of inmates with advanced illness, but there was variation in medical services offered and in staffing. For example, some SCIs offered specialty medical services like oncology, others had assistive or long-term care units, and others provided episodic or advanced EOL care. The health care staff complement was a mix of state employees and contract workers. The professional/para-professional staff ratio varied across SCIs, which complicated the potential for practice and policy changes.

Chaplains provided spiritual support for those who were dying and for the prison community suffering loss. But, again, there was wide variation in services offered and in the ratio of full-time to contract chaplains. For example, while some chaplains organized corporate memorial services, others offered only individual services or only in special cases, and others offered no memorialization services.

Counselors provided psychological support to the prison population, including those who were dying and grieving. Unit managers oversaw all activities on a given housing unit. Psychology support staff and unit managers made referrals for services, coordinated movement, and secured special dispensation for care that fell outside of the usual protocols.

Beyond operationalization of the target community, the Phase I descriptive study of the contextual features of these organizations was invaluable to Phase II. The asymmetries between outsider-researchers and insider-prison communities were lessened as context-specific language, attitudes, values, and beliefs held by prison staff in the state system were exposed. Understanding the everyday work of prison staff provided real-world examples that later were used as case scenarios for further discussions. As the outsider-researchers interacted with insider-staff, early relationships were established; the researchers became known entities.

Phase II, Action Research: Empowering Change Agents

In Phase II, the PAR collaborative team was established to launch the action research phase of the project in collegial engagement. Our Phase II objective was to empower change agents through collaboration with frontline staff members while respecting the hierarchical, top-down structure of the prison system.

Phase II recruitment—Stemming from our systems conceptualization of community, one representative of each targeted occupational category (security, nursing, chaplaincy, and counselling/coordination) from each study site was recruited to serve on the collaborative team. A roster of potential team members was prepared by the researchers based on the Phase I interactions. This roster was vetted with senior leaders in each SCI before invitations to join the collaborative network were sent. All nominations were supported. Senior leaders nominated additional candidates for consideration as alternates, and this action was seen as an indication of a sense of collaboration and commitment to the project.

A formal letter of invitation from the university researchers fostered a sense of free will and individual contribution, rather than an organizational dictum to serve. Invitations to join the PAR team were extended to 24 prison staff members (4 staff in each of 6 prisons); 18 of the targeted co-researchers accepted the invitation. Lack of availability was the most-cited reason for declining. Several invitees recommended colleagues that they believed were well-suited to being co-researchers. These recommendations, senior leadership nominations, and Phase I study participants were used to solicit a full complement of co-researchers from all study sites ($n=25$).

Co-researchers were informed of the other team members who had been invited from their home institutions. In one case, representatives requested that an additional staff member be added to augment their team; this request was accommodated. The co-researchers at each SCI study site joined with the sponsored researchers (3 nurse researchers; 1 health economist, 1–2 research assistants, and a Project Director) to form the PAR collaborative team. Over the course of the project, membership on the collaborative team was stable. The attrition rate was very low. One nurse resigned due to a change in work assignment, and one chaplain retired. New disciplinary representatives were recruited successfully by the SCI team. In addition, two teams added members to better represent the SCIs' composition. One team added a nurse from the forensic unit (i.e., mental health), and another team added a Drug and Alcohol Counselor.

Establishing the PAR collaborative team—Each site-specific team represented a characteristic SCI in the larger system, but given the centralized administration at the state level, it was critical that approaches devised by the site teams were appropriate for implementation across institutional contexts. Therefore, the full collaborative team worked together to devise strategies appropriate to all settings in the system.

To launch the effort, initiate the change process, and plan for sustainability, the collaborative team met face-to-face in four highly-structured 2-day sessions at conference centers near and on the university campus over a 2-year period. This meeting approach was designed to address geographic distribution (the university was centrally located) while creating a safe space for open dialogue. Two-day sessions allowed adequate time for group processing and were most efficient in terms of travel costs. In addition to the collaborative team meetings, the sponsored researchers visited each team of representatives at their home institution at least twice to process data collection and to provide support during the start-up of the project, and twice more when the funded project was winding down. Email and phone communications occurred between face-to-face meetings, as needed.

Outcomes of the PAR interactions—Over the course of Phase II, issues were identified and prioritized. An intervention toolkit was designed and tested in the six SCI study sites. Through highly structured interactions, teams of change agents were empowered to stimulate organizational approaches to enhance end-of-life care for inmates. Empowerment was facilitated by a professionally produced five-minute video featuring the state Director of Health Care Services and the senior researchers endorsing and describing the project.

Methodological Strategies Used to Empower Change Agents in the PAR Project

Producing change is not purely a matter of content expertise; change agents must be able to influence others in order to achieve common goals. Thus, leadership strategies are critical to the process of empowerment. PAR methods addressed the challenges of empowering the prison staff as change agents to produce system-level change. Strategies used to promote staff leadership as change agents in the prison system were organized according to three cardinal principles of PAR (van der Reit, 2008; McIntyre, 2008) as follows:

Cardinal Principle 1: Develop a Collaborative Network with Active Partnership between Researchers and Participants across the Study

First and foremost, PAR requires active collaboration between researchers and insiders across all project phases (McIntyre, 2008). This principle is especially germane to hierarchical organizations, in which staff members convey a sense of powerlessness or risk-taking surrounding new initiatives. Collaborative network development pivots on senior leadership buy-in and willingness to express support to the staff. When the staff members feel supported as change agents, the PAR collaborative moves forward more effectively.

Given the hierarchical nature of prison administration, it was critical to engage senior leaders during conceptualization of the project in order to gain their insights, endorsement, and support. In this project, the three principal investigators (PIs) closely collaborated with two senior state DOC leaders during the development of the proposal for funding. Discussions centered on a well-documented need for EOL care services for prisoners and on validating the PIs' respective experience in corrections research, EOL research, and health care economics research. Demographic profiles of prisoners, the prevalence of life-limiting illnesses, trends toward longer sentences, and national models of EOL care were discussed. The research approach of engaging frontline staff in designing and implementing a new approach to changing the culture and care practices was described. Through these interactions, shared values and established credibility fostered progress. A goal to enhance EOL care through sustainable insider-generated system change was formulated by the senior leaders through consensus. Once the study was funded, interactions with senior leadership were extended to include two highly accomplished superintendents (i.e., wardens), and a correctional health care administrator.

Promoting the understanding of the project goals and securing the buy-in of superintendents was essential prior to approaching the targeted frontline staff. Senior leaders were instrumental in facilitating discussions at the next level of the hierarchy - superintendents.

The researchers met with superintendents and their management teams at each of six targeted SCIs. Here, the focus was on establishing the need for the project and laying out proposed processes that would be employed to reach project goals. These interactions established: (a) credibility, (b) understanding of context and unique culture of each participating SCI, (c) sensitivity to constraints, (d) commitment to quality outcomes. Through these discussions, the superintendents and their administrative teams were evaluating the potential of the researchers to create positive change in their SCIs and weighing the potential for return on their investment of resources into the project. This collaborative interaction yielded deeper organizational commitment. For example, a decision was generated to provide paid time for the frontline staff's participation at collaborative research meetings and work release for related study activities.

Another strategy for building an active partnership was minimizing the asymmetries between the outsiders and insiders. The Phase I study was critical in expanding the researchers' understanding of the variability in SCI-specific EOL care practices and the prevalent values and beliefs. Becoming facile in the language common to the context of corrections enhanced the researchers' credibility, particularly for those researchers whose expertise was not in corrections research. For example, phrases such as "in the hole" (placed in restrictive housing); "sally port" (the secured area of passage into a prison); or "write-up" (initiating a formal process in response to unacceptable behavior) required no further explanation. "Hug a thug" was a phrase used by correctional officers when referring to staff members who were perceived to be friendly with inmates. "Old school" was used as a term of respect to describe older prisoners. Understanding the language of everyday workflow enabled creation of real-world examples that were later used as case scenarios during discussions.

The Phase I study also revealed that most of the prison staff were unaware of EOL practices in other departments in their home SCI or other SCIs in the state system. This insight was important to establishing an active partnership: not only were the outsiders unfamiliar, so were the other SCI staff members. Use of occupational categories to determine the composition of SCI-specific teams reflects the typical structure of interdisciplinary palliative care teams in the free-living community; however, there was little evidence of a coherent team approach in the prison setting, and organizing policies and procedures were lacking. Understanding these challenges informed the format and processes used to establish a collaborative network. In their early interactions, members of SCI-specific teams were given time to introduce themselves to each other and discuss experiences of EOL care at their prison. Group interactions were designed to stimulate familiarity and a sense of team. In addition to structured group sessions with disciplinary colleagues and SCI-specific team members, unstructured time with the full team (e.g., group meals) was an important venue for team-building.

Fostering equality or minimizing asymmetries among collaborative group members was critical to active partnership. A primary strategy was to invite insiders to serve as co-researchers, a title purposefully designed to foster their role on the PAR team. First names were used by all partners within the collaborative, whether academic researchers or prison

staff; formal titles were reserved for those visitors who were not members of the collaborative (e.g., senior leaders were referred to as Director or Secretary).

As the project continued over the two-year period, interaction strategies were carefully orchestrated to foster the collaborative network of co-researchers by highlighting unique expertise and shaping the role perceptions. For example, nominal group processes, in which the issue was introduced, followed by idea generation/discussion and concluding with prioritization or ranking, were used to identify key issues in providing end-of-life care. Insider expertise became apparent, and a sense of leadership emerged as the group actively collaborated. The importance of the insiders' role in the project was acknowledged with certificates of participation awarded at the close of each meeting of the collaborative. These certificates were incorporated into activities reported during job reviews and were highly valued.

The effectiveness of these strategic yet elementary approaches to building a collaborative network with active participation was revealed at the closing session of the project. The collaborative celebrated successes with invited guests from the DOC and University. As SCI-specific teams were acknowledged, each participant had the opportunity to address the collaborative. Our co-researchers publicly expressed appreciation to their academic partners and acknowledged personal and professional growth stimulated by their experiences. University researchers similarly shared experiences of both personal and professional growth from the collaboration. Clearly, the asymmetries between the academic-researchers and "participants" were leveled—the collaborative had become a unified network celebrating shared accomplishments.

Cardinal Principle 2: Promote Co-Ownership through the Co-Construction of Knowledge and Systems to Enhance Sustainable Change

Co-ownership—Given the complexity of the context of EOL care in prisons, the PAR collaborative was not expected to address every issue that arose. Instead, there was an "ebb and flow to the project" (McIntyre, 2008, p. 46). The collaborative group interpreted trends in EOL care at each SCI and prioritized actions. As McIntyre (2008) described, the collaborative "exercises their power in realistic ways" (p. 41) by identifying those issues that affected the whole, rather than specific SCIs.

Co-ownership was launched at the first meeting of the collaborative. The findings from the Phase I study of values, beliefs, and practices were shared with the collaborative, discussed, confirmed, and refined. The insider-experts extended understanding of cultural variations by offering real-world narratives of differences in contextual demands. Examples of contextual demands included the extent to which special dispensation was granted to permit inmate visits in the infirmary, the extent of inmate interaction with each other and with staff, and the differences in physical structure of work units. This early activity established the insiders' unique expertise and promoted trust in the outsiders' understanding of the scene. Co-ownership of the findings forged relationships that established and sustained the group's collaborative structure.

In order to promote co-ownership by the collaborative rather than the targeted institutions, PAR meetings were held at a neutral location near the University. Ground rules for meetings were developed by the group and referenced at subsequent sessions. For example, all discussions were confidential; alternative opinions were encouraged; team members were expected to contribute to discussions and respect others' views. Because many of the prison staff had never met each other, early establishment of ground rules was critical to promoting a structure through which all felt safe enough to engage in the co-creation process.

The collaborative group agreed that the academic researchers would hold responsibility for planning and facilitation of the PAR team meetings. Agendas for the 2-day meetings were packed with both substantive objectives and time for networking over breaks and meals. The group reviewed the agenda at the start of each meeting and sought feedback and group consensus to proceed as planned. One of the academic researchers (JP) served as facilitator of the meetings. The facilitator's role was to keep the group on task and on time to meet objectives. Group feedback regarding the format of activities, scheduling, venue selection, and agenda items promoted co-ownership of process elements.

Exercises were designed strategically to promote interaction among different constellations of PAR team members. Some break-out sessions were structured around SCI-specific teams to foster trust in site-specific interdisciplinary teams. Other sessions were segmented by discipline (i.e., occupational categories) to promote a system-wide disciplinary perspective. All small-group sessions were followed by "report-backs" and discussion by the full collaborative.

These strategies enhanced both co-ownership and co-construction of new knowledge. For example, at one meeting, the full collaborative examined available resources and processes to enhance end-of-life care (e.g., model programs in end-of-life care delivery, and dealing with loss/grief). SCI-specific teams then met to discuss which resources and approaches might be useful in their setting, given the culture of that setting. Following the report-back from the SCI-specific groups, disciplinary perspectives were fostered by group activities focused on the role each occupational category could play in stimulating a change in usual practice. In this session, disciplinary perspectives were established; for example, the chaplaincy group embraced building capacity in grief support, and the health care group developed specific educational priorities/models. This approach to structured interactions enhanced cross-fertilization of ideas among the occupational categories while fostering SCI-specific teams, building a sense of co-ownership through the co-construction of new knowledge as a collaborative.

Enhancing change in a hierarchical system requires buy-in by the upper echelons of authority, but when senior leaders were invited to meet with the collaborative team, the invitations were carefully shaped and managed to retain the integrity of the collaborative, minimizing risk of acquiescence or disempowerment. For example, brief sessions with senior leaders were slotted to promote interaction and endorsement without interfering with the work of the collaborative. Ideal slotting was time-limited (e.g., over a meal) and strategically placed with respect to the primary objectives of the meeting (e.g., greetings at the start to rally enthusiasm, or at the end to mark achievements). Following the session,

senior leaders were thanked, gracefully excused (typically by citing competing demands on their time), and led out by an academic researcher to allow for debriefing or parting thoughts. Over time, the collaborative team felt empowered to act, and the sessions with senior leaders became more interactive, focused on visions of what could be, and attuned to the need for system change. The facilitator prepared the collaborative members by highlighting perspectives that emerged during collaborative sessions and modelling how to express divergent views with respect.

To to keep the collaborative on track and energized, this structured approach to co-ownership and co-construction of new knowledge demanded expert facilitation skills. Facilitation was designed to challenge the members to reflect and problem-solve. Importantly, facilitation was a means for infusing leadership skills into the sessions in order to promote the role of change agent. The facilitator modeled behaviors for handling conflict, regaining group focus, and clarifying the vision, purpose, and objectives. Participants reported integrating observed skills into their everyday interactions at their SCIs.

Co-construction of new knowledge—Reflection and generation of practice insights shaped the collection of tools included in the intervention model called the *Toolkit for Enhancing EOL Care in Prisons* (referred to as the Toolkit). After hearing presentations of the SCI-specific prioritized needs, the group created a master list of priority needs across the SCIs, using nominal group techniques in a shared decision-making process. The priorities of the prison staff determined the modules in the Toolkit: (a) building an awareness of need; (b) developing a multidisciplinary team; (c) delivering supportive care at the EOL; (d) dealing with loss and grief. The collaborative group determined the content and format of the Toolkit—they owned it!

Systems were co-constructed to promote uptake of the Toolkit in challenging contexts. The Toolkit was designed as a menu of options and approaches. Co-ownership was promoted in interactive exercises to build members' familiarity with the materials and delivery process. For example, SCI-specific teams randomly selected modules from the Toolkit and then prepared and delivered their module to the larger group, while audience members (other co-researchers) role-played constructive and distracting interactions to mimic the real world.

Following each presentation, a debriefing session focused on what went well and strategies for improvement, based on the quality improvement method included in the Toolkit (Langley et al., 2009). There was some risk in this approach; debriefings of this nature could become confrontational. Ground rules for constructive criticism were outlined by the facilitator, and examples of helpful and hurtful feedback were shared. These were useful reminders, but the risk of confrontation also was mitigated by the stability of the group. By this point, the collaborative was cohesive and modelled pride in their achievements. The team-focused style transformed the co-researchers into enthusiastic champions of EOL care, change agents who would disseminate the team's efforts in their SCIs.

Cardinal Principle 3: Translate the Contextual Reality into System Change Built upon Local Knowledge to Empower Co-Researchers to Examine their Worlds in New Ways and to Capture Opportunities

PAR must build on local knowledge, formal and informal roles, rules, and other contextually-specific influences on behavior (van der Reit, 2008). Formal or codified knowledge often must be translated for use by insiders in their own worlds. The co-researchers identified two contextual barriers to enhancing EOL care in prisons: negative attitudes and resistance from other staff. Sensing an opportunity to change the system, the collaborative team set out to address negative attitudes and develop an organizational sense of priority for the project.

The first unit of the Toolkit consisted of a series of informational pieces designed by the collaborative (e.g., posters, educational programs, and newsletter templates) to message key insights regarding EOL care services. With the tools and their experiences as members of the PAR team, co-researchers felt prepared to field difficult questions from staff members and build support of SCI-specific initiatives.

The collaborative recognized the importance of using a multidisciplinary approach to EOL care, but staff were not accustomed to team approaches, and system change was needed to meet this contextual reality. Therefore, the second unit in the Toolkit guided development and formalization of a multidisciplinary team. Each SCI-specific team contributed ideas for additional members and practical techniques to sustain the multidisciplinary team.

A guiding framework for stimulating and sustaining change was needed to help the teams to examine their worlds and to capture opportunities. During the Phase I study, the senior leaders reported that the quality improvement (QI) efforts within the state DOC were framed around the Deming Cycle, also known as the PDSA (Plan-Do-Study-Act) Cycle (<https://www.deming.org/theman/theories/pdsacycle>), so the PDSA Cycle model (Deming, 1986; Langley et al., 2009) was adopted as the organizing framework for managing change in EOL care.

Not all of the co-researchers were familiar with QI or PDSA, so the PDSA model was introduced and accepted at an early meeting of the PAR collaborative. All of the activities in the Toolkit were organized according to the Plan-Do-Study-Act model (Langley et al., 2009) to familiarize the co-researchers with the framework and its application. Templates for approval and reporting forms were created to inform the upper echelons of the prison administration of proposed activities and measured outcomes. Critical points for submitting updates and securing approval were outlined. This formalization of system change was responsive to the highly structured contextual reality of prisons as hierarchical systems.

The co-researchers were empowered to act and were familiar with the Toolkit. Site teams completed initial activities related to building an awareness of need and began forming multidisciplinary teams before starting the Toolkit units on changing practices of EOL care. The launch of the change was timed to ensure that the full PAR team had face-to-face meeting time to debrief and reinforce efforts. At these sessions, the PAR team functioned in a supportive, problem-solving manner, sharing strategies and celebrating successes. These

early, supportive experiences with the Toolkit prepared the teams to continue to promote new systems by examining their worlds in new ways, applying the lens of a quality improvement model, and seizing opportunities for planned change.

Nonetheless, contextual realities profoundly affected the interventions available for EOL care. For example, in the free-living community, volunteers augment professional EOL services. In prisons, there was an available pool of volunteers (i.e., prisoners), but security issues complicated their provision of services. Standard pain management protocols were constrained by infirmary standards of practice and the DOC formulary. New approaches were developed by members to meet the demands of the context. In one example, a co-researcher from the security sector highlighted their use of pocket references and recommended some form of pocket guide to aging and EOL-related care needs. In response, the GRIMMM card (see Figure 1) was produced to alert security staff of changes in inmate appearance or behavior that could indicate a decline in health warranting follow-up. The cards were branded with the project logo and widely distributed across the study sites and the broader DOC. In this context, the simple tool maximized opportunities for early intervention.

Discussion

PAR methods provide a framework for engaging community members in a collaborative research project. In recent years, several authors have clarified techniques used in PAR, including processes (Beringer & Fletcher, 2011); best practices (Newman et al., 2011); and management of conflict (Resnik & Kennedy, 2011). This project advanced available evidence on the application of PAR in highly restrictive and hierarchical organizations, with effective processes for empowering insiders to contribute to system change.

The first cardinal principle calls for network development and an active participation across study partners. The evaluation of the organizational climate in the Phase I study revealed that senior leader backing was essential and ideally would be permissive in nature, providing necessary approval for those at the lower echelons of the hierarchy to engage in change processes by reducing perceived risk. Verbally relaying an approval may be inadequate to quell deeply engrained expectations regarding positional power, and deliberate strategies for conveying hierarchical approval are recommended. In this project, field experience indicated the value of a publicized DVD in which leaders announced approval and support, empowering actions at meetings, and individual deeds showing support. In addition, approval forms were designed to secure written approval of planned actions before implementation.

Passion fueled by new leadership skills empowered the insiders to act, but careful development of protocols that integrated necessary approvals was critical. This approach promoted a sense of co-ownership and trust among the senior leaders without opening the door to hierarchical control of the work of the PAR team. As a result, change processes in the organization were generated in a bottom-up fashion, with full endorsement of upper management. Individual risk was mitigated, and the organizational culture shifted toward greater openness to change.

The second cardinal principle of PAR emphasizes that co-ownership of both the research process and outcomes is critical (van der Reijt, 2008). In this project, special emphasis was placed on organizational structures, because best practices without a supportive practice environment would be sure to fail. The net effect of co-ownership is co-construction of knowledge to build theory-driven practice (McIntyre, 2008) and development of organizational structures to sustain new practice initiatives. Co-ownership builds a sustainable project, as participants who remain embedded in the system learn cooperation and persuasion strategies (Lopez, 2008), becoming a network of champions who can continue to influence the complex organization (Wood, 2007). In this study, the reality of working or practicing in a restrictive institution became clear. Hierarchical systems are characterized by top-down reporting and decision-making, which inhibits participative management. The primary strategy used in this project to capture opportunities to change EOL care patterns was leadership training, empowering front-line staff to generate change while retaining focus on the primary study aims of enhancement of EOL care. Similarly, change processes were developed to protect the insiders from risks associated with perceptions of stepping out of rank and disturbing the hierarchy.

The third cardinal principle calls for the translation of local knowledge into system change by empowering co-researchers to examine their contextual reality in order to capture new opportunities. PAR studies are contextually bound to a community, and local knowledge is paramount to deconstructing stereotypical beliefs (McIntyre, 2008) and fitting formal knowledge (e.g., best practices from elsewhere) into the contextual frame of a given community.

In this project, the translation of contextual reality also required system change, to empower co-researchers to examine their SCIs in new ways and capture opportunities to enhance EOL care for prisoners. Such strategies could be applied for promoting system change in other complex organizations as long as researchers are mindful of the importance of role modeling in socializing co-researchers to be champions of change. Researchers must be attentive to the education and training needs of community partners across all phases of research. For example, in order to establish truly collaborative relationships, user-friendly forms of research ethics training (e.g., human subjects training) are needed to enable community partners to access data for analysis. Professional dissemination is daunting to those who are not engaged in the academic world. From the start of the project, a plan for sustainability of the relationships among co-researchers is needed.

Summary

The strategies described herein were used by academic researchers to create dynamic teams who were prepared to take up a call to action in some of the most restrictive, complex, and hierarchical organizations—state prisons. The purpose of this article was to illustrate key methodological strategies in the application of PAR methods in a hierarchical organization of a state prison system.

Several important insights were gained. Context matters: one-size-fits all intervention protocols are not appropriate in all settings. This insight is relevant to translational science.

Simply providing best practices or evidence-based protocols without consideration of contextual influences and system resources is insufficient for sustainable change.

This project demonstrated the effectiveness of processes for promoting co-construction of knowledge and systems while grooming change agents within the organization. Was this change sustained or institutionalized? This query demands an implementation science perspective to study the dissemination, reach, uptake, and outcomes produced by the intervention. In preparation for such research, our team is now re-designing the Toolkit for mass dissemination and testing (National Institutes of Aging of the National Institute of Health under award # R41AG049570).

Participatory research methods are well-suited to nurse scientists who have historically attended not only to the person but to systems and environment. Dr. Patricia Grady, director of the National Institute of Nursing Research, National Institutes of Health, recently summarized factors critical to the promotion of translational work: “Pursue new ways of thinking and working.... Pay attention to the interface.... educate, educate, educate...” (Grady, 2010, p. 166). PAR is a creative and responsive approach for establishing collaborative teams that think in new ways to solve prioritized community issues. Tailoring interventions to context (i.e., paying attention to the interface) is critical to translate science into real-world solutions. Nurses stand well-prepared to apply participatory methods to transform the care of the most vulnerable.

Acknowledgments

The authors disclose receipt of financial support from the National Institutes of Health/National Institute for Nursing Research (NIH/NINR 1R01NR011874; MPI: Loeb, Penrod, Hollenbeak). We thank our PAR team members; colleagues Christopher S. Hollenbeak and Carol A. Smith, and research assistants, Sarah B. Crouse and Erin Kitt-Lewis, for their invaluable contributions.

References

- Abad-Corpa E, Meseguer-Liza M, Martínez-Corbalán JT, Zárate-Riscal L, Caravaca-Hernández A, Paredes-Sidrach de Cardona A, Cabrero-García J. Effectiveness of the implementation of an evidence-based nursing model using participatory action research in oncohematology: Research protocol. *Journal of Advanced Nursing*. 2010; 6(6):1845–1851. DOI: 10.1111/j.1365-2648.2010.05305.x
- Belone L, Lucero JE, Duran B, Tafoya G, Baker EA, Chan D, Wallerstein N. Community-based participatory research conceptual model: Community partner consultation and face validity. *Qualitative Health Research*. 2016; 26:117–135. DOI: 10.1177/1049732314557084 [PubMed: 25361792]
- Beringer AJ, Fletcher ME. Developing practice and staff: Enabling improvement in care delivery through participatory action research. *Journal of Child Health Care*. 2011; 15:59–70. DOI: 10.1177/1367493510395639 [PubMed: 21451011]
- Blanco, J. Prison security: Levels & characteristics. (n.d.)Retrieved from: <http://study.com/academy/lesson/prison-security-levels-characteristics.html>
- Deming, WE. *Out of the crisis*. Cambridge, MA: Massachusetts Institute of Technology Center for Advanced Engineering Study; 1986.
- Dunkley M, Aspinall F, Addington-Hall JM, Hughes R, Higginson IJ. A research study to identify facilitators and barriers to outcome measure implementation. *International Journal of Palliative Nursing*. 2005; 11:218–225. DOI: 10.12968/ijpn.2005.11.5.218 [PubMed: 15944495]

- Furman CD, Pirkle R, O'Brien JG, Miles T. Barriers to the implementation of palliative care in the nursing home. *Journal of the American Medical Directors Association*. 2006; 7:506–509. DOI: 10.1016/j.jamda.2006.07.008 [PubMed: 17027628]
- Grady PA. News from NINR: Translational research and nursing science. *Nursing Outlook*. 2010; 58:164–166. DOI: 10.1016/j.outlook.2010.01.001 [PubMed: 20494692]
- Human Rights Watch. Old behind bars: The aging prison population in the United States. 2012. Retrieved from: <http://www.hrw.org>
- Iraqi A, Hughes T. Barriers to effective palliative care in the nursing home setting. *Journal of the American Medical Directors Association*. 2007; 8:197–198. DOI: 10.1016/j.jamda.2006.12.028 [PubMed: 17349950]
- Israel BA, Schulz AJ, Parker EA, Becker AB. Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health*. 1998; 19:173–202.
- Langley, GL., Moen, RD., Nolan, KM., Nolan, TW., Norman, CL., Provost, LP. The improvement guide: A practical approach to enhancing organizational performance. 2nd. San Francisco, CA: Jossey Bass; 2009.
- Loeb SJ, Hollenbeak CS, Penrod J, Smith CA, Kitt-Lewis E, Crouse SB. Care and companionship in an isolating environment: Inmates attending to dying peers. *Journal of Forensic Nursing*. 2013; 9:35–44. DOI: 10.1097/JFN.0b013e31827a585c [PubMed: 24158099]
- Loeb SJ, Penrod J, Hollenbeak CS, Smith CA. End-of-life care and barriers for women inmates. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*. 2011; 40:477–485. DOI: 10.1111/j.1552-6909.2011.01260.x
- Loeb SJ, Penrod J, McGhan G, Kitt-Lewis E, Hollenbeak CS. Who wants to die in here? Perspectives of prisoners with chronic conditions. *Journal of Hospice & Palliative Nursing*. 2014; 16:173–181. DOI: 10.1097/NJH.0000000000000044 [PubMed: 25328447]
- Lopez MM. Complexity and participation: The path of strategic invention. *Interdisciplinary Science Reviews*. 2008; 33:153–177. DOI: 10.1179/030801808X259745
- McCloskey, DJ., McDonald, MA., Cook, J., Heurtin-Roberts, S., Updegrove, S., Sampson, D., Eder, M. Community engagement: Definitions and organizing concepts from the literature. In: *Clinical and Translational Sciences Awards Consortium Community Engagement Key Functions Committee Task Force on Principles of Community Engagement*. , editor. Principles of community engagement. 2nd. Bethesda, MD: National Institutes of Health; 2011. p. 3-41. NIH Publication number 11-7782 Retrieved from: http://www.atsdr.cdc.gov/communityengagement/pce_concepts.html
- McIntyre, A. Participatory action research. Los Angeles, CA: Sage Publications; 2008.
- Minkler, M., Salvatore, AC. Participatory approaches for dissemination and implementation research. In: Brownson, RC, Colditz, GA., Proctor, EK., editors. *Dissemination and implementation research in health: Translating science to practice*. New York, NY: Oxford University Press; 2012. p. 3-41.
- Mumola, CJ. Medical causes of death in state prisons, 2001–2004. Washington, DC: US Department of Justice, Office of Justice Programs; 2007.
- Newman SD, Andrews JO, Magwood GS, Jenkins C, Cox MJ, Williamson DC. Community advisory boards in community-based participatory research: A synthesis of best processes. *Preventing Chronic Disease*. 2011; 8(3):1–12.
- Pariyakoi VS. Change management: The secret sauce of successful program building. *Journal of Palliative Medicine*. 2009; 12:329–330. DOI: 10.1089/jpm.2009.9645 [PubMed: 19327068]
- Penrod J, Loeb SJ, Smith CA. Administrators' perspectives on changing practice in end-of-life care in a state prison system. *Public Health Nursing*. 2014; 31:99–108. DOI: 10.1111/phn.12069 [PubMed: 24588128]
- Ratcliff M. Dying inside the walls. *Journal of Palliative Medicine*. 2000; 3:509–511. DOI: 10.1089/jpm.2000.3.4.509 [PubMed: 15859710]
- Resnik DB, Kennedy CE. Balancing scientific and community interests in community-based participatory research. *Account Research*. 2011; 17(4):198–210. DOI: 10.1080/08989621.2010.493095

- Shipman C, Gysels M, White P, Worth A, Murray SA, Barclay S, Higginson IJ. Improving generalist end of life care: National consultation with practitioners, commissioners, academics, and service user groups. *British Medical Journal*. 2008; 337:a1720.doi: 10.1136/bmj.a1720 [PubMed: 18829640]
- Shura R, Siders RA, Dannefer D. Culture change in long-term care: Participatory action research and the role of the resident. *The Gerontologist*. 2010; 51:212–225. DOI: 10.1093/geront/gnq099 [PubMed: 21163911]
- van der Reit M. Participatory research and the philosophy of social science: Beyond the moral imperative. *Qualitative Inquiry*. 2008; 14:546–565. DOI: 10.1177/1077800408314350
- Wallerstein N, Duran B. Community-based participatory research contributions to intervention research: The intersection of science and practice to improve health equity. *American Journal of Public Health*. 2019; 100(Suppl 1):S40–46. DOI: 10.2105/AJPH.2009.184036
- Wood FJ. The challenge of providing palliative care to terminally ill prison inmates in the UK. *International Journal of Palliative Nursing*. 2007; 13:131–135. DOI: 10.12968/ijpn.2007.13.3.23275 [PubMed: 17505406]
- Wright MT, Roche B, von Unger H, Block M, Gardner B. A call for an international collaboration on participatory research for health. *Health Promotion International*. 2010; 25:115–122. DOI: 10.1093/heapro/dap043 [PubMed: 19854843]

Figure 1.
GrIMM Pocket Card. Designed by co-researchers, this pocket card was disseminated widely to promote security personnel's awareness of signs of decline that warrant follow-up.

Table 1

Characteristics of Prison Study Sites

SCI	Security Level	Number of Inmates	Unique Characteristics
1	Medium	2090	Older, sicker inmates
2	Maximum	2898	Oncology unit/services
3	Close	1917	Capital cases
4	Minimum	1015	Geriatric/long-term care services
5	Close	1208	Women; capital cases
6	Minimum	1278	Forensic facility

Note. SCI, state correctional institution.