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The Potential for Screening for Interpersonal Violence in Community Pharmacies: an Exploratory Study

Marie Barnard

THE POTENTIAL FOR SCREENING FOR INTERPERSONAL VIOLENCE IN COMMUNITY PHARMACIES: AN EXPLORATORY STUDY

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MARIE BARNARD

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ABSTRACT

Intimate partner violence (IPV) is a public health problem of epidemic proportion; the only known effective health care intervention is routine screening for IPV exposure. Despite professional guidelines for routine screening, this intervention has been poorly adopted. Expansion of screening efforts to the community pharmacy setting provides an opportunity to have a substantial impact on the health, well-being of pharmacy patients. This investigation is the first to examine IPV screening related to the pharmacy environment. An existing measure of physicians' readiness to manage IPV (PREMIS) was adapted for the community pharmacy environment and validated in a national random sample of practicing community pharmacists. Additionally, a study of female pharmacy consumers was conducted to examine the acceptability of IPV screening in pharmacies. Results indicate that community pharmacists have minimal exposure to IPV education/training. While respondents expressed concern regarding training and time, they indicated that participation in screening may be valuable to patient health and as a relative advantage for their pharmacies. Female pharmacists were more likely to report intent to screen targeted patients for IPV. Consumers agreed that IPV screening is important for health care providers to do, but were uncertain as to whether pharmacists specifically should engage in screening. Comments indicated that consumers are unaware that pharmacists are trained in patient communication/counseling, suggesting a need for recognition of the skills and capabilities of community pharmacists. The potential for expanding IPV screening to

community pharmacies should be prioritized among future studies of methods to address the public health problem of IPV.

DEDICATION

This dissertation is dedicated to my family. I am grateful to my husband, Bob Barnard, for his love, support, patience and most of all willingness to be two parents for nearly three years. I also dedicate this effort to my children, Owen and Sam, from whoM I learn more each day than I could ever hope to in a classroom. Their encouragement, patience, and support are invaluable.

LIST OF ABBREVIATIONS AND SYMBOLS

ANCOVA	Analysis of Covariance
BRFSS	Behavioral Risk Factor Surveillance System
CDC	Centers for Disease Control and Prevention
df	Degrees of Freedom
DV	Domestic Violence
IOM	Institute of Medicine
IPV	Intimate Partner Violence
KMO MSA	Kaiser-Meyer-Olkin Measure of Sampling Adequacy
MLF	Maximum Likelihood Factor Analysis
NISVS	National Intimate Partner and Sexual Violence Survey
PRECEDE	Predisposing, Reinforcing, Enabling Constructs in Educational Diagnosis and Evaluation
PREMIS	Physician Readiness to Manage Intimate Partner Violence Survey
PROCEED	Policy, Regulatory, Organizational Constructs in Educational and Environmental Development
PTSD	Post-traumatic Stress Disorder
SD	Standard Deviation
US	United States
USPSTF	United States Preventive Services Task Force
WHO	World Health Organization

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1. INTRODUCTION

Interpersonal Violence: a Significant Public Health Problem

Intimate partner violence (IPV), also known as domestic violence, is a public health problem of epidemic proportion in the United States, impacting more than 12 million people each year (Black et al., 2011). According to the National Intimate Partner and Sexual Violence Survey, 35.6% of women and 28.5% of men are physically assaulted, sexually assaulted, or stalked by an intimate partner in their lifetime (Black et al., 2011). Annually, there are 4,741,000 physical assaults, 686,000 rapes, and 3,353,000 stalking victimizations of women and 5,365,000 physical assaults, and 519,000 stalking victimizations of men by intimate partners (Black et al., 2011). Intimate partner violence can negatively impact the health and well-being of the victim by causing injury or worsening health conditions. Physical injuries can be as minor as cuts and scrapes or as serious as broken bones, brain injuries, organ damage, and even death (Tjaden & Thoennes, 2000). Victims of IPV experience exacerbation of chronic diseases due to stress and poor health behaviors (Crofford, 2007; Balousek, Plane, & Fleming, 2007; Humphreys & Lee, 2009), report pain more frequently, and use prescription pain medications more than those who are not exposed to IPV (Bonomi, Anderson, Rivara, & Thompson, 2009). Both health care utilization and health care costs are higher for women experiencing IPV, with IPV contributing to an increased use of both primary and emergency care (Crofford, 2007). Women exposed to IPV have health care costs that are approximately 60% higher than women not experiencing

abuse (Ulrich et al., 2003). According to the Centers for Disease Control and Prevention (CDC), IPV cost $8.3 billion annually when the economic impact was last updated in 2003 (National Center for Injury Prevention and Control, 2003). The harm of IPV extends beyond the immediate victim. For example, children of mothers exposed to IPV have increased health care utilization and costs (Rivara et al., 2007b), and are at a greatly increased risk for child abuse (Cannon, Bonomi, Anderson, & Rivara, 2009; Parkinson, Adams, & Emerling, 2001).

Due to the high prevalence of this serious health threat, Healthy People 2020 has multiple objectives to reduce the rate of physical and sexual assault by intimate partners in the United States (U.S.Department of Health and Human Services & U.S., 11 A.D.). These goals are in the focus area of Injury and Violence Prevention (IVP). Table 1 includes the Healthy People 2020 goals related to intimate partner violence. The inclusion of these objectives in Healthy People 2020 recognizes the importance of interpersonal violence as a social determinant of health.

Table 1. Healthy People 2020 Goals Related to Intimate Partner Violence

IVP-39 Reduce violence by current or former intimate partners
IVP-39.1 Reduce physical violence by current or former intimate partners
IVP-39.2 Reduce sexual violence by current or former intimate partners
IVP-39.3 Reduce psychological abuse by current or former intimate partners
IVP-39.4 Reduce stalking by current or former intimate partners
IVP-40 Reduce sexual violence
IVP-40.1 Reduce rape or attempted rape
IVP-40.2 Reduce abusive sexual contact other than rape or attempted rape
IVP-40.3 Reduce non-contact sexual abuse
IVP-42 Reduce children's exposure to violence

Note: Adapted from "Healthy People 2020," by U.S. Department of Health and Human Services Office of Disease Prevention and Health Promotion, 2011. Available at www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=24. *Accessed November 18, 2011.*

Definitions of Interpersonal Violence

When discussing interpersonal violence it is important to be clear about how IPV is defined. The World Health Organization's (WHO) *World Report on Violence and Health* defines intimate partner violence as behavior within an intimate relationship that causes physical, sexual or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse, and controlling behaviors (Garcia-Moreno, 2002b). This definition is widely used and has been operationalized in various ways. The CDC issued *Intimate Partner Violence Surveillance*: *Uniform Definitions and Recommended Data Elements* for IPV and provided clarity regarding the behavioral manifestation of IPV (Saltzman, Fanslow, McMahon, & Shelley, 1999). The CDC defined physical violence as:

> The intentional use of physical force with the potential for causing death, disability, injury, or harm. Physical violence includes, but is not limited to: scratching, pushing, shoving, throwing, grabbing, biting, choking, shaking, poking, hair-pulling, slapping, punching, hitting, burning, use of a weapon (gun, knife or other object), and use of restraints or one's body, size or strength against another person. Physical violence also includes coercing other people to commit any of the above acts (Saltzman, Fanslow, McMahon, & Shelley, 1999, p. 11-12).

WHO utilizes the social ecology model (see Figure 1) to frame the problem of interpersonal violence (Heise, 1998). This model organizes risk factors into individual, relationship, community, and societal levels of influence. The model provides a framework to investigate the complex relationships among the factors that are involved in IPV and can assist in developing effective prevention and intervention efforts. The social ecology model supports a comprehensive public health approach to IPV, emphasizing the need for policies and programs

across many settings. Primary, secondary, and tertiary prevention strategies for IPV can be guided by the model. The health care system response can have impact on factors influencing all four levels in the model.

Figure 1. **The Social Ecology Model of Interpersonal Violence**

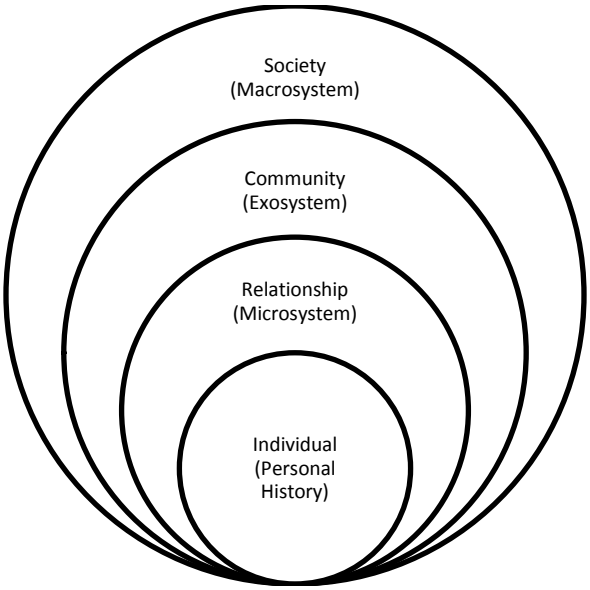

Figure 1. The social ecology model of interpersonal violence utilized to guide IPV work by WHO. Adapted from "Violence against Women: An Integrated Ecological Framework," L.L. Heise, 1998, *Violence Against Women*, 4(3), p.263. Copyright 1998 by Sage Publications.

IPV Prevention and Intervention Efforts

There are multiple methods by which IPV can be prevented or by which interventions can reduce the impact of the IPV. The health care system has always been actively engaged in intervening to reduce the impact of injuries that have resulted from IPV by providing medical treatment for injuries. However, medical treatment of this nature is an intervention that only treats the physical injuries and does not serve as a preventive measure that could reduce the future impact of violence. Efforts to prevent IPV and to reduce the future impact of IPV require

intervention of a different nature. Screening for IPV has been proposed as the most effective method to prevent and reduce the impact of IPV in the future (McFarlane, Soeken, & Wiist, 2000).

Screening, identifying, and referring patients exposed to IPV presents an opportunity to prevent further physical injuries and positively impact both the physical and mental health of patients. Routine and regular screenings by skilled health care providers has been shown to significantly increase the identification of IPV (McFarlane, Christoffel, Bateman, Miller, & Bullock, 1991; McFarlane, Parker, Soeken, & Bullock, 1992; Sisley, Jacobs, Poole, Campbell, & Esposito, 1999). A number of studies have demonstrated that IPV case identification increases if structured protocols are implemented. These can include chart prompts (Olson et al., 1996), additions to health history forms, and targeted documentation protocols (McLeer, Anwar, Herman, & Maquiling, 1989; Coker, Bethea, Smith, Fadden, & Brandt, 2002). An investigation in a family medicine practice found that IPV screening increased documentation and referrals by increasing IPV positive women's intention to disclose the exposure (Zeitler et al., 2006a). A review of IPV interventions found that there was no difference among intensive counseling interventions and simple screening and referral (McFarlane et al., 2000). These authors concluded that abuse screening itself may be the most effective intervention (McFarlane et al., 2000). Studies have found that women support IPV screening and believe health care providers are the most appropriate person to ask them about IPV (Zeitler et al., 2006b; Zeitler et al., 2006a). A survey by Brendtro and Bowker (1989) of self-identified abused women who had successfully ended the violence found that the majority had sought help from health professionals, a higher proportion than from any other source of help (Brendtro M & Bowker L, 1989). Evidence suggests that some IPV victims will seek services if provided referral materials

(Leserman & Drossman, 2007) and several studies have demonstrated a significant increase in safety behaviors and a decrease in violence after screening and referral of individuals identified as IPV exposed (McFarlane, Groff, O'Brien, & Watson, 2006; Krasnoff & Moscati, 2002; McFarlane, Groff, O'Brien, & Watson, 2005; McFarlane, Parker, Soeken, Silva, & Reel, 1998; McFarlane et al., 2000). However, it is clear that screening needs to be routine as research has shown that most victims who seek help report being screening multiple times before accessing services (Ambuel, Hamberger, & Lahti, 1996).

The benefits of screening extend beyond the immediate patient. The American Academy of Pediatrics recommendation states that "intervening on behalf of battered women may be one of the most effective means of preventing child abuse" (American Academy of Pediatrics, 1998). Given that IPV patients see a greater number of health care providers and use health services at a higher rate compared to non-abused women (Koss, Koss, & Woodruff, 1991; Bonomi et al., 2009), universal screening in health care settings has the potential to identify larger numbers of IPV exposed patients.

Health Care System Response to IPV

Screening Recommendations

The health care system has recognized the seriousness of IPV and has been actively recommending screening for over two decades. Because of the seriousness of this health threat, nearly every national health care organization and professional group has called for routine screening of IPV in health care settings. This began with U.S. Surgeon General C. Everett Koop who declared IPV a public health crisis (Koop & Lundberg, 1992). In 1992 the American Medical Association issued *Diagnostic and Treatment Guidelines on Domestic Violence*

(American Medical Association, 1992), which declared that domestic violence was sufficiently prevalent to justify routine screening of all women patients. Most other professional associations have issued treatment guidelines to screen patients for IPV. The American College of Obstetrics and Gynecology (ACOG) issued a technical bulletin in 1995 recommending screening of all patients (American College of Obstetricians and Gynecologists, 1995). ACOG has repeated this recommendation and published screening tools for use in practice (ACOG, 2010). Other professional associations including the American Nurses' Association (American Nurses' Association, 1992), the American Academy of Pediatrics (American Academy of Pediatrics, 1998), the American Academy of Family Practice (American Academy of Family Practice, 1994), and the American College of Emergency Physicians (American College of Emergency Physicians, 1995) have issued similar recommendations. In 2004 the Joint Commission first added standards for how hospitals must respond to victims of domestic abuse, neglect, and exploitation. In 2009 these standards were updated. Standard PC.01.02.09 states "The [organization, critical access hospital, hospital, practice] assesses the [patient/resident] who may be a victim of possible abuse and neglect" (Joint Commission, 2011b). This standard is applicable to all types of care facilities that the Joint Commission accredits. Performance elements include having criteria to identify individuals who may be victims, to assist with referrals of victims, maintenance of a list of public and private agencies that can provide assessment and care, staff education, screen at intake, and report cases internally and externally as appropriate (Joint Commission, 2011a).

In a 2004 statement the United States Preventive Services Task Force (USPSTF) found insufficient evidence to recommend for or against routine screening for IPV (U.S.Preventive Services Task Force, 2004). This was primarily due to the lack of a validated instrument and the

lack of long-term follow-up of individuals screened to document reductions in exposure to IPV after screening. In 2004 the Institute of Medicine (IOM) released a review, *Advancing the Federal Research Agenda on Violence Against Women*, which called for improved data and research infrastructure to address these challenges (Institute of Medicine, 2004). New research has been published since the 2004 USPSTF recommendation. For example, standardized assessment tools have been developed and found to be reliable and valid (Chen, Rovi, Vega, Jacobs, & Johnson, 2005; Wathen & Macmillan, 2008; Weiss, Ernst, Cham, & Nick, 2003). In July 2011 the IOM released the report *Clinical Preventive Services for Women: Closing the Gaps* (Institute of Medicine, 2011). In this document, IOM reviewed the previous recommendation by the USPSTF and reported that there is now sufficient evidence to move forward with a recommendation that screening and counseling be a routine part of preventive care for women (Institute of Medicine, 2011). Recommendation 7 states:

> The committee recommends for consideration as a preventive service for women: screening and counseling for interpersonal and domestic violence. Screening and counseling involve elicitation of information from women and adolescents about current and past violence and abuse in a culturally sensitive and supportive manner to address current health concerns about safety and other current or future health problems. (Institute of Medicine, 2011, p. 107)

Failure to Adopt IPV Screening

While the guidance and standards of care call for routine screening, and universal screening is widely promoted, most investigations have found that screening is poorly adopted and implemented in practice. Studies have shown that IPV screening rates differ according to the specialty of the provider. For example, the estimated prevalence of screening by primary

care and emergency room settings ranges from 1.5-30% (Plichta, 2004; Coker et al., 2002; Daugherty & Houry, 2008; McGrath, Hogan, & Peipert, 1998). Women's health specialists have placed the most emphasis on screening; however, screening by obstetrician-gynecologists is only slightly better, ranging from 10-39% (Bunn, Higa, Parker, & Kaneshiro, 2009; O'Reilly, Beale, & Gillies, 2010). Studies consistently show that the majority of health care providers are not following professional recommendations for universal screening (Bunn et al., 2009). In pediatrics, a study found that only 4.2% of practices had protocols in place despite specific policy statements and guidelines regarding IPV screening from the American Academy of Pediatrics (Wright, Wright, & Isaac, 1997). Research shows that health care workers identify far fewer cases than are described by surveys or police (Cann, Withnell, Shakespeare, Doll, & Thomas, 2001), despite the fact that most victims have sought medical help (Fishman, Bonomi, Anderson, Reid, & Rivara, 2010). One study demonstrated that even victims presenting with acute injuries from IPV were treated without inquiry about IPV exposure (McGrath et al., 1998).

The lack of effective adoption and implementation of IPV screening is not altogether surprising. There is ample evidence that practice guidelines alone do not adequately motivate adoption and implementation of practice change (Dearing, 2009; Lomas, 1991). Despite this, consensus statements, policy statements, and practice guidelines are frequently produced with the assumption that practice change to reflect the guidelines will occur. It is likely that this assumption is what leads to poor dissemination, as this assumption leads to a lack of attention to the attributes of the new intervention and practice activity, provider knowledge and attitudes about the area under review, and system barriers in the intervention development and implementation (Dearing, 2009). This assumption can also lead to failures in communication of the intervention. These dissemination failures occur even with large, national campaigns (Kerner

et al., 2005). These failures have led to a call for increased use of theory in the design of guidelines with the expectation that this will result in interventions that are more rigorously and carefully developed. Increased attention to intervention attributes and other factors related to implementation and dissemination will hopefully improve the success rate of adoption and implementation (Dearing, Greene, Stewart, & Williams, 2011; Davies, Walker, & Grimshaw, 2010). The lack of theory in the development of IPV screening recommendations and guidelines for most health care professions may be one of the reasons that screening, the only known effective health care intervention for IPV prevention, has been so poorly adopted. These findings indicate that theory-driven development of future IPV screening programs is needed to prevent continued failure at the adoption and implementation stages.

Pharmacy and IPV

As described above, IPV screening has not been widely implemented, despite the recommendations and treatment guidelines in multiple areas of health care and reports of patients' acceptance of screening. Clearly, additional methods to achieve routine screening are needed. To date, pharmacists have not been considered as a part of the effort to address IPV. This is a serious deficit as pharmacists are trusted members of the health care team with whom individuals may have the most accessible and frequent contact. Including community pharmacists in this public health effort could be one of the most effective mechanisms to address this health care challenge.

Given the lack of research in this area, it is unclear why pharmacies and pharmacists have not been engaged in this effort. Potential reasons for the lack of pharmacy involvement may include pharmacists' lack of awareness of the prevalence of IPV, lack of knowledge of the

effectiveness of routine screening, lack of training in this area, and logistical barriers to screening in the pharmacy setting. The only study that has examined this issue indicates that pharmacists reported receiving no training on domestic abuse intervention, did not feel adequately prepared to intervene, and were divided based on when they completed their education on whether they believed this was an important activity for pharmacists to engage in (Ford & Murphy, 1996). However, this study was conducted nearly 15 years ago. Over the past fifteen years many factors have changed. First, there has been a significant increase in the public health effort related to IPV. More importantly however, is the change that has taken place in pharmacy practice. The practice of pharmacy care has evolved to include a significant public health focus (ASHP Council on Pharmacy Practice, 2008; Babb & Babb, 2003; Calis KA et al., 2004; Calis et al., 2004; Calis et al., 2004). Pharmacists are now actively engaged in public health initiatives such as the provision of vaccinations (Grabenstein, Guess, Hartzema, Koch, & Konrad, 2001). Pharmacists counsel patients regarding smoking cessation, diabetes management, and offer other health promotion services (Dent, Harris, & Noonan, 2009; Fuller et al., 2007; Doucette, Witry, Farris, & McDonough, 2009; Mehuys et al., 2011). Patients have embraced this role for pharmacists and pharmacists have continued to expand public health activities (Hogue, Grabenstein, Foster, & Rothholz, 2006). There is evidence to suggest that this expansion can be an effective method of addressing public health challenges. For example, several studies have found that pharmacy-based vaccination programs were more cost-effective compared to traditional medical clinics and had a positive impact on immunization rates in populations that had not previously been receiving immunizations (Prosser et al., 2008; Grabenstein et al., 2001; Grabenstein, Guess, Hartzema, Koch, & Konrad, 2002; Steyer, Ragucci, Pearson, & Mainous,

III, 2004). These findings indicate that community pharmacies can be effective settings to positively impact the health status of a community.

While other members of the health care team have developed significant efforts related to IPV interventions, nearly no further work related to pharmacists is evident in the literature. Currently, there is no recommendation regarding involvement of pharmacists in care related to IPV. However, community pharmacists serve as an important part of the health care team and are likely seeing these patients. Given that IPV negatively impacts health behaviors, including medication compliance (Lopez, Jones, Villar-Loubet, Arheart, & Weiss, 2010; McFarlane et al., 2010), awareness of and participation in reducing the impact of IPV provides community pharmacists with an opportunity to positively impact the health and well-being of their patients. Pharmacists are uniquely positioned to play a pivotal role in health care screenings and patient education. Just as community pharmacists have participated in other public health initiatives and women's health programs, they may be an efficient and effective mechanism to widen the net of IPV screening programs.

Studies have demonstrated that patients support universal screening in the health care environment. However, no research regarding perceptions of IPV screening in the pharmacy environment has been conducted. Expanding screening to another setting without evaluation and planning to understand why it has not been efficiently and effectively adopted in other health care settings is unwise and a potential waste of resources. Understanding factors such as pharmacist and consumer perspectives on IPV screening in the community pharmacy environment are important in determining if it is acceptable and feasible to expand IPV screening to community pharmacies. To evaluate these issues thoroughly a theoretically-based planning model is needed.

Improving IPV Screening Through the Use of a Planning Model

Health Promotion Planning Model: PRECEDE-PROCEED

Thorough planning could shed light on how to effectively develop and implement IPV screening. Green and Kreuter developed a model for planning and implementing effective health promotion efforts (Green & Kreuter, 2005). This model, the PRECEDE-PROCEED model, is a multidimensional framework for developing effective health promotion interventions to attempt to improve the health and well-being of a population. It is a useful planning process that guides the assessment of factors necessary for a successful program. In the area of interest in the current project, IPV screening, PRECEDE-PROCEED may be useful in understanding the factors that may be causing poor adoption of IPV screening in the health care environment and could shed light on factors that serve to facilitate and hinder IPV screening in the community pharmacy environment. It is important to note that the PRECEDE-PROCEED model is an organizing model that guides the use of other theories to conduct the various steps of assessment.

The PRECEDE acronym stand for Predisposing, Reinforcing, Enabling constructs in Educational Diagnosis and Evaluation. The PROCEED acronym stands for Policy, Regulatory, Organizational Constructs in Educational and Environmental Development. The original framework was developed by Green and colleagues and included only the PRECEDE factors (Green, Kreuter, Deeds, & Partridge, 1980). The motivation for the development of the model was that a clear evaluation and diagnosis of societal needs should be made prior to the development and implementation of an educational intervention. The PRECEDE components systematically examine factors necessary to identify a need and what factors are critical to the development of an effective intervention.

The PROCEED components (policy, regulatory, and organizational constructs in educational and environmental development) were added to the framework in 1991 (Green & Kreuter, 1991). The additions were made to adequately represent the importance of environmental factors as health determinants. PRECEDE-PROCEED was revised in 2005 to include a genetic component (Green & Kreuter, 2005). Figure 2 includes the complete model. Since the inception of the model, respect for the people and the context has been the most important underlying principle of the PRECEDE-PROCEED model. This means that participation by the relevant community, individuals, or groups that are impacted by the area of focus in the planning, programming, and evaluation of any intervention is critical.

Figure 2. The PRECEDE-PROCEED Model

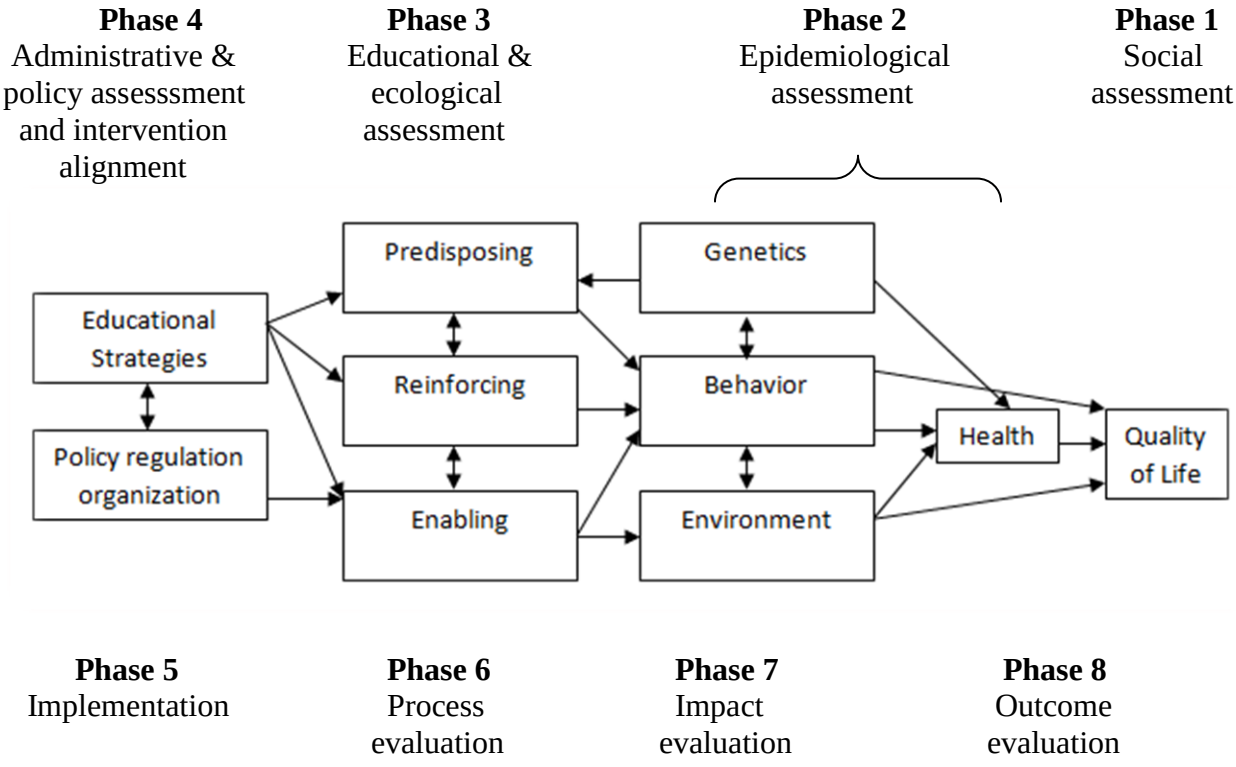

Figure 2. The PRECEDE-PROCEED Model. Adapted from Green, L.W. & Kreuter, M.W. (2005). A Framework for Planning. In *Health Program Planning* (pp 1-23). New York: McGraw-Hill , p.10. Copyright 2005 by McGraw-Hill.

In the first phase of the model a social assessment is conducted. This process assesses the desires of the target population regarding indicators of quality of life. In the second phase an epidemiological assessment is conducted. This assessment identifies specific health goals or problems that are relevant to quality of life for the target population. Existing health data is usually employed in this assessment to identify indicators of morbidity and mortality, risk factors, incidence, prevalence, distribution, and intensity, among other factors. The epidemiological assessment clarifies the rationale for the distribution of resources to particular problems. The epidemiological assessment also identifies the genetic, behavioral, and environmental determinants of health related to the area of focus. Phase three of the model is an educational and ecological assessment. Potential ecological causal factors are organized into three broad groupings – predisposing, reinforcing, and enabling factors. Predisposing factors can include knowledge, attitudes, beliefs, values, and perceptions. These may either facilitate or hinder implementation of change in the target area. Reinforcing factors include attitudes and behavior of health and other personnel, peers, parents, employers, and others. These factors represent the methods by which the individual will receive reward and feedback for adopting a behavior. Reinforcing factors may result in encouraging or discouraging the continuation of a behavior. Enabling factors include the availability of resources, accessibility, referrals, and skills. Green and Kreuter refer to them as "vehicles or barriers" (Green & Kreuter, 2005). Enabling factors are usually created by the social system. Examples include having health insurance or the training to do a specific behavior. Together the factors evaluated in phase three involve identifying the factors that have a direct impact on the behavioral or environmental targets that were identified in phases one and two. These provide guidance as to what the most important areas are to address in intervention development. Importantly, the PRECEDE-

PROCEED model provides guidance to utilize specific theories in each of the phases of assessment.

Once phases one, two, and three are completed the process of developing and aligning an intervention begins. This is done in tandem with an assessment of the administrative and policy issues related to the targeted area in phase four. In phase five the intervention is implemented. Phase six consists of a process evaluation that examines the fidelity to the intervention in the implementation. Phase seven examines the impact of the intervention and phase eight is an evaluation of the outcome of the intervention.

The PRECEDE-PROCEED model has been used for over thirty years in health program planning and evaluation. Over the years the model has been well validated as a useful tool that results in improved programming and resulting outcomes. The model has guided programs from small, local activities to multinational studies and has been the guiding model for rigorously evaluated field trials. The authors of the model emphasize that there are four "hallmarks" of the model. These include (1) flexibility and scalability, (2) evidence-based process and evaluability, (3) focus on the principle of participation, and (4) process for adapting evidence-based best practices to a target population (Green & Kreuter, 2005).

The PRECEDE-PROCEED model provides an excellent foundation to examine the potential role community pharmacists could have in IPV screening. While it is clear that the U.S. health agenda includes a focus on reducing the impact of IPV on health and quality of life, additional investigation is needed before screening in community pharmacies is implemented. There are two critical reasons for need of further investigation in this area. First, it is clear that IPV screening recommendations and guidelines in other health care professions have not been successfully implemented and disseminated at the level expected and needed. Second, expansion

of IPV screening into the community pharmacy environment would be a complex change to the current IPV screening programs. The community pharmacy environment has great potential to overcome some of the barriers of the physician's office environment, such as availability and cost to the patient. However, this environment has unique challenges related to lack of privacy with patients, different provider training models, and uncertainty as to how to address IPV disclosure. Given these two concerns of poor adoption of IPV screening in other health care professions and the unique challenges of the pharmacy environment, additional investigation is warranted to guide any potential guidelines and screening programs in the pharmacy environment. This planning model is a useful method to organize the research that would assist in developing an effective intervention. Given this focus on the developmental stage of IPV screening in the pharmacy environment, this project focuses on the PRECEDE components of this model. The data and insight gathered from the PRECEDE components are needed before the PROCEED activities of intervention development, implementation, and evaluation can be conducted.

Theoretical Terminology

In order to be clear about the use of terminology regarding theories, specific language will be utilized. PRECEDE-PROCEED is often called a model, a theory, and a framework. Early in the development of PRECEDE, the authors referred to it only as a framework. A theory is a set of interrelated constructs that can predict and explain an outcome. They pointed out that the primary purpose of PRECEDE was not to explain and predict phenomena, but rather to organize constructs and variables to conduct a systematic planning process. However, as researchers adopted, implemented, and validated PRECEDE, it was more frequently considered a model or theory. The use of the term theory to describe PRECEDE-PROCEED comes from the

idea that it is the set of constructs utilized to develop a logic model for a health promotion intervention. A logic model details the constructs that explain how a program impacts an outcome. As such, the logic model is the program theory and thus, PRECEDE-PROCEED is often labeled a theory. PRECEDE-PROCEED provides guidance as to what theories can be employed at the various steps to assess each of the components or steps of PRECEDE-PROCEED. Thus, PRECEDE-PROCEED could be considered a theory that also guides the use of additional theories (Lawrence W.Green, 2011; Green & Kreuter, 2005).

In order to reduce confusion, the term model is used in this project when discussing PRECEDE-PROCEED. The various theories that are utilized in conducting the assessments in each step of the PRECEDE-PROCEED model are termed theories. Further justification for this is provided by the authors of PRECEDE-PROCEED whom now utilize the term model to describe PRECEDE-PROCEED (Green & Kreuter, 2005). For these reasons, the language of model will be used when discussing PRECEDE-PROCEED and theories when presenting the theories utilized through the guidance of the PRECEDE-PROCEED model.

Purpose

IPV is a public health problem of epidemic proportions. The best available health care intervention is routine screening of patients for exposure to IPV; however, IPV screening has not been widely adopted and implemented. Additional venues for screening warrant investigation. The purpose of this study is to investigate the potential role of community pharmacies in the public health initiative to reduce the impact of interpersonal violence by significantly increasing screening and referral of victims of interpersonal violence. To examine this possibility, this proposal will utilize the PRECEDE-PROCEED model to guide the assessment of factors that

may predispose, reinforce, or enable IPV screening in the community pharmacy setting. Specifically, this study will:

1. Investigate community pharmacists' readiness to participate in IPV screening, including examining training, knowledge, attitudes, behaviors, and intentions related to IPV screening by developing and testing an instrument adapted from an existing instrument named the PREMIS (Physician Readiness to Manage Intimate Partner Violence Survey) tool.
2. Examine potential demographic differences in intention to conduct IPV screening among pharmacists.
3. Examine perceptions of the characteristics of the IPV screening innovation in community pharmacies.
4. Examine female consumer's attitudes and preferences for IPV screening in community pharmacies.

The results of this study will assist in determining whether community pharmacies are an appropriate place to conduct IPV screening, and if so, will provide tools and data to inform the development of screening programs that will be effectively and efficiently adopted for dissemination.

2. BACKGROUND

Employing PRECEDE-PROCEED in Planning IPV Screening in Community Pharmacies

Interpersonal violence is a problem of epidemic proportion in the United States. The health care system has the opportunity and responsibility to assist in ameliorating the negative health impact of this epidemic. The most effective method available to do this is routine and regular screening of patients for IPV exposure. This intervention has not been widely adopted and implemented. Consideration of additional opportunities for screening is one potential way to reduce the impact of IPV. A thorough planning process should be conducted before expansion of IPV screening is recommended in order to improve the likelihood that a positive, successful intervention can be developed and implemented. As discussed in Chapter 1, the PRECEDE-PROCEED planning model is a useful tool in developing and implementing health programs. The model has been used extensively over several decades. In this project assessment of factors associated with IPV and IPV screening are the focus of the various assessment phases in the PRECEDE-PROCEDE model.

Phase 1: Social Assessment

Phase 1 of the PRECEDE-PROCEED model includes an assessment of the social environment. One of the hallmarks of the model is participatory research, including community engagement. In conducting the phase 1 social assessment, understanding the community's needs

and interest is key. The national health agenda is established through federal government efforts, such as the Surgeon General, the Healthy People plans, and reports commissioned from the Institute of Medicine. Interpersonal violence has been identified as a critical health problem for many years, indicating that this is an area that the nation has a desire to focus on and address.

National Call for IPV Prevention and Intervention Efforts

Given the high prevalence and significant health harms associated with IPV, many health care groups have called for action related to this public health problem. Nearly every national health care organization and professional group has called for routine screening of IPV in health care settings. As described in chapter one, treatment guidelines have been issued from groups such as the American Medical Association, the American College of Obstetrics and Gynecology (American College of Obstetricians and Gynecologists, 1995), and the American Academy of Pediatrics (American Academy of Pediatrics, 1998), among others. The U.S. Surgeon General accepted the recommendations of the Institute of Medicine in 2011 to include screening and counseling as a routine part of preventive care for women (Institute of Medicine, 2011).

These recommendations have been made with the intention to reduce the negative health impact of IPV before physical injuries result by assisting individuals with the process of getting away from a partner who is harming them. Women who have experienced IPV see a greater number of health care providers and use health services at a higher rate compared to non-abused women (Koss et al., 1991; Bonomi et al., 2009). This increased health care utilization rate makes universal screening in the health care environment one of the most promising methods of identifying and assisting a large numbers of IPV exposed patients. Screening has been shown to be effective at reducing the harm associated with IPV. Routine and regular screenings by skilled health care providers has been shown to significantly increase the identification of IPV

(McFarlane et al., 1991; McFarlane et al., 1992; Sisley et al., 1999). Having an IPV screening program that documents and refers IPV positive women in a family medicine setting has been shown to increase IPV positive women's intention to disclose exposure (Zeitler et al., 2006a). Importantly, surveys of women who have disclosed IPV exposure found that the majority who had successfully ended the violence had sought help from health professionals. These women reported health care professionals as their number one source of help, even greater than the police and the legal system (Brendtro M & Bowker L, 1989). This finding is not surprising given that several studies have demonstrated a significant decrease in violence and a significant increase in safety behaviors after screening and referral of individuals identified as IPV exposed (McFarlane et al., 2006; Krasnoff & Moscati, 2002; McFarlane et al., 2005; McFarlane et al., 1998; McFarlane et al., 2000). IPV screening and referral programs were found to be at least as effective as intensive counseling interventions in a review by McFarlane and colleagues (McFarlane et al., 2000). These authors concluded that abuse screening itself may be the most effective intervention (McFarlane et al., 2000).

The social assessment conducted as phase one of the PRECEDE-PROCEED model indicates that the national health community desires to reduce the harms associated with IPV. It is further clear that the most effective method for improving the health and well-being of those exposed to IPV is to conduct routine screening for IPV. The PRECEDE-PROCEED model recommends that if community-established goals and objectives are clear, then phase two, epidemiological assessment is the next step in planning an effective intervention.

Phase 2: Epidemiological Assessment

Phase two of the PRECEDE/PROCEED model gathers the epidemiological data related to the health area of interest. These data are important to be clear about the etiology of the area of interest. Epidemiological data provides the evidence to set priorities and objectives in health program planning. The epidemiology of interpersonal violence indicates that it is a highly prevalent exposure that has a substantial negative health impact. An additional component of the epidemiology is the penetration rate of the main intervention for IPV exposure, IPV screening.

Epidemiology of Interpersonal Violence

Data Sources

Interpersonal violence is one of the most widespread public health problems in the United States. Ongoing surveillance of IPV has not been routinely conducted, however a number of studies and national surveys have been completed to estimate the prevalence of IPV. The National Intimate Partner and Sexual Violence Survey (NISVS) is a new survey that is being utilized to track progress on the Healthy People 2020 IPV objectives. The NISVS was launched in 2010 and was developed and fielded with support from the National Institute of Justice and the Department of Defense. The goals of the survey are to describe the prevalence and characteristics of IPV, to understand who is most likely to experience this kind of violence, to examine the patterns and impact of IPV experienced by particular types of perpetrators, and to estimate the health consequences of IPV. The survey was completed as a national random digit dial phone survey (utilizing both landline and cell phone numbers) in the 50 states and the District of Columbia in 2010 (Black et al., 2011). The last available national estimates of IPV were from the National Violence Against Women Survey conducted by the National Institutes of Justice in 1995-6 (Tjaden & Thoennes, 2000). Other federal data sources for estimates of IPV

prevalence in the United States include the Behavioral Risk Factor Surveillance System (7 IPV items), the National Violent Death Reporting System, the National Survey of Family Growth, the Pregnancy Risk Assessment Monitoring System, and the National Crime Victimization Survey (Centers for Disease Control and Prevention, 2010).

Prevalence

The 2010 National Intimate Partner and Sexual Violence Survey found that each year women experience 5.4 million intimate partner related physical assaults and rapes (Black et al., 2011). This represents 4.6% of women, with an additional 4.7% of men, experiencing intimate partner physical assaults in the previous 12 months. Stalking is experienced by 2.8% (3.4 million) of U.S. women and 0.5% (519,000) U.S. men each year (Black et al., 2011). Lifetime exposure rates indicate that at least more than a third of all U.S. women experience IPV at some point in the lives. The National Intimate Partner and Sexual Violence Survey found that 35.6% of women, compared to 28.5% of men, reported physical assault, sexual assault, or stalking by an intimate partner in their lifetime (Black et al., 2011). These rates are higher than previously reported from the National Violence Against Women Survey in 2000, which found that 25.5% of women, compared to 7.9% of men, reported physical or sexual assault by an intimate partner in their lifetime (Tjaden & Thoennes, 2000). A 1998 Commonwealth Fund survey found that 31% of U.S. women report being physically or sexually abused by a husband or boyfriend at some point in their lives (Collins, Schoen, & Joseph, 1999). Studies in health care settings have identified even higher lifetime prevalence rates, as high as 50-55% of women reporting IPV exposure (Duffy, McGrath, Becker, & Linakis, 1999; Bauer, Rodriguez, Quiroga, & Flores-Ortiz, 2000; Coker, Smith, McKeown, & King, 2000). Rates are high even in privately insured, employed women. A study conducted in a large U.S. health maintenance organization of stable

female members (enrolled for 3 or more years) found a five year prevalence of 14.7% and 44.0% lifetime prevalence (Thompson et al., 2006).

The impact of IPV is substantial. The National Intimate Partner and Sexual Violence measured the impact of IPV on victims. IPV-related impacts measured included: being fearful, concerned for safety, post-traumatic stress disorder (PTSD) symptoms, injury, needed medical care, needed housing services, needed victim's advocate services, needed legal services, contacted a crisis hotline, missed at least one day work/school, contracted a sexually transmitted disease, or became pregnant. Of female victims, 80.8% reported experiencing at least one of the measured impacts. While psychological impacts were felt by many (72.2% were fearful, 62.3% were concerned for their safety, and 62.6% experienced PTSD symptoms), a substantial number also experienced physical harm. Nearly 42% were injured, 4.3% contracted a sexually transmitted disease, and 4.8% became pregnant. These high injury rates are troubling. The National Violence Against Women Survey found that assaults by intimate partners are significantly more likely to result in injury compared to assaults by another type of perpetrator (Tjaden & Thoennes, 2000). The lifetime prevalence of needing medical care for IPV-related injuries is 22.1%, bringing more than 9 million women to a health care provider for IPV-related injuries in their lifetime (Black et al., 2011). IPV can also be fatal. The Department of Justice reports that 14% of all homicides in the U.S. are committed by intimate partners. In 2007 2,340 intimate partner homicides were committed and approximately 70% of the victims were women (U.S.Department of Justice, 2012; 2012).

Health Impact of IPV

Physical Health

The health impact of IPV is substantial and confers a health risk that is comparable to or greater than many traditional risk factors such as obesity and smoking. A study conducted in Victoria, Australia among women aged 18-44 using a burden of disease methodology found that IPV was directly responsible for 7% of the overall burden of disease. IPV was responsible for more disease burden than elevated blood pressure, tobacco use, and increased body weight (Vos et al., 2006). Physical injuries from IPV can be as minor as cuts and scrapes and as serious as broken bones, gun or knife wounds, organ damage, and even death (Tjaden & Thoennes, 2000). Lifetime risk of severe injury as a result of IPV has been estimated to be 9% for women, with a lifetime risk of up to 22% for any type of injury from IPV (Wilt & Olson, 1996). Guth and Pachter found that 35% of emergency room visits, 50% of all acute injuries, and 21% of all injured women requiring urgent surgery were the result of partner violence (Guth & Pachter, 2000). By 1989 violence had surpassed falls as the leading cause of injury in women (Grisso et al., 1999). In addition to acute injury, immediate health impacts also include sexually transmitted diseases, including HIV infection, pregnancy, and pelvic inflammatory disease. Pregnant victims are more likely to enter prenatal care late, have pregnancy complications, preterm births, and low birth-weight births (McFarlane et al., 1992; Bonomi, Anderson, Rivara, & Thompson, 2007; Cokkinides, Coker, Sanderson, Addy, & Bethea, 1999; Berenson, Wiemann, Wilkinson, Jones, & Anderson, 1994). Long-term health impacts of IPV exposure include traumatic brain injury and neurological disorders resulting from injuries, gastrointestinal disorders, central nervous system disorders, gynecological disorders, and the exacerbation of chronic medical conditions such as cardiovascular disease, fibromyalgia, and asthma (Crofford,

2007; Leserman & Drossman, 2007; Drossman, Talley, Leserman, Olden, & Barreiro, 1995; Drossman, 1997; Breiding, Black, & Ryan, 2008; Corrigan, Wolfe, Mysiw, Jackson, & Bogner, 2003; Coker, Hopenhayn, DeSimone, Bush, & Crofford, 2009; Black et al., 2011). IPV has been shown to have a negative effect on protective health behaviors such as medication adherence and continuation of cancer therapies (Alexander R.W. et al., 1998; Lopez et al., 2010; Coker, Bond, & Pirisi, 2006). Women recognize the health impact of IPV, as victims are more likely to define their health as "fair" or "poor" and to say that they had needed medical care but did not get it (Bonomi et al., 2006; Plichta, 2004; Alsaker, Moen, Nortvedt, & Baste, 2006). A recent study found an association between cervical cancer and IPV, indicating that there may be a wider range of health harms associated with IPV that have yet to be investigated (Coker et al., 2009).

Mental and Behavioral Health

IPV has a negative impact on mental health as well. Victims of IPV have increased rates of depression, suicidal behavior, anxiety disorders, post-traumatic stress disorder, sleep disturbances, substance abuse, and antisocial behavior (Bergman & Ericsson, 1996; Rivara et al., 2009; Davis, Coker, & Sanderson, 2002; Coker et al., 2002). The negative impact of IPV on health can also be exacerbated by the perpetrator restricting the victim's access to health care services, either completely or through supervising health care visits (Plichta, 2004; Garcia-Moreno, 2002a). Women with a history of IPV are more likely to engage in negative health behaviors, with studies indicating that the more severe the violence, the greater the likelihood that the victim will engage in negative health behaviors. Harmful substance use, such as smoking, excessive alcohol use, driving while intoxicated, and illegal drug use, is greater in women exposed to IPV (Bonomi et al., 2006; Plichta, 2004). Victims are also more likely to engage in risky sexual (i.e., multiple sex partners, unprotected sex) (Coker, 2007) and dietary

(i.e., vomiting, fasting, overeating) behaviors (Ackard & Neumark-Sztainer, 2002; Baldo & Baldo, 1996; Baldo, Wallace, & O'Halloran, 1996; Gidycz, Orchowski, King, & Rich, 2008).

Special Populations

Of particular concern are vulnerable populations, including pregnant women. There is ample evidence that IPV increases during a pregnancy (McFarlane, Parker, & Soeken, 1996). Each year an estimate 324,000 pregnancy women are exposed to IPV (Gazmararian et al., 2000). IPV in pregnancy is more common than gestational diabetes or preeclampsia (Parsons, Goodwin, & Petersen, 2000). One study found that 17% of pregnant women had been exposed to IPV in the previous 12 months (McCloskey et al., 2005). While pregnancy can serve as a general stressor that might exacerbate negative behaviors, an additional reason for the increase may be related to the loss of control over the victim's body as the pregnancy develops (Campbell et al., 2003). Homicide is the leading cause of pregnancy-associated deaths, responsible for 13-24% of deaths in pregnancy, most by intimate partners (Greenfield, Rand, & Craven, 1998; Rennison, 2003).

Family Impact

IPV negatively impacts the whole family. It is estimated that more than 3 million children witness IPV each year (Gelles RJ, 1987). A review of studies examining IPV and child maltreatment found that they co-occur in 45-70% of studies, with IPV usually preceding the onset of child abuse (Holt, Buckley, & Whelan, 2008). Children of abused mothers are more likely to die before the age of five, to have higher rates of certain illnesses, and to have lower rates of immunization (Silverstein, Conroy, & Sandel, 2008). Witnessing violence negatively impacts the development of children and is associated with greater emotional, social, cognitive, academic, and behavioral problems (Wolfe, Lobozzo, Frye, & Sharp, 2003; Kolbo, 1996). Child

abuse has life-long implications, impacting involvement in IPV as an adult and even obesity in adulthood (Alvarez, Pavao, Baumrind, & Kimerling, 2007; Cannon et al., 2009). IPV prevention programs are critical to reducing the short and long-term impact of IPV on children (Carter, Weithorn, & Behrman, 1999).

Economic Impact of IPV

Multiple studies have documented elevated health care utilization and costs for women with a history of IPV. The economic cost of IPV in the United States was estimated to be more than $5.8 billion per year in 1995, with $4.1 billion in health care services, and the remaining costs attributable to lost productivity and earnings (National Center for Injury Prevention and Control, 2003). When updated to 2003 dollars, the CDC estimated that IPV costs exceeded $8.3 billion, include $6.2 billion for physical assault, $460 million for rape, $461 million for stalking, and $1.2 billion in the value of lost lives (Max, Rice, Finkelstein, Bardwell, & Leadbetter, 2004). An investigation of total annual health care costs for women in a managed care indicate that costs for women experiencing IPV are significantly higher (42% higher) than never-abused women. Interestingly, this study found that a prior history of abuse, even if abuse ceased more than five years ago, was associated with higher health care costs, indicating that IPV has a long-lasting impact on health status and health care utilization (Bonomi et al., 2009). Women experiencing non-physical abuse (stalking or psychological abuse) have also been found to have significantly more prescription fills and higher pharmacy costs compared to women who have never been abused (Rivara et al., 2007a; Bonomi et al., 2009). Two studies found that IPV exposure is one of the most powerful predictors of physician visits and outpatient care for women (Koss et al., 1991; Bergman & Brismar, 1991). The CDC estimates that more than 971,000 outpatient physician visits, 232,000 dental visits, 1 million physical therapy visits,

807,000 overnight hospital stays, 486,000 ED visits, 320,000 outpatient hospital visits, and 95,000 ambulance calls each year are directly due to IPV. Increased utilization and cost for women exposed to IPV is a clear burden on the health care system. The economic impact of IPV extends beyond the health care system. For example, women who have experienced severe aggression by partners are more likely to have periods of unemployment and to be receiving public assistance (Kimerling et al., 2009; Yancey, Gabel-Hughes, Ezell, & Zalkind, 1994; Zorrilla et al., 2010). A 2005 study found that women experiencing IPV reported an average of 7.2 days of lost work productivity and 33.9 days in productivity losses associated with other activities (Arias & Corso, 2005).

Studies have also documented significantly higher health care utilization and costs for children whose mothers experienced IPV, even if the abuse stopped before the children were born (Rivara et al., 2007b). Children exposed to IPV in their homes had a greater use of emergency room care and primary care. These children were also three times more likely to use mental health services compared to children who had not been exposed (Campbell & Lewandowski, 1997). Children whose mothers had a history of IPV that ended prior to the child's birth had a greater utilization of mental health, primary care, specialty care, and pharmacy services compared to children whose mothers had no IPV history (Rivara et al., 2007a).

Gender and IPV

It is evident that IPV is more prevalent in women compared to men. Further, the vast majority of research in this area has been conducted with female populations. There is little research about IPV in men and the immediate health impact, the long term health and economic impact, or health care utilization patterns and costs. Importantly, many of the recommendations

and guidelines from professional associations only address female patients. The literature regarding screening practices, acceptability, and effectiveness only addresses female patients. Given the lack of guidance regarding the need for IPV screening in men, the lack of tools validated with male patients, the absences of professional guidelines in other health care areas to screen men, and any literature documenting the acceptability or effectiveness of screening men in health care settings, this project will focus on IPV screening only in female patients.

Epidemiology of IPV Screening

Routine, universal screening for IPV in female patients is an evidence-based treatment recommendation included in the standards of care for many health care professionals. However, most investigations have found that IPV screening is not widespread and has been poorly adopted and implemented in practice settings. Research has documented differences in IPV screening rates that differ according to the specialty of the provider. Primary care and emergency room IPV screening rates are estimated to be between 1.5-30% (Plichta, 2004; Coker et al., 2002; Daugherty & Houry, 2008; McGrath et al., 1998). A major push for screening by the professional association for obstetrician-gynecologists has resulted in screening rates in the rage of 10-39% (Bunn et al., 2009; O'Reilly et al., 2010). Studies consistently show that the majority of health care providers are not following professional recommendations for universal screening (Bunn et al., 2009). In pediatrics, a study found that only 4.2% of practices had protocols in place despite specific policy statements and guidelines regarding IPV screening from the American Academy of Pediatrics (Wright et al., 1997).

Despite evidence from women who have successfully left abusive relationships that health care providers are the most important resource for victims (Fishman et al., 2010; Brendtro M & Bowker L, 1989), research shows that health care workers identify far fewer cases than are

described by surveys or police (Cann et al., 2001). These findings indicate that additional screening opportunities are needed to achieve routine screening for all patients.

The phase two assessment of the epidemiological data regarding IPV and IPV screening indicate that IPV is highly prevalent and that there is a substantial threat to health and well-being from IPV exposure. Further, IPV screening has not been widely adopted and disseminated. This adoption failure is a critical problem as screening is the only known intervention to implement with IPV victims. The phase three assessment will examine predisposing, reinforcing, and enabling factors that influence screening. Factors that influence both the behavior of practitioners and the environment, such as patient acceptability and logistical barriers, are assessed in phase three.

Phase 3: Educational and Ecological Assessment

Phase three of the PRECEDE-PROCEED model calls for assessment of the educational and ecological environment. Specifically, this phase conducts an examination of factors that predispose, reinforce, and enable intervention by directly impacting behavior and the environment. In the area of IPV screening, examination of factors that predispose, reinforce, and enable screening are the focus.

Key Determinants of Screening

Patient-Level Factors

While substantial barriers exist to screening for IPV, most studies have found that both patients and clinical care providers are comfortable with screening methods. A 2007 study by Chen and colleagues investigated multiple methods of screening (self-administered, medical staff-administered, physician-administered) and found that the rates of IPV disclosure were

similar across all three methods of administration (Chen et al., 2007). The majority of patients (93.4%) reported being comfortable with the screening. Those with a positive screen were less comfortable with the medical staff screening. The time spent screening was similar among the three methods (ranged from 2 to 15 minutes). Survey research with patients suggests that interactive computer-based screening can achieve higher rates of disclosure compared to personal interviews for sensitive topics (Turner CF, Ku L, & Rogers SM, 1998). A 2007 review of screening methods found that computer-assisted screening may identify a higher prevalence of IPV compared to written and interview screening methods (Renker & Tonkin, 2007). There is some evidence to suggest that computerized screening is both acceptable and potentially preferable to patients (Wathen & Macmillan, 2008). Renker and Tonkin identified a number of advantages to computer-assisted screening (Renker & Tonkin, 2007). Advantages for patients include increased privacy, the ability to tailor the screening tool to fit patient characteristics, the ability to use audio streaming for low-literacy populations, and the ability to display resources in a confidential manner. Additionally, computer-assisted screening can provide clear information about mandatory reporting requirements. Victims may fail to disclose because of concern that the information will be reported to the authorities (which is required in only a few states). Knowledge of the mandatory reporting requirement (or lack thereof) gives victims full control over their decision to disclose, and may subsequently increase IPV disclosures which can result in increased support and provision of resources (Renker & Tonkin, 2006; Phelan, 2007). Advantages for providers include reduction in time required, low-cost, consistency in screening, accuracy and completeness of information, and enhanced patient comfort (Rhodes et al., 2006).

While there are significant patient-level concerns (i.e., comfort, safety) regarding IPV screening in the health care environment, patients are clearly receptive to screening (Stenson,

Saarinen, Heimer, & Sidenvall, 2001). In fact, failure to communicate with patients regarding IPV may have negative consequences. Plichta found that IPV exposed women were significantly less satisfied with their physicians and poor communication was one of the primary reasons for this dissatisfaction (Plichta, 1996). A study by Zeitler and colleagues found that 95% of women in a women's health clinic reported that they would not mind a health care provider asking them about exposure to violence (Zeitler et al., 2006b). Health care providers were preferred over others such as mother, father, social worker/counselor, coach, or other family member. In this same study 90% of the women reported that they believe that every patient should be screened for IPV. This changed only slightly for women currently experiencing IPV, with 70% of them reporting they supported universal screening (Zeitler et al., 2006b). Chang found that when IPV information and posters were displayed, IPV exposed patients felt that the health care provider was a safe person to talk to about abuse (Chang, Theodore, Martin, & Runyan, 2008). Qualitative studies of women who have escaped abuse indicate that even brief physician conversations can be helpful (Gerbert, Abercrombie, & Caspers, 1999). Caralis and Musialowski found that the majority of abused women (74%) wanted their physician to ask about IPV exposure, and 68% would report IPV if asked (Caralis & Musialowski, 1997). IPV victims have reported that they would support laws requiring a physician or nurse to screen for IPV because it would facilitate securing help to end the abuse (Malecha et al., 2000). A key determinant of IPV screening is patient acceptability and the literature clearly demonstrates that patients find it not only acceptable, but desire it.

Despite this, there are patient-level barriers to IPV screening. Patient-level barriers for routine screening in the pediatric setting have been a fear of being reported to child protective services, need for immediate resources, a belief that the child's care comes first, and a lack of

staff empathy (Dowd, Kennedy, Knapp, & Stallbaumer-Rouyer, 2002). Other patient-level factors that hinder disclosure include embarrassment, concerns about police involvement, fear of perpetrators retaliation, fear of perpetrators direct intervention to stop access to care,(Rodriguez, Ryan, Rowan, & Foy, 1996; Rodriguez, Quiroga, & Bauer, 1996) desire to keep family together (Rodriguez et al., 1996), belief that physicians are too busy (Rodriguez et al., 1996), and lack of trust in the health care provider (Bauer et al., 2000). An overview of qualitative studies done regarding acceptability of IPV screening from the patient's perspective identified ten first-order constructs and four second-order constructs (see Table 2) (Feder et al., 2009). The constructs identified are similar to what has been found in quantitative studies. Studies of patients' perspectives of IPV screening have been conducted in a number of settings and about various providers but have not been conducted regarding pharmacies and pharmacists. Patients' perspective about IPV screening by pharmacists is unknown.

Table 2. Patients' Perspectives on Intimate Partner Violence Screening – First & Second-Order Constructs

First-Order Constructs

Women find screening beneficial even if they are not ready to disclose.

Women gain a sense of support and relief from discussing their situation with someone.

Screening may be more acceptable to women where there is already an established relationship with the health-care professionals.

Screening may be more acceptable to women if the health care professional's manner is compassionate and non-judgmental.

Women are concerned that health care professionals do not have the time to listen to them and discuss their situation; screening women for IPV may lead to women disclosing abuse, and may facilitate the woman leaving the relationships or seeking help.

Women expressed concerns about potential negative repercussions of screening: break of confidentiality, the involvement of children's services, legal repercussions, being judged.

Screening may be more acceptable to women when given a reason for screening.

Acceptability of screening may vary depending on whether the screening is conducted face-to-face or by written questionnaire; acceptability of screening may depend on the gender and the profession of the health care professional.

Second-Order Constructs

Women believe the primary aim of screening should be education rather than eliciting disclosure.

Screening is generally acceptable to women.

Certain factors increase acceptability of screening: health care professionals manner; being asked in a safe and confidential environment; giving a reason for asking; not pressuring women to disclose; and the quality of the relationship the women has with the professional.

Concerns about lack of time, potential breach of confidentiality, and fear of involvement of child protective services.

Note: Adapted from "How far does screening women for domestic (partner) violence in different health care settings meet criteria for a screening program?" by G. Feder, J. Ramsay, D. Dunne, M. Rose, C. Arsene, R. Norman, et al., 2009, *Health Technol.Assess., 13*(16), p. iii-xiii.

Provider-Level Factors

As with patient perspectives, there is a lack of research examining potential provider-level factors in the community pharmacy setting. However, a number of qualitative and quantitative studies have been conducted with physicians to examine areas of concern related to IPV screening. Studies conducted with other providers, such as nurses, midwives, dentists, and chiropractors, have identified similar concerns (Johnston, 2006; Hindin, 2006; Bacchu, Mezey, & Bewley, 2002; Shearer, Forte, Dosanjh, Mathews, & Bhandari, 2006; Love et al., 2001). It may be that similar attitudes and areas of concern would be applicable to pharmacists as well.

Provider Attitudes

Attitudinal barriers to IPV screening that have been identified include a belief that IPV is a personal situation that should remain between partners, discomfort due to personal experience with IPV, concern that it is an overwhelming social issue, frustration with patients unwillingness to discuss violence, and fear of offending patients (Rittmayer & Roux, 1999; Bates & Brown, 1998; Chamberlain & Perham-Hester, 2000). Studies regarding physician attitudes about IPV screening indicate that physicians may hold negative attitudes toward victims. Specifically, physicians have reported that it is not their place to intervene, violence is a family matter, it is not a health issue, violence doesn't occur in the socio-economic group that they care for, and that patients may be offended if asked about abuse (Parsons, Zaccaro, Wells, & Stovall, 1995; Saunders, Hamberger, & Hovey, 1993; Sugg, Thompson, Thompson, Maiuro, & Rivara, 1999; Cullinane, Alpert, & Freund, 1997; Friedman, Samet, Roberts, Hudlin, & Hans, 1992; Reid & Glasser, 1997). One study found a high prevalence of victim-blaming beliefs, with 55% of physicians reporting that they believed that their patients' personalities lead them to being abuse and 34% reported that they believed that the victim must be getting something out of the

relationship or she would leave (Garimella, Plichta, Houseman, & Garzon, 2000). Physicians have also reported feeling uncomfortable or unable to diagnose or follow-up victims of IPV (Sugg et al., 1999), personal discomfort due to a personal history with IPV (Sugg et al., 1999; Rodriguez, McLoughlin, Bauer, Paredes, & Grumbach, 1999; McGrath et al., 1997), and frustration that screening is futile because victims will not accept help (Parsons et al., 1995; McGrath et al., 1997). Provider characteristics, such as male gender, older, and more years in practice have been associated with greater victim-blaming characteristics and lower rates of screening (Garimella et al., 2000). Nurses, women, and community mental health workers have been found to have significantly more positive attitudes and knowledge (Cann et al., 2001). Provider specialty has also been linked to attitudes and knowledge, with obstetricians and psychiatrists reporting fewer victim-blaming beliefs and more awareness of resources to assist IPV victims. Positive attitudes are not enough, as even those reporting generally positive attitudes toward IPV, indicate that they are not comfortable talking about it (Cann et al., 2001). Nevertheless, most providers report that in general IPV screening is part of a health care providers role (Berger, Bogen, Dulani, & Broussard, 2002).

Provider Knowledge and Training

Barriers related to provider knowledge have also been documented. These include lack of formal training or education about IPV (Sugg et al., 1999), lack of awareness that IPV is present in their population (Rittmayer & Roux, 1999; Rodriguez, Bauer, McLoughlin, & Grumbach, 1999), and lack of knowledge of referral resources (McGrath et al., 1997). Lack of training in IPV allows provider stereotypes of abuse victims to guide any screening (Gremillion & Kanof, 1996). One study demonstrated that among women experiencing IPV, women who were Caucasian were significantly more likely to have their IPV status documented (Coker,

Pope, Smith, Sanderson, & Hussey, 2001). Failure to appropriately train health care providers and to have a standardized screening protocol could be contributing to health disparities in IPV. Two of the most frequently reported knowledge-level barriers that have been identified include a general lack of training (Sugg et al., 1999; Gadomski, Wolff, Tripp, Lewis, & Short, 2001; Lapidus et al., 2002) and lack of awareness of appropriate referrals (Garimella et al., 2000). Other knowledge-deficits that have been identified include lack of access to information about the management of IPV (Centers for Disease Control and Prevention, 1998).

System-level Barriers

System-level barriers have also been cited by providers as presenting a challenge to IPV screening in the health care setting. These barriers include lack of time, lack of collegial support, lack of provider continuity, lack of referral resources, and legal concerns (Rodriguez et al., 1999; McGrath et al., 1997; Parsons et al., 1995; McGrath et al., 1997; Sugg et al., 1999; Lapidus et al., 2002; Gerbert, Caspers, Bronstone, Moe, & Abercrombie, 1999).

Phase 3 Assessment Summary

Clearly there are factors that support and hinder IPV screening by health care providers. Table 3 summarizes these factors. It is important to note that for some of these factors, they likely do not currently exist for many health care providers and are thus an appropriate target area for intervention. For example, many practitioners lack knowledge and training in how to screen for IPV. Developing and implementing continuing education programs to address this would be an appropriate step to address this factor. It is clear that there are some areas about which further research is needed to better assess both provider and consumer-level factors related to IPV screening.

Table 3.	**Predisposing, Reinforcing, and Enabling Factors Related to Intimate Partner Violence Screening**
Predisposing	
	Knowledge: provider must have knowledge of IPV harm and how to screen
	Attitudes: provider must have positive, supportive attitude about screening
	Beliefs/Values: provider must believe IPV is wrong
	Perceptions: provider must believe screening is helpful and that it is possible to help victims
Reinforcing	
	Attitude of peers: professional guidelines/recommendations supporting IPV screening
	Attitudes of patients: patients find screening acceptable, preferable
Enabling	
	Availability of Training: provider must receive training in how to screen
	Availability of Screening Tools: adequate, appropriate screening tools must be available
	Availability of Referrals: community resources must be available to refer victims to
	Practice Rules: requiring documentation of screening for all patients
	Skills: provider must be capable and confident in ability to conduct screening

Measuring Provider-level Factors

The assessment reported above is based on what has been reported in the literature to date. Unfortunately, most of the studies that have investigated provider-level factors involved in IPV screening have developed their own surveys and have not validated the measures. It is difficult to develop successful educational and training programs to build skills and improve

confidence in screening abilities without a validated tool to better understand health care providers' educational needs and to assess training program outcomes. At least three studies have tried to systematically investigate provider-level factors such as these by developing sound measures. The first study investigating factors influencing health care provider identification and response to IPV found eight constructs related to whether routine inquiry was conducted. These constructs were: preparedness, self-confidence, professional supports, abuse inquiry, practitioner consequences of asking, comfort following disclosure, practitioner lack of control, and practice pressures. Preparedness appeared to be the most important construct for initiating IPV screening. This study shed light on critical barriers, namely inadequate preparation, to a universal screening program (Gutmanis, Beynon, Tutty, Wathen, & Macmillan, 2007b).

The second study developed a tool for measuring physician readiness to manage IPV. The instrument, developed and validated by Short et al. in 2006 (Short, Alpert, Harris, Jr., & Surprenant, 2006), is the PREMIS (Physician Readiness to Manage Intimate Partner Violence Survey) tool. This instrument was developed to address the lack of a tool that assessed knowledge, attitudes, and beliefs using current IPV literature as the standard and to assess self-reported practice behaviors related to IPV. PREMIS is a 67-item 15 minute comprehensive survey that measures a physician's preparedness to manage IPV patients. The tool examines knowledge, attitudes, beliefs, and self-reported behaviors. The survey items were developed by a review of existing survey tools in the literature. A content analysis was conducted through review by an outside group of IPV educators. The review group was asked to choose from the existing items or to develop new items that reflected theoretical constructs and measured core IPV educational outcomes based on the literature. The characteristics of the instrument were evaluated in two separate populations of physicians. The initial study sample was 166

physicians who were subscribers of a continuing medical education website. A revised version of the survey instrument was then tested with a group of 67 primary care physicians. The scale was found to have six good-fit factors (see Table 4 for scales and alpha coefficients). Two additional opinion scales (constraints and victim autonomy) were utilized during the instrument development for future testing, but not used in the final version of the instrument. PREMIS was shown to be reliable and valid, sensitive to change, and capable of discriminating trained from untrained providers (Short et al., 2006). Construct validity checks included evaluation of the Rand coefficient for the relationship between the empirically derived scales and the objective values assigned to the original theoretical constructs developed by the expert panel. The Rand coefficient was 0.89, indicating a high degree of association between the original theoretical constructs and the empirically derived scales. A second method of evaluating construct validity was to examine the correlation between instrument scales which were related. For example actual knowledge was correlated with perceived knowledge as expected. A third measure of construct validity examined the extent to which self-evaluated knowledge, attitudes, and beliefs predicted self-reported behaviors. This analysis found significant correlation between scores on practice issues, all background scales, actual knowledge, and six of the eight opinion scales (alcohol/drugs and victim autonomy were not significantly associated with practice issues). An external validity study conducted site visits to physicians' offices and compared observed practice activities to reported practice activities related to IPV and found a high correlation between the two. When the instrument was given to the second study sample, the psychometric properties of the tool were consistent between the two groups of providers.

Two other studies have utilized the PREMIS scale. The first adapted it for use in a population of students in medicine, nursing, social work, and dentistry (Connor, Nouer, Mackey,

Tipton, & Lloyd, 2011). A factor analysis of the adapted student PREMIS instrument identified six of the eight factors identified in the original PREMIS instrument (see Table 4). The Workplace Issues and the Constraints scales were not identified, which was expected as this was a student population. The adapted measure found a new scale, IPV screening, that had good reliability (α =0.74). The Connor et al. study demonstrates that the PREMIS scale can successfully be modified for use in other provider groups in addition to physicians. The second study translated the PREMIS instrument into another language (Greek) and tested it in a sample of primary care physicians in Greece (Papadakaki, Prokopiadou, Petridou, Kogevinas, & Lionis, 2012). The translated measure found all of the scales found in the original PREMIS study and the IPV screening scale found in the student study (see Table 4). The PREMIS instrument has demonstrated that it can be adapted for other health care provider groups and settings, making it an ideal scale for adapting to the pharmacist population. The development of a pharmacy-specific measure could guide the development of training, screening methods, and protocols for use in this unique setting.

Table 4. PREMIS Scales across Prior Studies

Scales	Short et al. *n=67*			Connor et al. *n=286*			Papadakaki et al. *n=80*		
	Alpha	**Total Items**	**Mean (SD)***	**Alpha**	**Total Items**	**Mean (SD)***	**Alpha**	**Total Items**	**Mean (SD)***
BACKGROUND									
Perceived Preparation	0.96	12	3.67 (1.05)	0.97	12	3.80 (1.52)	0.93	9	4.08 (1.17)
Perceived Knowledge	0.96	16	3.55 (0.97)	0.97	16	3.83 (1.42)	0.96	16	3.36 (1.22)
Actual Knowledge	n/a	18	26.0 (5.18)	n/a	18	23.9 (5.68)	n/a	18	18.52 (4.58)
OPINIONS									
Preparation	0.85	5	4.20 (1.11)	0.89	4	*not reported*	0.78	4	3.70 (1.24)
Legal Requirements	0.82	4	3.92 (1.15)	0.91	3	*not reported*	--	--	--
Workplace Issues	0.79	6	4.18 (1.05)	--	--	*not reported*	0.78	5	3.09 (1.13)
Self-Efficacy	0.69	6	3.68 (1.26)	0.80	7	*not reported*	0.75	3	4.78 (1.22)
Alcohol and Drugs	0.70	3	4.46 (0.61)	0.48	2	*not reported*	<0.5	2	4.05 (0.80)
Victim Understanding	0.69	7	5.06 (0.78)	0.46	3	*not reported*	0.63	4	4.10 (1.24)
Constraints	0.47	2	4.65 (1.26)	--	--	*not reported*	0.61	3	4.33 (1.38)
Victim Autonomy	0.37	3	4.32 (0.83)	0.36	3	*not reported*	--	--	--
IPV Screening	--	--	--	0.74	2	*not reported*	0.58	2	34.45 (1.40)

*On a scale from 1 (strongly disagree) to 7 (strongly agree)

Diffusion of Innovation

The PREMIS instrument allows for examination of many of the provider-level factors related to IPV screening. However, provider-level factors are not the only issues to consider in developing and implementing an effective IPV screening program that will be effectively adopted and implemented. The PRECEDE-PROCEED model recommends the use of additional theories in phase 3 to guide the assessment of the predisposing, reinforcing, and enabling factors for an intervention. Given the need to understand why IPV screening has not been adopted and implemented at the rate necessary to have an impact on IPV, Diffusion of Innovation theory is a particularly relevant theory that may provide insight into some of the reasons this evidence-based recommendation and practice has not been widely adopted. These insights can inform the development of future efforts to more widely diffuse IPV screening successfully into other environments such as community pharmacies.

Rogers describes the diffusion process "as the process by which (1) an innovation (2) is communicated through certain channels (3) over time (4) among members of a social system" (Rogers, 2003). An innovation is simply something that is perceived to be new by a potential adopter of the innovation. The innovation could be an object, a practice or process, or an idea. The perceived characteristics of an innovation explain some of the differences in adoption rate. Rogers categorizes these characteristics as relative advantage, compatibility, complexity, trialability, and observability. Relative advantage is the degree to which an innovation is perceived to be better than what it is replacing. Compatibility refers to the perception of the degree to which an innovation is consistent with the needs, values, and experience of the adopter. Complexity is the degree to which the innovation is considered to be difficult to use or adopt. Trialability refers to the perception that an innovation could be experimented with on a limited

basis without serious impact or commitment. Finally, observability is the degree to which adoption of the innovation is visible to others. An innovation that is perceived to have strong relative advantage, greater compatibility, trialability, observability and low complexity will be adopted and diffused more rapidly than other innovations.

The second element in the diffusion process is the communication process. There are multiple means by which news of an innovation can travel and these channels have a significant impact on the rate of diffusion. Methods of communication can include mass media channels (such as radio, television, newspapers, journals, etc.) or interpersonal channels (peer networks, face-to-face exchange, etc.). Interestingly, diffusion studies have shown that most potential adopters do not evaluate an innovation based on studies of its outcome. Instead, they rely upon subjective evaluation of the innovation conveyed to them from other individuals who are like them and have already adopted the innovation. This indicates that peer recommendation plays an important role in diffusion.

The third element in the diffusion process is time. The decision to utilize an innovation is a process a potential adopter goes through during which he/she gains knowledge of the innovation, forms a favorable or unfavorable attitude toward the innovation, decides to accept or reject the innovation, implements the innovation, and then seeks confirmation or reinforcement regarding his/her decision. This process occurs over a period of time and factors that influence each of the steps in the decision process can influence the speed of diffusion of the innovation. The final element in the diffusion process is the social system into which the innovation is released. The social system provides boundaries for the innovation. It can facilitate or hamper innovation. The social structure, the system norms, and opinion leaders can all impact in a positive or negative manner the diffusion of an innovation.

Diffusion of Innovation theory is helpful in guiding assessment of factors that are predisposing, reinforcing, and enabling for a particular innovation. In the current investigation, the innovation of IPV screening has been poorly diffused throughout the health care system. This deficit can be addressed by utilizing the Diffusion of Innovation theory to frame an assessment of the characteristics of the innovation, the adopters, and the environmental setting into which this innovation is released. The PREMIS instrument can provide insight into the characteristics of the adopters, in this case the health care providers conducting IPV screening. However, this instrument does not adequately address the innovation-level factors, which in this case would be characteristics of the IPV screening intervention. For example, if IPV screening is not perceived to provide a relative advantage by either the pharmacist or the consumer, then it is unlikely to be adopted. Relative advantage could be improved health of the patient or it could be increased customer loyalty for a community pharmacy patient who desires the IPV screening service. Assessing pharmacist and consumer perceptions of the characteristics of the innovation of IPV screening could yield important insights that could guide the development of an intervention that could effectively and efficiently be successfully adopted and disseminated.

Consumer Perspective

A thorough assessment of factors that are involved in predisposing, reinforcing, and enabling IPV screening in the community pharmacy setting must include not only the pharmacist's perspective but also include the consumer's perspective. It is not appropriate to move forward with IPV screening in the community pharmacy setting with knowledge only of the provider's perspective. It is entirely possible that critical predisposing or reinforcing factors related to the consumer will provide evidence that screening is either undesirable or alternatively

of high importance. Only through study of consumer factors will important issues such as willingness to return to a community pharmacy that conducts screening be considered.

PRECEDE-PROCEED Summary

If planning is done carefully and is guided by theory, intervention and dissemination is more likely to be effective. The PRECEDE-PROCEED model provides a framework to guide the development of effective interventions. Phase one assessed the social environment and documented the need for a focus on IPV prevention and intervention. Phase two assessed the epidemiology of IPV and clearly demonstrated that IPV is a highly prevalent exposure that results in negative health outcomes. The phase three assessment has demonstrated that additional research is needed to complete this assessment to determine what factors may predispose, reinforce, and enable IPV screening in the pharmacy environment. Other health care providers have not widely adopted and implemented IPV screening so it is crucial to conduct the phase three assessment with a focus on community pharmacists and an emphasis on their particular perceptions of the predisposing, reinforcing, and enabling factors related to this intervention. Further, there is evidence to suggest that IPV screening is acceptable to patients in health care settings; however, additional study is needed to determine if it would be acceptable to consumers in a community pharmacy environment.

3. METHODOLOGY

Purpose

The purpose of this study was to investigate the potential role of community pharmacists in the public health initiative to reduce the impact of interpersonal violence (IPV) by significantly increasing the screening and referral of victims of interpersonal violence. To examine this possibility, the PRECEDE-PROCEED model was used to guide the assessment of factors that may predispose, reinforce, or enable IPV screening in the community pharmacy setting. Specifically, this project conducted two separate studies. The first study investigated community pharmacists' readiness to participate in IPV screening, including examining training, knowledge, attitudes, behaviors, and intentions related to IPV screening by developing and testing an instrument adapted from an existing instrument, the PREMIS (Physician Readiness to Manage Intimate Partner Violence Survey) tool. Potential demographic differences in intention to conduct IPV screening were also examined. In addition, this study examined pharmacists' perceptions of the innovation characteristics of IPV screening in community pharmacies and their impact on intention to conduct IPV screening. The second study examined female consumers' attitudes and preferences for IPV screening in community pharmacies to determine if IPV screening in the community pharmacy setting is feasible and acceptable. The results of this study will assist in determining if community pharmacies are an appropriate place to conduct IPV screening, and if so, will provide data to inform the development of educational initiatives and screening programs that can be effectively and efficiently adopted for dissemination.

It should be noted that the primary consideration in all research activities related to IPV is safety and respect for all victims. This ethical consideration supersedes any desirable study methodology. Review and approval by The University of Mississippi Institutional Review Board (IRB) was obtained prior to initiation of this study. Participant consent was obtained prior to the collection of any data. Data security protection measures were employed as required by the IRB.

Survey of Community Pharmacists

Overview

This study was conducted as a formative research initiative to understand community pharmacists' perspectives on IPV screening in the community pharmacy setting. The goals of this exploratory project were to study community pharmacists' readiness to participate in IPV screening, including examining training, knowledge, attitudes, behaviors, and intentions related to IPV screening by developing an instrument adapted from the existing PREMIS tool; to examine potential demographic differences in intention to conduct IPV screening; and to examine perceptions of the characteristics of the IPV screening innovation in community pharmacies and their impact on intention to conduct IPV screening.

The main outcome of this study is the newly adapted instrument for use with community pharmacists that assesses knowledge, attitudes, behaviors, and intentions related to IPV screening in addition to assessing community pharmacists' perceptions of innovation characteristics of the intervention of IPV screening. The development of such an instrument is necessary for two reasons. First, it allows a standardized evaluation of pharmacists' knowledge, attitudes, behaviors, and intentions related to IPV and IPV screening that can be compared to

other health care providers. Secondly, the data collected with this instrument can guide the development of future educational initiatives, policy recommendations, and potentially the future development of screening programs in the community pharmacy setting. It is important to determine if the factor structure of the PREMIS instrument is the same or different for pharmacists compared to physicians. These differences have implications for the ability to utilize training programs and screening methods that were developed in other health care settings in a pharmacy setting. Therefore, the first two research questions addressed these issues:

Research Question 1:

What are pharmacists' knowledge, attitudes, behaviors, and intentions related to IPV?

Research Questions 2:

Does the Pharmacy PREMIS have a factor structure similar to the Physician PREMIS factor structure?

Prior work with other health care providers indicates that female providers are more comfortable with IPV screening compared to male providers and that the number of years in practice is related to IPV screening behaviors. Specifically, those who have finished training and practiced ten years or less were found to be more likely to initiate and conduct IPV screening (Gutmanis, Beynon, Tutty, Wathen, & Macmillan, 2007a; Gutmanis et al., 2007a). For these reasons, differences in pharmacist characteristics and intention to engage in IPV screening were investigated in the first *a priori* hypothesis:

H_1: *Pharmacist characteristics, specifically female gender and fewer years since completing training, are positively related to intention to engage in IPV screening.*

The second set of *a priori* hypotheses are related to the newly created instrument and examined the relationship between community pharmacists' perceptions of the innovation characteristics of the IPV screening intervention and their relationship to intention to screen for IPV.

H_2: *Perceptions of intervention characteristics as measured by diffusion constructs are related to intention to engage in IPV screening. Specifically:*

H2a: *Positive perceptions of relative advantage are related to greater intention to engage in IPV screening.*

H2b: *Positive perceptions of compatibility are related to greater intention to engage in IPV screening.*

H2c: *Positive perceptions of trialability are related to greater intention to engage in IPV screening.*

H2d: *Positive perceptions of visibility are related to greater intention to engage in IPV screening.*

H2e: *Positive perceptions of complexity are related to reduced intention to engage in IPV screening.*

Sample Population

The study sample consisted of community pharmacists from across the U.S. A database of contact information of community pharmacists, including email addresses, was purchased from Integrated Medical Data, a data services company. The database has over 18,000 verified email addresses for community pharmacists from across the United States. A random sample of 6,000 community pharmacists was drawn and provided to the investigators. This data set served as the sample frame. Sample size was determined based on the study design of a factor analytic approach. Recommendations include between 5 to10 cases per variable in a factor analysis, up to 300 cases (Tinsely & Tinsley, 1987). Beyond 300 cases this ratio can be relaxed (DeVellis, 2012). In this survey study there were 32 variables to be considered in the primary factor analysis, resulting in a need for approximately 160 to 320 respondents.

Survey Development

The survey instrument for this study was adapted from the PREMIS instrument described in Chapter 2. As described in Chapter 2, previous studies have found the PREMIS instrument to be comprehensible, reliable, valid, and adaptable to health care providers beyond physicians (Short et al., 2006; Connor et al., 2011; Papadakaki et al., 2012). Development of the survey instrument occurred in several steps depicted in Figure 3. In step one the survey items were adapted for use with pharmacists. These adaptations were made to address the unique practice characteristics, activities, and concerns of a community pharmacy practitioner. Specifically, the respondent profile and practice issues section were adapted to match the pharmacy profession. Additionally, the opinions section was adapted to reword clinical examination terms and items to assess intention to screen were added as it is anticipated that few pharmacists have conducted

screening to date so assessing screening behavior only is less optimal for this population. Finally, the demographic and IPV history items were adapted as the PREMIS instrument did not use standardized demographic or IPV history items. The demographic and IPV history items were replaced with those utilized in the national Behavioral Risk Factor Surveillance System (BRFSS) surveys. The demographic items from the most recent survey in 2011 were utilized (Centers for Disease Control and Prevention, 2011) and the IPV history items from 2007 (Centers for Disease Control and Prevention, 2007), the most recent survey year that IPV history was assessed by BRFSS, were utilized.

Following the adaptation of the original PREMIS measure, step two of development was conducted. In this step items were generated for assessment of pharmacist's perceptions of the innovation characteristics of IPV screening. Items were developed to assess perceptions of the following characteristics of IPV screening: relative advantage, compatibility, trialability, observability, and complexity. Sample items are included in Table 5. After these items were generated, the third step of development was completed. This consisted of expert review of the measure by researchers with expertise in IPV screening, community pharmacy practice, and health behavior theory. Suggested revisions were incorporated and a pilot instrument was finalized. The pilot survey was then built in Qualtrics, an online survey system. Before the instrument was pilot tested, cognitive interviews were conducted. Cognitive interviews, a recommended step prior to administering a pilot survey, can detect any challenges in understanding navigation, wording of directions and questions, visual layout, etc. (Willis, 2005). These interviews were conducted by the investigators as they have the highest level of awareness of how to address any challenges or problems that are detected. Three cognitive interviews were conducted with practicing community pharmacists recruited from the local area. Revisions

based on the cognitive interviews were made and the revised pilot instrument was then administered as an online survey to a convenience sample of faculty in a school of pharmacy and local practicing community pharmacists. This process resulted in the resolution of small programming issues and a clarification in the introductory information. The final survey instrument was then programmed into Qualtrics for administration with the study sample. The complete survey is included as Appendix B.

Figure 3. Community Pharmacist Survey Development Process

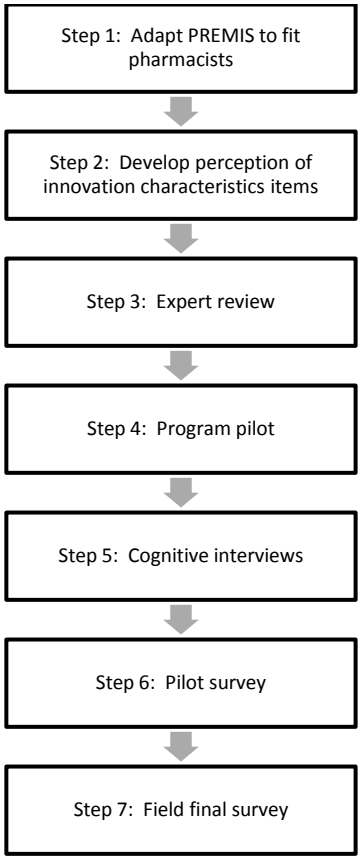

Table 5. Pharmacy PREMIS Survey – Innovation Characteristics Sample Items

Complexity	
	Conducting IPV screening in a community pharmacy would be difficult.
	My practice setting allows me adequate time to respond to victims of IPV.
	Pharmacists don't have the time to assist patients in addressing IPV.
Compatibility	
	There is a role for community pharmacists in public health initiatives.
	The community pharmacy is a good place to provide health education.
	Pharmacists are trusted members of the health care team.
	Community pharmacies are the most accessible health care facilities for patients.
	Pharmacy patients are willing to discuss private information with pharmacists.
	I think it is a good idea to screen for IPV in the pharmacy setting.
Relative Advantage	
	Adding new services to a community pharmacy can improve business.
	Providing IPV screening services in a pharmacy would result in a relative advantage compared to other pharmacies that do not offer this service.
	Providing IPV screening services would be a benefit to pharmacy patients.
Visibility	
	I have seen IPV patient education or resource materials in other pharmacies.
	I have seen IPV patient education or resource materials in other health care settings (e.g., physicians' offices, hospitals).
	I have seen other health care providers screen for IPV.
Trialability	
	It would be difficult to try IPV screening in the community pharmacy setting.
	Pharmacists receive adequate training in patient counseling.
	There is adequate private space for me to provide care for victims of IPV.

Survey Administration

The Dillman tailored design method was utilized to reduce survey error (Dillman, Smyth, & Christian, 2009). The survey procedures were designed to encourage high rates of sample participation. A personalized email invitation to participate in the survey was sent to all members of the study sample. The invitation was designed to appeal to the pharmacists' sense of responsibility as a member of the profession to participate in improving models of care. This "appeal for help" is recommended in the Dillman method to engage and encourage survey respondents. Although not ideal, a lottery system of participant incentives was initially utilized as this is the most feasible option for a web-based survey administration. The invitation informed participants that upon completion of the survey they could opt in to be entered into a drawing to win one of four $50 Amazon gift cards. The survey was emailed at 6am CST on a Tuesday in March 2012. A series of reminder emails were sent to non-respondents. The first reminder was on Friday morning of the same week the survey was initially released. The initial email and first reminder generated a small number of responses. As a result permission was sought and obtained from the IRB to increase the incentive to a $10 Amazon gift card for every participant. A new email message announcing the new incentive was sent on Tuesday morning, with two follow-up emails (two days and four days) later. Each contact had a unique, brief message asking for participation. Following the tailored design method, follow-up messages included items such as a reminder that the time to respond is limited. Directions to access and navigate the survey were written to be clear and easy to follow. Each sample member was sent a unique link to the survey so that response rates could be tracked and any individual could only complete the survey once. The text of the emails is included as Appendix A. Evaluation of the first completed surveys was conducted immediately to detect any potential problems that were

missed (e.g., problems with the ability to move page to page within the survey). The survey remained live ten days after the final reminder was sent. The survey was then closed and the data from the completed sample was prepared for analysis.

Analyses

Once the survey administration period closed, the data were transferred from Qualtrics into a study-specific database in SPSS 20.0 (Chicago, IL) for management and analysis. Data were reviewed for missing data and any survey missing responses to more than 10% of the items were deleted from the analysis file. Coding was completed, including reverse scoring relevant items. Respondent and practice characteristics were tabulated to describe the study population.

Response rate was calculated as the number of completed surveys compared to the number distributed. Two methods were utilized to estimate potential non-response bias. First, study respondents were compared to the population values from the complete database of pharmacists' emails that Integrated Medical maintains. Respondents were compared on pharmacy type and position in the pharmacy. Chi-square tests were conducted to determine if differences on these variables existed between these two groups. Additionally, a time-trends extrapolation method was used to examine potential non-response bias. The first 20% of respondents were compared to the last 20% of the respondents on demographic and practice variables. The assumption underlying this test is that individuals who respond later to a questionnaire are similar to those who do not respond at all (Armstrong & Overton, 1977). A comparison of the IPV exposure items was also conducted, as it may be the case that IPV exposed individuals are more or less likely to respond to a survey of this nature.

A multivariable regression analysis was conducted to examine the relationship between intention to screen for IPV and the pharmacist characteristics variables of gender and years since

training was complete. Intention to screen targeted patients for IPV was treated as the dependent variable and gender and years since training were included in the model as independent variables. Regression diagnostics were utilized to assess the assumptions of linearity, homoscedasticity, independence of the error term, and normality. Parameters were estimated using Ordinary Least Squares method. The *F* statistic was utilized to assess the hypothesis that gender and years since training significantly help predict intention to engage in targeted screening for IPV.

Maximum likelihood exploratory factor analysis was utilized to evaluate the psychometric properties of the adapted PREMIS instrument with community pharmacists. Results were compared to the original results by Short et al. and to the results of the instrument adapted for use in two additional populations, health care students and Greek physicians. Exploratory factor analysis was appropriate for this study as the measure being tested has only been utilized in three studies, two of which utilized an adaptation of the original instrument and found slightly different factor structures compared to the original study. The current study adapted the measure for use with practicing community pharmacists and this adapted measure has never been tested before. Because the training and practice of community pharmacists is considerably different from physicians, a different factor structure may be found. Three steps were taken prior to analysis to examine the factorability of the data. First, the variable-to-case ratio was calculated to determine if the study met the recommendation of a 1:5-10 ratio for factor analysis (Tinsely & Tinsley, 1987). Second, Bartlett's test for sphericity was estimated to test for the presence of correlations among the variables. Finally, the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO MSA) was calculated. The KMO MSA is the ratio of the sum of the squared correlations to the sum of the squared correlations plus the sum of the squared partial

correlations. This index ranges from 0 to 1 and will be 1 when each variable is perfectly predicted by the other variables without error. A result of 0.70 or higher indicates the data are factorable. If the result is lower than 0.70, then the MSAs for individual variables are utilized to identify variables for deletion to achieve a higher overall KMO MSA value.

Maximum likelihood exploratory factor analysis with an oblique rotation based on eigenvalues great than one was used to replicate the analysis approach that was used in all three of the studies of this instrument (Papadakaki et al., 2012; Connor et al., 2011; Short et al., 2006). This iterative method of factor analysis is a preferred extraction method because it employes a statistical test to determine the number of factors to be extracted. The procedure begins with one factor and increases the number of factors one at a time until the model achieves goodness of fit as demonstrated by the X^2 test. Once the appropriate number of factors has been determined, the extracted factors will be subjected to oblique rotation to foster interpretability. Oblique rotation was selected because it is anticipated that the factors may be inter-correlated and oblique rotation allows this, whereas orthogonal rotation does not. Additionally, oblique solutions in explanatory factor analysis are more likely to generalize to confirmatory factor analysis than orthogonal solutions are. Utilizing oblique rotation makes it more likely that the factors found will be useable for a future confirmatory factor analysis. Following the recommendation of Thompson, the promax method of oblique rotation was utilized with a pivot power of 4 (Thompson, 2004). Factors were examined for both statistical and theoretical soundness. Items were considered for deletion if a factor loading was lower than 0.32 (Tabachnick & Fidell, 2001) or if an item cross-loaded on multiple factors. Only factor loadings greater than 0.20 were displayed in the analysis. Reliability and validity were then evaluated. Cronbach's alpha was used to examine internal consistency within identified scales. Correlation between the scales was used to measure

construct validity. Correlations were considered weak if $r < 0.30$, moderate if r is between 0.30 and 0.70, and strong if $r > 0.70$. Statistical significance for all tests was set at $\alpha < 0.05$.

Items related to perceptions of the innovation characteristics of the IPV screening intervention were utilized in a second exploratory factor analysis that was conducted in the same manner as the analysis conducted for the Pharmacy PREMIS items. The resulting factor scores on the perceptions of innovation characteristics measure were then utilized in a multivariable regression analysis to examine the relationship between these variables and intention to engage in IPV screening of targeted patients. Regression diagnostics were utilized to assess the assumptions of linearity, homoscedasticity, independence of the error term, and normality. Parameters were estimated using Ordinary Least Squares method. The *F* statistic was utilized to assess the hypothesis that diffusion innovation constructs significantly help predict intention to screen for IPV. Finally, a content review was conducted to report a summary of comments.

Consumer Survey

Overview

The aim of the consumer study is to examine female consumers' attitudes and preferences for IPV screening in community pharmacies. As in the community pharmacists study, focus groups were not utilized to assess patient preferences as IPV victims are unlikely to truthfully respond in a group setting. A panel survey, although convenient, is unlikely to be effective in IPV research as individuals who have been or are currently exposed to IPV are unlikely to participate in a panel. For this reason a panel survey was not utilized for the consumer study. The consumer study was conducted as a cross-sectional survey of employees of

a southeastern university in order to gain an understanding of the general public's perspective on IPV screening in pharmacies. The intent of this survey is not scale development, but rather is exploratory in nature. Currently there is no existing standardized instrument in the literature to assess consumer or patient preferences regarding IPV screening. However, understanding customer-level factors that may facilitate or hinder diffusion of screening programs in the community pharmacy environment is essential in understanding how to appropriately proceed with IPV screening in the community pharmacy environment. In addition to the descriptive data, one hypothesis was tested in this study:

> *H_3: There is a difference in preference for IPV screening in the community pharmacy between women who have experienced IPV compared to women who have not experienced IPV.*

Sample

A cross-sectional survey design was utilized to explore patients' perspectives on IPV screening in community pharmacies. As discussed in Chapter 2, IPV rates are highest in women and nearly all research regarding screening acceptability, prevalence, and effectiveness has been conducted with female patients. For these reasons the study population of interest for this investigation focused on female consumers who utilize community pharmacies. A convenience sample of female employees of a southeastern university was used in this cross-sectional survey. A recent investigation of pharmacy use patterns was conducted in this population (Jariwala, 2009). The results indicated that nearly all respondents used pharmacy services and the majority utilized community pharmacies for these services. Additionally, approximately 200 individuals

(male and female) completed the survey. A power analysis for the current study was conducted to determine the sample size needed to detect a statistically significant difference between women who have experienced IPV and those who have not on whether or not they prefer community pharmacy IPV screening. With one covariate in the model, an α=0.05 and β=0.80, a sample size of 52 is needed to detect an effect size of 0.40 and a sample of 128 participants is needed to detect an effect size of 0.25 (Faul, Erdfelder, Lang, & Buchner, 2007).

Survey Development

Items for the cross-sectional survey of consumers' perspectives of IPV screening in community pharmacies were derived from previous surveys regarding patients' perspectives in investigations of IPV screening implementation. Specifically, items about consumer-level factors associated with acceptability (does the consumer want IPV screening?), relative advantage (would the consumer prefer a pharmacy that offered this service?) and complexity/simplicity (does IPV screening impinge negatively on consumer time/effort making it difficult to conduct screening?) were included. These items were based on previous surveys and included items to specifically address the pharmacy setting. Demographic and IPV history items were also included in this survey. As in the survey of pharmacists, the demographic and IPV history items utilized were from the national Behavioral Risk Factor Surveillance System (BRFSS) surveys. The demographic items from the most recent survey in 2011 were utilized (Centers for Disease Control and Prevention, 2011) and the IPV history items from 2007 (Centers for Disease Control and Prevention, 2007), the most recent survey year that IPV history was assessed by BRFSS, were utilized. The insights of IPV victims regarding acceptability and safety are particularly important to the future development of any IPV screening program. The complete survey is included as Appendix C. As in the community pharmacist study, the pre-test

instrument development process included review by experts and cognitive testing with potential sample members. A pilot test of the instrument was conducted with a convenience sample of eight employees and minor revisions were made. The final instrument was then programmed into Qualtrics for administration with the study sample.

Survey Administration

Administration of the cross-sectional survey of female consumers' attitudes and preferences for IPV screening in community pharmacies was conducted in a manner similar to that described in the community pharmacists survey reported above. The survey was programmed in Qualtrics and administered as a web-based survey. The survey was distributed via the university's daily email summary to all female employees of the university. The introductory email is included as Appendix D. None of the communications referred to individuals by name in order to enhance the anonymous nature of the survey. Electronic distribution and administration was selected for this survey as it was anticipated that more employees would feel comfortable completing an online survey than writing down responses to questions regarding IPV. Participation in an opt-in lottery for incentives was also offered, however the four $50 gift cards were to the campus bookstore and cafe. The campus-wide university email system does not allow for specific prompts. However, the survey was posted in the daily email to all female employees for two weeks. After the survey closed, data from the completed sample was prepared for analysis.

Analyses

Once the survey study period closed, the data were transferred from Qualtrics into a study-specific database in SPSS 20.0 (Chicago, IL) for management and analysis. Data were reviewed for missing data and any survey missing responses to more than 10% of the items were

deleted from the analysis file. Respondent characteristics were tabulated to describe the study population.

Response rate was calculated as the number of completed surveys compared to the number distributed. Characteristics of the survey respondents were compared to the known characteristics of the university's workforce on factors such as race to determine if the distribution of the respondents differed from the population values on these factors, indicating a potential non-response bias. As in the survey of community pharmacists, a time-trends extrapolation method was used to examine potential non-response bias. The first 20% of respondents were compared to the last 20% of the respondents on demographic variables. The assumption underlying this test is that individuals who respond later to a questionnaire are similar to those who do not respond at all (Armstrong & Overton, 1977). Descriptive analyses were conducted to characterize the study sample. Results were reported as mean ± SD and percentages. Correlation between variables regarding IPV preference and opinions about pharmacies/pharmacists and IPV screening were computed to examine potential relationships between these constructs. Differences between IPV positive and negative respondents were examined to determine if community pharmacy IPV screening would be more or less acceptable to IPV victims. The responses of known victims can shed light on whether screening in a pharmacy setting has any special concerns for victims that have not been identified in studies in other health care settings. A one-way ANCOVA analysis was conducted with IPV exposure as the independent variable and desire for community pharmacy IPV screening as the dependent variable to test hypothesis three. The covariate that was considered for inclusion in the model was level of agreement with the item "I trust the pharmacist when it comes to health matters".

Statistical significance was set at $\alpha < 0.05$. A content review was conducted to report a summary of comments.

4. RESULTS

Community Pharmacists Study

The cross-sectional survey designed to explore the perspective of community pharmacists regarding IPV screening in the pharmacy environment was distributed to a random national sample of a total of 6,000 community pharmacists. A total of 189 respondents participated in the pharmacists study. This resulted in a response rate of 3.15%. After a review of the data, 45 responses were not included in the analyses as they had not completed 90% of the survey. A final sample of 144 participants contributed data to the analyses, resulting in a net usable rate of 2.40%.

Participant Characteristics

Descriptive analyses indicated that the mean age of participants was 47.9 years (±11.8 years), with a range of 28 to 80 years of age. Table 6 reports the sex and race of the study participants. In order to characterize the training characteristics, participants were asked to report their most advanced pharmacy training and to indicate any post graduate training they may have had. As can be seen in Table 6, the majority of respondents had either a B.S. in Pharmacy or a Pharm.D. Interestingly, a significant number of respondents indicated "Other" to the post-graduate training item. Examination of the explanations provided for those who checked

"Other" found that many indicated either "none" or certificate in a variety of areas such as nuclear medicine and health care management. Participants reported that they have been practicing an average of 23.3 years (±12.5) (range 0 to 60), including their residency.

Table 6. Pharmacist Study Participant Characteristics

	Percent	n
Sex		
Female	52.8%	76
Male	47.2%	68
Race		
White	84.7%	122
Black/African American	3.5%	5
Asian	7.6%	11
Native Hawaiian/Pacific Islander	0.7%	1
American Indian/Alaskan Native	0.7%	1
Other	2.8%	4
Hispanic		
Yes	5.6%	8
No	93.8%	135
Don't know/Not sure	0.7%	1
Most advanced pharmacy training		
B.S. in Pharmacy	59.7%	86
Pharm.D.	37.5%	54
M.S. in Pharmacy	2.1%	3
Other	0.7%	1
Postgraduate training		
Residency	16.0%	23
Fellowship	2.8%	4
Graduate School	19.4%	28
Other	31.9%	46

Examination of the practice characteristics of the study participants indicates that they work in a variety of types of pharmacies and hold a variety of positions. Interestingly, approximately half of the study sample reported working in a pharmacy that offers advanced pharmacy services. As anticipated given the reported level of advanced pharmacy services offered, 57.6% reported that their pharmacy had a private counseling area, with 34.9% reporting

that this area is used often. Daily fill rates and other practice characteristics are included in Table 7.

Table 7. Practice Characteristics

	Percent	**n**
Type of pharmacy		
Chain	11.8%	17
Grocery/General Merchandise	28.5%	41
Independent	34.0%	49
Other	32.6%	47
Position		
Owner/Partner	18.1%	26
Employee manager/Asst Manager	27.8%	40
Staff/employee pharmacist	47.2%	68
Relief pharmacist	2.1%	3
Other	4.9%	7
Extent involved in key decisions		
Not at all	15.3%	22
A little	17.4%	25
Some	16.0%	23
A good amount	27.1%	39
To a great extent	24.3%	35
Offer advanced pharmacy services		
YES	53.5%	77
NO	46.5%	67
Have a dedicated private counseling area		
YES	57.6%	83
NO	42.4%	61
Frequency of use of private counseling area		
Never	--	0
Rarely	13.3%	11
Sometimes	51.8%	43
Often	34.9%	29
	Mean (±SD)	
Average number of fills per day in your pharmacy	326.3 (±674.3)	
Percent of fills involving patient counseling other than ordinary prescription consultation	22.7% (±26.3)	
Average number of pharmacist FTEs in your pharmacy	5.76 (±17.1)	
Average number of pharmacy tech FTEs in your pharmacy	7.58 (±26.8)	

IPV Training

Interestingly, some pharmacists reported exposure to IPV training. The majority of exposure reported was reading their institution's protocol and watching a video (see Table 8). Other sources of training reported included personal therapy and a women's studies course. Individuals who reported any previous training about IPV were asked to estimate the total number of hours of training they have experienced. The mean number of hours of training was 5.51 (±7.06) hours, with a range of 0 to 30 hours.

Table 8. Pharmacist Intimate Partner Violence Training Activities

	Percent	**n**
None	67.4%	97
Read institution's protocol	13.2%	19
Watched a video	11.1%	16
Attended lecture/talk	9.0%	13
Attended skills based training/workshop	2.8%	4
Pharmacy/other school classroom workshop	2.8%	4
Pharmacy/other school clinical training	2.8%	4
Residency/fellowship/post-grad training	--	0
Continuing Education	8.3%	12
Other	2.1%	3

Pharmacist Study Non-response Bias

As previously indicated, non-response bias was assessed by comparing study respondents to the population values of the population from which the study sample was drawn. Respondents were compared on pharmacy type and position in the pharmacy. Chi-square tests were conducted to determine if differences on this variables existed between these two groups. No significant differences between the groups were found on the variables examined (see Table 9).

Table 9. Estimation of Non-Response Bias: Comparison to Sample Population				
Variable	**Population**	**Study Sample**	***X*²**	***p-value***
Type of pharmacy			8.00	0.092
Chain	12,173	17		
Grocery/General Merchandise	136	41		
Independent	2,986	49		
Other	2,100	47		
Position			2.00	0.157
Owner/Partner	1,251	26		
Employee manager/Asst Manager	2,982	40		
Staff/employee pharmacist	22,838	68		
Relief pharmacist/Other	535	10		

The second method utilized to assess non-response bias was a time trends extrapolation in which the first 20% (n=29) of respondents was compared to the last 20% (n=29) of respondents. T-tests and chi-square tests were conducted to determine if differences in demographic and practice variables existed between these two groups. All of the respondents in these two groups reported their race as "white". No significant differences between the groups were found on any of the variables examined (see Tables 10 and 11).

Table 10. Estimation of Non-Response Bias: Time Trends Extrapolation of Parametric Data				
Variable	**First 20% Mean±(SE)**	**Last 20% Mean±(SE)**	***t-value***	***p-value***
Age	50.0 (2.5)	47.6 (2.3)	0.72	0.47
Years of practice	26.0 (2.5)	23.2(2.6)	0.77	0.44
FTE Pharmacists at site	3.6 (0.8)	2.5(0.3)	1.37	0.18
FTE Techs at site	4.0 (1.0)	4.6 (0.7)	-0.48	0.63
Fills per day at site	257.9 (59.6)	245.1 (25.5)	0.20	0.84
% fills with counseling	18.1 (4.5)	24.1 (5.7)	-0.83	0.41
Hours previous IPV training	4.7 (2.50	4.9 (2.6)	-0.52	0.96
Number staff IPV trained	4.9 (0.24)	5.0 (0.2)	-0.45	0.66

Table 11. Estimation of Non-Response Bias: Time Trends Extrapolation of Non-Parametric Data

Variable	First 20%	Last 20%	X^2	*p-value*
Sex			0.284	0.59
Female	16	18		
Male	13	11		
Hispanic			1.018	0.31
Yes	0	1		
No	29	28		
Don't know/Not sure	0	0		
Most advanced pharmacy training			14.39	0.49
B.S. in Pharmacy	16	19		
Pharm.D.	12	10		
M.S. in Pharmacy	1	0		
Other	0	0		
Position			2.368	0.67
Owner/Partner	4	4		
Employee manager/Asst Manager	8	8		
Staff/employee pharmacist	14	15		
Relief pharmacist	2	0		
Other	1	2		
Extent involved in key decisions			3.494	0.48
Not at all	2	6		
A little	5	6		
Some	4	5		
A good amount	11	8		
To a great extent	7	4		
Offer advanced pharmacy services			0.276	0.60
YES	14	16		
NO	15	13		
Personally threatened with IPV			1.198	0.55
YES	4	5		
NO	24	22		
Don't know/not sure	0	0		
Do not want to answer	0	1		
Personally experienced IPV attempt			1.066	0.79
YES	3	3		
NO	25	23		
Don't know/not sure	1	1		
Do not want to answer	0	1		
Personally experienced IPV			0.525	0.77
YES	5	7		
NO	23	20		
Don't know/not sure	0	0		
Do not want to answer	1	1		

Analysis of the Pharmacy PREMIS Instrument

Background Scales

The original PREMIS instrument had three background scales assessing perceived knowledge, perceived preparation, and actual knowledge. The perceived preparation scale included 12 items that assessed how prepared pharmacists felt to work with IPV victims and responses ranged from 1 (not prepared) to 7 (quite well prepared). The mean score on this 12 item scale was 27.76 (±17.28). The internal consistency of this scale was high (α=0.970). The perceived knowledge scale contained 16 items that assessed respondents' perceived knowledge about IPV. Responses on these items ranged from 1 (nothing) to 7 (very much). The mean score for this 16 item scale was 35.36 (±23.06). The internal consistency of this scale was also high (α=0.978). The IPV knowledge scale included 18 items and the mean score on this scale was 20.83 (±6.04), with a range from 6 to 32.

Opinion Scales

Exploratory factor analysis was employed with the 32 opinion items of the PREMIS instrument adapted for pharmacists to explore and refine the underlying structure of the items in this population. In order to determine the factorability of the data in this sample, the variable-to-case ratio was examined. A total number of 32 variables were considered in this analysis, making the variable-to-case ratio 32 to 144. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.731, indicating the suitability of the data for factor analysis. Bartlett's test of sphericity was significant (X^2 =2370.63; df =465; $p<0.001$). This indicates that there is sufficient correlation between the items, which is an indicator for the appropriateness of factor analysis in this data set. Maximum Likelihood Factor (MLF) analysis with oblique rotation of

the 32 opinion items identified a 9 factor solution that was statistically sound (X^2=277.57; df=222; p <0.007) that explained 54.65% of the variance; however, 23 of the items had similar loadings in at least two factors, indicating complex loadings. Despite the fact that this solution was statistically sound, the solution lacked a good theoretical basis. Variables with low communalities or loading scores below 0.32 were removed from analysis. The final MLF factor solution had five factors utilizing 18 items and accounted for 64.16% of the variance. Only loadings greater than 0.20 were shown; all of the items loaded exclusively on one factor in the final solution. Four of the five identified scales had Cronbach's $\alpha > 0.70$ and were thus considered to have acceptable reliability. The fifth scale demonstrated moderate reliability (α = .676). The identified Opinions scales, with reliability coefficients and sample items, are included in Table 12.

Innovation Characteristics Scales

A second exploratory factor analysis was conducted to examine the innovation characteristics items added to the pharmacist adaptation of the PREMIS instrument. The same method of exploratory factor analysis was utilized. The factorability of the data in this sample was assessed by examining the variable-to-case ratio. A total of 19 variables were considered in this analysis, making the variable-to-case ratio 19 to 144. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.793, indicating the suitability of the data for factor analysis. Bartlett's test of sphericity was significant (X^2 =1097.60; df =153 ; p<0.0001). This indicates that there is sufficient correlation between the items, which is an indicator for the appropriateness of factor analysis in this data set. Maximum Likelihood Factor (MLF) analysis with oblique rotation of the of the 19 innovation characteristics items identified a 5 factor solution that was statistically sound (X^2=121.26; df=73; p <0.0001) that explained 55.79% of the

variance; however, 9 of the items had similar loadings in at least two factors, indicating complex loadings. Despite the fact that this solution was statistically sound, the solution lacked a good theoretical basis. Variables with low communalities or loading scores below 0.32 were removed from analysis. The final MLF factor solution had four factors utilizing 13 items and accounted for 60.68% of the variance. Only loadings greater than 0.20 were shown. Three of the four identified scales had Cronbach's $\alpha > 0.70$ and were thus considered to have acceptable reliability. The fourth scale demonstrated moderate reliability ($\alpha = .686$). The identified Innovation Characteristics scales, with reliability coefficients and sample items, are included in Table 12.

Table 12. Pharmacist PREMIS Opinion Scales

Scales	Alpha	Total Items	Item Mean (SD)*	Sample Item
BACKGROUND				
Perceived Preparation	.970	12	2.31 (0.003)	How prepared do you feel to appropriately respond to disclosures of abuse?
Perceived Knowledge	.978	16	2.21 (0.004)	How much do you feel you know about what questions to ask to identify IPV?
Actual Knowledge	n/a	18	20.83 (6.04) (range 6-32)	What is the strongest single risk factor for being a victim of intimate partner violence?
Practice Issues	n/a	21	9.44 (6.95) (range 0-28)	For every IPV victim you have identified in the past 6 months, how often have you documented patient's statements about IPV in record?
OPINIONS				
Efficacy - Workplace/Self	.856	7	2.68 (0.013)	I feel comfortable discussing IPV with my patients. My practice setting allows me adequate time to respond to victims of IPV.
Preparation	.956	3	3.01 (0.0001)	I don't have the necessary skills discuss abuse with an IPV victims who is female.
Legal Requirements	.954	3	2.93 (0.007)	I am aware of legal requirements in this state regarding reporting of suspected cases of IPV.
Alcohol and Drugs	.795	2	4.63 (0.010)	Use of alcohol or drugs is related to IPV victimization.
Constraints	.676	3	4.31 (0.031)	Pharmacists do not have the time to assist patients in addressing IPV.
INNOVATION CHARACTERISTICS				
Relative Advantage	.841	5	4.72 (0.600)	Providing IPV screening services in a pharmacy would result in a relative advantage compared to other pharmacies that do not offer this service.
Compatibility	.806	3	5.83 (0.148)	Community pharmacists are trusted members of the health care team.
Trialiability	.720	4	3.56 (0.032)	It would be difficult to try IPV screening in the community pharmacy setting.
Visibility	.686	2	3.16 (0.155)	I have seen IPV patient education or resource materials in other pharmacies.

*On a scale from 1 (strongly disagree) to 7 (strongly agree)

Construct Validity

The construct validity of the instrument in the pharmacist population was assessed by estimating the correlation between the instrument's scales. As expected the perceived knowledge score was significantly correlated with the perceived preparation score (*r=.889; p=0.01*) and the amount of previous training (*r=.409; p=0.01*). These results are similar to both Short et al. and Connor et al., both of which found correlation between perceived knowledge and perceived preparation. Correlation matrices of all of the variables are reported in Tables 13-16.

Table 13. Correlations between Preparation and Knowledge Items/Scales

	Perceived Preparation	Perceived Knowledge	Actual Knowledge	Practice Issues	Hours IPV Training
Perceived Preparation	1				
Perceived Knowledge	.889**	1			
Actual Knowledge	.119	.106	1		
Practice Issues	.126	.086	-.041	1	
Hours Previous IPV Training	.409**	.402**	.213	.126	1

**p<0.01 (all two-tailed)

Table 14. Correlations between Opinion and Background Scale Items/Scales

	Perceived Preparation	Perceived Knowledge	Actual Knowledge	Hours Previous IPV Training
Workplace/Self-Efficacy	.606**	.623**	.129	.323*
Staff Preparation	.262**	.243**	.009	.268
Legal Requirements	.531**	.636**	.240**	.084
Alcohol/Drugs	.277**	.245**	-.110	.174
Constraints	-.022	-.052	.175	.309*

*p<0.05; **p<0.01 (all two-tailed)

Table 15. Correlation between Opinion Scales

	Work/Self Efficacy	Staff Preparation	Legal Requirements	Alcohol/ Drugs	Constraints
Work/Self-Efficacy	1				
Staff Preparation	.217**	1			
Legal Requirements	.526**	.155	1		
Alcohol/Drugs	.241**	-.074	.168*	1	
Constraints	.125	.174*	-.238**	-.342**	1

*p<0.05; **p<0.01 (all two-tailed)

Table 16. Correlation between Innovation Characteristics Scales

	Relative Advantage	Compatibility	Trialability	Visibility
Relative Advantage	1			
Compatibility	.622**	1		
Trialability	.430**	.029	1	
Visibility	.233**	.1212	.199*	1

*p<0.05; **p<0.01 (all two-tailed)

Research Questions

Research Question 1

The first research question in this study addressed pharmacists' knowledge, attitudes, behaviors, and intentions related to IPV screening.

Knowledge

Overall, participating pharmacists reported little exposure to training related to IPV, with the majority (67.4%) reporting no training at all. The PREMIS instrument included a set of questions to assess actual knowledge about IPV. The mean score on this scale was 20.83±6.04. This is slightly higher than the reported mean in the study of Greek physicians (18.53±4.58), but lower than the reported mean in the health care student study (23.9±5.68) and in the original study of physicians (26.00±5.18) (Short et al., 2006; Connor et al., 2011; Papadakaki et al., 2012). Interestingly, participants are generally uncertain if there is a legal mandate to report IPV cases involving competent adults in the state in which they practice (77.6% reported "Unsure").

Attitudes

Participants reported relatively low levels of perceived preparedness and knowledge related to IPV screening. The item mean on the perceived preparation scale was 2.31 (SD=0.003) in this sample of pharmacists on a scale of 1 (strongly disagree) to 7 (strongly agree). This is lower than reported in the original physician sample (3.67±1.05), the student sample (3.80±1.52), and the Greek physician sample (4.08±1.17). Perceived knowledge was similarly lower than reported in the other samples. Participants in this study reported low levels of self-efficacy and workplace efficacy related to IPV screening and indicated concern about constraints related to time and training for IPV screening.

Unique to the Pharmacy PREMIS were items related to perceptions of innovation characteristics associated with IPV screening. Pharmacists reported agreement with the statement that there is a role for community pharmacists in public health initiatives and that the pharmacists are trusted and accessible. This sample reported uncertainty about screening for IPV in the pharmacy setting (see Table 17).

Table 17. Perceptions of Innovation Characteristics of Intimate Partner Violence Screening in the Pharmacy

	Mean (SD)*
There is a role for community pharmacists in public health initiatives.	5.30 (1.56)
Pharmacists receive adequate training in patient counseling.	3.82 (2.04)
Adding new services to a community pharmacy can improve business.	4.98 (1.63)
The community pharmacy is a good place to provide health education.	5.65 (1.33)
Pharmacists are trusted members of the health care team.	6.21 (1.15)
Community pharmacies are the most accessible health care facilities for patients.	6.16 (1.19)
Pharmacy patients are willing to discuss private information with pharmacist.	5.11 (1.51)
Providing IPV screening services would be a benefit to pharmacy patients.	4.93 (1.55)
Conducting IPV screening in a community pharmacy would be difficult.	5.05 (1.62)
Providing IPV screening services in a pharmacy would result in a relative advantage compared to other pharmacies that do not offer this service.	4.16 (1.69)
It would be difficult to try IPV screening in the community pharmacy setting.	4.54 (1.68)
I have seen IPV patient education or resource materials in other pharmacies.	1.77 (1.17)
I have seen IPV patient education or resource materials in other health care settings (e.g., physician's offices, hospitals).	3.60 (2.08)
I have seen other health care providers screen for IPV.	2.71 (1.91)
I think it is a good idea to screen for IPV in the pharmacy setting.	4.25 (1.78)

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*On a scale from 1 (strongly disagree) to 7 (strongly agree)

Behaviors and Intentions

Participants reported minimal identification of IPV cases in their clinical practice. When asked how many new cases would you estimate you have identified in the past six months, only three participants (2.2%) reported identifying a case. One respondent (0.7%) reported screening all new patients for IPV. Six respondents (4.2%) reported screening patients with abuse indicators. Three respondents (2.1%) reported screening patients periodically and four (2.8%) reported screening all female patients periodically. For respondents who identified a case, the most common actions were to refer the patient to other assistance, to provide information, and to counsel the patient about options she/he may have. Participants responded to three items related to intention to participate in continuing education and screening for IPV on a scale of 1 (strongly disagree) to 7 (strongly agree). Respondents endorsed intention to participate in continuing education (Table 18). There was a significant difference between intentions to conduct screening with all patients compared to targeted patients, with respondents more willing to conduct screening with targeted patients ($X^2=129.62$; df=36; $p<0.0001$).

Table 18. Intentions Related to Continuing Education & Screening for Intimate Partner Violence

	Mean (SD)*
I would enroll in continuing education about IPV.	5.15 (1.79)
I would conduct IPV screening with all pharmacy patients.	3.34 (1.83)
I would conduct IPV screening with targeted pharmacy patients.	4.74 (1.75)

*On a scale from 1 (strongly disagree) to 7 (strongly agree)

Research Question 2

The second research question in this study addressed the similarities and/or differences of the factor structure identified in the Pharmacy PREMIS instrument compared to the Physician PREMIS factor structure. The background scales of perceived preparation and perceived knowledge function similarly in the pharmacists samples as they did in all three of the previous studies. The same factor analytic strategy of the items related to opinions of IPV and IPV screening that was used in all three of the previous studies was utilized in this study. Several of the same factors were identified (Preparation, Legal Requirements, Alcohol and Drugs, Constraints). While the Opinions Scale did find several of the same factors, there were a number of differences between the Pharmacy PREMIS and the other studies. First, the Pharmacy PREMIS identified a single factor for self-efficacy and workplace-efficacy, whereas the previous studies found these to be two separate factors. Second, the number of items in some of the scales was not identical. For example, the preparation scale had fewer items in the Pharmacy PREMIS (3 items) compared to the Physician PREMIS (5 items), and the student and Greek physician versions (4 items each). Finally, several of the factors identified in the original instrument (victim understanding and victim autonomy) and in the other adaptations of the instrument (IPV screening) were not found in the Pharmacy PREMIS (see Table 19).

Table 19. Comparison of PREMIS Scales across Studies

Scales	Short et al.			Connor et al.			Papadakaki et al.			PHARMACY		
	Alpha	Total Items	Mean (SD)*	Alpha	Total Items	Mean (SD)*	Alpha	Total Items	Mean ±(SD)*	Alpha	Total Items	Mean±SD*
BACKGROUND												
Perceived Preparation	0.96	12	3.67 (1.05)	0.97	12	3.80 (1.52)	0.93	9	4.08 (1.17)	0.970	12	2.31(0.003)
Perceived Knowledge	0.96	16	3.55 (0.97)	0.97	16	3.83 (1.42)	0.96	16	3.36 (1.22)	0.978	16	2.21(0.004)
Actual Knowledge	n/a	18	26.0 (5.18)	n/a	18	23.9 (5.68)	n/a	18	18.52 (4.58)	n/a	18	20.83(6.04)
Practice Issues	n/a	21	12.35 (7.44)	n/a	--	*not used*	n/a	21	17.82 (5.93)	n/a	21	9.44(6.95)
OPINIONS												
Preparation	0.85	5	4.20 (1.11)	0.89	4	*not reported*	0.78	4	3.70 (1.24)	0.956	3	2.68(0.013)
Legal Requirements	0.82	4	3.92 (1.15)	0.91	3	*not reported*	--	--	--	0.954	3	3.01(0.0001)
Workplace Issues	0.79	6	4.18 (1.05)	--	--	*not reported*	0.78	5	3.09 (1.13)	*Workplace & Self-efficacy:*		
Self-Efficacy	0.69	6	3.68 (1.26)	0.80	7	*not reported*	0.75	3	4.78 (1.22)	0.856	7	2.68(0.013)
Alcohol and Drugs	0.70	3	4.46 (0.61)	0.48	2	*not reported*	<0.5	2	4.05 (0.80)	0.795	2	4.63(-.01)
Victim Understanding	0.69	7	5.06 (0.78)	0.46	3	*not reported*	0.63	4	4.10 (1.24)	--	--	--
Constraints	0.47	2	4.65 (1.26)	--	--	*not reported*	0.61	3	4.33 (1.38)	0.676	3	4.31(.031)
Victim Autonomy	0.37	3	4.32 (0.83)	0.36	3	*not reported*	--	--	--	--	--	--
IPV Screening	--	--	--	0.74	2	*not reported*	0.58	2	34.45 (1.40)	--	--	--

*On a scale from 1 (strongly disagree) to 7 (strongly agree)

Hypothesis Testing

Intention to Screen for IPV and Pharmacist Characteristics

A multivariable regression analysis was conducted to examine hypothesis one which stated that pharmacist characteristic variables (gender and years since training) are associated with the pharmacists' intention to screen targeted patients for IPV. These were the only variables consider for this analysis as the literature in other health care practice areas has only found gender and time since training to be associated with intention to screen and actual engagement in screening programs. The assumptions of linearity, homoscedasticity, and independence of the error terms were tested with a scatter plot of the studentized residuals compared to predicted values. A normal probability plot was examined to assess normality. Data demonstrated linearity, homoscedasticity, independence, and normality. A correlation matrix was examined for multicollinearity and the variables were not found to be highly correlated (defined as a correlation of .90 or greater) (Hair, Anderson, Thatham, & Black, 1998). Hypothesis one is partially supported – female gender is positively associated with intention to screen targeted patients for IPV; however, there is no significant relationship between years since training and intention to screen for IPV.

Table 20. Testing for Hypothesis 1
Relationship between intention to screen targeted patients for intimate partner violence and pharmacist characteristic variables

	Standardized Coefficient	***t value***	***p value***
Gender	0.177	2.012	0.0001
Years since training	-0.096	-1.092	0.277
$F_{(2,138)}$	3.797*		
Adj *R*-Sq	0.038		
Standard error of the estimate	1.713		

$*p<0.025$

Perceptions of Innovation Characteristics and Intention to Screen for IPV

A multivariable regression analysis was conducted to examine hypothesis two which stated that perceptions of the intervention characteristics are associated with the pharmacists' intention to screen targeted patients for IPV and specifically that relative advantage, compatibility, trialability, and visibility are positively associated with intention to screen. Hypothesis 2e which stated that positive perceptions of complexity are related to reduced intention to engage in IPV screening could not be tested because a complexity factor was not identified in the factor analysis. A model with all four of the innovation attributes was employed to test Hypothesis two and individual regression models with each innovation attribute were conducted to test Hypotheses 2a-d. The assumptions of linearity, homoscedasticity, and independence of the error terms were tested with scatter plots of the studentized residuals compared to predicted values. Normal probability plots wer examined to assess normality. Data demonstrated linearity, homoscedasticity, independence, and normality. A correlation matrix was examined for multicollinearity and the variables were not found to be highly correlated (defined as a correlation of .90 or greater) (Hair et al., 1998). Hypothesis two was supported – the full model of perceptions of the innovation characteristics of the intervention of IPV screening was associated with increased intention to screen targeted patients for IPV. Hypothesis 2a-d examined each attribute of the innovation of IPV screening. Hypotheses 2a-d were supported – specifically relative advantage, compatibility, trialability, and visibility, are each individually associated with increased intention to screen targeted patients for IPV (see Table 22).

Table 21. Testing for Hypothesis 2 – Full Model
Relationship between intention to screen targeted patients for intimate partner violence and innovation characteristics factor scores

	Standardized Coefficient	***t value***	***p value***
Relative Advantage	0.596	6.745	0.0001
Compatibility	0.091	1.148	0.253
Trialability	0.104	1.510	0.133
Visibility	0.112	1.854	0.066
$F_{(4,133)}$	40.02***		
Adj *R*-Sq	0.533		
Standard error of the estimate	1.199		

****p<0.0001*

Table 22. Testing for Hypotheses 2a-d – Individual Innovation Characteristics
Relationship between intention to screen targeted patients for intimate partner violence and individual innovation characteristics factor scores

	Standardized Coefficient	$F_{(df)}$	**Adj *R*-Sq**	**SEM**	***p***
Relative Advantage	0.723	$149.14_{(1,137)}$	0.520	1.215	0.0001
Compatibility	0.478	$40.25_{(1,137)}$	0.223	1.546	0.0001
Trialability	0.386	$23.76_{(1,137)}$	0.143	1.623	0.0001
Visibility	0.283	$11.81_{(1,137)}$	0.073	1.688	0.001

Pharmacist Experience with Intimate Partner Violence

The items assessing exposure to intimate partner violence were completed by all but 3 of the participants. Analysis of responses regarding exposure to intimate partner violence indicates that the levels of exposure are similar to the rates reported nationally, with 14.2% reporting ever being threatened with physical violence (with an additional 0.7% responding don't know/not sure and 2.2% responding do not want to answer), 17.0% reporting that an intimate partner had ever attempted physical violence against them (with an additional 1.5% responding don't know/not sure and 2.2% responding do not want to answer), and 17.9% reporting that an intimate partner had ever hit, slapped, kicked or otherwise hurt them (with an additional 1.5% responding don't know/not sure and 2.2% responding do not want to answer). These values were compared to the values obtained utilizing the same survey items in BRFSS utilizing chi square analyses and no significant differences were found (Table 23).

Table 23. Pharmacist Study Sample Intimate Partner Violence Rates Compared to Rates Reported in BRFSS

	Percent responded YES			
	Study Sample	**BRFSS**	X^2	***p value***
Intimate partner ever:				
-threatened you with physical violence	14.2%	19.2%	1.423	>0.492
-attempted physical violence against you	17.0%	14.5%	0.778	>0.678
-ever hit, slapped… hurt you	17.9%	20.2%	0.228	>0.989

Pharmacist Participant Feedback

A number of pharmacist study participants provided comments in response to two opened-ended questions. The first question appeared in the section of the survey addressing IPV screening in pharmacies and solicited "any other thoughts about community pharmacies, pharmacists, and intimate partner violence." A total of 17 participants (11.8%) provided comments. The complete, unedited comments in response to this item are reported in Table 24. A review of the comments indicates that while a few participants believe IPV screening could be done, most cited concerns about time and acceptability. Interestingly, one comment raised the issue of the speed with which a corporation would move to address this issue and a second raised the issue of who would cover the cost.

Table 24. Pharmacist Study Participant Comments to Open-ended Intimate Partner Violence Screening in Pharmacy Question

If we have referral sites (which we do in our community) these screenings could be done at the pharmacy level.

Never really thought about IPV as it pertains to my practice before.

would be a useful resource

in our store, we are almost constantly filling prescriptions. Most of the time, we only have one pharmacist on duty. We can't afford to halt the entire filling process to screen/counsel/etc for IPV.

i have recently found out about a couple, that my family knows well, where the husband was abusing the wife. I wish that I had had the skills to identify and help her earlier and potentially help other people. This is a very relevent topic for me right no and I am extremely interested in how i could help in my personal and professional life

Unless there is a counseling area that is completely private I don't believe this would ever work.

Screening should be conducted on a targeted audience because some patients would avoid the pharmacy practice even if they were not a victim because the very subject causes some patients to be uncomfortable discussing it.

I worked with a fellow pharmacist whose husband had battered her even when she held her child in her arms. He stopped beating her physically but continue to do so financially and emotionally. She left the job about 6 months ago and had to file for bankrupcy. He spent all her money and left her financially drained. I listened to her but she stayed married to him so not to appear a failure to her family. It would have been her second divorce. She was totally dependent on him. I felt sad being around her.

This would be a tremondous effort to identify and impact domestic violence. However, training of pharmacists or pharmacy staff needs to start in the pharmacy schools to be effective.

This is the first time I've ever heard of IPV and pharmacy. We deliver medical equipment and our continuing education provides online courses in neglect and abuse bu not specifically IPV.

I DON'T FEEL I HAVE THE TRAINING TO DO IPV SCREENING

This is not a subject that i have ever had to directly deal with

Time is the greatest problem esp in a busy retail practice. It would be very difficult to have a program in place but would be very helpful to know the laws and how to council if the need would arise/

I believe after the many years in community Pharmacy that the idea of having any Pharmacist to screen for IPV or ask questions of that nature in the absence of "signs" would be repugnant.

Pharmacists have little time for other duties besides checking rx's, counciling etc. These are physicians or professional 's in hospitals or police associated employee duties, not the pharmacist.

WHO PAYS?

It is an important topic, but I believe that corporations can be a bit slow to change with supporting pharmacy initiatives to screen patients in this manner.

The second question that solicited feedback was in the final section after the IPV screening items. This item was "If there are any additional comments you would like to share with us about domestic violence screening in a pharmacy, we welcome your input in the box below. Thank you." A total of 10 participants (6.9%) provided comments. The complete, unedited comments in response to this item are reported in Table 25. A review of the comments indicates that there is clearly a need to provide education and training to prepare pharmacists to take on this role. Suggestions for other methods of expanding screening were also made.

Table 25. Pharmacist Study Participant Comments to Open-ended Intimate Partner Violence in Pharmacy Question

There is the more obvious domestic "physical" violence among intimate partners but there can also be the much less obvious and less evident/detectable "emotional & mental" abuse among intimate partners as well and hopefully these screenings can help with his area as well. Adequate education would be mandated before these types of services could be offered in the community pharamcy setting.

Education through the National Home Infusion Association would be great. Home infusion services have a unique ability to care for patients in their homes - an additional ability to screen in their own environments.

You don't mention emotional, verbal and financial abuse. Very serious too

this survey seems difficult and yet in some senses redundant.. not the last 3-4 pages but the front pages and really busyness is an issue patient privacy is another huge issue and some people want to hide issues with the people they know .. so familiarity has its good and bad points. The anticoagulation practice i work in is much more conducive than the community pharmacy but I think that this should be targeted in the md office for patients on narcotics and their families. As far as the follow up it would be hard to get patients families involved truthfully due to the fear of not getting medicine... Really a catch 22. We have reported elder abuse in our clinic before financially so and that is an issue that really was never resolved . community resources ae very lacking and patients at least elderly ones are isolated and dementia issues really don't help matters.

I was fortunate to get out of the relationship where I was threatened and hit - happened over 35 years ago. I have been happily married a person who was the opposite of this person and I thought my experience with domestic violence was over. Unfortunatel, our daughter found herself in a relationship where she experienced domestic violence. Her boyfriend's family convinced her she had to marry the boy once she found out she was pregnant - and she thought she loved the fellow. She didn't tell us about the omestic violence at first but once she did, we helped her get out of that marriage. Unfortunately she lives in fear of when he is going to show up even though there is a restraining order……What little I know about resources for victims of domestic violece comes from this experience and not any training or educational programs - formal or informal. IF some sort of formal training could be incorporated into pharmacy cirricula, I think it would be beneficial. For practicing pharmacists, continuing educatio programs would be beneficial. I suspect that are those out there who don't have a clue how big this problem really is and probably think it doesn't affect them. As pharmacists, we could be just that person to offer some help and advice to that patient hat needs it most…..In my opinion, I think abusive behavior in general is increasing especially as 'social media outlets' are being used more and more frequently. I know from experineces with my daughter that kids these days say awful things to and about ach other on these social media sites - and I think the fact so many people can chime in at one time, it makes people think they can get away with anything.....and not be held responsible for their actions……Thank you for conducting this survey and undertking such a project. I hope much good will come from it.

I feel that pharmacists are not trained in this area but we should be.

The most useful materials are those that identify the victims of IPV as normal and successful. If everyone considers IPV a problem only of poor, MediCaid mothers with alcoholic spouses, a huge number of upper middle class

No. I am a member of Al-Anon, so I am well aware of IPV and other abuse, but think that having Pharmacists involved in providing screening wrong.

I understand this is a growing problem, however pharmacist may advise or recommend patient to physician or proper authority to council or advise them but pharmacist's are not trained to council abused patients.

Adequate education would be mandated before these types of services could be offered in the community pharmacy setting.

Consumer Study

The survey designed to explore the pharmacy consumer's perspective of IPV screening in the pharmacy environment was distributed to a total of 1,970 female employees of a public, southeastern university. A total of 64 respondents participated in the consumer study. This resulted in a response rate of 3.25%. After a review of the data, 4 responses were not included in the analyses as they had not completed more than 10% of the survey. A final sample of 60 participants contributed data to the analyses, resulting in a net usable rate of 3.05%. The survey program recorded the start and stop times for each participant. The mean time for survey completion was 7.01 minutes (±4.34 minutes), with a range of 1.93 to 27.43 minutes.

Consumer Participant Characteristics

Descriptive analyses indicated that the mean age of participants was 43.3 years (±11.3 years), with a range of 23 to 67 years of age. Table 26 reports the race, marital status, level of education, and income level for the study participants. Participants reported high levels of general health, with the majority of participants indicated that their health was very good or excellent and no participants reporting poor health (Table 27).

Table 26. Consumer Study Participant Characteristics

	Percent	n
Race		
White	86.7%	52
Black/African American	11.7%	7
Asian	--	0
Native Hawaiian/Pacific Islander	--	0
American Indian/Alaskan Native	1.7%	1
Other		
Hispanic		
Yes	1.7%	1
No	98.3%	59
Don't know/Not Sure	--	0
Marital Status		
Married	71.7%	43
Divorced	10.0%	6
Widowed	0%	0
Separated	1.7%	1
Never Married	16.7%	10
A member of an unmarried couple	--	0
Level of Education		
Never attended school/only attended kindergarten	--	0
Grades 1-8 (elementary)	--	0
Grades 9-11 (some high school)	--	0
Grade 12 or GED (high school graduate)	3.3%	2
College 1-3 years (some college/technical school)	11.7%	7
College 4 years or more (college graduate)	21.7%	13
Attended or completed graduate school	63.3%	38
Annual Household Income		
<$19,000	--	0
$20,000 - $24,999	1.7%	1
$25,000 - $34,999	8.3%	5
$35,000 - $49,999	15.0%	9
$50,000 - $74,999	31.7%	19
>$75,000	40.0%	24
Not reported	3.3%	2

Table 27. Consumer Study Participant General Health

	Percent	n
Excellent	15.0%	9
Very Good	45.0%	27
Good	36.7%	22
Fair	3.3%	2
Poor	--	0

Consumer Study Non-response Bias

Potential non-response bias was assessed by two methods. First, the characteristics of the study participants were compared to the university's workforce. This analysis indicated that the while a greater proportion of survey respondents reported their race/ethnicity as white, a chi-square test did not indicate that there was a significant difference (86.7% in study sample compared to 77.8% of all university employees, $X^2 = .991$, p=n.s.). Additionally, the study sample reported a high level of education and income, indicating that many of the respondents were likely faculty and/or professional personnel. Given that approximately 84% of the university faculty report their ethnicity as white, the sample is slightly more diverse than the faculty.

The second method utilized to examine potential non-response bias was a time-trends extrapolation method that compared the first 20% of respondents with the last 20% of respondents. A *t*-test and chi-square tests were conducted and the results indicated that there were no significant differences between these two groups. The mean age for the first 20% was 42.6±9.9 compared to 44.4±14.5 for the last 20%. No differences in reported race, marital status, household income level, educational attainment, nor general health were detected. Inspection of the data indicated that the first 20% were slightly more likely to have been exposed to IPV

compared to the last 20% of respondents; however, cell sizes were too small to permit statistical analysis (see Table 28). This finding is not surprising as individuals who have experienced IPV may have been more likely to attend to the notice of the survey as the topic has a heightened personal connection for them.

Table 28. Comparison of Intimate Partner Violence Exposure among First and Last 20% of Respondents

	Number responded YES	
	First 20%	**Last 20%**
Intimate partner ever threatened you with physical violence	2	2
Intimate partner ever attempted physical violence against you	3	2
Intimate partner ever hit, slapped… hurt you	3	1

Pharmacy Use Patterns

The majority of participants have regular exposure to a pharmacy to fill prescriptions. Sixty percent of participants (n=36) reported that they visit to fill a prescription for themselves or family member at least once per month, with an additional 28.3% (n=17) reporting that they visit once every few months to fill a prescription. Only five participants (8.3%) reported visiting about once per year, while two participants (3.3%) reported that they had not visited a pharmacy to fill a prescription in more than a year. Participants are filling prescriptions for a number of individuals in their household, including spouse/partner, children, and other household members (see Table 29 for number of prescriptions routinely taken by household members). Participants reported using a number of types of pharmacies to fill prescriptions, including chain, grocery store or general merchandise store, and independent pharmacies, with a few participants using mail order pharmacies (see Table 30). The majority of participants have a single pharmacy that

they use to fill these prescriptions, with 68.3% reporting using only one pharmacy and 31.7% reporting the use of two pharmacies to fill these prescriptions. No participants reported using more than 2 pharmacies to fill these prescriptions. This result was further emphasized with 96.7% of participants reporting that they had a regular pharmacy that they like to go to, with only one participant indicating that they did not have a regular pharmacy. Interestingly, while 96.7% (n=58) of the participants reported that they had a regular pharmacy, they do not necessarily have a regular pharmacist. Only 45% (n=27) of the participants agreed or strongly agreed with the statement "I have a regular pharmacist", while 25% (n=15) of the participants responded that they either disagreed or strongly disagreed with the statement. Overall, these results indicate that this sample has experience with community pharmacies as a consumer.

Table 29. Number of Prescription Medications by Household Members

	0	**1-2**	**3-5**	**>5**	**N/A**
Self	30.0%	43.3%	25.0%	1.7%	0%
Spouse/Partner	40.0%	23.3%	10.0%	1.7%	25.0%
Children	36.7%	15.0%	1.7%	3.3%	43.3%
Other Household Member	28.3%	3.3%	1.7%	0%	66.7%

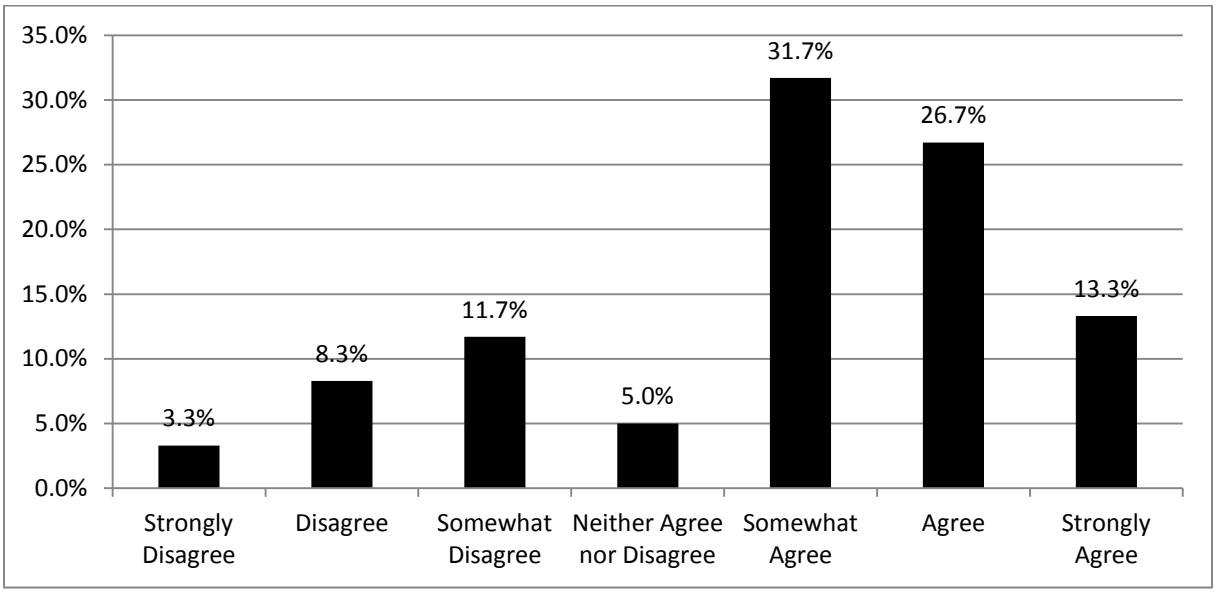
Table 30. Types of Pharmacies Utilized to Fill Prescriptions

	Percent report using	**n**
Chain Pharmacies	40.0%	24
Grocery/General Merchandise Store Pharmacies	48.3%	29
Independent Pharmacies	33.3%	20
Mail Order Pharmacies	10.0%	6
Other	1.7%	1

Experience with Pharmacy Care and Opinions about Community Pharmacies and Pharmacists

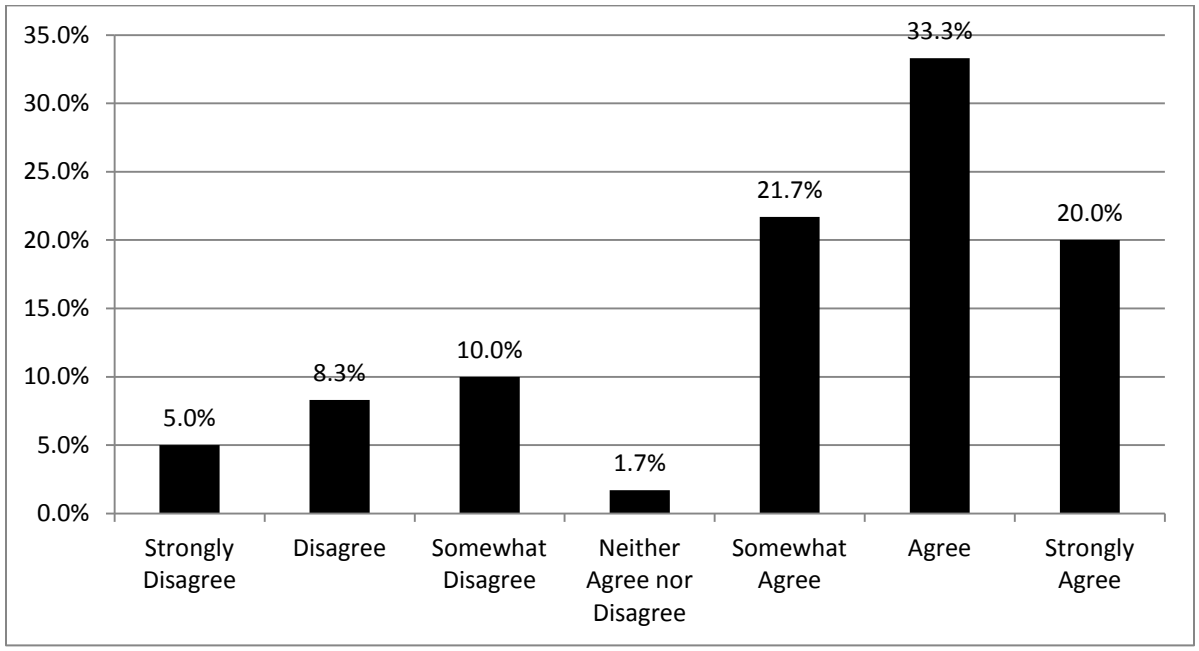
Few of the participants have experience with advanced pharmacy care services. Only 4 (6.7%) reported ever receiving counseling from a pharmacist or pharmacy technician about a health behavior. Despite this lack of experience with advanced pharmacy care services, most participants reported that they agree that the pharmacy is a good place for health education and is a good place to be screened for health care problems such as high blood pressure (see Figures 4 and 5). Participants apparently prefer to utilize a pharmacy that offers health education and screening programs, with 58.3% indicating some level of agreement with this.

Figure 4. The Pharmacy is a good place for health education



Scale 1 (strongly disagree) to 7 (strongly agree); Mean = 4.87; SD = 1.62

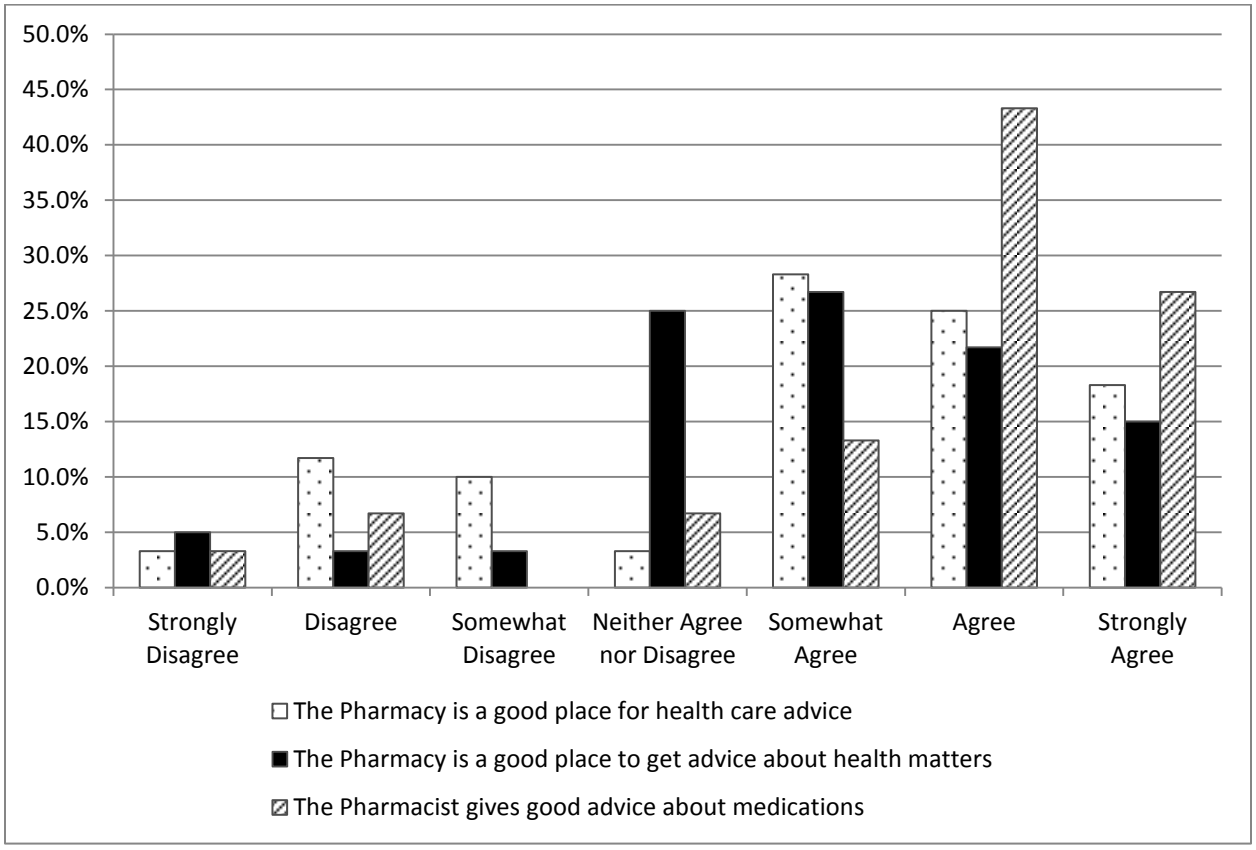
Figure 5. The pharmacy is a good place to receive health care screenings like blood pressure



Scale 1 (strongly disagree) to 7 (strongly agree); Mean = 5.07; SD = 1.77

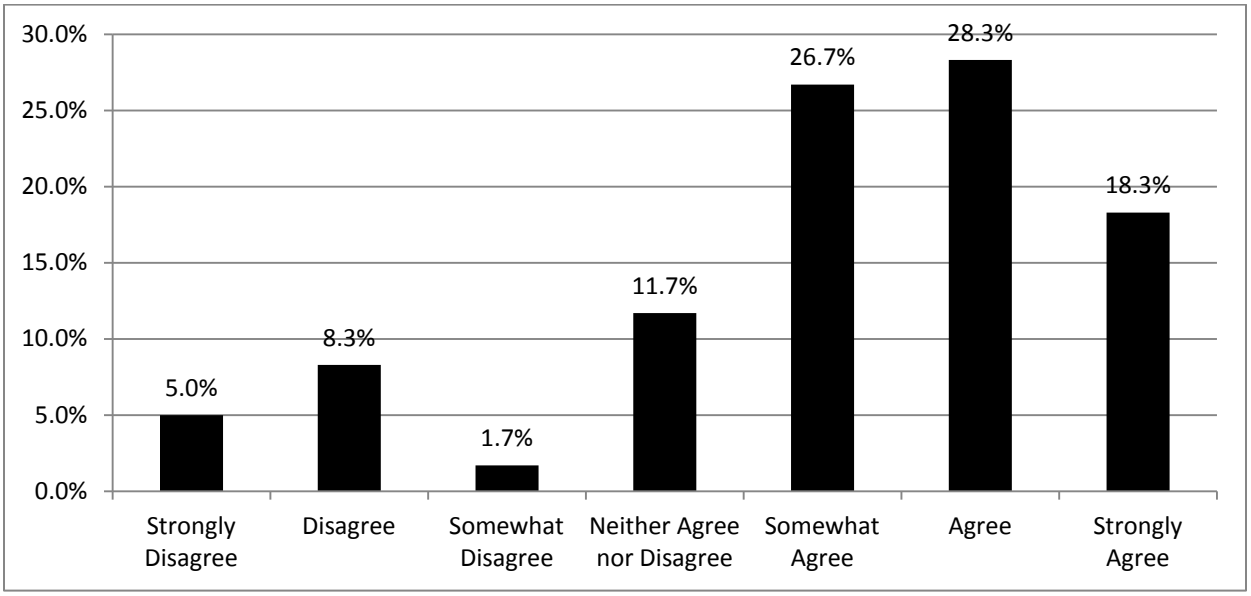
Participants reported the highest levels of agreement with the statement that the pharmacist gives good advice about medication, although there is also substantial agreement with the statements that the pharmacy and the pharmacist are good places to go for advice regarding health care and health matters (see Figure 6). Overall, participants reported relatively high levels of agreement with the statements "I trust the pharmacist when it comes to health matters" and "I can talk comfortably with a pharmacist" (see Figures 7 and 8).

Figure 6. Advice in the Pharmacy Environment



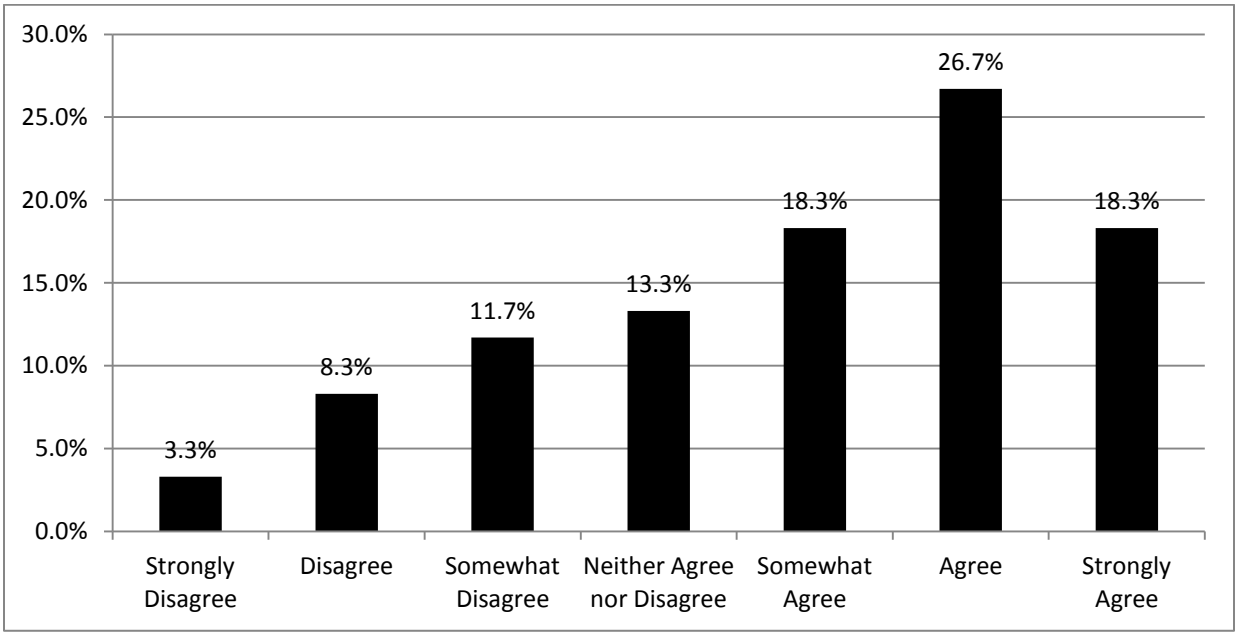
Scale 1 (strongly disagree) to 7 (strongly agree);
Health care advice: Mean = 4.90; SD = 1.74
Advice about health matters: Mean = 5.05; SD = 1.67
Good advice about medications: Mean = 5.57; SD = 1.56

Figure 7. I trust the pharmacist when it comes to health matters



Scale 1 (strongly disagree) to 7 (strongly agree); Mean = 4.88; SD = 1.71

Figure 8. I can talk comfortably with a pharmacist

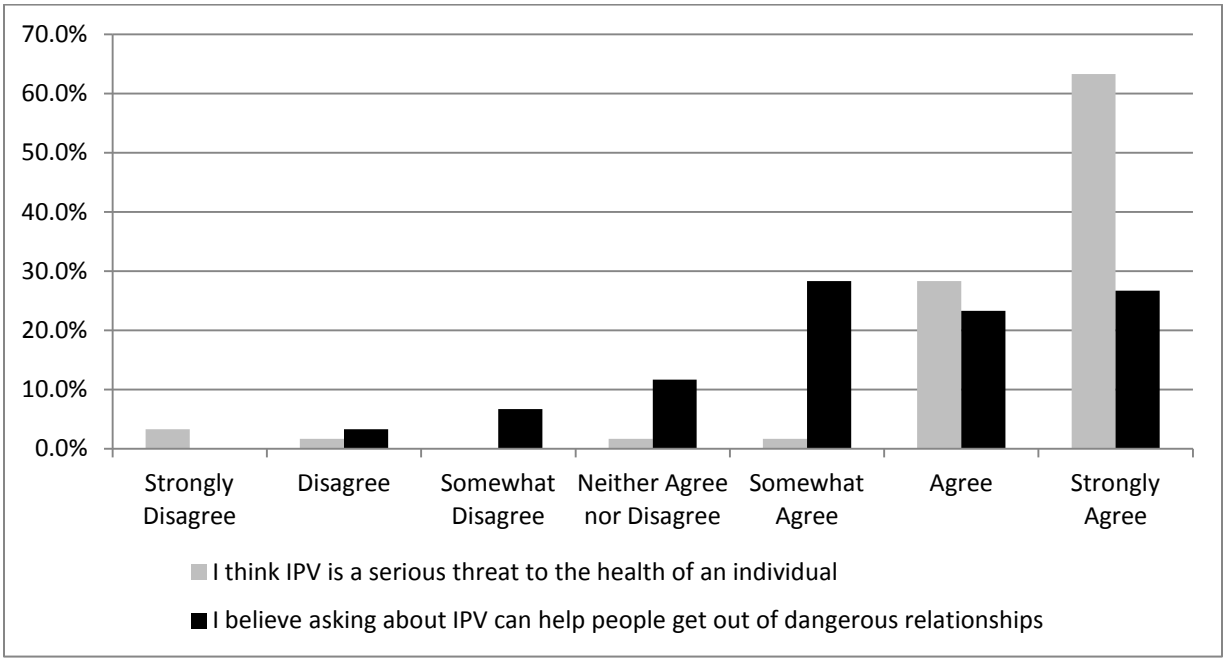


Scale 1 (strongly disagree) to 7 (strongly agree); Mean = 4.52; SD = 2.07

Opinions about Intimate Partner Violence and Screening for Intimate Partner Violence

Overall, participants reported high levels of agreement that IPV is a serious health threat. There was less agreement with the belief that screening for IPV can assist individuals in leaving dangerous relationships (see Figure 9).

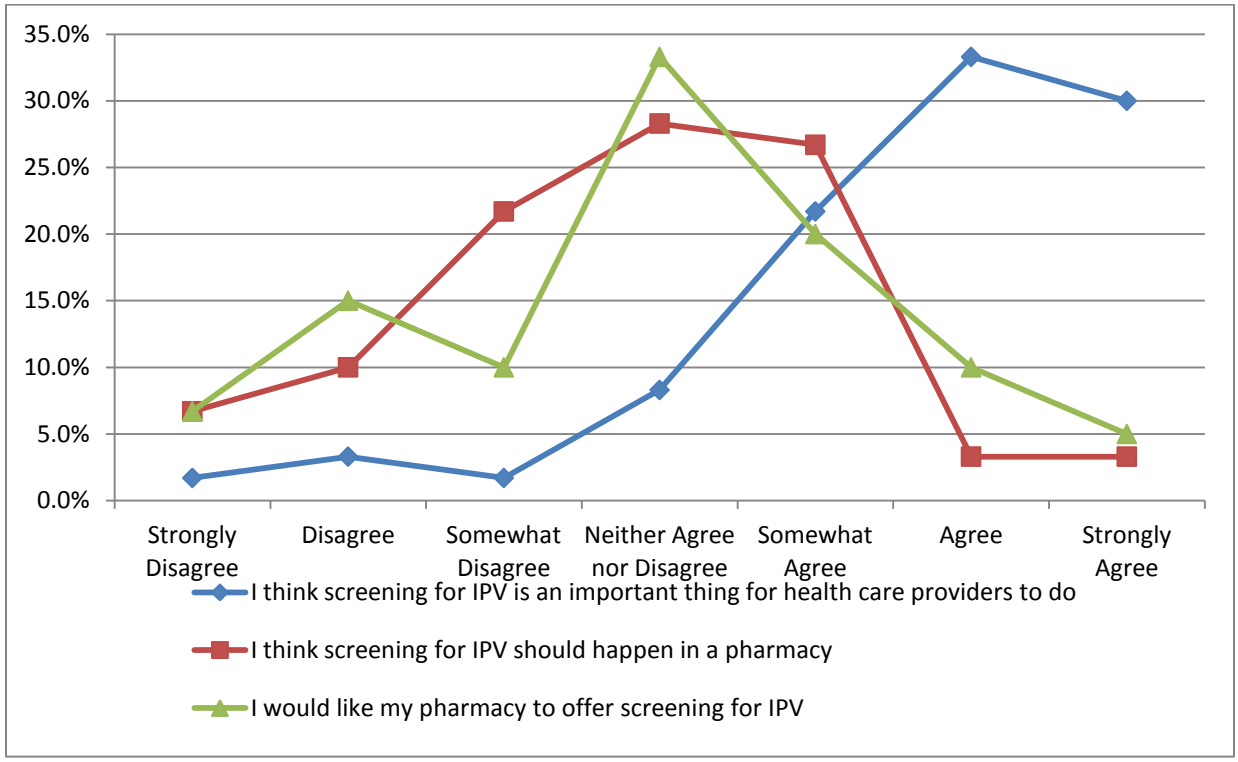
Figure 9. Perceptions about Intimate Partner Violence



Scale 1 (strongly disagree) to 7 (strongly agree);
Threat to the health of an individual: Mean = 6.35; SD = 1.31
Asking can help people get out of dangerous relationships: Mean = 5.42; SD = 1.36

While participants indicated high levels of agreement with the idea that screening for IPV is an important activity for health care providers to do, they reported lower levels of agreement with the concept of screening in the pharmacy setting (see Figure 10).

Figure 10. Perceptions of Screening for Intimate Partner Violence



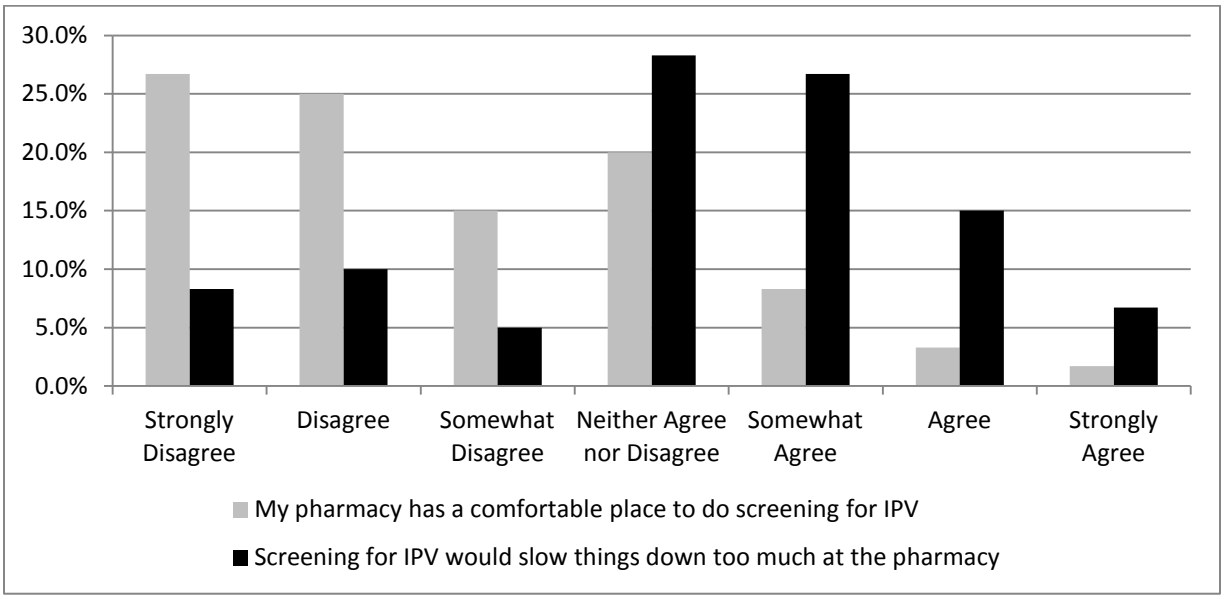
Scale 1 (strongly disagree) to 7 (strongly agree);
Screening is an important thing for health care providers to do: Mean = 5.65; SD = 1.36
Screening should happen in a pharmacy: Mean = 3.23; SD = 1.72
Would like my pharmacy to offer screening: Mean = 3.95; SD = 1.55

If screening for intimate partner violence was conducted in a local pharmacy, participants reported they would prefer it to be done via a written form as compared to any other method (see Table 31). However, 40% reported that they did not think pharmacies should conduct screening for domestic violence.

Table 31. Preference for Acceptable Methods of Intimate Partner Violence Screening if Offered in a Pharmacy		
	Percent Reported Acceptable	**n**
Verbal (pharmacist-conducted)	21.7%	13
Written (screening form)	38.3%	23
Computer (computerized questionnaire)	28.3%	17
None – I do not believe pharmacies should screen for IPV	40.0%	24

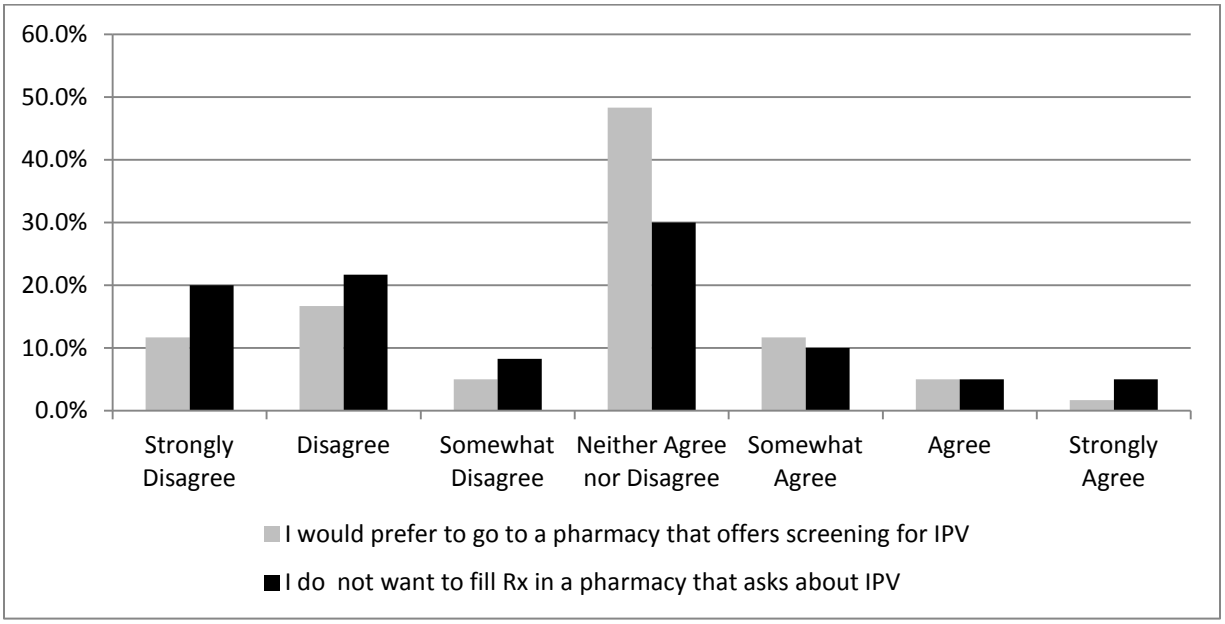
Potential barriers to IPV screening examined included access to a comfortable place to conduct IPV screening and the time required to conduct screenings. Participants reported concern about the lack of a comfortable place to conduct screenings in their pharmacies and the impact in terms of time that screening will take in the place they fill their prescriptions (Figure 11.) Despite these concerns participants expressed some interest in IPV screening (Figure 12).

Figure 11. Potential Barriers to Intimate Partner Violence Screening



Scale 1 (strongly disagree) to 7 (strongly agree);
My pharmacy has a comfortable place to do screening: Mean = 2.75; SD = 1.55
Screening would slow things down too much: Mean = 4.27; SD = 1.63

Figure 12. Consumer Preference for Intimate Partner Violence Screening



Scale 1 (strongly disagree) to 7 (strongly agree);
Prefer pharmacy that offers screening: Mean = 3.53; SD = 1.43
Do not want to fill Rx in a pharmacy that asks about IPV: Mean = 3.23; SD = 1.72

Consumer Experience with Intimate Partner Violence

The items assessing exposure to intimate partner violence were completed by all but one of the participants. Analysis of responses regarding exposure to intimate partner violence indicates that the levels of exposure are similar to the rates reported nationally, with 20.3% reporting ever being threatened with physical violence, 18.3% reporting that an intimate partner had ever attempted physical violence against them, and 18.6% reporting that an intimate partner had ever hit, slapped, kicked or otherwise hurt them. These values were compared to the values obtained utilizing the same survey items in BRFSS utilizing chi square analyses and no significant differences were found (Table 32). When asked if a health care provider had ever asked about domestic violence, only 9 (15%) indicated that they had been screened by a health care provider. Respondents reported that screenings had been conducted by nurses (n=5),

physicians (n=6), and staff at a physician's office (n=1). No participant reported being screened by other health care providers, including pharmacists. Interestingly, there were no differences between those who reported IPV exposure compared to those who did not regarding screening. This may indicate that health care providers are not more likely to conduct targeted screenings for women who may present with some indication of IPV exposure, reiterating the need for routine screening as compared to screening as indicated.

Table 32. Consumer Study Sample Intimate Partner Violence Rates Compared to Rates Reported in BRFSS

	Percent responded YES			
	Study Sample	**BRFSS**	X^2	***p value***
Intimate partner ever:				
-threatened you with physical violence	20.3%	19.2%	0.043	>0.979
-attempted physical violence against you	18.3%	14.5%	0.702	>0.704
-ever hit, slapped… hurt you	18.6%	20.2%	0.071	>0.965

Acceptability of IPV Screening

This is the first investigation of the potential for IPV screening in the community pharmacy environment. Given the lack of investigation in this area, it was difficult to determine what factors may or may not influence preferences related to IPV screening in this environment. In order to examine potential influences on the preference for IPV screening in the community pharmacy, the correlation between items indicating positive or negative preference for IPV screening and other opinions about pharmacies and pharmacists that may related were calculated. Table 33 reports these correlations. Clearly, preference for a pharmacy that offers screening for IPV is highly, positively correlated with beliefs that the pharmacy is a good place for health

advice, that the pharmacist is trustworthy, and that they pharmacy is a good place for health education and screenings. It may be that those who are aware that pharmacists are trained and/or able to do advance practice activities have more comfort and preference for IPV screening in the pharmacy environment.

Table 33.	**Correlation of Intimate Partner Violence Screening Preference Variables with Pharmacy Opinion Variables**							
	I think the pharmacy is a good place for health education.	I think the pharmacy is a good place to get health care advice.	I think the pharmacy is a good place to be screened…	I think the pharmacist gives good advice about medications.	I think the pharmacist gives good advice about health matters.	I trust the pharmacist when it comes to health matters.	I can talk comfortably with a pharmacist.	I would prefer to go to a pharmacy that offers health ed/screenings.
I think screening for DV should happen in a pharmacy.	.314* p<.015	.315* p<.014	.254 p<.051	.325** p<.011	.240 p<.065	.246 p<.058	.170 p<.194	.239 p<.066
I would like my pharmacy to do screening for DV.	.282* p<.029	.275* p<.034	.224 p<.086	.245 p<.059	.185 p<.158	.198 p<.130	.120 p<.362	.216 p<.097
I would prefer to go to a pharmacy that offers screening for DV.	.426** p<.001	.429** p<.001	.373** p<.003	.326** p<.011	.304* p<.018	.336** p<.009	.248 p<.056	.373** p<.003
I do not want to fill prescriptions in a pharmacy that asks about DV.	-.311* p<.016	-.263* p<.042	-.222 p<.089	-.240 p<.065	-.217 p<.096	-.187 p<.153	-.227 p<.081	.014 p<.913
Screening for domestic violence would slow things down too much at the pharmacy.	-.295* p<.022	-.224 p<.086	-.112 p<.394	-.068 p<.608	-.235 p<.070	-.242 p<.062	-.129 p<.326	-.100 p<.446
I think screening for DV is an important thing for health care providers to do.	.078 p<.552	.085 p<.519	.080 p<.544	.183 p<.162	.178 p<.173	.090 p<.496	.084 p<.523	.144 p<.272
I think domestic violence is a serious threat to the health of an individual.	.102 p<.438	.104 p<.427	.164 p<.209	.142 p<.279	.043 p<.743	.162 p<.217	-.019 p<.884	.133 p<.309
I believe asking about DV can help people get out of dangerous relationships.	.072 p<.585	.111 p<.398	.045 p<.735	.159 p<.224	.192 p<.141	.088 p<.505	.182 p<.163	.267* p<.039

Note: * = *p<.05;* ** = *p<.01*

Table 34.	**Correlation between Intimate Partner Violence Opinion and Screening Preference Variables**							
	I think screening for DV should happen in a pharmacy.	I would like my pharmacy to do screening for DV.	I would prefer to go to a pharmacy that offers screening for DV.	I do not want to fill prescriptions in a pharmacy that asks about DV.	Screening for domestic violence would slow things down too much at the pharmacy.	I think screening for DV is an important thing for health care providers to do.	I think domestic violence is a serious threat to the health of an individual.	I believe asking about DV can help people get out of dangerous relationships.
I think screening for DV should happen in a pharmacy.	1							
I would like my pharmacy to do screening for DV.	.868** .000	1						
I would prefer to go to a pharmacy that offers screening for DV.	.803** .000	.778** .000	1					
I do not want to fill prescriptions in a pharmacy that asks about DV.	-.530** .000	-.474** .000	-.492** .000	1				
Screening for domestic violence would slow things down too much at the pharmacy.	-.415** p<.001	-.406** .001	-.405** .001	-.474** .000	1			
I think screening for DV is an important thing for health care providers to do.	.513** p>.000	.442** p>.000	.401** p<.001	-.138 p<.293	-.049 p<.710	1		
I think domestic violence is a serious threat to the health of an individual.	.419** p<.001	.402** p<.001	.377** p<.003	-.007 p<.933	.011 p<9.933	0.610** p>.000	1	.
I believe asking about DV can help people get out of dangerous relationships.	.375** p<.003	.317* p<.0113	.407** p<.001	-.108 P<.413	-.128 P<.329	.694** p>.000	.469** p>.000	1

Note: * = *p<.05;* ** = *p<.01*

The correlations among the items related to opinions regarding IPV and IPV screening were also examined (see Table 34). As would be expected responses to beliefs in the seriousness of the health threat of IPV, the value of screening in helping people get out of dangerous relationships, and the importance of health care provider screenings, are correlate positively related to preference for IPV screening in the pharmacy and are negatively correlated with beliefs that screening would slow things down too much at the pharmacy and agreement with the statement that one would not want to fill a prescription in a pharmacy that screens for IPV.

IPV Victims' Preferences Regarding IPV Screening in the Pharmacy Setting

First and foremost in all research and intervention development related to intimate partner violence is the requirement that the intervention have value for the victim. If women who have experienced IPV report significant concern about screening for IPV in the pharmacy setting, intervention development in this setting should be reconsidered. In order to investigate this issue a comparison of responses between women who reported exposure to IPV and those who did not was carried out. Individuals reporting any exposure to IPV were compared to those reporting no exposure on all study variables with t tests and chi square analyses and no significant differences were found.

Hypothesis three suggests that there is a difference in preference for IPV screening in the community pharmacy between women have experienced IPV compared to women who have not experienced IPV. This hypothesis was tested in this sample with an ANCOVA. The dependent variable was the item "I think screening for IPV should be conducted in a pharmacy" which was measured on a seven point scale. The independent variable was a dichotomous computed variable scored as a one for a positive response to any of the three items assessing exposure to

IPV (IPV was threatened, attempted, or committed against the respondent) and a zero for no positive responses to any of those three items. The covariate included in the model was "I trust the pharmacist when it comes to health matters", which was also measured on a seven point scale.

The ANCOVA analyses first included an omnibus test of the relationship between the potential covariate (trust of pharmacist) and the independent variable (IPV exposure), indicating that there was not a significant relationship between these variables ($F_{(1, 58)}$ =3.60; p=.063). Although this relationship was not statistically significant, this is a common challenge when using ANCOVA with nonrandom group assignment. As a result, caution in interpreting this model is warranted. The homogeneity of variance assumption was tested with the Brown-Forsythe test and this test indicated that this assumption was not violated (Levene statistic based on median$_{(1,58)}$ = 2.129; p=0.150). The homogeneity of regression coefficients assumption was tested by including an interaction term for trust and IPV exposure in a model and the results indicated this assumption was met ($F_{(1,57)}$=1.606; p=.210) as the null hypothesis that the regression coefficients are homogeneous was not rejected. The assumption that the covariate trust and the independent variable IPV exposure are independent was also tested. The null hypothesis that they are independent was not rejected ($F_{(1,58)}$=0.94; p=.760). Finally, the ANCOVA model with the dependent variable support for IPV screening in the pharmacy and the independent variable IPV exposure covarying for trust of the pharmacist was analyzed. The result does not support the hypothesis. In this sample, there are not significant differences in acceptability of IPV screening in the community between IPV exposed and non-exposed women after adjusting for trust of the pharmacist ($F_{(1,58)}$=0.283; p=0.597), see Table 35.

Table 35. ANCOVA Summary

Source	Sum of Squares	df	Mean Square	*F*	*p*	Partial Eta Squared
Trust	5.875	1	5.875	3.284	.075	.056
Any IPV exposure	0.506	1	0.506	0.283	.597	.005
Error	98.401	58	1.789			

Consumer Participant Feedback

A number of study participants provided comments in response to an open-ended question soliciting any additional comments about domestic violence screening in a pharmacy that they would like to share. A total of 11 participants (18.3%) provided comments. A review of the comments indicates that some participants feel strongly that screening should be expanded to the pharmacy setting, while other participants feel just as strongly that it should not. Concerns reported about screening in the pharmacy setting included pharmacists training and preparation, the time burden of screening everyone, lack of privacy, and victim safety. However, an IPV victim who reported that pharmacy-based screening would have been very helpful. This sentiment was echoed by a domestic violence shelter board member. Complete, unedited comments are reported in Table 36.

Table 36. Consumer Study Participant Comments

My biggest concern about this type of screening is the training of the pharmacist. Do they know what to look for? Further, I want them to care. If a pharmacist does not think that this is his or her job, then they are likely to do a poor job of it. To be honest, the idea of a person I go to about medication asking me about domestic violence on a regular basis seems strange to me. However, I suspect that if it was offered, I would just get used to it.

It's not entirely clear to me what you mean by screening. I would not want to answer questions every time I filled a prescription, but I would want pharmacists to be alert to potential signs of domestic violence, and equipped to respond.

I am not sure it is appropriate to screen everyone, and if so, this should include men and women. I would think it appropriate only if one suspects abuse.

I was a board member for a Domestic Violence shelter and think that ANYONE that could intervene and help a victim would be great.

My concerns are that 1) pharmacists already have a heavy burden and adding domestic violence screening would be a lot to ask of them and 2) privacy concerns for patients. Those little consultation windows in pharmacies do not afford any privacy.

I was in an abusive relationship, which I got out of 20 years ago, but I still have "scars" from it. I am now in a loving marriage with a wonderful man. When I was in the abusive marriage, I think my pharmacist would have been a wonderful counselor for me. I trust my pharmacists and am always very comfortable talking with them. I think this is a great plan!

The pharmacy is there to dispense drugs and occasionally provide advice about side affects and fixes involving over the counter medicine. It is not right, nor is it any of their business, to ask about domestic violence. I would switch pharmacies if mine ever mentioned domestic violence to me, or asked what my status was. If I was the victim (which thank god I never have been) I am certainly not going to talk to my fucking pharmacist about it. If I were the abuser, ditto. Stick with drugs, stay the heck out of personal business. There are crisis centers, family members, friends, churches, schools, social workers, etc. who are trained professionals and probably have a closer relationship to the victim (in many cases an ACTUAL relationship, unlike the pharmacist) and whom the victim would most likely turn to and feel more comfortable talking to or seeking advice.

I use the Kroger pharmacy, and there's really no privacy there. I feel awkward enough having to say my name out loud to pick up my order. Fortunately, I don't have personal experience with domestic violence, but from what I know, the violence is frequently on less visible parts of the body (covered by clothes), so I think it would be difficult for pharmacy employees to identify who has been victimized? Anyway, good luck with the project.

My daughter was a victim of domestic violence and fortunately was able to escape that relationship after many years. Allowing someone to take home a form requesting informatin about abuse would only add to it if the form were discovered. Most if not all abusers have damaged their victims to the point they have no self esteem left. They try to keep it from everyone. My reasoning is that any public place is no where to bring it out in the open. Someone might be listening or watching and report it to the abuser. They tend to somehow have a network of spies out there. I know it may sound far fetched, but it is true. Perhaps displaying contact information such as the number for SAFE you posted on this for anyone who is in an abusive situation would be less dangerous to the victim. They must be ready to get help before they will take any action due to the fear of more hurt. / My daughter is an licensed counselor now, owns her own business and helps many people. So, with help victims can reclaim thier lives. / / Thank you for taking this issue to research and God Bless you for helping.

NO

I think domestic violence education is important. After going through this though, I'm not 100% sure the pharmacy is where it should be discussed. It could be though, if done confidentially.

5. DISCUSSION

Discussion of Study Results and Implications

In review, the objectives of this study were:

1. *To investigate community pharmacists' readiness to participate in IPV screening, including examining training, knowledge, attitudes, behaviors, and intentions related to IPV screening by developing and testing an instrument adapted from an existing instrument named the PREMIS (Physician Readiness to Manage Intimate Partner Violence Survey) tool.*
2. *To examine potential demographic differences in knowledge, attitudes and intention to conduct IPV screening among pharmacists.*
3. *To examine perceptions of the characteristics of the IPV screening innovation in community pharmacies.*
4. *To examine female consumer's attitudes and preferences for IPV screening in community pharmacies.*

This investigation conducted two studies to address these study objectives with a goal of exploring the potential to address the public health problem of interpersonal violence (IPV) by expanding IPV screening to the community pharmacy environment. The PRECEDE-PROCEED

model was used to guide the assessment of factors that may predispose, reinforce, or enable IPV screening in the community pharmacy setting. A review of the literature addressed Phases 1 and 2 of the PRECEDE-PROCEED model and documented the social and epidemiological assessment of IPV and IPV screening. The study objectives provided the means by which Phase 3, educational & ecological factors that predispose, reinforce and enable an intervention, could be assessed and initial data generated for this assessment. Specifically, the predisposing factors of knowledge and attitudes regarding IPV and IPV screening at both the pharmacist and consumer levels were assessed. Additionally, reinforcing factors such as the perceived attitudes and behaviors related to IPV and IPV screening were assessed. Finally, enabling factors at the pharmacist's level were assessed. The results provide guidance regarding the development of interventions.

The PREMIS instrument was adapted and tested in a national random sample of practicing community pharmacists. This new measure, the Pharmacy PREMIS, was found to be a valid tool that can be used to assess baseline knowledge, attitudes, behaviors, and intentions regarding IPV screening with pharmacists. If IPV screening is to be successfully implemented in any manner in the community pharmacy environment, education and training initiatives will be critical. This measure provides a valid method to assess baseline knowledge, attitudes, behaviors, and intentions and a mechanism to assess the potential impact of education and training programs related to IPV and IPV screening.

Importantly, a similar, but not identical factor structure was found in the Pharmacy PREMIS compared to previous studies with this instrument in other, non-pharmacist populations. The background scales, including perceived preparation, perceived knowledge, and actual knowledge translated well to the pharmacy setting. The factor structure of the opinions

component of the instrument found four of the original factors (preparation, legal requirements, alcohol and drugs, and constraints). However, the pharmacy version found a single factor which we labeled workplace and self-efficacy that was split into two separate factors (workplace issues and self-efficacy) in the previous studies. One reason for this finding may be related to the self-reported level of training and clinical experience with IPV and IPV screening. The pharmacists reported less training and experience compared to the other health care provider populations. The lack of knowledge and awareness of the details of the challenges related to IPV screening may have made it difficult for pharmacists to tease apart the efficacy issues related to themselves as clinicians as compared to their work environments. If educational and training initiatives for pharmacists increase, this may change and the factor structure should be re-evaluated. It is also interesting to note that the victim understanding and victim autonomy scales were not found in the pharmacy PREMIS. Both of these scales had low reliability in the previous studies and it was recommended that they be further explored. This is another example of how the lack of training and exposure to IPV screening recommendations and IPV screening programs may have impacted this finding. These results indicate that pharmacists do not have well-formed clinical opinions regarding IPV victims in general and educational and training initiatives may impact this.

The second study objective sought to determine if findings in other health care fields related to gender and years of training were similar in pharmacists. The literature has consistently shown that female health care providers are more comfortable with and willing to engage in screening for IPV. This may be due to the fact that most professional associations have advocated for screening for female patients only, effectively making IPV a women's health issue. The other individual characteristic that is commonly identified as being positively

associated with willingness to conduct IPV screening is completing training more recently. This can be explained in other health care professions because IPV training was been added to the standard training curricula for most fields about ten years ago, although there has also been a general increase in awareness of IPV as a public health problem in the United States that may be impacting these results. Given that pharmacy training has not required inclusion of this topic, it was worth exploring whether the general increase in awareness may also have impacted recent pharmacy graduates. The findings from this study do not support that; length of time since graduation was not significantly associated with willingness to engage in IPV screening. This result argues for the consideration of inclusion of IPV training in the curriculum of schools of pharmacy as general public health awareness campaigns are not sufficient to address this issue in practicing community pharmacists.

The examination of perceptions of the innovation characteristics of the IPV screening in the pharmacy environment is a novel contribution that provides valuable guidance regarding what factors may act as either facilitators or barriers to adoption and implementation of IPV screening programs. These items were not included in the original PREMIS instrument. This is unfortunate because it is important to understand these issues if IPV screening is to be successfully adopted and implemented. The literature on IPV screening programs in other health care settings indicated that there are challenges to adoption, implementation, and dissemination; however, most of the literature simply documents the barriers and has not utilized a framework to guide the investigation. The use of the PRECEDE-PROCEED model was helpful in the current study as it recommends the use of Rogers' Diffusion of Innovation theory when conducting research with the goal of potentially planning an intervention such as IPV screening. This study found that pharmacists' perceptions of the innovation characteristics were related to

intention to conduct targeted screenings for IPV. Importantly, the pharmacists found IPV screening to be compatible with their work and believed that offering IPV screening would serve as a relative advantage. These findings are critical as pharmacists must believe that at a minimum offering IPV screening will not hurt their business before they adopt IPV screening in their practice.. The finding that pharmacists believe it would be difficult to offer screening on a trial basis is further indication that there is a need for education and training to prepare pharmacists in the event they would like to try to offer a screening program in their practice sites.

The community pharmacy environment is unique in that the pharmacist is likely more aware of the impact of activities on the ability to maintain a patient as a "customer" compared to other medical providers who may be engaged in IPV screening. If consumers desire IPV screening, it might encourage pharmacists to offer this service. However, if consumers find IPV screening in the pharmacy environment upsetting or distasteful to the point that they would prefer to use a pharmacy that did not offer the service, then pharmacists are unlikely to initiate a screening program. The final study objective sought to examine the consumer's perspective to address these issues.

The results of this convenience sample study of female pharmacy consumers indicated that consumers may not yet be ready for IPV screening in the pharmacy environment. While consumers trust pharmacists, they lack of awareness of pharmacists' training. The results delineated some concerns consumers have, including the lack of appropriate physical space in the pharmacy and the time needed to conduct screenings. While there is neither clear support nor opposition from consumers regarding support for IPV screening in the pharmacy environment, it is likely that consumers would need to be educated about the training and capability of pharmacists before IPV screening in the community pharmacy setting would be

deemed acceptable. This may be a challenge that is more pronounced in communities with few pharmacies offering of advanced pharmacy services. If consumers have never experienced advanced pharmacy services, it is unlikely they can judge well the potential benefits and barriers to screening programs in pharmacy settings.

It is also important to understand IPV victims' perspectives regarding screening programs. Their unique perspective can shed light on potential risks and benefits to victims that a program may raise that investigators and practitioners may not foresee. It was interesting to note that in this study IPV victims did not differ from women who have not been exposed to IPV regarding interest in screening. While this finding is in keeping with studies of acceptability of screening in other health care settings, it is valuable to learn that the pharmacy setting does not immediately raise any particular areas of concern unique to IPV victims. Some of the comments in the consumer study indicated that the respondents did not believe IPV screening in the pharmacy environment was preferred, particularly because of privacy, training, and time concerns. However, an individual who identified herself as an IPV victim reported that she thinks screening is a good idea and that her pharmacist would have been helpful to her. These comments indicate further investigation is warranted, as this employed a small, convenience sample. Additional investigation in a larger sample from diverse communities may provide more clarity regarding these issues from the consumer's perspective.

Together these two survey studies provide additional data to utilize as part of the phase three assessment of the PRECEDE-PROCEED model which calls for examination of predisposing, reinforcing, and enabling factors. Recall that predisposing factors include provider knowledge, attitudes, beliefs, and perceptions; reinforcing factors include attitudes of peers and patients; and enabling factors include the availability of the tools necessary to conduct IPV

screening. The Pharmacy PREMIS instrument is useful in generating insight into predisposing and enabling factors and the consumer survey provided data regarding the reinforcing factors. The relatively low levels of knowledge related to IPV and IPV screening and the indication that they had given minimal consideration to these issues prior to this study, indicate that educational initiatives are critical for IPV screening to be considered by pharmacists. When enabling factors are considered, it is important to note that this study found relatively low levels of self and workplace efficacy regarding ability to conduct IPV screening, both of which are enabling factors that are critical to the successful adoption and implementation of screening. Despite these results, pharmacists reported interested in continuing education regarding this issue and some support for screening, particularly of targeted patient populations. Training, time, and concerns related to payment were also voiced in the review of the comments. These issues are enabling factors that must be addressed if screening is to be conducted in the pharmacy environment. Finally, there are minimal reinforcing factors currently in place to support IPV screening in the pharmacy environment. There is not currently a professional guideline or recommendation related to IPV screening for pharmacists. The current study provides the first examination of the attitudes of patients regarding screening and it is not clear that patients desire this service.

IPV remains a serious public health threat that impacts at least one third of all women in the U.S. The only known health system intervention that has the possibility to reduce and prevent negative health outcomes from IPV is routine screening for IPV exposure. The data from this investigation indicate that there is minimal awareness, knowledge, training, and skills related to IPV and IPV screening in community pharmacists, despite the fact that they are the most well positioned health care provider to conduct IPV screening. Initial efforts should be

targeted at the predisposing factors related to IPV screening in the community pharmacy environment. Given the minimal level of awareness of IPV, priority should be placed on developing continuing education programs to inform practicing pharmacists of the prevalence of this health threat and increase awareness of the value of routine screening. A similar initiative in curricula in pharmacy training programs should immediately be considered as well. In fact, there is likely significant demand for education on this issue. The respondents in this survey indicated that they would enroll in continuing education about IPV [mean =5.15 ±1.79; scale 1 (strongly disagree) to 7 (strongly agree)], with the largest response, 27.5%, endorsing strongly agree. The next steps would be to further evaluate the potential barriers in the pharmacy setting, particularly at the consumer level, and to develop educational and training programs to prepare pharmacists to engage in screening.

Limitations

There are several limitations to this investigation. First, participants responded to a survey on what they may consider a sensitive issue. It is possible that their discomfort with this topic may impact their responses. Second, this study is limited to attitudinal, knowledge, and logistical feasibility issues of utilizing community pharmacists to screen for IPV. This assumes that IPV screening instruments with suitable characteristics (sensitivity, specificity) are available. There remains a debate in the field regarding which is the most effective, efficient and appropriate measure to use in universal screening programs. Third, the generalizability of the results of this study is limited by the low response rates (2.40% in the pharmacists study and 3.05% in the consumer study). Finally, the potential for non-response bias may have impacted the results. While analyses were conducted to look for this effect and none were detected, it

remains possible that individuals with some characteristic (i.e., history of IPV involvement) may differentially respond to the survey.

There are several limitations to the study of community pharmacists. First, survey responses could have been impacted by the sensitive nature of this research topic. Second, based on a review of the literature and the results of this investigation it is clear that community pharmacists have had little formal education or exposure to issues related to intimate partner violence. With more education opinions and perspectives may change and as a result responses to many of the survey items may be impacted by this lack of knowledge and awareness. Finally, while this study had more subjects than the prior investigations in practitioners with this instrument, the sample size was slightly smaller than desired to conduct the factor analysis. A larger sample is needed to confirm the identified factor structure.

There are several limitations of the study of pharmacy consumers. As in the study of community pharmacists, participants responded to a survey on what they may consider a sensitive issue. It is possible that their discomfort with this topic impacted their responses. Second, this study is limited to individuals' attitudes and beliefs, but not experiences, with IPV screening in the pharmacy environment. Given the limited exposure to advanced pharmacy practice services reported by this sample, it is possible that the respondents lack the experiences necessary to evaluate and provide feedback regarding screenings in the pharmacy setting. Third, this study utilized a convenience sample of female patients' from a work environment. These individuals are all working at least part-time, live in the same region, and have access to health insurance. Potential gender and regional differences in attitudes and beliefs regarding IPV, the limited experience of working individuals, differences in community pharmacy practice norms, and other cultural differences may limit the generalizability of the results. Finally, the potential

for non-response bias may have impacted the results. Analyses were conducted to look for this effect and none were detected; however even if it is not detected it remains possible that individuals with some characteristic (i.e., minimal community pharmacy use, history of IPV involvement) may have differentially responded to the survey.

Future Research

Given the dearth of research on the role of the profession of pharmacy and the public health problem of intimate partner violence, there is ample room for further investigation on this topic. The results of this investigation can provide some guidance regarding the exploration of professional guidelines, educational and training initiatives, and patient needs regarding IPV; however, further research is needed to more fully develop these areas. In addition, re-evaluating the Pharmacy PREMIS after initial educational initiatives are conducted with pharmacists would be valuable. Further understanding the role of the characteristics of IPV screening that may enhance or hinder the effective adoption and dissemination of this innovation is needed. There is also need for further investigation into the perspective of pharmacy consumers regarding intimate partner violence screening, including examination of the perspective of male consumers.

Conclusions

Intimate partner violence (IPV) is a public health problem of epidemic proportion and the only known effective health care intervention is routine screening for exposure to IPV. Despite professional guidelines for routine screening, this intervention has been poorly adopted by physicians. Expansion of screening efforts to the community pharmacy setting provides an opportunity to have a substantial impact on the health and well-being of pharmacy patients. This

investigation is the first study to examine IPV screening related to the pharmacy environment. To meet study objectives an existing measure of physicians' readiness to manage intimate partner violence (PREMIS) was adapted for the community pharmacy environment and validated in a national random sample of practicing community pharmacists. Additionally, a study of female consumers of pharmacy services was conducted to examine the acceptability of IPV screening in the pharmacy environment. The results indicate that community pharmacists have minimal exposure to education and training related to IPV and IPV screening. While respondents expressed concern regarding training and time, they did indicate that participation in screening may be valuable both to patient health and well-being and as a relative advantage for their pharmacies. As hypothesized, female pharmacists were more likely to report intent to screen targeted patients for IPV. Consumers agreed that IPV screening is important for health care providers to do, but were uncertain as to whether pharmacists specifically should engage in screening. Comments indicated that consumers are unaware that pharmacists are trained in patient communication and counseling, suggesting a need for additional recognition of the skills and capabilities of community pharmacists.

The potential for expanding IPV screening to the community pharmacy environment, at least for targeted patient populations, should be prioritized among future studies of methods to address the public health problem of intimate partner violence.

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List of Appendices

Appendix: A

INITIAL COVER LETTER

Dear Community Pharmacist:
We are conducting a research study as a part of a dissertation project to explore pharmacists' knowledge and opinions about domestic violence and domestic violence screening. The survey should take about 20 minutes to complete. Your responses will be kept confidential and your employer will not receive this data in any way. The survey includes three non-required questions about your own experience with domestic violence which might arouse distress. The University of Mississippi's Institutional Review Board (IRB) has reviewed this study. The IRB has determined that this study fulfills the human research subject protections obligations required by state and federal law and University policies. If you have any questions, concerns, or reports regarding your rights as a participant of research, please contact the IRB at (662) 915-7482.

We value your participation in this study, as it will allow us to better understand community pharmacists' opinions about domestic violence and domestic violence screening. The survey should take about 20 minutes to complete and we greatly encourage you to participate. Participation is voluntary and you may quit the survey at any time. To thank respondents for their time and effort, you will have the option at the conclusion of the survey to be entered into a drawing for one of four $50 gift certificates to Amazon.com (chance of winning estimated to be 1 in 150). Additionally, you will be able to indicate if you would like a summary of the results of this study. If you have questions about this study, please contact Marie Barnard by email at mbarnard@olemiss.edu. Again, thank you very much for assisting us with this very important project.

By clicking the link below, you are agreeing to participate in this research project.

Follow this link to the Survey:
(Link)

Or copy and paste the URL below into your internet browser:
(Link)

Sincerely,

Marie Barnard, M.S. Donna West-Strum, R.Ph., Ph.D.
Graduate Student Associate Professor and Chair
The University of Mississippi The University of Mississippi
School of Pharmacy School of Pharmacy

Please print this page for your records.

Follow the link to opt out of future emails:
(Unsubscribe Link)

FIRST FOLLOW-UP EMAIL

We recently sent you an email asking you to respond to a survey exploring pharmacists' knowledge and opinions about domestic violence and domestic violence screenings. Your responses to this survey are important and will help us better understand community pharmacists' opinions about this issue.

This survey should take about 20 minutes to complete. We encourage you to take a few minutes and complete the survey. To thank respondents for their time and effort, you will have the option at the end of the survey to be entered into a drawing for one of four $50 gift certificates to Amazon.com (chance of winning estimated to be 1 in 150). The survey includes three non-required questions about your own experience with domestic violence which might arouse distress. The University of Mississippi's Institutional Review Board has reviewed this study and determined that this study fulfills the human research subject protections required by state and federal law and university policies. If you have any questions, concerns, or reports regarding your rights as a research participant, please contact the IRB at (662)915-7482. If you have any questions about this study, please contact Marie Barnard at mbarnard@olemiss.edu. Thank you!

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Graduate Student Associate Professor and Chair
The University of Mississippi The University of Mississippi
School of Pharmacy School of Pharmacy

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(Unsubscribe link)

Please print this page for your records

THIRD FOLLOW-UP EMAIL

This is a follow-up to ask your assistance with a dissertation research project to explore pharmacists' knowledge and opinions about domestic violence and domestic violence screening. The survey should take about 20 minutes to complete. Your responses will be kept confidential and your employer will not receive this data in any way. The survey includes three non-required questions about your own experience with domestic violence which might arouse distress. The University of Mississippi's Institutional Review Board (IRB) has reviewed this study. The IRB has determined that this study fulfills the human research subject protections obligations required by state and federal law and University policies. If you have any questions, concerns, or reports regarding your rights as a participant of research, please contact the IRB at (662) 915-7482.

We value your participation in this study, as it will allow us to better understand community pharmacists' opinions about domestic violence and domestic violence screening. We greatly encourage you to participate. Participation is voluntary and you may quit the survey at any time.

To thank respondents for their time and effort, you will be sent via email a $10 Amazon.com gift certificate for completing the survey.

Additionally, you will be able to indicate if you would like a summary of the results of this study. If you have questions about this study, please contact Marie Barnard by email at mbarnard@olemiss.edu. Again, thank you very much for assisting us with this very important project.

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Marie Barnard, M.S.
Graduate Student
The University of Mississippi
School of Pharmacy

Donna West-Strum, R.Ph., Ph.D.
Associate Professor and Chair
The University of Mississippi
School of Pharmacy

Follow the link to opt out of future emails:
(Unsubscribe link)

Please print this page for your records

FOURTH FOLLOW-UP EMAIL

There are only a few more days to participate in this study. Please consider participating! You will receive a $10 Amazon.com gift certificate as an honorarium.

This is a follow-up to ask your assistance with a dissertation research project to explore pharmacists' knowledge and opinions about domestic violence and domestic violence screening. The survey should take about 20 minutes to complete. Your responses will be kept confidential and your employer will not receive this data in any way. The survey includes three non-required questions about your own experience with domestic violence which might arouse distress. The University of Mississippi's Institutional Review Board (IRB) has reviewed this study. The IRB has determined that this study fulfills the human research subject protections obligations required by state and federal law and University policies. If you have any questions, concerns, or reports regarding your rights as a participant of research, please contact the IRB at (662) 915-7482.

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Marie Barnard, M.S. Donna West-Strum, R.Ph., Ph.D.
Graduate Student Associate Professor and Chair
The University of Mississippi The University of Mississippi
School of Pharmacy School of Pharmacy

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Appendix: B

Introduction

Your candid responses on the following survey will greatly assist us in our attempt to improve pharmacists' recognition and management of intimate partner violence-related injuries and illnesses. Please record your first, instinctive answer, even if you don't think it is "politically correct." Don't try to think about what your answers "should" be.

Some questions may seem similar to others. However, we ask that you answer all the questions to help ensure the reliability of the assessment. Thank you for taking the time (estimated at 20 minutes) to complete this survey.

(Intimate partner violence (IPV) is also commonly referred to as domestic violence (DV), partner violence, or family violence. It is typically between intimate partners including spouses or boy/girlfriends.)

What is your current age?

Sex

- Male
- Female

Are you Hispanic or Latino?

- Yes
- No
- Don't know

Which one or more of the following would you say is your race?

- White
- Black or African American
- Asian
- Native Hawaiian or other Pacific Islander
- American Indian or Alaskan Native
- Other

In which state is the pharmacy in which you work located? (If you work in more than one pharmacy, indicate the state for the pharmacy you consider to be your primary location.)

To what extent are you involved in key decision making related to implementation of new products or services for your pharmacy?

Not at all	A little	Some	A good amount	To a great extent
○	○	○	○	○

On average, how many prescriptions does your pharmacy store fill per day (new and refills)? If you work in more than one store, please provide the total for the store you consider to be your primary location.

Does your pharmacy offer advanced pharmacy services such as MTM, diabetes education, asthma management, etc.?

- ○ Yes
- ○ No

Does your pharmacy have a dedicated private counseling area?

- ○ Yes
- ○ No

How often is the counseling area used?

Never	Rarely	Sometimes	Often
○	○	○	○

On average, what percentage of prescription fills involve patient counseling other than ordinary prescription consultation? (If you work in more than one pharmacy, please provide the percent for the pharmacy you consider to be your primary location.)

Including you, how many full time equivalent (FTE) pharmacists does your pharmacy employ? (If you work in more than one pharmacy, please provide the number for the pharmacy you consider to be your primary location.)

How many full time equivalent (FTE) pharmacy technicians does your pharmacy employ? (If you work in more than one pharmacy, please provide the number for the pharmacy you consider to be your primary location.)

Including yourself, how many practitioners (pharmacists and/or pharmacy technicians) at your work site have

Which one of the following best describes your **most advanced** pharmacy training? (Please check only one)

- B.S. in Pharmacy
- Pharm.D.
- M.S. in Pharmacy
- Other (please specify):

In which year did you graduate with your last professional degree?

Which type of postgraduate training have you completed? (Please check ALL that apply)

- Residency
- Fellowship
- Graduate School
- Other (please specify):

Including your residency, how many years have you been actively practicing pharmacy? (Please round to the nearest whole year)

What type of pharmacy do you currently work in? (Please check ALL that apply)

- Chain pharmacy (e.g., Walgreens, CVS)
- Pharmacy in grocery or general merchandise store (e.g., Kroger, Walmart, Fred's, etc.)
- Independent pharmacy
- Other (please specify):

How would you describe your position in your community pharmacy? (If you work in more than one store, please report your position for the store you consider to be your primary location.)

- Owner/partner
- Employee manager/assistant manager
- Staff/employee pharmacist
- Relief pharmacist
- Other (please specify):

participated in an intimate partner violence or domestic violence training course in the past 6 months?

- All
- Most
- Some
- A few
- None
- Don't know

Section 2: Background

How much previous training about intimate partner violence issues have you had? (Please mark all that apply.)

- [ ] None
- [ ] Read my institution's protocol
- [ ] Watched a video
- [ ] Attended a lecture or a talk
- [ ] Attended a skills-based training or workshop
- [ ] Pharmacy/other school classroom workshop
- [ ] Pharmacy/other school clinical training
- [ ] Residency/fellowship/post graduate training
- [ ] Continuing Education
- [ ] Other in-depth training (more than 4 hours)
- [ ] Other (please specify):

Estimated total number of hours of previous intimate partner violence training:

Please indicate which best describes how prepared you feel to perform the following:

	Not prepared 1	2	3	4	5	6	Quite well prepared 7
Ask appropriate questions about intimate partner violence (IPV)							
Appropriately respond to disclosures of abuse							
Identify IPV indicators based on patient's history							
Assess an IPV victim's readiness to change							
Help an IPV victim assess his/her danger of lethality							

Conduct a safety assessment for the victim's children							
Help an IPV victim create a safety plan							
Document IPV history findings in patient's record							
Make appropriate referrals for IPV							
Fulfill reporting requirements for IPV							
Fulfill reporting requirements for child abuse							
Fulfill reporting requirements for elder abuse							

How much do you feel you know about:

	Nothing 1	2	3	4	5	6	Very much 7
Your legal reporting requirements for Intimate Partner Violence (IPV)							
Your legal reporting requirements for child abuse							
Your legal reporting requirements for elder abuse							
Signs or symptoms of IPV							
How to document IPV in patient's record							
Referral sources for IPV victims							
Perpetrators of IPV							
Relationship between IPV and pregnancy							
Recognize the childhood effects of witnessing IPV							
What questions to ask to identify IPV							
Why a victim might not disclose IPV							
Your role in detecting IPV							
What to say and not say in IPV situations with a patient							
Determining danger for a patient experiencing IPV							
Developing a safety plan with an IPV victim							
The stages an IPV victim experiences in understanding and changing her/his situation							

Section 3: Intimate Partner Violence Knowledge

Check one answer per item, unless noted otherwise.

What is the strongest single risk factor for becoming a victim of intimate partner violence?

- Age (<30 years)
- Partner abuses alcohol/drugs
- Gender - female
- Family history of abuse
- Don't know

Which one of the following is generally true about batterers?

- They have trouble controlling their anger
- They use violence as a means of controlling their partners
- They are violent because they drink or use drugs
- They pick fights with anyone

Which of the following are warning signs that a patient may have been abused by his/her partner? (check all that apply)

- [ ] Chronic unexplained pain
- [ ] Anxiety
- [ ] Substance abuse
- [ ] Frequent injuries
- [ ] Depression

Which of the following are reasons an IPV victims may not be able to leave a violent relationship? (check all that apply)

- [ ] Fear of retribution
- [ ] Financial dependence on the perpetrator
- [ ] Religious beliefs
- [ ] Children's needs
- [ ] Love for one's partner
- [ ] Isolation

Which of the following is/are the most appropriate ways to ask about IPV? (check all that apply)

- [ ] "Are you a victim of intimate partner violence?"
- [ ] "Has your partner ever hurt or threatened you?"
- [ ] "Have you ever been afraid of your partner?"
- [ ] "Has your partner ever hit or hurt you?"

Which of the following is/are generally true? (check all that apply)

- [ ] There are common non-injury presentations in abused patients
- [ ] There are behavioral patterns in couples that may indicate IPV
- [ ] Specific areas of the body are most often targeted in IPV cases
- [ ] There are common injury patterns associated with IPV
- [ ] Injuries in different stages of recovery may indicate abuse

Please label the following descriptions of the behaviors and feelings of patients with a history of IPV with the appropriate stage of change.

	Pre-contemplation	Contemplation	Preparation	Action	Maintenance	Termination
Begins making plans for leaving the abusive partner	○	○	○	○	○	○
Denies there's a problem	○	○	○	○	○	○
Begins thinking the abuse is not their own fault	○	○	○	○	○	○
Continues changing behaviors	○	○	○	○	○	○
Obtains order(s) for protection	○	○	○	○	○	○

Mark TRUE, FALSE, or DON'T KNOW the answer to the following questions:

Alcohol consumption is the greatest single predictor of the likelihood of Intimate Partner Violence (IPV).

TRUE ○ FALSE ○ Don't know ○

There are good reasons for not leaving an abusive relationship.

TRUE ○ FALSE ○ Don't know ○

Reasons for concern about Intimate Partner Violence (IPV) should not be included in a patient's record if s/he does not disclose the violence.

TRUE ○ FALSE ○ Don't know ○

When asking patients about Intimate Partner Violence (IPV), providers should use the words "abused" or "battered".

TRUE ○ FALSE ○ Don't know ○

Being supportive of a patient's choice to remain in a violent relationship would condone the abuse.

TRUE	FALSE	Don't know
○	○	○

Victims of Intimate Partner Violence (IPV) are able to make appropriate choices about how to handle their situation.

TRUE	FALSE	Don't know
○	○	○

Health care providers should not pressure patients to acknowledge that they are living in an abusive relationship.

TRUE	FALSE	Don't know
○	○	○

Victims of Intimate Partner Violence (IPV) are at greater risk of injury when they leave the relationship.

TRUE	FALSE	Don't know
○	○	○

Strangulation injuries are rare in cases of Intimate Partner Violence (IPV).

TRUE	FALSE	Don't know
○	○	○

Allowing partners or friends to be present during a patient's history and physical exam ensures safety for an IPV victim.

TRUE	FALSE	Don't know
○	○	○

Even if the child is not in immediate danger, pharmacists in all states are mandated to report an instance of a child witnessing IPV to Child Protective Services.

TRUE	FALSE	Don't know
○	○	○

Section 4: Opinions

Please indicate your level of agreement with each of these statements about Intimate Partner Violence (IPV):

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
If an IPV victim does not							

acknowledge the abuse, there is very little that I can do to help.							
I ask all new patients about abuse in their relationships.							
My workplace encourages me to respond to IPV.							
I can make appropriate referrals to services within the community for IPV victims.							
I am capable of identifying IPV without asking my patient about it.							
I do not have sufficient training to assist individuals in addresing situtions of IPV.							
Patients who abuse alcohol or other drugs are likely to have a history of IPV.							
Victims of abuse have the right to make their own decisions about whether health care providers should intervene.							

Please indicate your level of agreement with each of these statements about Intimate Partner Violence (IPV):

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
I feel comfortable discussing IPV with my patients.							
I don't have the necessary skills to discuss abuse with an IPV victim who is female.							
I don't have the necessary skills to discuss abuse with an IPV victim who is male.							
I don't have the necessary skills to discuss abuse with an IPV victim who is from a different cultural/ethnic background.							
If victims of abuse remain in the relationship after repeated episodes of violence, they must accept responsibility for that violence.							
I am aware of legal requirements in this state regarding reporting of suspected cases of IPV.							
I am aware of legal requirements in this state regarding reporting of suspected cases of child abuse.							
I am aware of legal requirements in this state regarding reporting of suspected cases of elder abuse.							

Please indicate your level of agreement with each of these statements about Intimate Partner Violence (IPV):

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
Pharmacists do not have the time to assist patients in addressing IPV.							
I am able to gather the necessary information to identify IPV as the underlying cause of patient illness (e.g. depression, migraines).							
If a patient refuses to discuss							

abuse, staff can only address the patient's injuries.							
Victims of abuse could leave the relationship if they wanted to.							
I am aware that other health care providers have professional guidelines that call for routine assessment of IPV.							
Pharmacists have a responsibility to ask all patients about IPV.							
My practice setting allows me adequate time to respond to victims of IPV.							
I have contacted services within the community to establish referrals for IPV victims.							
Alcohol abuse is a leading cause of IPV.							
Victims of abuse often have valid reasons for remaining in the abusive relationship.							
I am too busy to participate on a multidisciplinary team that manages IPV cases.							

Please indicate your level of agreement with each of these statements about Intimate Partner Violence (IPV):

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
Screening for IPV is likely to offend those who are screened.							
There is adequate private space for me to provide care for victims of IPV.							
I am able to gather the necessary information to identify IPV as the underlying cause of patient medication utilization.							
Women who choose to step out of traditional roles are a major cause of IPV.							
Pharmacists do not have the knowledge to assist patients in addressing IPV.							
I can match interventions to an IPV patient's readiness to change.							
I understand why IPV victims do not always comply with staff recommendations.							
Use of alcohol or other drugs is related to IPV victimization.							
I can recognize victims of IPV by the way they behave.							

Section 5: Practice Issues

Please answer the following questions about your practice experience and Intimate Partner Violence (IPV).

How many new cases (e.g., picked up an acute case, uncovered ongoing abuse, or had a patient disclose a past history) of IPV would you estimate you have identified in the last 6 months?

- ○ None
- ○ 1-5
- ○ 6-10
- ○ 11-20
- ○ 21 or more
- ○ Not applicable - not currently practicing pharmacy

Check the situations listed below in which you currently screen for IPV. ("Screening" means asking about IPV in the absence of specific statements by the patient disclosing IPV). Check all that apply.

- ☐ Do not currently screen
- ☐ Screen all new patients
- ☐ Screen all new female patients
- ☐ Screen all patients with abuse indicators on history or exam
- ☐ Screen all patients periodically
- ☐ Screen all female patients periodically
- ☐ Teenagers
- ☐ Young adult women (under 30 years old)
- ☐ Elderly women (over 65 years old)
- ☐ Single or divorced women
- ☐ Married women
- ☐ Women with alcohol or others substance abuse
- ☐ Single mothers
- ☐ Black or Hispanic women
- ☐ Immigrant women
- ☐ Lesbian women
- ☐ Homosexual men
- ☐ Depressed/suicidal women
- ☐ Pregnant women
- ☐ Mothers of all my pediatric patients (if applicable)
- ☐ Mothers of pediatric patients who show signs of witnessing IPV
- ☐ Mothers of children with confirmed or suspected child abuse/neglect
- ☐ Other (please specify):

In the past 6 months, which of the following actions have you taken when you have identified IPV? (Check all that apply)

- [ ] Have not identified IPV in past six months
- [ ] Provided information (phone numbers, pamphlets, other information) to patient.
- [ ] Counseled patient about options she/he may have
- [ ] Conducted safety assessment for the victim
- [ ] Conducted safety assessment for the victim's children
- [ ] Helped patient develop a personal safety plan
- [ ] Referred patient to other assistance (i.e., therapy, law enforcement, hotline, support group)

Is there a protocol for dealing with adult IPV at your pharmacy? (Please check one)

- ( ) Yes, and widely used
- ( ) Yes, and used to some extent
- ( ) Yes, but not used
- ( ) No
- ( ) Unsure
- ( ) Not applicable to my patient population
- ( ) I am not currently in practicing pharmacy

Are you familiar with your pharmacy's policies regarding screening and management of IPV victims?

- ( ) Yes
- ( ) No
- ( ) Not applicable (pharmacy does not have a policy)
- ( ) I am not currently practicing pharmacy

Is there a camera available at your pharmacy for photographing IPV victim's injuries?

- ( ) Yes
- ( ) No
- ( ) Unsure
- ( ) Not applicable to my patient population
- ( ) I am not currently practicing pharmacy

Do you practice in a state where it is legally mandated to report IPV cases involving competent (non-vulnerable) adults?

- ( ) Yes
- ( ) No

- Unsure
- Not applicable - I am not currently practicing pharmacy

For every IPV victim you have identified in the past 6 months, how often have you:

	Never	Seldom	Sometimes	Nearly Always	Always	Not applicable
Documented patient's statements about IPV in record						
Used a body map to document patient injuries						
Photographed victim's injuries to include in record						
Notified appropriate authorities when mandated						
Conducted a safety assessment for victim						
Conducted a safety assessment for victim's children						
Helped an IPV victim develop a safety plan						
Contacted an IPV service provider						
Offered validating or supportive statements						
Provided basic information about IPV						
Provided referral and/or resource information						

Are IPV patient education or resource materials (posters, brochures, etc.) available at your pharmacy? (Check only one)

- Yes, well-displayed and accessed by patients
- Yes, well-displayed but NOT accessed by patients
- Yes, but not well-displayed
- No, due to inadequate referral resources in the community
- No, because I do not feel these materials are useful in general
- No, other reason (please specify):
- Not applicable to my patient population
- I am not currently practicing pharmacy

Do you feel you have adequate adult IPV referral resources for patients at your pharmacy (including mental health referral)?

- Yes
- No
- Unsure

Not applicable to my patient population

I am not currently practicing pharmacy

Do you feel you have adequate knowledge or referral resources for patients in the community (including shelters or support groups) for adult IPV victims?

- Yes
- No
- Unsure
- Not applicable to my patient population
- I am not currently practicing pharmacy

Section 6: IPV and Pharmacy Practice

The next set of questions are about Intimate Partner Violence (IPV) and pharmacy practice. Please indicate your level of agreement with each item.

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
There is a role for community pharmacists in public health initiatives.							
Pharmacists receive adequate training in patient counseling.							
Adding new services to a community pharmacy can improve business.							
The community pharmacy is a good place to provide health education.							
Pharmacists are trusted members of the health care team.							
Community pharmacies are the most accessible health care facilities for patients.							
Pharmacy patients are willing to discuss private information with pharmacists.							
Providing IPV screening services would be a benefit to pharmacy patients.							
Conducting IPV screening in a community pharmacy would be difficult.							

The next set of questions are about Intimate Partner Violence (IPV) and pharmacy practice. Please indicate your level of agreement with each item.

	Strongly Disagree						Strongly Agree

	1	2	3	4	5	6	7
Providing IPV screening services in a pharmacy would result in a relative advantage compared to other pharmacies that do not offer this service.							
It would be difficult to try IPV screening in the community pharmacy setting.							
I have seen IPV patient education or resource materials in other pharmacies.							
I have seen IPV patient education or resource materials in other health care settings (e.g. physician's offices, hospitals).							
I have seen other health care providers screen for IPV.							
I think it is a good idea to screen for IPV.							
I think it is a good idea to screen for IPV in the pharmacy setting.							
I would enroll in continuing education about IPV.							
I would conduct IPV screening with all pharmacy patients.							
I would conduct IPV screening with targeted pharmacy patients.							

Please rate the following items in terms of support of innovations and openness to change.

	Extremely skeptical of innovations and resistant to change	Somewhat skeptical of innovations and resistant to change	Somewhat supportive of innovations and open to change	Extremely supportive of innovations and open to change
The other pharmacists in your practice				
The local community				
Local physicians/medical providers				
The pharmacy technicians in your practice				
Your management team				

Please share with us any other thoughts about community pharmacies, pharmacists and intimate partner violence screening.

Section 7: Personal Experience

The next questions are about different types of violence in relationships with an intimate partner. By an intimate partner we mean any current or former spouse, boyfriend, or girlfriend. Someone who you were dating, or romantically or sexually intimate with would also be considered an intimate partner. At the end of this session, a phone number for an organization that can provide information and referral for issues related to domestic violence will be provided.

Has an intimate partner EVER THREATENED you with physical violence? This includes threatening to hit, slap, push, kick, or hurt you in any way?

- Yes
- No
- Don't Know / Not Sure
- Do not want to answer

Has an intimate partner EVER ATTEMPTED physical violence against you? This includes times when they tried to hit, slap, push, kick, or otherwise hurt you, BUT THEY WERE NOT ABLE TO.

- Yes
- No
- Don't Know / Not Sure
- Do not want to answer

Has an intimate partner EVER hit, slapped, pushed, kicked, or otherwise hurt you in any way?

- Yes
- No
- Don't Know / Not sure
- Do not want to answer

This topic may bring up past experiences that some people may wish to talk about. If you or someone you know would like to talk to a trained counselor, there is a toll-free and confidential domestic violence telephone hot line you can call. The number is **1-800-799-SAFE (7233).**

If there any additional comments you would like to share with us about domestic violence screening in a pharmacy, we welcome your input in the box below. Thank you.

If you would like to be entered into a drawing to receive one of four $50 Amazon gift cards, please enter the email address below to which you would like us to send notice that you have won one of the gift certificates.

If you would like us to email you a copy of the results of this study, please enter the email address below to which you would like us to send this report.

Appendix: C

Introduction

Please answer the following questions about your experiences with community pharmacies and pharmacists.

How often do you usually visit a pharmacy to fill a prescription for yourself or a family member?

- ○ At least once per month
- ○ Once every few months
- ○ About once per year
- ○ I have not visisted a pharmacy to fill a prescription in more than a year

How many prescription medications do each of the following people in your household routinely take every month?

	0	1-2	3-5	More than 5	Not applicable
You	○	○	○	○	○
Spouse/Partner	○	○	○	○	○
Children (total of all prescriptions for all children)	○	○	○	○	○
Other household member (total of all prescriptions for all other household members)	○	○	○	○	○

How many pharmacies do members of your family typically use for filling these prescriptions?

What type of pharmacy (or pharmacies) do you or others in your family use for filling prescriptions (mark all that apply)?

- ☐ Chain pharmacy (e.g., Walgreens)
- ☐ Pharmacy in a grocery or general merchandise store (e.g., Kroger, Walmart, Fred's, etc.)
- ☐ Independent pharmacy (e.g., Chaney's)
- ☐ Mail order pharmacy
- ☐ Other

Do you have a regular pharmacy that you like to go to?

- Yes
- No
- Don't know / not sure
- Do not want to answer

Have you ever received counseling from a pharmacist or a pharmacy technician about a health behavior (such as quiting smoking, improving diet or physical activity, etc.)?

- Yes
- No
- Don't know / not sure
- Do not want to answer

In the next section we would like to know your opinions about community pharmacies and pharmacists. Please indicate your level of agreement with each statement.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I think the pharmacy is a good place for health education.							
I think the pharmacy is a good place to get health care advice.							
I think the pharmacy is a good place to be screened for health care problems such as high blood pressure.							
I think the pharmacist gives good advice about medications.							
I think the pharmacist gives good advice about health matters.							
I trust the pharmacist when it comes to health matters.							
I can talk comfortably with a pharmacist.							
I have a regular pharmacist.							
I would prefer to go to a pharmacy that offers health education and screening programs.							

In the next section we would like to know your opinions on screening for domestic violence, also

known as intimate partner violence. By domestic violence, or intimate partner violence, we mean any physical or sexual violence - such has hitting, slapping, pushing, kicking, or forced sexual activity by a current or former spouse, boyfriend or girlfriend. Please indicate your level of agreement with each statement.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I think screening for domestic violence is an important thing for health care providers to do.	○	○	○	○	○	○	○
I think domestic violence is a serious threat to the health of an individual.	○	○	○	○	○	○	○
I believe asking about domestic violence can help people get out of dangerous relationships.	○	○	○	○	○	○	○
I think screening for domestic violence should happen in a pharmacy.	○	○	○	○	○	○	○
I would like my pharmacy to offer screening for domestic violence.	○	○	○	○	○	○	○
My pharmacy has a comfortable place to do screening for domestic violence.	○	○	○	○	○	○	○
I would prefer to go to a pharmacy that offers screening for domestic violence.	○	○	○	○	○	○	○
I do not want to fill prescriptions in a pharmacy that asks about domestic violence.	○	○	○	○	○	○	○
Screening for domestic violence in the pharmacy would slow things down too much at the pharmacy.	○	○	○	○	○	○	○

If domestic violence screening was offered at a local pharmacy, I would prefer that it be done (mark any and all that are acceptable):

- ☐ Verbally - the pharmacist asks about domestic violence
- ☐ Written - a form is given to each customer to complete about domestic violence
- ☐ Computer - a computerized questionnaire is completed by each customer about domestic violence
- ☐ None - I do not believe that pharmacies should conduct screening for domestic violence

What is your age?

What is your current marital status?

- Married
- Divorced
- Widowed
- Seperated
- Never Married
- A member of an unmarried couple

Are you Hispanic or Latino?

- Yes
- No
- Don't know / Not sure

Which one or more of the following would you say is your race?

- White
- Black or African American
- Asian
- Native Hawaiian or other Pacific Islander
- American Indian or Alaskan Native
- Other (please specify):

What is the highest grade or year of school you completed?

- Never attended school or only attended kindergarten
- Grades 1 through 8 (elementary)
- Grades 9 through 11 (some high school)
- Grade 12 or GED (high school graduate)
- College 1 year to 3 years (some college or technical school)
- College 4 years or more (college graduate)
- Attended or completed graduate school

Which category best describes your annual household income?

- < $19,999
- $20,000 - $24,999
- $25,000 - $34,999
- $35,000 - $49,999
- $50,000 - $74,999
- > $75,000

Would you say that in general your health is:

- Excellent
- Very Good
- Good
- Fair
- Poor

The next questions are about different types of violence in relationships with an intimate partner. By an intimate partner we mean any current or former spouse, boyfriend, or girlfriend. Someone who you were dating, or romantically or sexually intimate with would also be considered an intimate partner. At the end of this session, a phone number for an organization that can provide information and referral for issues related to domestic violence will be provided.

Has an intimate partner EVER THREATENED you with physical violence? This includes threatening to hit, slap, push, kick, or hurt you in any way?

- Yes
- No
- Don't Know / Not Sure
- Do not want to answer

Has an intimate partner EVER ATTEMPTED physical violence against you? This includes times when they tried to hit, slap, push, kick, or otherwise hurt you, BUT THEY WERE NOT ABLE TO.

- Yes
- No
- Don't Know / Not Sure
- Do not want to answer

Has an intimate partner EVER hit, slapped, pushed, kicked, or otherwise hurt you in any way?

- Yes

- No
- Don't Know / Not sure
- Do not want to answer

Have you ever been asked about domestic violence (also called initmate partner violence) by a health care provider?

- Yes
- No
- Uncertain / Do not remember

What kind of health care provider has asked you about domestic violence (also called intimate partner violence)? Mark all that have asked you:

- [ ] Nurse
- [ ] Physician
- [ ] Staff at physician's office
- [ ] Dentist
- [ ] Dental Assistant
- [ ] Physical Therapist / PT assistant
- [ ] Occupational Therapist / OT assistant
- [ ] Pharmacist
- [ ] Other

Closing

This topic may bring up past experiences that some people may wish to talk about. If you or someone you know would like to talk to a trained counselor, there is a toll-free and confidential domestic violence telephone hotline you can call. The number is **1-800-799-SAFE (7233).**

If there any additional comments you would like to share with us about domestic violence screening in a pharmacy, we welcome your input in the box below. Thank you.

Enter for drawing and results

If you would like to be entered into a drawing to receive one of four $50 gift cards to the campus bookstore, please enter the email address below to which you would like us to send notice that you have won one of the gift certificates.

If you would like us to email you a copy of the results of this study, please enter the email address below to which you would like us to send this report.

Appendix: D

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Community Pharmacy Services Research Study

Invitation: *Participate in a survey about community pharmacy services and enter to win 1 of 4 $50 gift certificates to the campus bookstore.*

We are conducting a research study as part of a dissertation project to explore what consumers think about community pharmacies offering screening for domestic violence. Your response to this survey will help us understand if this is something community pharmacies should consider offering. This survey should take about 10 minutes of your time to complete. Your responses will be kept confidential and your employer will not receive this data in any way.

This study has been reviewed by The University of Mississippi's Institutional Review Board (IRB). The IRB has determined that this study fulfills the human research participant protections obligations required by state and federal law and university policies. If you have any questions, concerns, or reports regarding your rights as a participant in this research study, please contact the IRB at irb@research.olemiss.edu or at (662)915-7482.

We value your participation in this study. To thank respondents for their time and effort, you will have the option at the conclusion of the survey to be entered into a drawing for one of four $50 gift certificates to the campus bookstore. Additionally, you will be able to indicate if you would like a summary of the results of this study. If you have questions about this study, please contact Marie Barnard by email at mbarnard@olemiss.edu or by phone at (662)915-1487. Again, thank you very much for assisting us with this very important project.

By clicking "START SURVEY" below you are agreeing to participate in this research project.

START SURVEY

mbarnard@olemiss.edu

VITA

Marie Barnard was born May 28, 1970 in Plainfield, New Jersey. After graduating from Villa Maria Academy she began her undergraduate studies at American University in Washington, DC., where she earned a Bachelor of Arts in Law and Society in 1992 and a Bachelor of Arts in Psychology in 1996. She took a position as a Research Assistant at the Uniformed Services University for the Health Sciences in Bethesda, MD and gained valuable experience in behavioral medicine research by managing a multi-site NIH study investigating the bio-behavioral triggers of myocardial ischemia, serving as an editorial assistant for the journal *Health Psychology*, and working on multiple ancillary studies. She moved to Memphis, TN and worked at the University of Tennessee Health Sciences Center on several NIH studies, including projects in the Departments of Pediatrics and Preventive Medicine as a research analyst. Marie gained experience designing and directing multiple community-based trials, including investigations in pediatric physical activity interventions, hypertension prevention programs, smoking interventions, and studies examining the impact of violence on health, in addition to working on several maternal/child epidemiological studies. While at the University of Tennessee she earned a Master of Science degree in Epidemiology in 2002. In 2007 Marie accepted the position of Assistant Dean in the School of Applied Sciences at the University of Mississippi, where she currently also has appointments as Research Assistant Professor of Health

Promotion and Executive Director of the Center for Intelligence and Security Studies. While at the University of Mississippi she completed the doctoral degree in Pharmacy Administration, in which she focused her studies on the role of pharmacy in public health prevention programs.