Healthcare Can Change from Within: Sustained Improvement in the Healthcare Response to Intimate Partner Violence

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Abstract

There is a great need to demonstrate sustained improvement in healthcare-based inquiry, intervention, and prevention provided to patients exposed to intimate partner violence (IPV).  We evaluated implementation of the Healthcare Can Change from Within model (HCCW) in three primary care clinics and an emergency department within a large healthcare system, using two other primary care clinics for a usual-care comparison on selected variables.  Outcome measures included individual-level variables (staff knowledge and attitudes) and system characteristics (clinic policies, procedures, patient education materials, and IPV documentation in patient records).  Doctors and nurses reported increased self-efficacy, understanding of referral resources, and understanding of legal issues; IPV knowledge was unchanged.  Intervention clinics implemented new policies and procedures, increased patient education, and increased documentation of IPV screening, an improvement which was sustained at 2-year follow-up.  Results suggest HCCW is a promising practice for improving the healthcare response to IPV.

*Key words*: intimate partner violence, domestic violence, intimate partner violence screening and inquiry, systems change, healthcare quality improvement, violence prevention, primary care, emergency medicine

Healthcare Can Change from Within: Sustained Improvement in the Healthcare Response to Intimate Partner Violence

Intimate partner violence (IPV) is a social and medical epidemic that adversely affects the physical and emotional well-being of the victims of violence (Ambuel, Phelan, Hamberger, & Wolff, 2009; Black et al., 2011; Coker et al., 2002; Cronholm, Fogarty, Ambuel, & Harrison, 2011). The medical consequences include: death (Rennison & Welshers, 2000); injury, activity limitation, and long and short-term disability (Black et al., 2011; Crandall, Nathens & Rivara, 2004; Le, Dirks, Ueeck, Homer, & Potter, 2001; Perciaccante, Ochs, & Dodson 1999); poorer perceived physical health status and mental health status (Black et al., 2011; Leung, Leung, Ng, & Ho, 2005; Tomnasulo & McNamara, 2007); asthma, diabetes, irritable bowel syndrome, headache, chronic pain, and difficulty sleeping (Black et al., 2011); substance abuse disorders and posttraumatic stress disorder (Black et al., 2011; Coker, Weston, Creson, Justice, & Blakeney, 2006; Lipsky, Field, Caetano, & Larkin, 2005; Rodriguez et al., 2008); depression (Bonomi et al., 2006); anxiety disorders (Gleason, 1993); and suicide attempts (Stark & Flitcraft, 1995). Women who experience IPV have more health problems and healthcare utilization *for all causes* than women who have not experienced IPV (Bergman & Brismar, 1991; Bonomi et al., 2006; Rivara, et al., 2007a). Although victims of IPV regularly seek medical care, they are infrequently detected by physicians (Hamberger, Saunders, & Hovey, 1992; Kramer, Lorenzon, & Mueller, 2004; Rodriguez, Bauer, McLoughlin, & Grumbach, 1999).

The health consequences of IPV have well-recognized implications for adult primary care clinics (Cronholm, Fogarty, Ambuel, & Harrison, 2011; Hamberger, Saunders, & Hovey, 1992; Johnson & Elliot, 1997). However, identification of IPV is also important in pediatric settings (American Academy of Pediatrics, 1998). Between 30% and 59% of women with children who are abused admit to experiencing battering within an intimate relationship (Campbell, 1994; McKibben, Devos, & Newberger, 1989; Stark & Flitcraft, 1988), and IPV between parents is a risk factor for child abuse for children living in the home (Rumm, Cummings, Krauss, Bell, & Rivara, 2000). In addition to the direct trauma that children may incur during disputes, child witnesses of domestic violence are at increased risk for developmental delay, sleep disorders, school failure, oppositional defiant disorder, depression, child abuse, and increased healthcare utilization (Edleson, 2000; Rivara et al., 2007b).

The emergency department (ED) is also an important point of entry into the healthcare system for persons experiencing domestic violence. IPV results in at least 1.4 million emergency department visits annually (Muelleman, Lenaghan, & Pakieser, 1998). Although emergency department settings have some of the highest prevalence rates of intimate partner violence in healthcare settings (McCloskey et al., 2005), screening, identification, and referral in EDs remain low (Rhodes et al., 2011; Trautman, McCarthy, Miller, Campbell, & Kelen, 2007). This, combined with the fact that emergency departments offer 24-hour availability of healthcare regardless of payer status and the opportunity to speak with a medical professional in a confidential setting, places the ED in a unique position to screen, perhaps the most vulnerable persons, for IPV (Muelleman & Liewer, 1998).

Women patients have advised physicians to routinely ask and educate about domestic violence (Hamberger, Ambuel, & Guse, 2007; Hamberger, Ambuel, Marbella, & Donze, 1998; Rodriguez, Szkupinski Quiroga, & Bauer, 1996; Usta, Anton, Ambuel, & Khawaja, 2012). A growing body of literature suggests that routine IPV inquiry and referral in healthcare settings leads to positive outcomes for patients (Krasnoff & Moscati, 2002; McFarlane, Groff, O’Brien, & Watson, 2006). In a randomized controlled clinical trial, Devine, Spencer, Eldridge, Norman, and Feder (2012) found that systematic identification of and support for patients experiencing domestic violence leads to improved health status for women and is cost-effective. Moreover, domestic violence inquiry does not appear to pose a risk to abuse victims (Houry et al., 2008), while failure to screen may represent a lost opportunity to help, which leaves a victim vulnerable to further assault (Houry et al., 2004). As a result of a comprehensive review of evidence, the Institute of Medicine (IOM; 2011) has recently recommended that the identification of current and past IPV and counseling should be included in the standard preventive services provided annually to all women and adolescent girls. Following the IOM recommendations, the U.S. Department of Health and Human Services (2012) has incorporated this recommendation into the Affordable Care Act, assuring that private and government health insurance will provide annual screening and counseling for current or past exposure to violence. In addition, based upon Nelson, Bougatsos, and Blazina’s (2012) systematic review, the U.S. Preventive Services Task Force (2012) has published a draft Level B recommendation “that clinicians screen women of childbearing age for intimate partner violence (IPV), such as domestic violence, and provide or refer women who screen positive to intervention services (*Summary of Recommendations and Evidence*).”

Within healthcare systems, the emergency department, family medicine clinic, and pediatrics clinic have considerable potential to function as violence prevention centers. These settings have skilled clinicians who can, with appropriate training and support from an integrated system of care, ask all women about domestic violence; assess and treat injuries and illnesses related to domestic violence; and provide support including safety planning, legal advocacy, risk assessment, and documentation. They can furthermore offer preventive education about healthy relationships, as well as provide professional and community education (Ambuel, Phelan, Hamberger, & Wolff, 2009; Dutton, Mitchell, & Haywood, 1996; Hamberger & Phelan, 2004).

Despite the established link between IPV and death, injury, and poor health for women and their children, and despite recommendations for routine inquiry or screening by specialty organizations (e.g., American Congress of Obstetricians and Gynecologist, 2012; American Academy of Pediatrics Committee on Child Abuse and Neglect, 1998; American College of Emergency Physicians, 1995; American Medical Association, 1992, 2012; IOM, 2011), many physicians do not routinely asked patients about IPV (Kramer, Lorenzon, & Mueller, 2004; Richardson et al., 2000; Rodriguez et al., 1999). Initial efforts to improve the healthcare response to IPV have focused upon clinician training in relevant knowledge, attitudes, and clinical skills (Ambuel, Hamberger, & Lahti, 1997), and demonstrated that clinicians increase IPV-related knowledge, attitudes, and clinical skills after completing training (e.g., Hamberger et al., 2004; Waalen, Goodwin, Spitz, Petersen, & Saltzman, 2000).

However, education alone does not lead to sustained improvement in clinicians’ IPV inquiry (Ambuel et al., 2009; Hamberger, Guse, Patel, & Griffin, 2010; Waalen et al., 2000). To explore reasons for this failure to achieve sustained improvement in clinical practice, Minsky-Kelly, Hamberger, Pape, and Wolff (2005) conducted focus groups with health providers who had successfully completed training but nevertheless did not implement screening and IPV inquiry. Barriers identified included lack of time, lack of privacy, uncertainty as to referral follow-through, and confusion over competing core values such as family-centered care vs. individual patient confidentiality. These barriers were largely system-level barriers, suggesting that changes need to occur at the system level before individual providers can effectively implement their knowledge and skills related to IPV detection, prevention, and intervention. Some barriers identified by Minsky-Kelly et al. were predictable from the literature. Other barriers were unique to specific settings, rooted in cultural norms of individual clinical units, which further suggests that system-level interventions should be customized to local conditions.

Some research has examined the impact of system-level changes in facilitating IPV inquiry and identification. Screening and identification rates can increase dramatically when the doctor or nurse is prompted to ask about IPV by including a reminder in the patient’s medical record (Hamberger et al., 2010; Olson et al., 1996). Hamberger et al. (2010) reported an increase in documented asking about IPV from 2% to 92%; this study did not address actual identification rates. Wiist and McFarlane (1999), however, found that placing an abuse screening tool directly on patients’ charts led to both increased screening and identification. Thus, it appears that relatively small changes in the system of care can facilitate health provider efforts to ask about and identify IPV victims.

Although system changes can produce significant improvement in IPV screening and identification, these improvements are often not sustained. A classic series of studies have illustrated this point. McCleer and Anwar (1989) conducted the first study of the impact of system-based protocols on documented screening and identification. Following protocol implementation in an emergency department, identification rates increased six-fold. Eight years after the initial study, however, McLeer, Anwar, Herman, and Maquiling (1989) reported that, in the ensuing years, the hospital system had discontinued the IPV protocol, and screening and identification rates had fallen to the pre-protocol baseline level. Thus, system-level changes are essential but not sufficient for sustained improvement in the clinical care of IPV victims (Ambuel et al., 2009).

 This emerging body of the literature suggests that three elements are required to successfully implement IPV prevention in medical clinics: (a) training for physicians, nurses, and other clinical staff so they have the knowledge, attitudes, and behavioral skills required for the identification, treatment, and prevention of IPV; (b)clinic systems change, including administrative buy-in, ongoing quality improvement strategies, and patient education that support IPV identification, treatment, and prevention; and, (c) clinic cultural changeso that identification, treatment, and prevention of IPV is supported by prevailing values and norms of the healthcare system, and integrated into the roles of clinical and administrative staff.

We designed the *Healthcare Can Change from Within* (HCCW)intervention model to incorporate these three components of sustainable system change. At a provider level, the HCCW model seeks to change knowledge, attitudes, clinical skills, and clinical behavior. At the clinic system level, the model seeks to enhance support for providers by changing clinical policies, procedures, and workflows, as well as incorporate patient education. At a clinic culture level, the model seeks to establish professional norms, values, roles, and expectations. The ultimate goal is creating self-sustaining improvement in the health system’s identification, intervention, and prevention of IPV, thereby improving the health of women.

TheHCCW model has five key components (Ambuel, Phelan, Hamberger, & Wolff, 2009):

1. Creating a partnership between the healthcare clinic and local community-based nonprofit organizations that work with intimate partner and family violence. Such partnerships empower health providers to take initiative to address IPV in the healthcare setting and to collaborate effectively with community partners.
2. Recruiting selected staff in each clinic who will receive in-depth training on IPV to becomeon-site *healthcare advocates*. Healthcare advocates help lead the clinic's response to IPV. They are an on-site resource for ongoing training of staff, for answering questions about IPV, and for consulting as issues arise with patients who have experienced IPV. They also help implement and support systems change, including patient education and continuous quality improvement.
3. Providing *saturation* training for every clinic staff member who interacts with patients including physicians, nurses, other clinicians, and administrative staff in relevant knowledge, attitudes, and behavioral skills for IPV intervention and prevention.
4. Facilitating self-directed change in clinic systems, including implementing strategies for primary and secondary prevention of IPV, creating clinical and administrative policies and procedures, and implementing continuous quality improvement to monitor and improve the system response.
5. As a result of the individual and organizational investment, work, and ongoing commitment required to achieve Steps 1 through 4, we expect clinics to develop a new clinic culture, including development of new roles, norms, values and expectations, which sustain improvement over time.

**Study Purpose and Intended Outcomes**

The goal of this study is to evaluate implementation of the HCCW model in four sites: two primary care family medicine clinics, one pediatrics clinic, and one emergency department of an academic healthcare system. We explore four research questions:

1. Will clinic staff demonstrate an increase in self-efficacy to talk with patients about IPV, attitudes that promote IPV prevention, and knowledge of IPV?
2. Will clinics make systemic changes in the clinic environment including implementing new written IPV policies and procedures, and enhancing patient education about IPV and healthy relationships?
3. Will staff indicate that the clinic culture supports IPV identification, intervention, and prevention?
4. Will clinical practice change so that more female patients are asked about IPV as measured by a chart audit of IPV inquiry and intervention, and will changes in clinical practice be sustained over time?

**Method**

**Research Setting**

The HCCW intervention was conducted in a large academic health system serving a major metropolitan area in the Midwest. This system has five primary care clinics serving low-income communities (one pediatrics and four family medicine), and one emergency department. The emergency department, pediatrics clinic, and two family medicine clinics participated in the intervention; the other two family medicine clinics served as usual-care control clinics. To recruit study sites, project goals and methods were described in detail to leadership of each prospective study site. Each study site agreed to make an institutional commitment of 3 years to develop and implement the project. Because project implementation would be time and labor intensive, intervention sites received financial incentives in each of the 3 years to offset some expenses. The two control clinics did not receive compensation but were offered the opportunity to implement HCCW after the study concluded.

**Study Sites**

**Family medicine outpatient clinics.** The four family medicine clinics were community-based family practice residency clinics that serve urban, racially and ethnically diverse communities consisting primarily of Latinos, Caucasians, and African Americans. Most clinic patients had Medicaid, Medicare, or were uninsured. The two intervention clinics saw 13,700 and 17,600 patients per year respectively, and were staffed by seven faculty physicians, 18 resident physicians, and eight to 11 nurses and medical assistants. The two usual-care clinics were slightly larger, seeing 21,100 and 31,100 visits per year respectively, with eight to 12 faculty, 18-21 residents, and 12 to 19 nurses and medical assistants.

**Pediatric outpatient clinic.** The pediatric clinic was the main clinical site for continuity training for pediatrics residents and serves children and adolescents in an urban neighborhood, offering both a general pediatrics clinic and a clinic for adolescent mothers and their children.  Providing over 16,000 visits annually, the clinic serves a predominantly African American and Latino patient population.  Ninety-two percent of patients were covered by Medicaid insurance; an additional 3% were uninsured.  The clinic was staffed by 11 (eight full-time equivalent) faculty physicians who provided care for patients and educated residents, 37 pediatric residents who provided care to patients in their continuity clinic, and nine nurses and medical assistants.  In addition, 54 pediatric and medicine/pediatric residents completed a 1-month rotation in acute care pediatrics.

**Emergency medicine department.** The emergency department, the clinical training site for the Department of Emergency Medicine and the region’s Level I Trauma Center, received patients from a tri-state area. The populations served were predominantly Caucasian and African-American. Other patient populations include Latinos and Hmong. The patient population was economically diverse with a mix of private insurance, Medicare, Medicaid, and uninsured. This emergency department, which serves over 60,000 patients a year, was staffed by 21 emergency medicine faculty, 24 emergency medicine residents, and six nonphysician providers. The nursing staff was large, with nearly 150 nurses as well as eight to 10 emergency medical technicians. Table 1 shows a summary of clinic characteristics.

[INSERT TABLE 1 HERE]

**Participating Individuals**

Participants were physicians, nurses, physician assistants, and administrative staff of the intervention clinics. Before implementing the project, all clinicians and other staff were given detailed information on study purpose and methods during staff meetings and asked to provide informed consent. Because the study was a system-level intervention, all providers and staff in the participating clinics received IPV training and participated in implementing clinical changes as described below. However, evaluation data was only gathered from individuals who provided signed informed consent. One hundred forty-seven individuals consented to participate, including 97 physicians, 19 nurses, two physician assistants, one paramedic, and 26 administrative and ancillary professional staff (e.g., laboratory and X-ray technicians). Two participants did not specify their discipline. Individual participant characteristics are summarized in Table 2. We do not know how many people declined to participate in the study, so we cannot compare participants to nonparticipants.

[INSERT TABLE 2 HERE]

**Intervention**

Project investigators worked collaboratively with two IPV advocacy agencies to design two training programs and a clinical tool-kit. The first training was an in-depth, 20-hour training for healthcare advocates similar in content and intensity to the training provided by the agencies for volunteer domestic violence advocates. Content included definitions and dynamics of IPV, the impact of IPV on health, the role of the medical community in ending and preventing IPV, barriers to identifying victims in healthcare settings, children exposed to IPV, the relationship between IPV and child maltreatment, working with children from violent homes, asking patients about IPV, documentation, safety planning, community resources for helping IPV victims, and legal issues. Training also covered strategies for making sustained improvement in a healthcare system’s responses to IPV, such as implementation of routine IPV prevention, screening and intervention, display of educational posters and brochures that address IPV prevention, staff training, changing clinic policies and procedures, continuous quality improvement, and consultation with IPV advocates and experts.

A second training program was designed for saturation training of all clinical and administrative staff who have had contact with patients. This curriculum included 3 hours of training in definitions and dynamics of IPV, health impact, prevalence in healthcare settings, and healthcare strategies for identification, intervention, and prevention. Physicians, nurses, medical assistants and other clinical staff participated in an additional 1-hour module that focused upon communication skills, including strategies for taking an IPV history, intervention skills for responding to patients who report IPV, and strategies for primary prevention during the clinical encounter.

Finally, the design team developed a clinical toolbox of model policies and procedures, templates for paper and computer medical records, questionnaires, McFarlane et al.’s (2006) safety planning guide, patient education hand-outs, posters, articles, and other resources which might help the clinics implement effective IPV prevention. Clinics were asked to adapt these tools to the specific needs of their clinic.

The two training programs and toolbox were adapted from prior work by Ambuel and associates (Ambuel, Hamberger, & Lahti, 1997; Ambuel, Phelan, Hamberger, & Wolff, 2009), and were informed by our literature review of training methods (Hamberger & Phelan, 2006). Prior research has demonstrated that this training program produces sustained improvement in clinicians’ knowledge, self-efficacy for managing IPV, and positive attitudes about the nurse and physician role in addressing IPV (Hamberger et al., 2004).

**Intervention Implementation**

Each study site selected two staff members to become healthcare advocates. Advocate training was completed in three weekly, 7-hour workshops. Healthcare advocates then assisted project staff in organizing the saturation training of all other staff members at their respective clinics. Saturation training for the family medicine and pediatrics clinics was completed in several large group sessions at each clinic. Because the emergency department operates three shifts 24/7, multiple trainings were offered to accommodate personnel from each shift and to accommodate the varying schedules of nurses, faculty physicians, and resident physicians. At the request of nursing leadership, self-study modules were also made available in the break room so nurses could complete these before, during, or after a shift.

After completing saturation training, each study site implemented primary and secondary prevention strategies for IPV. Using the clinical toolbox as a resource, clinics reviewed existing policies and procedures, revised them as necessary, and wrote new policies and procedures. Each site was encouraged to design an improved system of care customized to their clinical culture and the needs of their patients. That is, while each site received basic principles of intervention, implementation, and maintenance, as well as specific models which had been used by others, clinics were not mandated to follow a particular prescription. For example, all sites were taught the importance of asking every woman about IPV. How the study sites implemented this principle of universal inquiry was left to the individual clinic.

Other principles of intervention that were encouraged included patient education about IPV and healthy relationships, developing connections with community resources, institutionalizing prevention efforts within policies and procedures, and monitoring progress using continuous quality improvement strategies. Healthcare advocates played a key role in supporting and sustaining intervention efforts within their respective clinics. Healthcare advocates, in turn, were supported by the research team and experts in IPV from the two partnering IPV advocacy programs who were also available for telephone consultation and met with advocates quarterly for continuing education, consultation, and problem-solving.

**Measures**

Data were collected using a variety of strategies to assess change at the individual and systems levels. Physicians, nurses, and clinic staff completed a survey of IPV knowledge and attitudes before and after the intervention. Chart audits before and after intervention documented rates of IPV inquiry for each clinic. Trained observers conducted site visits at each study site during which they completed a structured observational scale to describe the clinic IPV prevention environment. Healthcare advocates and clinic managers completed surveys to provide information on the process of implementing the project. Advocates completed monthly logs detailing how they spent time on the project. Clinical managers at each study site were interviewed near the end of the project to assess their overall impression of the project on factors such as clinic flow and cost. Each of these instruments is described below.

**Physicians, nurses, and staff.** We developed a survey of clinician knowledge, comfort, and practice to gather background information, assess IPV knowledge and self-reported comfort working with patients who have experienced IPV, and ask how recently the participant had identified a patient who was a victim of IPV in the course of their clinical work. The knowledge test was a 17-item measure that assesses knowledge of IPV incidence and prevalence in healthcare settings, dynamics of an abusive relationship, and victim use of the healthcare system. The comfort measure asked participants how comfortable they were asking patients about IPV, responding to a patient who acknowledged IPV, and referring a patient to community resources.

We administered Short’s Healthcare Provider Survey on Intimate Partner Violence (Short, Cotton, & Hodgson, 1997) to assess self-reported IPV-related attitudes, understanding, self-efficacy, and judgment about clinic capacity. This 46-item questionnaire includes 14 subscales: self-efficacy; knows referral resources; understands legal and regulatory requirements; staff preparation; clinic support for victims of IPV; healthcare role in IPV; value of IPV screening; clinicians too busy/can’t help; IPV training not needed; victim understanding; value of IPV identification and documentation; victim autonomy; limitations helping patients who do not acknowledge abuse; and role of alcohol and drugs. Items were answered on a seven-point Likert scale with 1 indicating *strong disagreement* and 7 indicating *strong agreement*.

**Environmental assessment.** To assess system changes in the three clinics and the emergency department, we designed an environmental audit adapted from Coben’s Delphi Instrument for Hospital-Based Domestic Violence Programs (2002). Coben’s instrument is an audit conducted by trained observers to measure the degree to which a hospital system is prepared to address IPV as a health issue. We modified the measure for outpatient and ED settings to assess the following: (a) the presence of policies and procedures for asking about and responding to IPV; (b) the presence and quantity of publicly visible patient education posters and brochures dealing with IPV and with healthy relationships; (c) the display of brochures and posters for non-English speaking patients; (d) the availability of trained medical interpreters for patients who do not speak English; and (e) the availability of a respite room where a patient can use a telephone or speak with an IPV advocate in privacy. A trained observer audited each clinic and the emergency department before and after the intervention.

We also assessed sustained systems change by conducting pre and post-intervention chart audits at each site to assess whether physicians and nurses routinely documented IPV inquiry in the patient’s record. Chart audits were conducted at three times: prior to the intervention, after the intervention, and 2 years following the end of the intervention.

**Process evaluation.** To assess how healthcare advocates spent time working on the project, we asked advocates to complete monthly, retrospective self-reports in which they estimated number of occasions and amount of time devoted to 12 project-related activities: consulting with a patient; consulting with clinical or administrative staff; working on clinic IPV policy; clinical quality improvement; organizing in-service training on IPV for clinic staff; attending IPV continuing education; attending meetings on IPV; organizing patient education on IPV or healthy relationships; self-study; consulting with a domestic violence shelter or advocacy agency; and other.

To assess strengths and weaknesses of the Change from Within model, we asked healthcare advocates at the conclusion of the project to reflect and respond in writing to a survey with the following four questions:

1. Describe your overall experience as a healthcare advocate.
2. What did you learn about yourself, your work environment, and IPV?
3. If we were to do this project again, what would you suggest we change?
4. What did you find useful about the project and the way it operated?

We also asked clinic managers to respond in writing to the following eight questions:

1. Will the healthcare advocate role continue after the project ends?
2. What was the cost in terms of time and money? In what ways would you say this cost was worth it?
3. How did the clinic benefit from the project?
4. What problems or concerns did the project cause? How were these addressed? Were the resolutions satisfactory?
5. Did the project impact internal morale and/or team building? In what ways?
6. Do you know of any success stories of patients helped by the project?
7. What changes do you recommend?
8. If you had a magic wand and could wish for anything related to the healthcare response to IPV, what would it be?

**Data Analysis**

Results from the Clinician Knowledge, Comfort and Practice Survey and the Healthcare Provider Survey on Intimate Partner Violence were analyzed by matched-pairs analysis comparing participant responses before and after intervention. Chart audits of domestic violence screening were analyzed by contingency table analysis. Results from the environmental audit are presented as contingency tables. However, because of the small sample size (four intervention clinics and two comparison clinics serving as usual-care controls), statistical tests were not conducted. We predicted an improved IPV prevention environment in the intervention clinics when comparing pre-intervention and post-intervention assessment, and we predicted at post-intervention, a better prevention environment in the two family medicine intervention clinics than in the two family medicine usual-care clinics. Descriptive statistics are used to present the healthcare advocates’ time reports. Qualitative content analysis (Buetow, 2010; Hsieh & Shannon, 2005) was used to summarize the results of the two post-study surveys of healthcare advocates and clinic managers. For each of the two surveys, the principal investigators (BA and LKH) independently read the responses, identified themes, compared results, and then agreed upon final themes by consensus.

**Results**

**Healthcare Providers**

One hundred forty-seven clinic staff completed questionnaires prior to the intervention, and 96 completed them after the intervention (see Table 2). A majority of respondents were physicians (66% and 57% respectively), but surveys were also completed by nurses, physician assistants, and other clinic staff; 53 participants completed both a pre- and post-intervention questionnaire. The decline in sample size and low number of matched pairs is due primarily to medical resident graduation, and thus unavailability for post-assessment.

**Knowledge, Comfort, and Practice Survey.** Participants’ objective knowledge of IPV incidence, prevalence, and relationship dynamics did not change between pre-intervention and post-intervention. Participants also showed no change in self-reported comfort asking patients about IPV, responding to a positive history of IPV, and referring patients to community resources. In an analysis conducted with the 35 participants who were clinicians (physicians, nurses, physician assistants, and one emergency medical technician), the clinicians reported a change in clinical behavior over time. After the intervention, clinicians were more likely to report that they had identified a victim of intimate partner violence in their own clinical practice more recently than before the intervention (see Figure 1; Jonckheere-Terpstra Test; *p* = 0.0002).

[INSERT FIGURE 1 HERE]

**Healthcare Provider Survey on Intimate Partner Violence.** Comparingpre-test with post-test scores, participants changed significantly on five of 14 subscales (see Table 3). After the intervention, participants reported having better understanding of referral resources for victims of IPV (*p* = 0.001), better understanding of legal and regulatory requirements (*p* = 0.01), and greater self-efficacy dealing with IPV (*p* = 0.001). After the intervention, participants also reported that their workplace was more supportive of IPV intervention (*p* = 0.01), and that clinical staff were better prepared to assist patients in addressing IPV (*p* = 0.05; see Table 3). Internal consistency for these five scales ranged from Cronbach’s alpha .70 to .80.

[INSERT TABLE 3 HERE]

**Environmental Audits**

Results of the pre and post-intervention environmental audits conducted at the four intervention sites are presented in Table 4. The number of sites displaying patient education material increased from three to four, and the total number of locations within the four sites where patient education material was displayed increased from 12 to 95. All four clinical sites began displaying patient education material that included referral to community resources, and all four clinical sites also began displaying patient education material in Spanish and/or other languages. The number of sites collaborating with local IPV non-profit agencies increased from two to four. At the beginning of the study one site had a written policy and procedure regarding IPV, whereas at the end of the study three sites had written IPV policies and procedures. The pediatrics clinic developed a draft written policy and procedure which was not implemented by the end of the study.

[INSERT TABLE 4 HERE]

Providing a historical control for these changes in clinic environment, the post-intervention environmental audits from the two family medicine clinics were compared with environmental audits completed at the same time at two usual-care family medicine clinics that are part of the same healthcare system (see Table 5). The usual-care clinics were not displaying educational posters and brochures, did not have written IPV policies and procedures, were not screening specific groups of patients for IPV, and were not collaborating with local IPV agencies.

 [INSERT TABLE 5 HERE]

**Chart Audits**

Pre- and post-intervention chart audits were conducted with the emergency department and two family medicine clinics. The pediatrics clinic was not included in the chart audit because it did not implement a protocol for routine inquiry and documentation of IPV. Table 6 illustrates documentation at three time periods: immediately before the intervention began in 2005, shortly after the intervention ended in 2006, and 2 years after the intervention ended in 2008. There was an increase in documentation of IPV inquiry across all time periods. The increase was statistically significant between 2005 and 2008 (*p* = 0.001), and between 2006 and 2008 (*p* = 0.02).

[INSERT TABLE 6 HERE]

**Process Evaluation**

Healthcare Advocates (HCA) completed a total of 36 monthly time reports describing how they devoted time to the project (see Table 7). After initial project start-up during which HCAs worked intensively to assist in training all staff, HCAs in the primary care clinics devoted, on average, 3 hours 26 minutes per month to the project, while HCAs in the emergency department devoted, on average, 7 hours 20 minutes per month to the project. Regarding the type of activities, HCAs devoted time to both patient care-related activities, such as consulting with patients and clinicians, and systems change-related activities, such as meetings, policy development, and preparing patient education materials. HCAs in the ED spent more time proportionately on patient care-related activities. HCAs in the primary care settings devoted more time proportionately to professional self-development through self-study and continuing education. Regardless of their clinical setting, HCAs devoted minimal time on continuous quality improvement projects.

[INSERT TABLE 7 HERE]

Four themes emerged from healthcare advocates’ written reflections at the conclusion of the study (see Table 8). First, HCAs reported increased knowledge about IPV and understanding of patients who are experiencing IPV. For example, “My knowledge base of abuse in general has expanded. I have a better understanding of people who have been abused and why they stay,” and, “I learned that there are so many other types of abuse that I considered ‘normal behavior’ in a relationship.” Second, HCAs described increased clinical skill, noting for example that “This experience has given me the confidence to talk to the patients about a sensitive subject,” and, “The training prepared me to understand, listen, and help our victims of IPV.” Third, HCAs described gaining satisfaction from helping others: “Helping others gives me great satisfaction,” and, “The people I have talked to have really appreciated the information.” Fourth, HCAs reflected on successes and challenges of changing healthcare systems. One HCA observed, “I have grown in an ability to help change the clinic and start a policy,” while another recommended, “a little more training as far as putting a policy together and implementing change within a clinic setting.” An HCA from the emergency department recommended recruiting more than two HCAs in larger facilities, like the ED, and using a train-the-trainer model: “Have each HCA recruit several key personnel to augment/extend their role.” Finally, an advocate who worked in the pediatrics clinic, which did not implement routine IPV inquiry, observed, “Talking one-on-one with nurses and physicians, you’ll find genuine concern about IPV. Talking to management, you’ll find agreement on need for education, screening, and intervention. But in general, this does not translate to practice. I could not break down the barriers to screening.”

[INSERT TABLE 8 HERE]

Clinic managers in the two family medicine clinics and emergency department also provided written reflections at the end of the project while the pediatrics manager did not. Three themes emerged from their comments. Managers valued the professional development that the project provided to their staff. One noted, “[I] love to find projects that broaden staff,” while another observed that, “A benefit was teaching staff members how to do things like run meetings, book speakers, coordinate meetings, problem solve.” Managers also valued the improved clinical care for patients. One noted, “I think it has been beneficial to patients; I hear staff discussing this,” and another observed, “It helps our patients get consistent information and screening.” Finally, managers described challenges encountered in changing the system, particularly in maintaining good communication and evaluating effectiveness. Most of these comments were from the emergency department. Examples include: “[We] still have very little defined as far as what we do with information that is gathered. If audits or classes are going on, the loop is not being closed….What have we learned?” “[There is a] disconnect from managers to HCAs – a challenge and a weakness;” and, “[We] need something published every month, a “Change from Within” story or what happened this month.”

**Discussion**

This study evaluated the HCCW systems change model for improving the clinical care of patients experiencing IPV. The goal of HCCW is to bring about change at multiple levels of the healthcare system including individual clinicians and clinical staff, clinical environment (policies, procedures, patient education), and clinical culture. Our results suggest that the model was effective at improving the system of care at both an individual and systems level. At the individual level, physicians and staff reported increased self-efficacy in helping patients experiencing IPV, increased knowledge of referral resources, and increased knowledge of legal and regulatory requirements. There was no change in knowledge of IPV dynamics and impact on health; this could mean either that participants already possessed a sufficient level of knowledge at baseline to perform well on the objective test, or that the test was not valid. We did not control for prior IPV education or experience with identifying and helping a victim. It is noteworthy that although global knowledge of IPV dynamics and health impacts did not change, staff indicated increased knowledge of local resources and legal issues. Our results, showing an increase on measures of staff knowledge and attitudes, are consistent with other studies that have demonstrated that healthcare provider attitudes, self-efficacy, and comfort with providing abused patients with community referrals can be enhanced through appropriate training (Campbell et al., 2001; Hamberger et al., 2004; Thompson et al., 2000).

At the systems level, study sites displayed more patient education material in more locations, added bilingual patient education material, and developed collaborative relationships with local non-profit agencies dealing with IPV. Three out of four sites adopted written IPV policies and procedures, as well as implemented routine inquiry about IPV; the pediatrics clinic developed a draft of new policies and procedures that included routine IPV inquiry, but never implemented this policy because of a lack of consensus among the physician staff. One reported barrier was concern about maintaining confidentiality if one parent acknowledged IPV, and this was documented in a pediatric medical record which might be obtained by the other, abusive parent. Supporting the idea that these changes represent a change in clinical culture, participants rated their clinics as more supportive of IPV intervention and clinic staff members as better prepared to assist patients in addressing IPV. These changes at a systems level are consistent with the findings of Campbell et al. (2001) and Thompson et al. (2000). Campbell et al. demonstrated changes in emergency department culture with respect to viewing and addressing IPV as a healthcare issue, but no change in rates of IPV identification. Working in primary care clinics, Thompson et al. demonstrated improvement in provider attitudes and improvement in documentation of asking about IPV due to use of health questionnaires that included IPV questions. Thus, the present study builds on previous research to show that clinic and emergency department procedures and culture can be altered to support IPV inquiry, intervention, and education, as well as communicate to patients that the healthcare setting is prepared to help them with IPV-related concerns.

These changes in individual knowledge, attitudes, and skill, and the implementation of a clinical system of care for IPV led to a sustained change in clinical practice. After the intervention, clinicians reported that they had more recently identified a patient in their practice who was a victim of IPV. In addition, a chart audit of IPV screening and documentation demonstrated clinically significant increases in the percentage of patients who were asked about IPV by a clinician, an improvement which was sustained at a 2-year follow-up. This sustained improvement is particularly significant given the lack of sustained improvement found in many prior studies (Campbell et al., 2001; McLeer & Anwar, 1989; McLeer, Anwar, Herman, & Maquiling, 1989). Reasons for the enhanced sustainability are explored subsequently.

The fact that the study’s four research questions received affirmative support suggests that the Health Care Can Change from Within intervention produced robust change at both the individual level with clinical staff and the systems level with policies, procedures, environment, and culture resulting in a more effective environment for identifying and helping victims of intimate partner violence. These gains were achieved with a modest investment of time by healthcare advocates – less than 1 hour per week in primary care settings and 2 hours per week in the emergency department.

What were the active ingredients of the Change from Within intervention for individuals and clinics? At the individual level, clinical staff did not change in their knowledge of IPV incidence, prevalence, and dynamics, but did change in self-reported understanding of legal and regulatory requirements, as well as community resources for patients experiencing IPV. Thus, global knowledge about IPV and health, which was already relatively high in the participants, did not change, but local, contextual knowledge increased. We believe that multiple factors contributed to this change. Saturation training of all staff created a general awareness of community resources and legal and regulatory requirements. The in-depth training received by healthcare advocates meant that there was an in-clinic expert who could answer staff questions. Engaging clinic and emergency department staff in writing and implementing new IPV policies and procedures also solidified the understanding of individual staff. Finally, collaboration with the local IPV non-profit raised awareness of community resources. We believe that another critical factor leading to sustained change was the creation of a team effort among front office, nursing, physician, and ancillary staff so that individual practitioners did not bear the burden of change.

At the organizational level of the clinic and emergency department, we believe that the active ingredients of change were integrated within the step-wise, multifaceted change process. Intensive training of HCAs, who were provided with a toolkit that included model policies and procedures as well as patient education materials about IPV and healthy relationships, created experts within the clinic and emergency department who would be catalysts and leaders of change. Saturation training of clinical staff provided a common knowledge base and was a concrete demonstration of clinic commitment. Engaging many clinical staff in revising and implementing new policies and procedures increased the number of stakeholders who were invested in change. The policies and procedures themselves defined specific roles and responsibilities for clinical staff, which further institutionalized change. Including patient education about healthy relationships introduced a positive dimension to the intervention which appealed to both clinical staff and patients. Although we did not objectively quantify staff and patient response to the healthy relationship posters and brochures, we can report anecdotally that we received many positive comments from both clinical staff and patients. Finally, the implementation of a clinical protocol, which included patient education, routine IPV inquiry, and intervention via support, education, and referral, produced a standard of care that clinic staff endorsed because they believed they were providing better and more organized care, and because they received positive feedback from patients.

We learned several lessons that may be useful to researchers and clinicians interested in implementing the Change from Within model. First, as feedback from the clinic managers indicated, the intervention dosage needs to be scaled appropriately for the size and complexity of the clinical setting. In the two family medicine clinics, the engagement of clinic staff with managers as well as ongoing communication and feedback occurred organically during the process of implementing the intervention. Managers specifically noted that the project gave clinic staff a systematic method to identify and help victims of domestic violence, as well as the awareness and knowledge to implement the method. They felt that clinic patients benefited because they received information and support. They also observed that clinic staff who helped implement the project developed new professional and leadership skills such as how to plan, coordinate, and lead meetings, how to book speakers, and how to problem-solve in a team. The Change from Within intervention, as implemented, seemed to be appropriately scaled for these primary care family medicine clinics.

In contrast, the Emergency Department struggled in reaching the large nursing staff with saturation training, and struggled to maintain communication between the HCAs and the ED manager and hospital administration, which was evidenced by the manager’s comments at the end of the project. The ED manager noted that there was a lack of routine communication between the HCA and the manager, and no schedule or format for regular communication. As a result, the manager was not sure how effectively the project was implemented, how it impacted patient care, and whether there was data showing that the project was making a difference for patients. The manager recommended that in the future, the project adopt a more systematic communication plan, such as regular meetings between the HCA and manager and monthly updates in a department newsletter that includes quality indicators, success stories, and upcoming activities.

In retrospect, these difficulties are easy to understand. The emergency department is a large, high volume clinic that operates 24 hours per day, runs three fully staffed shifts, and employs an A week/B week staffing model, so there is a large staff turnover on alternate weeks. The ED also has a more complex administrative structure, such as hospital-wide nursing and social work departments, which influence clinical roles and responsibilities. We would therefore recommend the following changes when implementing the Change from Within model in an emergency department: (a) recruit and train at least two healthcare advocates per shift per week; (b) implement saturation training in part using a more cost-effective training model by using self-study that can be completed before, during, or after a shift; (c) implement a train-the-trainer model by training a subset of nurses who would each train additional small groups of nurses on their shift; and (d) explicitly ask HCAs and managers to develop and implement a communication strategy for ED administration, ED staff, and hospital administration. It is noteworthy that in spite of these challenges in the ED there were significant positive changes in clinic environment and clinical practice. This suggests that the Change from Within intervention is robust.

A second lesson learned is that clinics implement the Change from Within model at varying rates of speed. One family medicine clinic implemented new protocols within 6 months of the project start date, the emergency department took somewhat longer, and the second family medicine clinic took about 18 months. Regardless of these differences in speed, all three clinics showed sustained improvement at the 2-year follow-up.

A third lesson learned is that pediatric outpatient clinics face unique challenges implementing the Change from Within model. Because a child’s medical record may be accessible to the abuser or others, it is not a confidential place to document one parent’s account of IPV. A pediatric clinic interested in implementing IPV inquiry and intervention must develop medical records policies and procedures that support confidential documentation of parental exposure to IPV. In addition, our experience suggests that there may be a lack of consensus among pediatricians regarding IPV inquiry and intervention in pediatric settings even though the American Academy of Pediatrics (1998) has recommended routine inquiry.

A fourth lesson learned is that any intervention in a complex system is likely to lead to unanticipated changes. The Change from Within project produced two unplanned positive outcomes within collaborating healthcare systems. A physician and social worker participating in the ED intervention were invited to serve on a hospital committee that was reviewing the healthcare system’s overall approach to domestic violence. This committee developed new policies and procedures for the entire healthcare system. In a similar vein, a physician working on the pediatrics clinic intervention was invited to serve on a hospital committee that developed new policies and procedures for the children’s hospital system. In addition, the pediatrics clinic invited an advocate from the local domestic violence agency to collaborate with the clinic’s social worker to implement a discussion group for teen girls on healthy relationships. These were unanticipated and unplanned opportunities to disseminate concepts from the Healthcare Can Change from Within model. The Change from Within intervention provided a setting for professional development of clinicians, and may have raised the visibility of intimate partner violence as a healthcare issue within the larger hospital system.

The primary limitation of this study is the small sample size – a study within a single healthcare system of three outpatient clinics and an emergency department, with two additional outpatient clinics serving as usual-care/no-intervention controls. The small size allowed us to study change in depth over several years; however, the small size imposed limits on statistical analysis and suggests caution in generalizing from our results to other healthcare clinics and systems. A second limitation that adversely impacts generalizability is the research design. It was primarily a single group, pre-post design, with a quasi-experimental design for selected variables. Future research in this area should utilize larger numbers of clinics, with random assignment to intervention condition.

**Conclusion**

The Change from Within model produced improvements in identification, intervention, and prevention of intimate partner violence in two primary care family medicine clinics and a large, urban emergency department. These improvements in care occurred at the level of individual clinicians and the healthcare system, and changes in clinical practice were sustained 2 years after the end of the intervention. The Change from Within model appears to be a promising practice worthy of further testing. This study is a proof of concept, suggesting that the Change from Within Model can produce individual and system-level changes. Future research should test the model in a randomized controlled study with a larger number of clinics and health systems.

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Table 1

*Clinic Study Site Characteristics*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Change from Within** |  | **Usual Care** |
|  | ED | Pediatric | FamilyMedicine 1 | FamilyMedicine 2  |  | Family Medicine 3 | Family Medicine4 |
| Visits/Year | 62,000 | 16,000 | 17, 600 | 13,700 |  | 21,100 | 31,100 |
| Medicaid | 11% | 92% | 49% | 41% |  | 65% | 61% |
| Medicare | 25% | 0% | 11% | 17% |  | 15% | 16% |
| Uninsured | 17% | 3% | 16% | 29% |  | 7% | 7% |
| Faculty Physicians | 21 | 8 | 7 | 7 |  | 8 | 12 |
| Resident Physicians | 24 | 54 | 18 | 18 |  | 18 | 21 |
| Nurses/MAs FTE | 150 | 9 | 11 | 9 |  | 12 | 19 |
| PA/NP/EMT | 10 | 1 | 2 | 0 |  | 1 | 2 |

Table 2

*Participants Who Completed the Health Care Provider Survey on Intimate Partner Violence*

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Pretest only or Posttest only*n* = 137 | Both Pre and Posttest*n* = 53 |
| Age % (*n*) | 20-24 | 1 (1) | 4 (2) |
|  | 25-29 | 31 (43) | 23 (12) |
|  | 30-34 | 27 (37) | 25 (13) |
|  | 35-39 | 9 (12) | 13 (7) |
|  | 40+ | 26 (35) | 26 (14) |
|  | Unknown | 7 (9) | 9 (5) |
| Sex % (*n*) | Female | 63 (86) | 72 (38) |
|  | Male | 32 (44) | 25 (13) |
|  | Unknown | 5 (7) | 4 (2) |
| Mean years in healthcare field (*sd*) |  | 8.4 (8.8) *n* = 123 | 10.1 (9.8) *n* = 49 |
| Current position % (*n*) | MD | 67 (92) | 57 (30) |
|  | RN/NP | 12 (17) | 6 (3) |
|  | Physicians assistant | 2 (3) | 2 (1) |
|  | Paramedic | 1 (1) | 2 (1) |
|  | Other position | 17 (23) | 32 (17) |
|  | Missing | 1 (1) | 2 (1) |

Table 3

*Health Care Providers Survey on Intimate Partner Violence*

|  |  |  |
| --- | --- | --- |
|  | Median(95% Confidence Interval) |  |
| Scale  | Pretraining† | Posttraining† | Comparison |
| Self-efficacy  | 16(14-18) | 19(18-20) | 3\*\*\* |
| Knows referral resources  | 12(11-13) | 14(13-14) | 2\*\*\* |
| Understands legal and regulatory requirements  | 7(6-8) | 9(8-10) | 2\*\* |
| Staff preparation  | 9(8-10) | 10(9-10) | 1\* |
| Clinic support for clinician and IPV | 18(16-19) | 19(18-21) | 1\*\* |
|  |  |  |  |

*Note*. †Based on summed 1 to 7 scales where 1 = *strongly disagree* and 7 = *strongly agree*. Sense of scale

has been reversed where necessary.

\*p < .05. \*\*p < .01. \*\*\*p < .001 using the nonparametric Wilcox signed rank test on paired data.

Table 4

*Environmental Audit of Clinics Before and After Intervention*

|  |  |  |
| --- | --- | --- |
|  | Baseline*n* = 4 | Intervention*n* = 4 |
| Posters and brochures present in clinic | 3  | 4  |
| Posters and brochures, total locations displayed | 12  | 95  |
| Referral information displayed | 1 | 4 |
| Non-English education material | 1 | 4 |
| IPV policy and procedure | 1 | 3 |
| Screening of specific patients | 3 | 3 |
| Community collaboration | 2 | 4 |

Table 5

*Environmental Audit of Intervention and Usual Care Family Medicine Clinics*

|  |  |  |
| --- | --- | --- |
|  | Usual Care *n* = 2 | Change from Within*n* = 2 |
| Posters and brochures are present | 0 clinics | 2 clinics |
| Posters and brochuresnumber of locations | 0 | 45 |
| Referral information | 0 | 2 |
| Non-English material | 0 | 2 |
| Clinic policy | 0 | 2 |
| Screening of specific patients | 0 | 2 |
| Community collaboration | 0 | 2 |

Table 6

*Documentation of Screening for IPV in Family Medicine and Emergency Medicine*

|  |  |  |
| --- | --- | --- |
| Year | Screening YES | Screening NO |
| 2005 | 30%(24) | 70%(55) |
| 2006 | 42%(32) | 58%(45) |
| 2008 | 60%(49) | 40%(32) |

*Note*. Pearson chi2 = 15.0. *p* = 0.001. 2005 vs. 2006:

Pearson chi2 = 2.1. *p* = 0.15. 2006 vs. 2008: Pearson chi2 = 5.7

 *p* = 0.02.

Table 7

*Healthcare Advocate Monthly Time Reports in Minutes per Month*

|  |  |
| --- | --- |
|  | Clinic |
| Type of Activity | ED | PEDS | FM1 | FM2 | Average |
| Consulted with a patient | 60 | 20 | 20 | 15  | 29 |
| Consult with a physician, nurse, or other clinic staff | 20 | 15 | 10 | 15  | 15 |
| Worked on clinic IPV policy | 60 | 0 | 0 | 0 | 15 |
| Worked on Continuous Quality Improvement  | 120 | 0 | 0 | 15  | 34 |
| Attended meetings re: IPV | 120 | 60 | 60 | 60  | 75 |
| Organized patient education (e.g., posters, brochures) on intimate partner violence | 30 | 15 | 30 | 30  | 26 |
| Organized patient education (e.g. posters, brochures) on healthy relationships | 30 | 15 | 30 | 30  | 26 |
| Self-study: reading; researching on internet; etc. | 0 | 60 | 60 | 60  | 45 |
| Total Monthly | 440 | 185 | 210 | 225 | 265 |
| Weekly | 110 | 46 | 52 | 56 | 66 |

*Note*. Health care advocates reported no activity in four categories: Organized in-service training on IPV for clinic staff; Attended continuing education on IPV; Contacted a domestic violence shelter or advocacy program for consultation or referral; and Other.

Table 8

*Themes in Health Care Advocate End-of-Study Survey*

Increased Knowledge and Understanding of IPV

“I’ve enjoyed participating in the group and gaining more information/ education re: IPV”

“I cannot believe the number of people who have either had violence in their past or are in abusive situations. I am also amazed at the number of people who have gotten help.”

“I learned that there are so many other types of abuse that I considered “normal behavior” in a relationship.”

Increased Clinical Skill

“This experience has given me the confidence to talk to the patients about a sensitive subject.”

“The training prepared me to understand, listen and help our victims of IPV.”

Professional Satisfaction from Helping Others

 “Helping others gives me great satisfaction.”

“The people I have talked to have really appreciated the information.”

Experiences with Changing Health Care Systems

“I have grown in an ability to help change the clinic/start a policy.”

“I wish my work environment were more supportive in term of developing a protocol for approaching parents.”

Could have used “a little more training, as far as putting a policy together and implementing change within a clinic setting.”

In a large facility, like the ED, “recruit more HCAs, and then have each HCA recruit several key personnel to augment/extend the roll.”

*Figure 1*. *Clinician Self-Report of Identification of an IPV Victim.* After intervention clinicians self-report identifying a victim of IPV more recently than before intervention. The size of the marker reflects the number of clinicians at that response point. Jonckheere-Terpstra Test; *p* = 0.0002.

