Weaving Strengths and Vulnerabilities: Implementing Evidence-Based Practices in Core Safety Net Settings

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Abstract

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Net Settings

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Despite a prolific amount of available evidence-based practices (EBPs), health and

mental health interventions have not been implemented as anticipated. Patients relegated to the

core safety net, a subset of the safety net with a mission or legal mandate to care for vulnerable

populations, face even greater obstacles to receiving evidence-based care. The fundamental

research that has shaped current implementation models has been primarily outside the core

safety net setting. Three qualitative studies, using grounded theory methodology, were

undertaken to examine the processes and contextual influences unique to implementation of

EBPs in the core safety net. Semi-structured interviews and focus groups of administrators and

front line clinicians were employed to ascertain their experiences implementing three EBPs in

three core safety net settings. Results in all three studies revealed challenging and beneficial

contextual factors woven together in ways that the fabric of their combination supported the

implementations, or possessed vulnerabilities that caused them to falter. Key findings across all

studies were the importance of the following for successful implementation: intervention fit with

characteristics and beliefs of patients, and needs of the community; intervention compatibility

with the organization mission; intervention adaptability, quality, and observability; beliefs and

behaviors of clinicians; adequate, dedicated clinical staffing; ongoing training and education;

structural and cultural organizational assets; and ongoing network and system building.

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DEDICATION

To my parents,

and to

all the social workers and providers who deliver care in the core safety net

<u>Chapter 1: Introduction</u>

To date, the efforts to implement evidence-based practices (EBPs) in health and mental health have not succeeded as anticipated. Patients are not receiving state-of-the-art health and mental health interventions as much as they should, despite a prolific amount of available EBPs (Glasgow & Emmons, 2007; Institute of Medicine, 2000; Kessler & Glasgow, 2011; Sanders & Haines, 2006). Focus on efficacy trials and internal validity to the detriment of external validity and contributing contextual factors of patients, providers, organizations, and systems is a primary contributor to this problem (Glasgow, Lichtenstein, & Marcus, 2003; Kessler & Glasgow, 2011). Patients relegated to safety net healthcare settings, where the uninsured, underinsured, and most vulnerable patients receive care, face even greater obstacles to receiving the evidence-based treatment that could benefit them than those in care settings that primarily serve patients with health insurance (Glasgow & Emmons, 2007; Institute of Medicine, 2000; Institute of Medicine, 2001; Kessler & Glasgow, 2011; Sanders & Haines, 2006).

The Fogarty International Center at the National Institutes of Health (n.d.) defines implementation science as the study of methods to promote the integration of research findings and evidence into healthcare policy and practice. Implementation science is a relatively new, emerging field. The fundamental research that has shaped current theory and models of implementation of EBPs has been informed by data from multiple fields, including health and mental health care primarily serving patients with insurance, and fields outside of human services, such as rural sociology and business. Therefore, little is known about the processes and influences unique to implementation of EBPs in safety net settings serving uninsured and underinsured patients, the applicability of current

theory and models to these settings, and the unique contributors to the problems of translation of EBPs in these settings.

The failure to implement EBPs, specifically in safety net settings, is important for social workers to address. According to the NASW Code of Ethics (2008), one of the primary ethical principles of social workers is challenging social injustice on behalf of vulnerable and oppressed individuals and groups. These individuals and groups are often relegated to safety net health care settings. In addition, according to the NASW Standards for Social Work Practice in Health Care Settings, Standard 2 (2005), social workers should address inequalities and injustices to clients, organizations, and communities related to access to and provision of health care. Social workers have an ethical obligation to address the health care needs of these groups and advocate for change to ensure access to quality care.

The purpose of this project was to begin to examine the processes of and influences affecting implementation of EBPs in core safety net settings, a subset of the safety net with a mission or legal mandate to care for uninsured, underinsured, or members of other vulnerable populations (Institute of Medicine, 2000). Qualitative data containing administrators' and clinical providers' experiences implementing three different evidence-based health and mental health interventions for complex patients in three urban core safety net settings (initially collected for the purpose of evaluation) was collected and analyzed for this purpose.

The EBPs implemented were community-based, chronic care management for high risk, comorbid patients executed through the framework of motivational interviewing (MI) and the transtheoretical model of change; a problem solving treatment

for depressed elderly clients receiving services from an area agency on aging; and a

shared electronic health record for chronically mentally ill clients at a community mental

health clinic. The following questions were posed for each EBP implementation:

1. What are the processes of implementation of EBPs in core safety net settings?

2. What are the factors influencing implementation in core safety net settings? How do these factors influence implementation?

3. How are these processes and influences similar or different to those in settings on which current implementation theories and models are based?

4. How could current frameworks be modified, or do novel ones need to be developed for these settings?

5. What future research, policy and practice should be considered for implementation of EBPs in core safety net settings?

Interviewing administrators and providers furnished an overview of

implementation, the various forces affecting it that administrators can provide, and the

deep, day-to-day, field and patient knowledge providers possess from front-line provision

of interventions. A grounded theory framework (Corbin & Strauss, 2008) was used for

data analysis.

After individually analyzing each data set and drawing conclusions from the

implementation process of each intervention, the results of all three data sets were

examined together to compare the influences affecting implementation across them.   The

three projects implemented similar types of interventions targeted at physical and mental

illness in similar, complex, vulnerable safety-net patient populations, and were all

delivered in core safety net health care settings. Comparing the results from all three

studies was designed to potentially strengthen the conclusions of the individual studies

and begin to identify some of the unique processes and influences of implementation in

core safety settings. These results are intended to serve as a partial foundation for the development of implementation theory and models tailored to these settings, ultimately fostering the successful implementation and provision of more state-of-the art, evidence-based interventions for the most vulnerable patients.

The remainder of this chapter will include the background on the health care safety net, the process of the translation of research into practice, implementation contextual factors, implementation models and frameworks, and implementation research.

Background and Significance

The Health Care Safety Net

The health care safety net is composed of public and private providers who deliver care in a variety of settings to patients who are otherwise unable to afford or access it (Jones & Sajid, 2010). The core health care safety net, a subset of the health care safety net, consists of providers who have an explicit mission or legal mandate to offer care to patients who are uninsured, underinsured, or members of other vulnerable populations. These groups are a substantial share of the patient mix in this setting. Core safety net providers usually include public hospital systems; federal, state, and locally supported community health centers; and local health departments (Institute of Medicine, 2000).

Some of the vulnerable patients who access care in safety net settings are the urban and rural poor, low-income migrant workers, the uninsured, the underinsured, Medicaid recipients, and previously employed middle class individuals and families affected by the economic downturn that began in 2007 (Jones & Sajid, 2010). The safety

net population comprises individuals with a range of different ethnic, cultural, and social backgrounds. Special populations, such as the homeless, the severely mentally ill, the disabled, and those with HIV, are the most vulnerable members of the safety net (Institute of Medicine, 2000). Safety net patients have more chronic illnesses, such as diabetes and asthma, and more comorbidities (Institute of Medicine, 2000; Jones & Sajid, 2010). They also have a greater need for substance abuse and mental health treatment. They have a higher prevalence of risk behaviors, and lower priority on health seeking behaviors, as they focus more energy on getting basic needs met, such as food and shelter (Institute of Medicine, 2000). Individuals seeking care in safety net settings are often victims of multiple social and economic issues that are prevalent in their communities, such as poverty, violence, language barriers, cultural barriers, racism, illiteracy, lack of transportation, shortage of health care providers in the inner city and rural areas, and previous negative experiences with medical care (Institute of Medicine, 2000; Jones & Sajid, 2010).

The picture of providers in core safety net settings is markedly different than that of other health care settings. Inadequate organizational and systems resources, such as aging facilities, outdated services, lack of essential supplies, inability to access specialists, and low pay, resulting in burnout, turnover, and difficulty maintaining a high quality staff with good morale, are prevalent in the core safety net (Hayashi, Selia & McDonnell, 2009; Lewin & Baxter, 2007).

Translation of Research to Practice

Evidence-based practices. EBPs are practices that have demonstrated through scientific study that they are effective in improving client outcomes (Drake et al., 2001).

The Institute of Medicine Committee on the Quality of Healthcare in America (2001) expands the concept of evidence-based practice, describing it as a combination of the best research evidence, clinical expertise, and patient values. EBPs are often a requirement for funding health and mental health care (Wandersman et al., 2008).

History of diffusion of innovations. Everett Rogers (2003), a sociologist by training, became the pioneer of translation science by observing and studying the reluctance of mid-century Mid-Western farmers to adopt beneficial agricultural innovations. He characterized the diffusion of innovations as the process by which potential new consumers learn about a product's existence and benefits, decide to purchase it, use it effectively, and continue to use it, if it works as intended and the need persists.   In the context of health and mental health care this could be described as providers and their organizations learning about an EBP and its benefits, deciding to adopt it, delivering it effectively, and continuing its use.   The subsequent research on and conceptualization of diffusion of innovations has anchors in many fields, including medical sociology (social networks and the influence of social norms and values on innovation adoption decisions), health promotion (reach and uptake of positive lifestyle choices in populations targeted by health promotion campaigns), and evidence-based medicine (filling a knowledge gap or behavior gap in targeted clinicians) (Greenhalgh, Robert, McFarlane, Bate, & Kyriakido, 2004).

Evidence-based medicine surfaced in American healthcare about 35 years ago and can be divided in to four phases (Rogers, 2003). The first, the Era of Optimism, was characterized by passive diffusion of scientific evidence into practice. This was followed by the Era of Innocence Lost and Regained, when the realization that it was impossible

for clinicians to keep up with the scientific literature and effectively adopt it to practice resulted in the beginning of widely disseminated clinical guidelines. During the third phase, the Era of Industrialization, more aggressive strategies to foster provider accountability and quality improvement were developed as a result of recognition that passive dissemination of guidelines, initiated in the Era of Innocence Lost and Regained, was not really changing practice. Currently, we are in the fourth phase, the Era of Information Technology and Systems Engineering, characterized by a movement away from concentration on individual practitioners to a focus on design of service delivery systems to eliminate barriers and capitalize on incentives to deliver EBPs.

We can see reflections of Rogers's (2003) process of the diffusion of innovations in the research cycle that brings new treatments to practice settings. In its 1994 report on prevention research in mental health, the Institute of Medicine outlined a prevention intervention research cycle incorporating the translation of science to practice with the following six steps: identifying a problem, reviewing relevant information, designing an intervention, conducting and analyzing pilot studies (efficacy trials), conducting large scale trials (effectiveness trials), and facilitating large scale implementation and ongoing evaluation. Efficacy trials test whether interventions improve outcomes under controlled conditions to isolate the effect of treatment, while effectiveness trials test interventions in "usual" real world settings. The subsequent phases of bringing effective interventions to real world practice settings, after effectiveness trials, are: 1. Diffusion/Dissemination - the spread of the intervention, diffusion being a passive, unplanned spread of innovations, and dissemination, an active, planned approach, 2. Adoption - the decision by an organization or community to commit to and initiate an innovation, 3. Implementation –

integrating the innovation in to the setting, and 4. Sustainability – maintenance of the innovation over time (Fixsen, Naaom, Blasé, Friedman, & Wallace, 2005; Rogers, 2003).

       The current NIH Roadmap for Medical Research outlines a similar research cycle in four phases, beginning with basic science, then clinical efficacy trials (T1 phase), followed by clinical effectiveness trials (T2 phase), and finally translation to clinical practice through diffusion, adoption, and implementation (T3 phase) (Dougherty & Conway, 2008; Westfall, Mold, & Fagnan, 2007). Despite the fact that effectiveness trials test interventions in real world settings, they are less prevalent than efficacy trials. They also do not necessarily address questions of context, such as applicability to a range of populations, settings, and providers, critically important in safety net settings (Glasgow et al., 2003).

       Research to practice gap. The inconsistency between the number of EBPs and actual clinical interventions implemented led the Institute of Medicine (2001) to label the gap as a "chasm." The gap occurs across diseases, conditions, settings, and populations (McGlynn et al., 2003). Results from a nationwide study indicate that Americans receive only 50% of guideline-recommended care (McGlynn et al., 2003). The gap between knowledge and implementation is very striking in global health (Sanders & Haines, 2006). For example, the discrepancy in infant mortality between wealthy and poor countries continues to widen as infants in developing countries die of complications and diseases such as diarrhea for which there has been ample evidence of effective treatments with low-cost resources for years. Jones and Sajid (2010) report that more than 60% of these child deaths could be prevented by available interventions that are feasible for implementation in low-income countries. Safety net populations and settings in the

United States face similar challenges in translating interventions (Sanders & Haines, 2006).

Currently, domestically and worldwide, the majority of research dollars is channeled to the development of pharmaceuticals and therapies to combat disease while translation to practice receives relatively little funding (Bhattacharyya, Reeves & Zwarenstein, 2009, Fixsen, Naoom, Blasé, & Wallace, 2009; Fixsen et al., 2005; Kessler & Glasgow, 2011; Sanders & Haines, 2006). This signals a need for more resources to study the process by which research is transformed to practice.

One of the main causes of the breakdown in science to practice translation is the focus on randomized control trials (RCTs), the primary method of conducting efficacy trials in the research cycle. Kessler & Glasgow (2011) highlight the obvious problems of this focus when they describe RCTs as expensive endeavors delivered in leading medical centers, with high fidelity to middle-class, highly motivated patients. Their obvious conclusion is that we cannot expect them to translate seamlessly to under-resourced public health settings that serve complex patients with meager resources. Others criticize RCTs as using carefully selected populations and controlled environments with rigid protocols that are difficult to adhere to in daily practice settings, strong on internal validity, weak on external validity, and unattractive to policy makers and practitioners who do not see them as relevant to their settings and populations, or coming with guidance on how to translate them into the kind of feasible, cost-effective programs they need (Bhattacharyya et al., 2009; Glasgow & Emmons, 2007; Kessler & Glasgow, 2011).

Conducting more effectiveness trials, which test treatments in conditions that approximate the real world, in core safety net settings, could mitigate some of the

problems caused by focus on RCTs. Another concern is whether interventions that have not built an evidence base yet, at least in the conventional manner, will survive in the competition for funding. The data from narrow clinical trials can be at the expense of practitioner and patient lived experience and the reach of EBPs is limited (Essock et al., 2003).

Implementation Models and Frameworks.

Over the past decade multiple different conceptual models and frameworks have been proposed for implementation research. Beginning with Greenhalgh (2004) and colleagues' meta-narrative review of sources addressing diffusion of innovations (and a small amount of implementation), and Fixsen (2005) and colleagues' comprehensive multi-field literature review of the implementation process, using a snowball approach, I collected a comprehensive group of implementation frameworks and models related to mental health and health care that were referenced in journal publications. I only included models developed in the last ten years.

Greenhalgh (2004) and colleagues performed a meta-narrative review, the unfolding storyline of the research in a scientific field (Greenhalgh, 2004), of 500 published sources representing 13 fields to develop a framework (Figure 1) for use as a memory aid in considering all the elements involved in the complexity of diffusion and implementation. They drew from health care and service sector literature as well as landmark studies empirical studies outside these fields. They identified several categories of determinants of the implementation process. These included the innovation itself, adoption of an innovation by individuals, assimilation of an innovation by the system, diffusion and dissemination of an innovation, system antecedents for innovation,

system readiness for an innovation, inter-organizational networks and collaboration, implementation and routinization of an innovation, and linkage among components of the model. Determinants in these categories played out in the arenas of the resource system, the user system, knowledge purveyors, and the change agency. From their review, they concluded that the primary gap in the literature is information about the processes that allow implementation and sustainment of specific innovations in particular contexts and settings. They suggest mixed-method research to uncover these processes.

Fixsen (2005) and colleagues proposed a conceptual framework for implementation (Figure 2) based on an extensive literature review covering multiple fields beyond health, mental health, and social services (e.g. business, agriculture). They divided implementation into stages they developed from a large, multiple field implementation literature review. They outlined six common stages in the process of implementation, linear in theory but not always in practice: 1- Exploration and Adoption: matching the innovation with organization or community needs and characteristics, then preparing them to adopt it and secure support of larger systems if necessary, 2- Program Installation: preparing the organization to deliver the innovation and incorporating structural supports, 3- Initial Implementation: providing ongoing education, coaching, and support due to the tenuous nature of early change 4- Full Operation: new learning is integrated and innovation becomes accepted practice, and 5-Sustainability: delivery of innovation is consistent and ongoing.

In this framework, an innovation travels from the developers to its ultimate destination, the organization adopting it, and the practitioners who will deliver it, through a communication link filled by purveyors. Purveyors are individuals or groups

representing innovative practices, who actively work to implement them with fidelity and positive outcomes. Changes in adult professional behavior (i.e. providers), changes in organizational structures and cultures, and changes in relationships to consumers and stakeholders are defined as the primary outcomes of implementation.

Fixsen (2005; 2009) and colleagues posit a nested model of influences affecting implementation, beginning with outside influences such as the greater political environment, moving in to organizational components, which ultimately affect core implementation components. Core implementation components are limited to provider and organizational contextual factors that were found in their literature review to underpin successful implementation in a broad range of fields. They are staff selection, pre-service and in-service training, on-going coaching and consultation, staff evaluation, program evaluation, and facilitative administrative support. Although each core component is crucial to success, weaker ones can compensate for the stronger, facilitating an ultimate outcome of successful implementation (Fixsen et al., 2009).

This comprehensive review and resulting model provide a good start to understanding the process of implementation, although it spans literature outside of health and mental health, particularly that of business management which has some fundamental differences in setting, providers, and consumers. An evaluation component is notably absent.

Wandersman (2008) and colleagues developed the Interactive Systems Framework (Figure 3) synthesizing source-based (from the perspective of the developers) and user-based (from the perspective of the users) models. It was developed initially for a violence prevention initiative in a collaborative effort by researchers, providers, and

funders. It was devised as a way for each group to understand the process of dissemination and implementation beyond their own lenses, introducing the needs, barriers, and resources of the multiple systems involved. The resulting framework aims to address the last two phases of the Institute of Medicine prevention intervention research cycle: effectiveness trials and large-scale implementation. The model is characterized by three sets of interacting activities: 1) prevention synthesis and translation; 2) prevention support; and 3) prevention delivery, embedded in the wider environment of macro policy, funding, socio-political climate, and existing research and theory.

The function of prevention synthesis and translation is to distill information about innovations and translate it to user-friendly formats for organizations and providers. Identifying core elements of the intervention is also part of this process. Activities of the prevention support system are providing training, coaching, technical assistance and other support to users in the field, in general, and specific to the innovation. The function of the prevention delivery system is to perform the tasks necessary to implement an innovation. Individuals and organizations carrying out these activities have varying levels of skill and motivation for implementation. These three systems in the model should be interacting well for successful implementation to take place (Wandersman et al., 2008).

In contrast to the breadth of fields used to develop the model proposed by Fixsen (2005) and colleagues, this framework is derived from two areas in the public health field, prevention and more specifically, prevention of violence, which is unique and questionably generalizable. A strength of this framework in regard to core safety net

settings is that it takes the long view by providing a focus on routine general resource and capacity building in organizations to strengthen infrastructure, so organizations are healthier and better prepared without large resource gap when innovations are adopted. However, this model lacks a patient component.

Durlak and DuPre (2008) embedded Wandersman's (2008) Interactive Systems Framework in their own ecological framework (Figure 4) consisting of characteristics of innovations, providers, and communities involved in an implementation, all which are presumably nested in the Interactive Systems Framework's wider environment or macro issues. This addition of critical focus on influences of interventions, providers, and communities that are so unique and often inconsistent in core safety net settings makes the Wandersman (2008) model more comprehensive.

Two models specifically focus on health services, both formulated from reviews and consolidations of multiple models. First, Feldstein & Glasgow (2008) developed the Practical Robust Implementation and Sustainability Model (PRISM) (Figure 5), a comprehensive model for implementing EBPs in health care practice. This model includes factors indicating organization readiness to implement an EBP, general organizational characteristics, factors of patient centeredness in the actual EBP, general characteristics of the patient population, organizational infrastructure for sustainability of the EBP, and external environmental factors such as government policy. This is the first model in this group that delineates patients and the contextual factors they bring to health and mental health treatment as a fundamental element in implementation. However, this model was developed based on "local medical practices" and there is a larger range of

patient contextual factors when one considers the many types of practices from private physician practices to core safety net settings.

Next, Damschroder's (2009) and colleagues' Consolidated Frame for Implementation Research (Figure 6), a five-domain classification for implementation theory development in health services, has similar components to those of Feldstein's and Glasgow's (2008) PRISM framework, but they are differently organized: intervention characteristics, outer setting (including patient characteristics and needs), inner setting (organizational characteristics), characteristics of the individuals involved in implementing the EBP, and the process of implementation. Damschroder (2009) included PRISM as part of a comprehensive review of implementation frameworks, mostly from the health care arena, in the development of the consolidated model.

Several models were developed with specific focus on mental health care of both children and adults. Proctor (2009) and colleagues provided a heuristic skeleton model (Figure 7) to study implementation processes in mental health services. They overviewed implementation, addressed language and conceptualization, and identified implications for research and training. The model draws from multiple frameworks, starting with the linear and unidirectional five stage pipeline model developed by the National Cancer Institute (2004), eventually simplified into two steps by the NIH Roadmap: Basic Science to Intervention Development and Testing (T1); and Intervention Development and Testing to Implementation (T2). Next, they adopted Shortell's (2004) multilevel model of change for performance improvement which outlines four interacting levels of change that affect implementation: larger system/environment, organization, group/team, and individual. Finally, they drew on several models of health service use that help

distinguish structural characteristics, clinical care processes, and outcomes, such as Aday's and Andersen's (1974) comprehensive model of access to care, Pescosolido's (1991) model of help-seeking behavior, and Donabedian's (1980, 1988) work on quality of care.

Proctor (2009) and colleagues' framework presupposes that successful implementation of an EBP has two components, good implementation outcomes and good patient outcomes. It distinguishes implementation strategies, processes, and outcomes, but shows them as interacting entities. Implementation strategies are divided into several areas: the systems environment, organizations, groups, and individuals (providers and consumers). Implementation outcomes are feasibility, fidelity, penetration, acceptability, sustainability, uptake, and costs. Service outcomes include efficiency, safety, effectiveness, equity, patient-centeredness, and timeliness. Patient outcomes are levels of satisfaction, functioning, and symptomatology.

Proctor (2009) and colleagues' model has the advantage of being the most theoretically based of all the models. However, one model on which it is built is the traditional research stage pipeline, which has been criticized as incompatible with safety net settings and populations due to the primary focus on efficacy trials (Kessler & Glasgow, 2011). The other models largely emphasize behavior and infrastructure change, both of which can be difficult in core safety net settings. The critical influence of patient, provider, and setting contextual factors has a limited presence in this framework.

The most recent implementation framework, focusing on child welfare and specialty mental health settings, was presented by Aarons, Hurlburt, and Horwitz (2011) (Figure 8) who created a conceptual model of factors most likely to have influence on

implementation, by phase of implementation. Factors affecting each of the phases: exploration, adoption decision/preparation, active implementation, and sustainment were grouped into inner context (organization implementing the EBP and individuals employed there) or outer context (environment outside the organization implementing the EBP). The major contribution of this model is making the leap of researching and organizing which factors are influential at each stage of implementation, specifically in public service sector settings, which allows for optimal resource distribution across a project. This is vitally important in core safety net settings that are resource challenged.

Two models focus more specifically on community interventions. Glisson and Schoenwald (2005) describe the Availability, Responsibility, and Continuity Model (ARC), an organizational and community intervention model for implementation of children's mental health services. Their model is unique because it focuses on rural areas and identifies barriers to implementation unique to these areas, some of which are similar to those in urban core safety net settings, such as limited resources and lack of transportation. Glisson and Schoenwald (2005) then propose inter-organizational and organizational strategies to provide a mutual fit for children's mental health services in this setting. The overarching philosophy of this model is that implementation is a social process as well as a technical one. Strategies include addressing the needs of service providers and involving them in decisions related to the implementation and creating alliances among providers, organizations, local leaders, and other community stakeholders to address problems. The addition of practical strategies in a setting that has serious challenges of patient, provider, and organization contextual factors, as do core

safety net settings, is helpful for administrators and front-line providers implementing interventions.

Finally, Mendel, Meredith, Schoenbaum, Sherbourne, & Wells (2008) developed the Framework of Dissemination in Health Services Intervention Research (Figure 9) to guide the intervention of health and mental health EBPs in community settings, with a focus on community based participatory research (CBPR). This model contains two pathways, the diffusion process and the evaluation process and includes context, phases of the implementation process, and outcomes for each pathway. Patient contextual factors, so influential in core safety net settings, are only included in the evaluation pathway not diffusion.

Figure 10, developed during the data analysis phase of this project, provides a framework to contemplate, identify, and record intervention, micro, mezzo, and macro contextual factors and their interactions with each other. Every possible combination of contextual factor interactions is represented in this framework.

There are two limitations with all of these established models and frameworks with regard to the health care core safety net setting. The scope of the fields from which some of the models were derived expands beyond health care or involves very specific settings in the public sector (e.g. children's mental health). The frameworks also do not give much attention to patients. Only three of the models (Damschroder et al., 2009; Feldstein & Glasgow, 2008; Proctor et al., 2009) incorporate patient demographics or characteristics. There is not a framework derived specifically from data from implementation in the health care core safety net.

Implementation Contextual Factors

Implementation is the active, planned process by which an intervention is put into practice (Fixsen et al., 2005, Greenhalgh et al., 2004). Contextual factors affecting implementation are multi-level. Primary divisions, which are fluid due to their interactive nature, can be characterized borrowing from ecological systems theory (Bronfenbrenner, 1979). This model nests levels in each other moving progressively outward to larger arenas; however, the levels are not necessarily linear or progressive in the way they interact. Levels of contextual factors affecting implementation are characteristics of the intervention, micro (individual providers and patients/clients), mezzo (organization, community), and macro (sociopolitical environment, systems). Table 1 provides a summary of implementation contextual factors by level. Much of the implementation research focuses on the mezzo arena of organizations, and provider behaviors from the micro level, in settings not constrained like the core safety net. In the core safety net, features of the intervention, micro factors (e.g. characteristics of patients and providers), and mezzo attributes (e.g. resources available in safety net clinics) are very powerful. They are driven by macro socioeconomic and political issues and also by larger systems of which clinics that provide health care are a part and on which they are dependent. These areas are neglected in health services research and particularly implementation research. Core safety net settings, are often heavily influenced by contextual levels outside those of an organizational nature. How contextual factors interact is also very important, and has only marginally been addressed. Multilevel models could be helpful in capturing these relationships (Durlak & DuPre, 2008).

Characteristics of the intervention. Characteristics of the evidence-based intervention affecting the implementation process include the strength of the evidence base; design; level of adaptability; compatibility and fit with the environment, end users, and recipients; and perception of the adopter (Bhattacharyya et al., 2009; Damschroder et al., 2009; Durlak & DuPre, 2008; Feldstein & Glasgow, 2008; Fixsen et al., 2005; Greenhalgh et al., 2004; Stith et al., 2006; Wandersman et al., 2008).

Strong linkages to end users in intervention design, such as consideration of their characteristics and environmental circumstances, including front line staff barriers, facilitate adoption and implementation (Feldstein & Glasgow, 2008; Wandersman et al., 2008). Attending to the recipients (patients) of the innovation by designing interventions that are patient-centered, offer patients choices, are easy to access, and address patient barriers also facilitate implementation (Feldstein & Glasgow, 2008). The packaging and marketing of an innovation in a clear, friendly manner, not overloaded with scientific jargon is crucial to adoption and effective implementation (Damschroder et al., 2009; Wandersman et al., 2008;). Support and training by intervention purveyors or change agents were also demonstrated to boost implementation success (Aarons et al., 2011; Damschroder et al., 2009; Fixsen et al., 2005; Mendel et al., 2008).

Other characteristics of the intervention that affect implementation are the levels of complexity, cost, relative advantage (cost effectiveness), trialability, observability, and risk (Bhattacharyya et al., 2009; Damschroder et al., 2009; Feldstein & Glasgow, 2008; Greenhalgh et al., 2004). In other words simpler, minimal risk, lower cost interventions are implemented more easily, as are interventions that have clearly observable benefits and afford a degree of experimentation and ability to reverse course, if necessary.

Adaptability of the intervention, or degree to which it can be reinvented to fit features of the organization, community, needs of recipients, and cultural differences, was identified as a positive predictor of effective implementation in most of the literature (Damschroder et al., 2009; Durlak & DuPre, 2008; Feldstein & Glasgow, 2008; Greenhalgh et al., 2004; Stith et al., 2006), but also a negative influence on successful implementation in some of the literature that privileged fidelity (Fixsen et al., 2005; Stith et al., 2006). Champions of adaptability as an implementation facilitator described interventions as having two parts, the elements responsible for the effectiveness, termed the "hard core," and non-core features consisting of organizational structures and systems, termed the "soft periphery." Accurately identifying the hard core and assuring fidelity to it, is offered as the key strategy in balancing fidelity and adaptation (Damschroder et al., 2009; Greenhalgh et al., 2004, Stith et al., 2006; Wandersman et al., 2008).

Micro contextual factors. Patient characteristics, often neglected in implementation literature, include demographic factors, level of disease burden (Feldstein & Glasgow, 2008), needs, resources, and other characteristics of patient populations (Damschroder et al., 2009). Patients' knowledge, attitude, skills, and level of compliance related to the innovation are additional contextual factors (Bhattacharyya et al., 2009). All these factors are potentially facilitators, but often barriers, to successful implementation of EBPs in core safety net settings.

Clinical provider contextual factors fall into the categories of traits and skills, and attitudes, beliefs, and behaviors. Staff selection for requisite skills, education, professional experience, sense of self-efficacy to administer an intervention, and personal

traits such as common sense, self-esteem, empathy, ethics, willingness to learn, tolerance

for ambiguity, and propensity to try new things were recognized as enhancing the

implementation process (Aarons et al., 2011; Bhattacharyya et al., 2009; Damschroder et

al., 2009; Durlak & DuPre, 2008; Fixsen et al., 2009; Greenhalgh et al., 2004).

When individual providers recognized a need for change or for the addition of a

new intervention, felt motivated to use it, believed it would be effectively delivered and

produce results, attached the same meaning to it as organization administrators, and had a

positive attitude about their work environment, implementation was easier (Aarons et al.,

2011; Damschroder et al., 2009; Durlak & DuPre, 2008; Greenhalgh et al., 2004; Mendel

et al., 2008; Wandersman et al., 2008). Having individual staff members who acted as

clinical leaders in general and acted as positive opinion leaders regarding certain

innovations, enhanced implementation (Damschroder et al., 2009; Greenhalgh et al.,

2004;), as did clinician behaviors of general support for the intervention and adherence to

high fidelity administration of interventions (Fixsen et al., 2009, Fixsen et al., 2005; Stith

et al., 2006). High fidelity provider behavior was emphasized in the literature.

Mezzo contextual factors. Mezzo contextual factors in implementation consist

of those influences related to organizations, communities, and inter-organizational

relationships. The structural and social architectures, culture, resource capacity,

administrative and managerial behaviors, training, and monitoring and evaluation in

organizations can all inhibit or facilitate implementation (Aarons et al., 2011;

Bhattacharyya et al., 2009; Damschroder et al., 2009; Feldstein & Glasgow, 2008; Fixsen

et al., 2005; Glasgow & Emmons, 2007; Glisson & Schoenwald, 2005; Greenhalgh et al.,

2004; Mendel et al., 2008; Wandersman et al., 2008).

Organizational structure. Certain organizational structural features have been shown to be generally more favorable for implementation. Larger organizations are more facilitative environments for implementation, probably due to issues of capacity (Aarons et al., 2011; Damschroder et al., 2009; Fixsen et al., 2005; Greenhalgh et al., 2004; Mendel et al., 2008; Wandersman et al., 2008), as are older, more mature organizations (Damschroder et al., 2009). Non-profit organizations seem to have more implementation challenges than private sector organizations (Aarons et al., 2011). Features that private sector organizations frequently possess due to more resources, such as established technological infrastructure, propel implementation forward (Aarons et al., 2011).

Organizational social architecture. In terms of the social architecture of organizations and its influence on the implementation process, those with greater differentiation and specialization have an advantage (Aarons et al., 2011; Damschroder et al., 2009; Greenhalgh et al., 2004; Mendel et al., 2008). Decentralized decision-making is favorable, except sometimes in the adoption phase of the implementation process, when an administrative decision is necessary (Aarons et al., 2011; Damschroder et al., 2009; Fixsen et al., 2005). Strategic decisions left to departments and operational decisions relegated to those close to the front lines enhance successful implementation (Greenhalgh et al., 2004).

The social capital of an organization, including the quality and extent of the relationships, staff cohesion, and behaviors such as peer collaboration across hierarchical levels makes it easier to successfully adopt and implement innovations (Damschroder et al., 2009).

Organizational culture and climate. Certain features of organizational culture

and climate can be helpful or harmful in implementing innovations. Organizational

culture is the norms, values, and basic assumptions of an entire organization, whereas

climate is employees' perceptions of and affective responses to their work environments.

Climate is more localized across different departments and less stable over time (Aarons

et al., 2011; Damschroder et al., 2009). A culture in which the entire organization

consistently cooperates on shared goals is a positive force in introducing new innovations

(Feldstein & Glasgow, 2008). The implementation process is also facilitated by

organizational cultures and climates that embrace exploration, innovation, and risk taking

(Aarons et al., 2011; Damschroder et al., 2009; Feldstein & Glasgow, 2008; Mendel et

al., 2008). An organizational culture and organizational climates that promote learning,

in which superiors express fallibility and recognize they need input and solicit it from

employees, creates a key driver in adopting and successfully implementing innovations,

namely the absorptive capacity for new knowledge. This capacity involves the

organization's ability to capture, interpret, and reframe pre-existing knowledge and skills

in the service of adopting new knowledge and incorporating it. It is underpinned by the

assumption that the knowledge surrounding the adoption and implementation of an

innovative practice is not objective, but socially constructed and dynamic, continually

negotiated by organization members (Aarons et al., 2011; Greenhalgh et al., 2004).

Organizational capacity. In addition to general structural and cultural features,

certain features of organization readiness or capacity for new technologies are

instrumental in successful implementation. First, the implementation of a new

technology is more likely to succeed if there is a good degree of compatibility.

Compatibility relates to how the intervention matches the adopters' values, goals, needs, skills, demographic, and cultural features. It assumes general agreement between organization administration and staff on meaning, values, and goals related to the intervention (Bhattacharyya et al., 2009; Damschroder et al., 2009; Greenhalgh et al., 2004). Compatibility also includes alignment between the innovation and existing skills, workflow, systems, and technological infrastructure of the organization (Greenhalgh et al., 2004).

Implementation of new innovations is at risk for failing if dedicated resources are not available, starting with adequate funding and ideally some slack resources at the disposal of the new program (Aarons et al., 2011; Damschroder et al., 2009; Feldstein & Glasgow, 2008; Fixsen et al., 2005; Greenhalgh et al., 2004; Mendel et al., 2008; Stith et al., 2006). Necessary resources include dedicated staff with needed skills and expertise (Damschroder et al., 2009; Feldstein & Glasgow, 2008; Fixsen et al., 2005; Mendel et al., 2008; Stith et al., 2006) and decision support data systems (Fixsen et al., 2009). Ongoing, training, coaching, and technical assistance are crucial resources for staff to administer interventions competently and with fidelity (Aarons et al., 2011; Damschroder et al., 2009; Durlak & DuPre, 2008; Feldstein & Glasgow, 2008; Fixsen et al., 2009; Fixsen et al., 2005; Greenhalgh et al., 2004; Wandersman et al., 2008). Glasgow & Emmons (2007) cite inadequate provider training for an innovation as one of the foremost factors in implementation failure. On site assistance, problem solving, and training that involves didactic skills with coaching and rehearsals seems to be the most effective method for staff training (Wandersman et al., 2008). Organizational access to knowledge and information about the new intervention and how to incorporate it into current work tasks,

combined with appropriate educational materials, metaphors and narratives, and

strategies for marketing to and training organizational subgroups increases the likelihood

of implementation success (Aarons et al., 2011; Damschroder et al., 2009).

Attitudes, beliefs and behaviors about an innovation. Attitudes, beliefs and

behaviors of administration, management, and staff regarding a new innovation can help

or hinder the implementation process. Successful implementation needs a degree of

organizational motivation. Perceived need for change, and more powerful, tension for

change, in which the current situation is viewed as intolerable by the organization, are

two factors that create motivation (Aarons et al., 2011; Damschroder et al., 2009).

Greater degree of relative priority to other organizational initiatives and projects is also a

factor in likelihood of implementation success (Damschroder et al., 2009). Potential end

users' perception of the legitimacy of the intervention, relative advantage (cost

effectiveness and advantageousness in comparison to alternatives), likelihood it will

produce results, and risk in implementing it all can affect adoption and implementation

positively or negatively (Damschroder et al., 2009; Durlak & DuPre, 2008; Fixsen et al.,

2005; Greenhalgh et al., 2004; Wandersman et al., 2008).

Leadership in promoting and supporting innovations is crucial as are majority

support in the organization, and key figures promoting it. The existence of an

organizational champion, a leader who provides support to the innovation and loosens

rules and boundaries to the benefit of the fledgling practice, fosters implementation

(Fixsen et al., 2005; Greenhalgh et al., 2004). Including staff early in all levels of change

planning and decision-making around an intervention implementation process, combined

with clear communication about the innovation and its goals and marketing of it,

facilitates the implementation process (Damschroder et al., 2009; Fixsen et al., 2005; Glisson & Schoenwald, 2005; Greenhalgh et al., 2004). It can be helpful to use a narrative approach when advocating for the implementation of a new intervention (Greenhalgh et al., 2004). In addition providers' perceptions about the innovation, including the need for it, the potential benefits, and the likelihood that the benefits will be delivered are an important driver in adoption (Durlak & DuPre, 2008).

Inter-organizational relationships. Features of inter-organizational relationships also affect the adoption and implementation of new technologies. Organizations with many connections and networks to other organizations, termed cosmopolitanism, have an easier time successfully targeting, adopting, and implementing innovations. Those who have many ties within an organization and also outside of it, called boundary spanners, facilitate this process (Damschroder et al., 2009; Greenhalgh et al., 2004). Inter-organizational social networks, such as informal provider networks, and their methods of handling information, contribute largely to absorptive capacity. Interpersonal influence through social networks can be a principal method for diffusing ideas; adoption of innovations by providers has the potential to be powerfully influenced by structure and quality of these networks (Greenhalgh et al., 2004).

Finally, qualities of inter-organizational interaction such as non-hierarchical relationships, shared decision-making, shared responsibility for completing important tasks among all organizations, open communication, mutual trust, and efforts to reach consensus when disagreements or stalemates arise facilitate implementation of interventions (Durlak & DuPre, 2008). The organizational promotion of collaboration and shared decision-making between providers, researchers, administrators and

community members was demonstrated in several studies to support implementation and sustainability (Durlak & DuPre, 2008).

Communities. Contextual factors affecting implementation of innovations in communities are similar to those of organizations. Community empowerment and social capital are also recognized as factors affecting implementation (Wandersman et al., 2008). Acquiring the perspective of the community in developing the implementation design can be crucial in effective implementation (Glasgow & Emmons, 2007). In community interventions, adequate community assets in the form of tangible resources, social infrastructure, and social capital can be deciding factors in whether an implementation of an intervention succeeds or fails (Feldstein & Glasgow, 2008).

Macro contextual factors. Macro influences primarily include those originating from care delivery systems and the larger sociopolitical environment. For example, the current political and funding environments, as well as the structure of the medical research cycle, favoring efficacy over effectiveness trials, affect the implementation process (Durlak & DuPre, 2008).

External mandates from government or systems entities can increase adoption and implementation of innovations, although if not accompanied by necessary increases in capacity of the organizations delivering them, are doomed to failure (Damschroder et al., 2009; Greenhalgh et al., 2004). The regulatory environment can effect implementation positively or negatively. For example, the Health Insurance Portability and Accountability Act (HIPAA) can inhibit information sharing necessary to the implementation of some interventions. Other regulatory requirements by government or other funders are a potential obstruction as well (Feldstein & Glasgow, 2008).

Availability of funding, affected by competing legislative priorities, and also level of competition for available resources by other organizations and projects, can inhibit or facilitate innovations as early as the exploration stage (Aarons et al., 2011; Feldstein & Glasgow, 2008;). Consumer-based and client advocacy organizations and initiatives have the potential to overcome the above obstacles, making it possible for patients to access innovations (Aarons et al., 2011).

Implementation Research

Implementation research is the scientific study of methods that facilitate movement of clinical research and EBPs into routine practice (Bhattacharyya et al., 2009; Proctor et al., 2009). Fixsen, and colleagues (2005) define it more specifically as, the study of how a specific set of activities and strategies are used to successfully integrate an EBP within specific settings. Sanders and Haines (2006) outline some the basic questions of implementation research: "What is happening in the design, implementation, administration, operations, services, and outcomes of programs? Is it what was expected or desired? Why is it happening as it is?" They explain that the two basic components of implementation research are impact research, trying to understand the process of putting research into practice, and intervention studies, which compare different approaches to implementing the changes.

Kessler and Glasgow (2011) describe the current health care environment as, "complex patients with complex problems, embedded in complex health care systems in complex and changing communities that require complex interventions embedded in changing socioeconomic-political conditions." They demand a research focus on chronically ill, multi-morbid patients in community settings, particularly applicable to the

health care safety net. There is a dearth of implementation research in the low-income settings from which safety net patients are sourced that addresses the "how" of translating current research knowledge into practice in local health and social systems (Sanders & Haines, 2006).

Health services researchers agree that implementation research is an embryonic, underdeveloped field, desperately in need of nurturing (Proctor et al., 2009; Sanders & Haines, 2006). Implementation research commands only a small sliver of health and mental health research funds. Effective interventions that are fully implemented produce good outcomes; however, research, to date, has been heavily weighted toward developing effective interventions (Fixsen et al., 2005).

Implementation research is beset by other challenges. First, it is complex because to capture the multiple levels affecting implementation and the interaction between the levels, multilevel designs and statistical methods must be employed, requiring methodological advances in the field (Proctor et al., 2009). The approaches to implementation research to date have relied heavily on case studies (Proctor et al., 2009) and cost-effectiveness studies (Sanders & Haines, 2006). Furthermore, in public health research questions have focused more on the why, what, where, and who of epidemiology, neglecting the "how" which would illuminate the process by which change happens (Sanders & Haines, 2006).

Researchers have various recommendations for what implementation research should focus on currently and how it should be studied. Proctor et al. (2009) suggest that we must study implementation outcomes in addition to intervention outcomes. They define the most salient intervention outcomes as intervention penetration within a target

organization, acceptability to and adoption by multiple stakeholders, feasibility of use, and sustainability. Contextual factors, particularly micro and macro, that shape implementation, have been neglected in implementation research. Attention to the various levels of individual, community, and particularly organizational and sociopolitical factors, with a focus on those that lead to success, is needed (Bhattacharyya et al., 2009; Durlak & DuPre, 2008; Glasgow & Emmons, 2007; Sanders & Haines, 2006).

Several implementation researchers have suggested specific components of implementation that should be singled out for study, including the implementation of each component of the intervention (Durlak & DuPre, 2008), threshold effects (i.e. dosage and fidelity) (Durlak & DuPre, 2008; Fixsen et al., 2009), and core components (the crucial mechanisms of action in an intervention) (Bhattacharyya et al., 2009; Fixsen et al., 2009). Fixsen et al. (2005) emphasize the importance of an ongoing systematic monitoring system, as implementation is not necessarily consistent over time. In addition, several researchers advocate employing patience to avoid a Type III error - evaluating a program that has not been fully implemented (Durlak & DuPre, 2008; Fixsen et al., 2005). Ultimately we need to know the mechanics of how health systems and other organizations that adopt EBPs function, as well as their readiness to absorb them for effective integration (Sanders & Haines, 2006).

There is widespread agreement that a shift in methods in health services research in general, and in implementation research in particular, is crucial to understanding the program delivery landscape and reducing the science to service gap. To that end, now is the time to employ mixed methods with much greater attention to qualitative methods

and convergent validity (measuring a concept by different methods produces similar

results) (Durlak & DuPre, 2008; Kessler & Glasgow, 2011; Sanders & Haines, 2006),

and participatory methods such as community-based participatory research (CBPR)

(Glasgow & Emmons, 2007; Proctor et al., 2009; Sanders & Haines, 2006). Many of the

most important decisions regarding EBPs are made by organization managers, clinicians,

and politicians. Therefore, the value and use of implicit knowledge, the judgment of

individuals, such as administrators and front-line providers, with extensive experience in

a particular area, needs to be elevated (Sanders & Haines, 2006).

Proctor et al. (2009) remind us that implementation of programs is needed in a

variety of venues, necessitating research on the effectiveness of implementation

processes in diverse practice settings. They also advocate for more attention to external

validity in the form of pragmatic clinical trials (PCTs) with heterogeneous and

representative patient samples, in which hypotheses and study design are based on

clinical decision-making in real practice settings, aimed ultimately at intermingling

research and treatment delivery (Fixsen et al., 2005; Glasgow & Emmons, 2007; Institute

of Medicine, 2001; Kessler & Glasgow, 2011; Lee, Altschul, & Mowbray, 2008; Roland

& Torgerson, 1998).

Research that can inform intervention developers and potential adopters about the

impact in core safety net settings of different recruitment and delivery options, delivery

staff, intervention intensities, and other contextual factors of implementation can aid low-

resource clinics and community health centers in the U.S. or other countries, given that

there are serious limits to the applicability of EBPs in such settings (Kessler & Glasgow,

2011). In addition, safety net organizations tend to be community-based with great

variation in patient populations, financing, and workforce (Institute of Medicine, 2000; Jones & Sajid, 2010). For example, there can be different ethnic populations, varied insurance mixes, and a lack of available medical specialists in safety net settings. This variation makes them less adaptable to one-size fits all models for implementation, particularly models that were developed based on insured populations and their medical settings.

One of the Institute of Medicine's major findings in its 2000 report, "America's Health Care Safety Net, Intact But Endangered," was that managed Medicaid's emphasis on evidence-based practice offers significant potential for improved health care for safety net patients, but implementation problems undermine this opportunity. The aim of this project was to meticulously study the implementation successes and failures in three specific core safety net programs to see how they are relevant to and reflective of current implementation models and research. The ultimate multi-faceted goal of this qualitative research project on implementation in these three programs is to identify what features have worked, ascertain the ongoing challenges, and apply the knowledge in thinking about future strategies to overcome or manage these challenges.

Chapter 2: Overall Research Design and Methods

The purpose of this project was to examine the processes of and influences affecting implementation of EBPs in core safety net health and mental health settings. The implementation of interventions in clinical settings is a complex process dependent on the mutual interactions of contextual factors on multiple levels: individual, organizational, institutional, systems, and the greater sociopolitical environment. The core safety net setting is laden with unique contextual factors that shape the implementation process. Qualitative research facilitates the understanding of processes within their contexts to ultimately generate theory about what is going on, or how things work (Miles & Huberman, 1994). Disentangling the complex processes of implementation and how they are affected by local contextual factors in core safety net settings and the systems, institutions, and greater environment in which they are embedded, demands qualitative methodology to probe deeply enough to accomplish this.

This researcher collected and analyzed qualitative data of administrators' and providers' experiences implementing three different evidence-based health and mental health interventions for complex patients in three core safety net settings (initially collected for the purpose of evaluation). Interviewing administrators and providers furnished an overview of implementation, the various forces affecting it that administrators can provide, and the deep, day to day, field and patient knowledge providers possess from front-line provision of interventions.

Evidence-Based Practices

Health Self-Management Intervention and Evidence

The first intervention, Health Self-Management, was a community-based, nurse led chronic care management for high risk, comorbid patients executed through the frameworks of motivational interviewing (MI) and the transtheoretical model of change. It was administered by an area agency on aging and disability. Chronic care management is a strengths-based model of consumer driven care (Morano & Morano, 2006). MI is a collaborative, person-centered form of guiding to elicit and strengthen motivation for change (Miller & Rollnick, 2009). The transtheoretical model of change is a set of common stages and processes of change that emerged concurrently with MI (Prochaska & DiClemente, 1998). Chronic care model interventions, from which this intervention was derived, have evidence of efficacy from many controlled trials for multiple chronic diseases. MI has a strong evidence base for helping patients navigate behavior change.

A 2005 meta-analysis of randomized and non-randomized controlled trials collected from systematic reviews published from 1998 to 2003, concluded that patients with chronic illnesses receiving interventions with at least one element from the chronic care model had better clinical outcomes, processes of care, and quality of life (Centers for Reviews and Dissemination, 2014; Tsai, Morton, Mangione, & Keeler, 2005). It was unclear if any of these systematic reviews included studies from core safety net settings. A meta-analysis of studies (RCTs, quasi-RCTs, non-randomized controlled trials, & cohort studies) (Centre for Reviews and Dissemination, 2014; Hettema, Steele, & Miller, 2005), and systematic reviews and meta-analyses of RCTs (Burke, Arkowitz, & Menchola, 2003; Centre for Reviews and Dissemination, 2014; Rubak, Sandaek,

Lauritzen, & Christensen, 2005) all concluded that there is strong evidence that MI helps

prepare patients for addiction and health behavior changes. A very small minority of

studies included in these three meta-analyses and systematic reviews were specifically

tested in core safety net settings.

Problem Solving Treatment Intervention and Evidence

The second intervention, the Problem Solving Treatment, was a problem solving

therapy for depressed elderly clients receiving services from an area agency on aging and

disability. Problem solving therapy is a skills enhancing behavioral depression treatment

(Mynors-Wallis, 2002). Two meta-analyses of RCTs of problem solving therapy report

evidence of efficacy in treating depression (Centre for Reviews and Dissemination, 2014;

Cuijpers, van Straten, & Warmerdam, 2007; Malouff, Thorsteinsson, & Schutte, 2007).

Malouff et al. (2007) found evidence of effectiveness not just for depression, but mental

and physical health problems in general. It was not clear in either of these meta-analyses

whether any of the studies included took place in core safety net settings.

Shared Health Plan Intervention and Evidence

The third intervention, the Shared Health Plan, was an electronic personal health

record (PHR) for chronically mentally ill clients at a community mental health clinic.

PHRs, in which patients can access their medical records and actively participate in their

care, are a relatively new innovation. Although there is evidence of improvement in

diabetes management, overall results are mixed. A systematic review of RCTs, cross-

sectional surveys, case-control studies, cohort studies, and qualitative studies, published

between 1990 and 2013 was undertaken by Goldzweig et al. (2013). Almost half of the

studies were RCTs, the majority took place in academic medical centers, and only one of

approximately 70 studies took place in a core safety net setting. The review concluded

that although patients were generally positive about participation in PHRs, in general

there was not enough evidence yet to support them improving health outcomes. There

was evidence for improving diabetes management, and also evidence that the secure

messaging component of PHRs is of value only in a larger web-based program, like the

Shared Health Plan in this study (Centre for Reviews and Dissemination, 2014;

Goldzweig, et al., 2013). A comparable review by Tenforde, Jain, & Hickner (2011)

arrived at similar conclusions.

This study posed the following questions for each EBP implementation:

1. What are the processes of implementation of evidence-based practices in
   core safety net settings?

2. What are the factors influencing implementation in core safety net
   settings? How do these factors influence implementation?

3. How are these processes and influences similar or different to those in
   settings on which current implementation theories and models are based?

4. How could current frameworks be modified, or do novel ones need to be
   developed for these settings?

5. What future research, policy and practice should be considered for
   implementation of EBPs in core safety net settings?

Sampling

In each study stratified purposeful sampling was employed to recruit a mix of

individuals performing each of the various roles in the implementations of the

interventions. These included administrators and clinical staff members of the

organizations implementing the interventions and their partner organizations. The

studies, Health Self-Management, Problem Solving Treatment, and Shared Health Plan

had 15, 33, and 21 research participants respectively.

Data Collection

A combination of individual interviews and focus groups were conducted by this researcher with the participants in each study. Focus groups, which are typically used to take advantage of communication between research participants (Kitzinger, 2006), were chosen for the clinical staff in all three studies, and for administrators in one study, for that purpose. They helped stimulate discussion and novel ideas among the homogeneous groups of professional providers at the same organizational level (no hierarchy) who were performing the same tasks and had identical roles in the process of delivering and implementing the intervention. Focus groups were also chosen for practical reasons. Clinicians had very heavy caseloads, making it difficult for them to schedule time for individual interviews, so the groups were often scheduled during or close to regular staff meeting times. Semi-structured interview guides in all three studies focused broadly on facilitators and challenges to implementing the intervention, using open-ended questions. All interviews and focus groups were audiotaped and transcribed verbatim in two of the studies, Health Self-Management and the Problem Solving Treatment. The third study, the Shared Health Plan, utilized an interviewer and a note taker.

Data Analysis

Grounded theory, the specific methodology used in this project, is an inductive method of building theory about processes from the ground up, rooted in the data (Corbin & Strauss, 2008; Hansen, 2006; Bernard & Ryan, 2009). In each study open coding for themes, without employing a priori codes, was accomplished by analyzing each interview transcript line by line, using constant comparison, a process through which each piece of data is compared and contrasted with other data to build a conceptual understanding of

categories (Corbin & Strauss, 2008). Subsequently, axial coding was employed to group initial codes into higher order themes and construct a larger theoretical framework. Theoretical memoing, a technique to track developing ideas and categories, and gradually develop theory, was central to this process (Corbin & Strauss, 2008). Atlas.ti software was employed in the analysis of each implementation.

After analyzing the data from each study separately and drawing conclusions from the implementation of each intervention, the results were viewed together to identify similarities and differences in the influences affecting implementation across all three data sets. The three projects implemented similar types of interventions targeted at physical and mental illness in similar vulnerable safety-net patient populations and were all delivered in core safety net health care settings, so looking at them together served to strengthen conclusions of individual studies and add a greater degree of generalizability.

Contextual factors that figured prominently in the implementation of all three studies, as challenges, benefits, or both, served as the basis of conclusions about potential significant influences in implementation in core safety net settings. These results are intended to serve as a partial foundation for the development of implementation theory and models tailored to these settings, ultimately fostering the successful implementation and provision of more state-of-the art, evidence-based interventions for the most vulnerable patients.

Limitations

There were several limitations of this study, overall. What was gained in specificity was lost in generalizability due to small sample sizes and lack of breadth in the types of core safety net populations, interventions, and settings. Second, the data in

each study was initially collected for the purpose of evaluation so secondary analysis was conducted for this project. This prevented theoretical sampling, usually employed in the method of grounded theory. Third, funders, who were reported to be active in the implementation process, were not included in the interviews, nor were patients, whose issues powerfully affected implementation. Fourth, despite being briefed on confidentiality, there was a chance that peer focus group participants in all studies were not forthcoming or candid due to interpersonal issues, organizational politics, or the potential consequences of sharing information and opinions in the presence of colleagues. Fifth, this researcher's dual role as a researcher and front line core safety net clinician might have created some unintended bias.

Chapter 3: Health Self-Management Implementation

The Health Self-Management intervention (not its real name) aimed to improve the health care quality and reduce expenditures for Supplemental Security Insurance (SSI) recipients with co-occurring medical diseases, and mental illness and/or chemical dependency. The intervention was administered by an area agency on aging and disability in collaboration with a county medical center, and several community health centers. It was funded by a state government entity.

The intervention was nurse-led chronic care management executed through the framework of motivational interviewing (MI) and the transtheoretical model of change. Chronic care management is a strengths-based model of consumer driven care (Morano & Morano, 2006). MI is a collaborative, person-centered form of guiding to elicit and strengthen motivation for change (Miller & Rollnick, 2009). The transtheoretical model of change is a set of common stages and processes of change that were identified from existing theories of therapy (Prochaska & DiClemente, 1998). It emerged concurrently with MI, providing it with the construct of "readiness to change" (Rollnick & Allison, 2004).

Each patient worked with a nurse care manager to medically stabilize, establish a medical home with one of the community health system partners, coordinate their various medical providers (included the nurse care manager accompanying patients to appointments), and learn about their chronic illnesses, all for the ultimate goal of effectively self-managing their health, and consequently reducing morbidity and state costs. At the completion of the program they were transferred from their nurse care managers to clinic care coordinators (health educators or social service professionals) at

their medical homes (community health clinics) to aid them in sustaining the changes

they had made.

The original purpose of the data collection for evaluation was to inform a

descriptive analysis of the intervention and how its implementation unfolded and changed

over time, including benefits and disadvantages to patients, facilitators and challenges to

implementing the program, and strategies to overcome challenges.

Research Design and Methods

Sampling

Stratified purposeful sampling was employed to recruit a mix of individuals

performing each of the various roles in the implementation of the intervention. These

roles included program administrators, aging and disability agency staff clinicians hired

for the intervention (nurse care managers and social workers), and community health

clinic providers (clinic care coordinators and primary care providers). The 4 program

administrators, which included the Medical Director, Clinical Nurse Supervisor, and 2

aging and disability agency administrators were invited to complete individual

interviews. All 4 administrators agreed to participate. The Clinical Nurse Supervisor at

the aging and disability agency gave the nurse care managers and social workers the

option of participating in focus groups by discipline. The 3 nurses and 2 social workers

implementing the intervention all agreed to participate.

The program Medical Director identified several partner clinic care coordinators

and primary care providers from the 4 partner community health clinics for potential

participation in individual interviews based on their known exposure to the program

being implemented. He introduced the candidates to this researcher, who approached

them about being research participants. Three clinic care coordinators from 3 different clinics and 3 physicians from 2 different clinics were recruited to participate in individual interviews. They all agreed to participate. Overall, a total of 15 individuals agreed to participate in the research.

Data Collection

Ten individual interviews and 2 focus groups were conducted with the informants. A total of 15 individuals participated: 4 administrators; 3 clinic care coordinators, and 3 clinic physicians in individual interviews; 2 social workers in a group interview, and 3 nurse care managers in a group interview.

Focus groups, which are typically used to take advantage of communication between research participants (Kitzinger, 2006), were chosen for the social workers and nurse care managers for that purpose. They helped stimulate discussion and novel ideas among the homogeneous groups of professional providers at the same organizational level (no hierarchy) who were performing the same tasks and had identical roles in the process of implementing and delivering the intervention. There was, however, the risk that participants held back information due to interpersonal issues or organization politics, and that the more in-depth information potentially garnered in individual interviews was forfeited due to volume of participants and limited time.

Focus groups were also chosen for practical reasons. Clinicians had very heavy caseloads and spent large amounts of time out in the field, making it very difficult for them to schedule time for individual interviews. Scheduling focus groups at times when they were all in the office (i.e. when regularly scheduled staff meetings took place) was an efficient way to interview all of them. However, if clinicians preferred not to

participate, having focus groups scheduled at a time when they were already obligated to be at the agency might have made it more difficult for them to decline.

The interviews and focus groups were conducted at the participants' respective places of employment in private offices or rooms. They were conducted by this qualitative researcher. The semi-structured interview guide (Appendix 1) focused broadly on facilitators and challenges to implementing the intervention using open-ended questions. All interviews and focus groups were audiotaped and transcribed verbatim. Interviews ranged from forty minutes to two hours, with majority of the interviews taking approximately one hour.

Data Analysis

Grounded theory, an inductive method of analysis used to develop or modify theories about how things work by grounding them in empirical data (Corbin & Strauss, 2008), was used as the framework for this analysis. Open coding for themes, without employing a priori codes, was accomplished by analyzing each interview transcript line by line, using constant comparison, a process through which each piece of data is compared and contrasted with other data to build a conceptual understanding of categories (Corbin & Strauss, 2008). Subsequently, axial coding was employed to group initial codes into higher order themes and construct a larger theoretical framework. Theoretical memoing, a technique to track developing ideas and categories, and gradually develop theory, was central to this process (Corbin & Strauss, 2008). Atlas.ti software was employed in the analysis.

Limitations

There were several limitations to this study. What was gained in specificity was lost in generalizability due to small sample size and lack of breadth in the types of core safety net populations, interventions, and settings. Second, the data was initially collected for the purpose of evaluation and secondary analysis was conducted for these studies. This prevented theoretical sampling, often employed in the method of grounded theory. Third, funders, who were reported to be active in the implementation process, were not included in the interviews, nor were patients. Fourth, despite being briefed on confidentiality, there was a chance that peer focus group participants were not forthcoming or candid due to interpersonal issues, organizational politics, or the potential consequences of sharing information and opinions in the presence of colleagues. Fifth, this researcher's dual role as a researcher and front line core safety net clinician might have created some unintended bias.

Results

The overarching theme was the assertion of all groups of research participants that the implementation and administration of this program was almost miraculous considering many seemingly insurmountable challenges in multiple domains, from individual patient characteristics to systems barriers. However, certain facilitating factors, mostly related to exceptional attitudes and behaviors of administrators, staff, and all partners in the project propelled it, as this administrator illustrates.

> "On the ground, it's almost impossible, really. The barriers that the clinical team runs into out at the clinics and the stresses the clinics are under are enormous but because we have the leadership we're able to come together as a group and kind of work through problems." - Administrator

Research participants identified challenging and beneficial influences on micro, mezzo, and macro levels that impeded or aided their ability to implement the program. In addition, features of the intervention itself affected implementation.

Challenging Influences

Features of the intervention, such as inadequate program length and primary focus on medical problems created significant obstacles to implementation. On the micro level participants mentioned patient characteristics, such as burden of illness, socioeconomic distress, and language and culture as impediments to administering the intervention. They also described beliefs, attitudes, and behaviors of patients (beliefs about health care and poor compliance) and providers (disparaging attitudes about and treatment of patients) that created barriers to implementation. Mezzo level challenges included organizational, inter-organizational, and programmatic influences, including technological barriers, staffing challenges, and inter-organizational relations. On the macro level, barriers in community health system, chemical dependency and mental illness treatment availability, and health information legislation were identified by research participants as particularly stubborn challenges.

Challenging intervention influences. Several factors related to the intervention and its degree of congruence with the patient population presented challenges to implementation. Although much more attention is paid in the literature to compatibility between organizational features and innovations, a good fit between the unique characteristics of the patient population and intervention is a crucial facilitator of implementation (Feldstein & Glasgow, 2008; Stith et al., 2006), as is patient

centeredness. Designers of patient-centered interventions take into account patient needs, capabilities and well being (Feldstein & Glasgow, 2008).

Certain features of the intervention - program length and medical focus - were not commensurate with the very ill, multi-morbid, socioeconomically disadvantaged population of participating patients and the primary program goals of medical stabilization and self-management. The program length also fell short of being patient-centered in that there was concern they actually might be causing distress to patients by precipitously dismissing them from the program just as they had begun to trust clinical staff.

Program length. The program began as a 6-month intervention. Nurses described this as being "woefully inadequate to working with this population" and expressed concern that they were "dropping them on their heads" at the end of the 6 months, and "doing more harm than good." A clinic care coordinator explained that 6 months might be "just enough to sometimes get them established, getting housing situations worked out, kind of more social work issues and just survival skills and getting them stabilized to a point that they could get health education and care." The length was changed to 12 months, but clinicians still expressed concerns about what they could actually accomplish considering the complexity of the patients, and the levels of potential benefit and harm they were doing in a relatively short period of time. Clinicians specifically worried they were doing a "disservice" creating dependency when they had to cut patients off at 12 months. Nurses explained, "Often times they don't want to graduate from the program because they feel like they've been helped and supported," and express, 'You're the only one that's helped me over the last 20 years.' and they see

that as a lifeline." A clinic care coordinator stated that the patients were not always able to "emotionally detach" and often felt like "they were being shuffled off again."

Focus on medical. The intervention was designed to address physical disease in an attempt to stabilize the patients enough that they could begin to learn about their illnesses and acquire skills to manage their own health. Nurse care managers were tasked with getting patients the care they needed, coordinating the their providers, providing them with the relevant tools (e.g. glucometers for diabetics), educating them about their illnesses, and teaching them the skills to self-manage them. The physical disease focus of the intervention was a set up for failure because the high level of psychosocial and socioeconomic instability of the patient population prevented them from engaging in the core of the intervention. Many of the patients had mental illness, chemical dependency, and severe deficiencies in basic needs, such as homelessness, that needed repair before management of their medical illnesses could be at the forefront. Fortunately, the administrators and staff realized this early on and expanded the program and staff (adding social workers) to address these issues.

Challenging micro influences. Demographics, disease burden, needs, and environments of intervention recipients can be instrumental in impeding implementation (Damschroder et al., 2009; Feldstein & Glasgow, 2008; Stith et al., 2006). The severity and multi-morbidity of patients' physical and mental illness profiles, as well as their dire socioeconomic circumstances, presented almost insurmountable challenges in the implementation of the intervention.

Micro contextual factors adversely affecting implementation consisted of characteristics of patients' health (high complexity and vulnerability, comorbid mental

illness and chemical dependency), socioeconomic stress, as well as their beliefs, attitudes

and behaviors (lack of trust in health care system, belief in the medical model, and

religious faith). Shaming and judging attitudes and behaviors toward patients by clinic

providers were also elements affecting the administration of the program.

   Complexity and vulnerability. The universal adjectives ascribed to patients in the

program were "complex" and "high risk." Participants described "complex" as a bundle

of patient health and socioeconomic challenges that created exceptionally vulnerable

patients, described by program administrators as "people society really ignores" and the

"sickest, poorest people." Patients' complex situations and vulnerability made it difficult

to successfully administer the intervention in many cases.   Research participants

described the challenges that patients' extreme co-occurring health and socioeconomic

situations created in fulfilling basic requirements of a program aimed at achieving

program goals of health stabilization and health self-management.

> "They're the lost and forgotten people. Because their situations are so complex, I think for a very high functioning person it would be difficult and for them it's impossible." - Clinic Care Coordinator

> " … patients that are on it seem to have very complex social situations, struggle with addiction, alcoholism, drugs, homeless and poor living situations, so that makes the complexities of their chronic care even worse. Even though they might not be incredibly complex care problems, they are because of their social context." - Clinic Physician

> "This population is so different from let's say you and I and how we access medical care. They're just way sicker with chemical dependency and mental health and that just adds so many layers." - Program Administrator

Specific patient issues related to health such as comorbidity, medical instability,

illness severity, physical disability, and active chemical dependency and mental illness

were identified as challenging to effectively implementing the intervention. A program

administrator reported that the program patients had the highest "risk scores" in the

Medicaid population and explains they were "eating up huge amounts of money but also

really, really sick." A subset of these very ill patients was extremely difficult for the

program clinicians to engage in the intervention. A nurse care manager explained,

> "Some people just say, 'You know, I really like you but I'm just so sick.' I mean they're going to medical appointments, medical appointments. They really can't do anything on a self-care goal besides just go to medical appointments and take care of themselves." - Nurse Care Manager

A program administrator characterized the comorbidities of program patients as follows,

"These patients have more. They have diabetes but they've got chemical dependency,

depression, and hypertension and congestive heart failure." Participants explained that

comorbidities are accompanied by having multiple primary and specialist providers, who

are often not communicating with each other, as well as numerous appointments and

medications that are challenging for patients to manage. Diseases mentioned in the

interviews included both chronic illnesses such as hypertension, as well as acute

conditions, such as cancer, and disabilities, such as cognitive deficits. Cognitive

impairment, like symptoms of mental illness and chemical dependency, presented unique

challenges to program clinicians in engaging patients to actively and effectively

participate in the program.

Mental illness and chemical dependency. Symptoms of mental illness and

chemical dependency hindered patients from fully participating in the program. Research

participants mentioned multiple mental illnesses that made it difficult to effectively

engage patients in the intervention, including personality disorders and posttraumatic

stress disorder. They described that the most obstructive symptoms for patient

engagement were those of psychosis, such as hallucinations and delusions, particularly

paranoid delusions. Paranoia and other delusions prevented any kind of baseline trust

needed to form a clinician-patient partnership, as illustrated in the following example

from a clinician.

> "There's this lady that's talking about the child that she's pregnant with and she's
> obviously not pregnant, and she's off in this other place in the world and can't be
> re-directed back to reality." - Nurse Care Manager

Other difficulties with mental illness were related to mismanaged, ineffective, or

inadequate treatment, or patient noncompliance with treatment, as described in the

following situation,

> "I had one client that was engaged with mental health in one institution and
> primary care at another, and he was getting a fairly high dose of Adderall and
> amphetamines from his mental health provider. He felt that it was totally
> inadequate to treat his unique condition … in the first two weeks of the month, he
> would take all of his prescribed amphetamines and he would stay up 24 hours a
> day." - Nurse Care Manager

Chemical dependency hindered the ability of patients to participate effectively in

several ways. First, actual effects of intoxication or withdrawal from substances

prevented patients from engaging even in brief encounters or communications with

program staff. Clinicians mentioned making engagement calls to patients and receiving

responses from them in slurred speech from alcohol use or trying to interview them when

they were drug-affected. Second, patients who were actively engaged in maintaining an

illicit drug habit were impossible to consistently track down as explained by a nurse.

> "They'll go out on a run and they'll go under the radar for weeks or months at a
> time and so you just have to keep trying to contact and know that they're going to
> surface again." - Nurse Care Manager

Third, getting clean and/or sober was often a program goal of patients, but as one nurse

described them, "They're one step forward, two steps back." The combined nature of the

program patients' tendency to make progress and then regress, and the characteristic

cycle of recovery itself, of which relapse is a part, made it likely that these issues did not completely diminish, even for patients who were successfully pursuing recovery.

Socioeconomic influences. Patients' medical and mental health issues clearly presented challenges to administering the intervention, but their socioeconomic problems posed additional hurdles and further complicated their health issues. Unstable housing and homelessness, unreliable transportation, lack of consistent access to phones, incarceration, and absence of social support kept them in survival mode and made it difficult to fully engage in the intervention.

All categories of research participants explained this challenge by referencing Maslow's theory of hierarchy of needs, explaining that the patients had to put so much effort into sheer physical survival that there was no time to effectively participate in the intervention. This was such a significant problem that after the program started, the intervention was expanded to add a heavy focus on addressing psychosocial issues. Time to complete the intervention was also lengthened to stabilize patients' non-medical issues to free them up to work on primary program goals, medical stabilization and self-management. Two clinicians illustrate these obstacles.

> "Yeah, the, the usual barriers like transportation, housing is another one, just all those things at the bottom of Maslow's hierarchy." - Clinic Care Coordinator

> "We very often meet them at the survival level. So that's just really trying to get basic needs met. You can't even take care of their health needs because they do not have housing, maybe, you know there might be other problems that are preventing them for doing that." - Nurse Care Manager

Housing instability, including homelessness, was mentioned as the biggest psychosocial challenge to administering the program effectively. Without reliable housing, patients, almost all of whom had serious, comorbid illnesses, did not have the

physical or emotional resources to focus on improving their medical status. A social worker with a diabetic patient who had cancer questioned, "How can they manage their diabetes? How can they manage their symptoms of cancer treatment if they don't have a home?" Even those patients who had stable housing often did not have access to a car. Relying on public transportation often made it difficult to get to appointments, particularly if they were very ill, or lived outside of Seattle and had to take more than one bus.

Deficiencies in consistent, reliable housing, transportation, and phone access, in addition to making it almost impossible for patients to sufficiently take care of their health, made it challenging for program clinicians to connect with them. Incarceration and hospitalization presented similar problems in simply tracking down the patients to engage in the intervention. One nurse case manager spoke about one of their roles being that of private investigator.

> "Yeah, we feel like PIs, little private investigators, like 'Where are you today?' … I have this image of a fly-fishing pole, trying to get them on the line, particularly when they're wandering around the county. You get these calls and they are just all over the place." - Nurse Care Manager

Other research participants addressed the problems unstable housing and phone access cause in keeping regular contact with patients.

> "Lot of couch surfing so, I got one older lady that, she's been kicked to the curb, and at all the kids' houses and it's really hard to keep up with her."
> - Nurse Care Manager

> "They all have cell phones and we can't get a hold of them for certain times of the month … they run out of minutes. Depending on how quickly they use their minutes, it can be weeks before you can get a hold of them again. I think the latest, you know, they lose their cell phones, they break their cell phones, they don't have any minutes, they change their numbers, they lose, they… I mean it just goes on and on." - Nurse Care Manager

Language and culture. Language and cultural differences between the program

staff and patients also created problems in implementing the program. Patients with

limited English language proficiency had a difficult time with the lengthy assessment.

Divergent cultural health concepts and practices also posed challenges, particularly in

administering assessment questions. Clinicians needed enough cultural literacy to be able

to engage some patients in the intervention by introducing health concepts from patients'

cultures. For example, one social worker offered that she referenced curanderas and

home remedies to certain patients before mentioning the medical component of the

intervention. A social worker illustrated the challenge to bridging health concepts in

different cultures with the following example.

> "I think for a lot of minority communities the depression section of the
> assessment is always a challenge. Even with my language, with speaking
> Spanish, it's very difficult … because it doesn't exist, those words, languages,
> sentences, in Mexico or Latin America … You know, like for example, Are you
> feeling blue today? Wait, like, I'm not blue. You know?" - Social Worker

Patient trust. Patients' beliefs, attitudes, and behaviors were also a barrier to fully

and effectively implementing the intervention. Research participants explained that the

patients were often reluctant to trust anyone in a position of authority due to negative past

experiences with childhood trauma, law enforcement, and health care. The patients

needed significant amounts of time as one administrator described it, "to develop that

relationship and the trust with the person before they cough up very personal

information." This created a very tough situation for implementation considering the

severity of patient experiences that created the distrusting attitudes, the relatively short

length of the program, and the large caseloads of the program clinicians. This struggle

began at the initial engagement when patients were contacted and the "City of Seattle"

showed up on the caller ID, immediately triggering patients' trust issues. Many patients

typically thought the caller was the police or a bill collector, and declined to engage as a

social worker explained.

> "I'm certain that she thought I was a bill collector and that's why I told her one
> day, I said, I'm not a bill collector. Because she would tell me, 'Oh, she's no
> here.' and I know in my heart of hearts that I was speaking to her every time …
> They see the City of Seattle pop up on their caller ID and it's like, what is this?
> Why is the city calling me?" - Social Worker

Many program participants expressed the belief that the patients saw them as "big

brother or big sister", or "another agency that's making them go through all these hoops

then they feel like they're not interested." In addition, despite the benefits of the

program, according to research participants, some patients perceived the clinicians'

access to lots of health and other information about them, and their ability to forge

connections between their multiple providers as undesirable. Having the "big picture"

could lead to discovery that patients were "working the system." A nurse care manager

explained the dilemma.

> " … just talking to the doctor you can get a lot more information and just through
> the information system that we have. We can find out a lot about you and put
> things together, put the pieces of the puzzle together to find out things and find
> out that you're using the system in an inappropriate way." - Nurse Care Manager

Medical model and religious faith. Another belief of some patients related to

ideas about authority figures that hindered implementation of the intervention was a

belief in the Western medical model. Older patients were more likely to heavily

subscribe to this model. The core of the intervention was self-management of one's

health, whereas the Western medical model is hierarchical, placing the doctor as an

authority figure over the patient. This belief presented a problem in motivating some

patients to take charge of their own health, not only because they saw the physician as the

expert and therefore did not have the confidence to do so, but because they thought taking

care of their health was the doctor's job. A nurse clarifies this challenge.

> "Living down the medical model. Some of them are steeped in the medical model
> and they believe that's the way it should be, so change, yeah, well that's the
> doctor's job." - Nurse Care Manager

Similarly, religious beliefs of some patients, seeing god as an all powerful

authority figure, also interfered with motivating patients to take responsibility for

improving and managing their own health in a similar way as the medical model, as

explained by this nurse.

> "Culture plays a lot into that medical model too I think. It's in doctor's hands or
> it's in God's hands and they don't really want to work towards making
> themselves, you know, in control of their own health. So Doctor, God."
> - Nurse Case Manager

Patient compliance. Finally, patient non-compliance with treatment, including

failure to take medications as prescribed and attend appointments, made it difficult for

them to engage in the intervention. This behavior was due to unwillingness or

environmental factors beyond their control, such as homelessness or lack of

transportation.

Clinic provider beliefs, attitudes, and behaviors. Characteristics of intervention

providers that have been shown to facilitate implementation fall into two domains. The

first includes baseline demographics and assets of providers, such as educational level

and race/ethnicity, requisite professional skills (Durlak & DuPre, 2008; Fixsen et al.,

2009; Fixsen et al., 2005; Wandersman et al., 2008), and psychological traits, such as

tolerance for ambiguity and propensity to try new things (Aarons et al., 2011;

Damschroder et al., 2009; Greenhalgh et al., 2004). The second includes providers'

beliefs, attitudes, and behaviors regarding the intervention, such as belief in the

legitimacy and potential efficacy of the intervention and high fidelity behavior

(Damschroder et al., 2009; Durlak & DuPre, 2008; Fixsen et al., 2009; Fixsen et al.,

2005; Greenhalgh et al., 2004). A unique factor rarely mentioned in the implementation

literature, providers' beliefs, attitudes, and behaviors regarding patients, was cited as a

significant obstructive influence to implementing the intervention.

Program staff not only identified beliefs, attitudes, and behaviors of patients that

influenced implementation, but those of certain partner community health clinic

providers as well. Nurses and social workers described the "shaming," "judging,"

"scolding," and authoritarian attitudes and behaviors of some clinic providers as

impediments to implementing the intervention. These beliefs, attitudes, and behaviors

were directly opposed to those promoted and adhered to by program clinical staff. They

scared patients away and kept them from engaging. Program clinicians referred to

patients being "mistreated" and "discounted" by providers in some instances. A nurse

care manager gave this example of attitudes and behaviors that were obstructive to

administering the intervention.

> "They took this idea of high utilization. 'What? My client's a high utilizer? I told
> them not to go to the ER!' Now, real strong shaming judgments, and some very
> delicate ground that we walk on I think with them. Because, I've actually seen
> them scold their patient or say to me, 'I'm going to talk to that person.'"
> - Nurse Care Manager

Another nurse described the authoritative nature of some clinic physicians that

undermined patients' confidence and impeded the sense of empowerment the intervention

was trying to nurture.

> "We have to work on the doctors too and a lot of times the doctors, you know,
> they're doctors. 'We know everything.' And they do pass a lot of judgment onto
> these people and they have their own agenda for their clients when they walk in
> the door. You know, diabetic, you have these problems, all these things, this is

what I want to work on. And the client wants something else, so you're just trying to, you know, they get frustrated and they don't want to go back."
- Nurse Case Manager

Program clinicians communicated how much work they have to do with providers to try to extinguish these unhelpful attitudes and behaviors, and also how much reparation they engaged in with patients when these attitudes and behaviors demoralized and discouraged them. A nurse care manager explains how hard this was.

"Individual provider attitudes are huge. They make a huge difference if you have judging, shaming. That can come from any area, from providers, including their own mental health and CD counseling. You know, you're working on, they've gotten to the point of getting to this very difficult issue for them, and bam, you know, they're just kind of, shot down I guess. So then you're building them up again. That's very difficult." - Nurse Care Manager

Challenging mezzo influences. Mezzo level factors adversely affecting the implementation of the intervention included organizational, intra-organizational, and inter-organizational resources, practices, and cultures. These included challenges with program technology, incommensurate staffing and workload, difficulties in communication and relationships with partner organizations, and inadequate education of community health clinic providers about the program.

Technology. Existing effective technological and data system infrastructure in organizations, as well as intervention specific technology and data systems, are important for effective implementation (Feldstein & Glasgow, 2008; Fixsen et al., 2005). There were several challenges in implementing the program due to lack of intervention specific resources in these areas. Research participants universally complained about the inadequacy of and problems with the program data system. The nurses and social workers described their inability to remotely access the database while working in the

field as an obstacle that made their jobs administering the intervention significantly more difficult.

Administrators described the data system as inadequate in scope. One participant explained that the system was very basic, allowing minimal information about patients to be put in, and allowing only some of that information to be extracted. This administrator lamented over the limitations of the system and its lost potential.

> "There's so much I track outside because our system doesn't do it and I don't want to get into all of the details because we've just had some real, real problems but there's so many neat cool things that if you are asking all these questions and you are tracking all these contacts, there are really cool things you could do to help facilitate." - Administrator

In addition, the data system was not integrated with the electronic medical records of all the various partner community health clinics, so program clinicians and clinic providers had to exercise much more effort and some creativity to communicate changes in patient status. As one clinic care coordinator explained, communication about patients, even between the program staff and clinics that actually had access to the data system, was challenging because it had no mechanism alerting users to messages. This made it necessary for providers and program staff to do the extra work of making phone calls in addition to inputting new information.

Besides limitations in scope and technical hindrances, the data system had some major setbacks. At one point in time, major amounts of data, including patient assessments completely disappeared from the system. Although the data was retrieved, it took some time to do so, and then catch up with the new data that had been collected during the troubleshooting period.

The most troublesome difficulty with the data system was the vision for and design of it never materialized due to sheer failure on the part of the contractor to deliver the product in a timely fashion. An administrator explained at the time of his interview that the contractor was behind a year at that time in the delivery of a second, improved version of the data system.

Some of the nurses and social workers described hours of extra work they had to do because they often had no remote access on laptops when working in the field. Instead of putting in information while actively engaged with patients, they had to record it on paper and then go back to the office and input it into the computer. A clinician explained that the server only allowed a certain number of people on at a time, so you could be "knocked off" and your session terminated. This problem worsened when the system suddenly discontinued notifying users when the termination happened making it necessary to go to the office and check which information actually made it into the data system from the field. An additional problem was that the practice of bringing laptops to the field was rescinded due to the nature of the environments and perceived risk of theft or damage.

Staff Challenges. Although program administrators designed the implementation of the program with the resource of a dedicated clinical staff who did not have any competing responsibilities, which is noted to facilitate implementation (Aarons et al., 2011; Damschroder et al., 2009; Feldstein & Glasgow, 2008; Fixsen et al., 2005; Mendel et al., 2008; Proctor et al., 2009; Stith et al., 2006), they did not plan for adequate staff to handle the workload, also a significant factor in effective implementation (Greenhalgh et al., 2004). In addition, cases were not distributed in an efficient, timely manner. They

also failed to plan for inevitable staff turnover, known to be destructive to smooth

implementation (Durlak & DuPre, 2008; Greenhalgh et al., 2004), as was the case with

this project.

Caseload. Nurse care managers and social workers expressed difficulty in

implementing the intervention due to a variety of factors primarily resulting from

unmanageably large caseloads distributed in an unsystematic, uneven manner. Nurse

care managers explained that their average caseload was 50-60 patients but it had gone up

to 80-90 patients at times. One nurse manager described her ideal, given the population

enrolled in the intervention.

> "… to get this kind of engagement you need to work on things with folks and to
> keep in contact with all of them. Personally, my ideal would be 35 because while
> it is care management, not case management, as I say, we get these incredibly,
> intense needs of providers, clients …" - Nurse Care Manager

Another described this incongruence between the intervention, caseloads, and "high

intensity, complex" patient population, seemingly contradicting herself about the level of

intensity of the intervention and the ideal caseload for the population.

> "The highest I've had was 90 and that was impossible. Really, an ideal load is
> around 50-60. I feel the need to keep letting people know that this is not intensive
> case management. If we were intensive case mangers, we would have, a load of
> 15, like the case managers in the county hospital at the ED because that's the type
> of clientele that we're working with for the most part." - Nurse Care Manager

This point of view was not unique to the program clinicians. Program administrators

recognized the mismatch between the caseload burden and the tremendous needs of the

patients enrolled in the intervention. An administrator gave his assessment of the

situation.

> "There's just not enough of a care manager to go around. They manage. You
> have seen what some of these clients look like clinically and their caseloads now

are over 60. So you know I wouldn't be surprised if sometimes it takes them a little longer to get back to somebody than they would want." - Administrator

Work flow. Aggravating the strain of heavy caseloads was the manner in which

new patients were assigned, described by a social workers as "feast and famine" due to

the totally unsystematic distribution of new patients. Nurses and social workers

described lulls of receiving relatively few patients and then being bombarded with up to

40 patients at a time, with one offering, "Twenty is tough." A nurse care manager

described how unfeasible receiving this many new patients was to administering the

intervention.

> "Because you get a large group like that and you're told you need to make contact with all those people in two weeks and get home visits scheduled in a month. It's impossible. I mean, it's taken several months to even get a hold of that last group of people." - Nurse Care Manager

A result of the impossibility of this situation was serious discouragement and frustration

of the clinicians, as articulated by this clinician.

> "I think we all got… there was one week where I got 40 new clients in one week. I have to tell you, that was like, I'm a hard worker and I'm really good at multi-tasking, being remarkably efficient, but that was overload and it was very demoralizing. I just wanted to like, find another job." - Nurse Care Manager

Multitasking and field challenges. The burden of heavy caseloads and sporadic,

unpredictable workflow was amplified by the high level of multitasking demanded and

geographic field challenges. Clinician responsibilities included field visits to patients'

homes and medical appointments, phone calls with patients and providers, patient

medical and mental health crises, paperwork, and meetings. Clinicians expressed

annoyance at the many obligatory meetings and the failure of the organization to make

them at regularly scheduled times, so they could concentrate in the field for an entire day.

They also expressed frustration at the lack of clerical support to accomplish tasks such as typing and sending routine letters to patients.

Field visits spanned a very large county geographically, resulting in logging up to 80 to 100 miles a day. It was not unusual for clinicians to be faced with multitasking the whole range of their responsibilities in a single day while traveling extensively. A nurse captures the fast-paced, chaos of a typical day.

> "I think we've all gotten to the point where sometimes we're doing two clinic visits a day and a home visit on top of that, and I think sometimes even more. I know that we strive to meet these clients' needs, and telephone calls in-between. Sometimes in-between, on the road, you might you pick up your voice mail and find that you have all these messages, providers waiting to hear back from you, a client in crisis, and many mental health crises, referrals to the crisis line, referrals to mental health professionals and so on. So, it's not unusual to make up to 10 phone calls a day at least, then you're working to document this stuff."
> - Nurse Care Manager

Clinicians explained that the stress of doing multiple activities in a short amount of time was heightened by potential field hazards when meeting with patients at their homes, such as sex offenders, weapons, and aggressive pets. One nurse explained, "You have to be extremely open and flexible, and aware of safety, high awareness to safety."

Clinic administrators were pressed for time to manage their program tasks as well. For all of them this project was a fraction of their time for which they were paid. The medical administrator was allocated 15% time and salary for it, but he explained it was a struggle because it actually consumed much more of his time.

Staff turnover. When a nurse care manager departed, it was devastating considering the intensity of the intervention and the caseload volume. An administrator explained, "It's really hard to bring somebody on because it takes three months in order for somebody to absorb a case load because they are so complex." That three months did

not include the time it takes to replace a clinician, so it is even longer than that for a caseload of at least 50 to be at a standstill, and very difficult to recover.

Interface with program partners. Implementation success depends on functional, collaborative partnerships. Qualities of this type of partnership include a broad range of stakeholders, a climate that promotes inclusiveness and mutual trust, shared decision-making, and shared responsibility for completing important tasks (Durlak & DuPre, 2008). Inter-partner communication channels must be identified, and goals, feedback, and problematic issues clearly and frankly communicated (Aarons et al., 2011; Damschroder et al., 2009). All participating entities must have accurate and sufficient education and knowledge about the intervention (Greenhalgh et al., 2004). In this implementation, lack of clear communication amongst partners, adequate education about the nature of the intervention, and follow through on crucial tasks caused barriers in implementing the intervention. Behaviors by funding partners and clinic staff that did not promote shared decision-making and mutual trust also caused problems.

Community health clinic partners. There were multiple challenges in effectively implementing the intervention at the interface of the agency administering the program and community health clinic partners. Lack of understanding of the program by community health clinic partners due to insufficient education and marketing, minimal communication about the patients between program clinicians and partner clinic providers, and territorialism and competitiveness on the part of partner clinic staff were all problematic issues.

Although clinic physicians almost universally affirmed that the program was helpful to them and their patients, they expressed lack of understanding of the basic

mechanics of the program. Many expressed the need for better education about it. None

of the physician research participants were able to give a clear, accurate explanation of it.

The following explanations by physicians illustrate their nebulous understanding.

> "I know it involves some like social worker, kind of case managers, and nurses.
> But I'm not totally clear how they necessarily interact with each other, or then
> interact with me." - Clinic Physician

> "I think I would change the education to providers or improve, or figure out
> better ways so that we can know how to get people into it better or how to interact
> with the program in a better, more, I mean, I don't know how used the program is.
> Is it pretty busy? I don't know. Is there room for more patients? 'Cause I have
> more patients that I think could benefit, but I don't really understand how I can
> get them on." - Clinic Physician

In addition, most of these physicians bumped up against numerous programs in

which their patients were enrolled and understandably had a tendency to confuse them.

For example, when asked about his understanding of the program one clinic physician

replied, "I've talked to King County Public Health nurses, but I think they were assessing

maternal and newborns."

Collateral providers outside the community health clinics such as medical

specialty, mental health, and chemical dependency, were not interviewed as research

participants, but program clinicians and clinic staff members expressed concern that, they

too, had limited understanding of the program. Another common problem was

nonexistent education about the program to non-partner primary care clinics. Because

the community health clinic system was so overtaxed, clinicians started to access various

other clinics that served safety net patients. Using these was a great help because patients

could be seen much faster than in the community health clinics in many cases, but the

providers had even less understanding of the program than those in the partner clinics.

This could cause misunderstandings and conflicts that then required, as an administrator explained, time consuming, "repair work."

In addition to having a vague understanding of the basic mechanics of the program, some physicians indicated fundamental misunderstandings of the intervention itself. These misinterpretations seemed to be primarily influenced by the culture clash between the patient-centered intervention, and the Western medical model, embracing physician as expert and authority, subscribed to by many clinic providers. In the example below a physician illustrates his misinformation about the fundamental patient-driven nature of the intervention and its goal of health self-management.

> "It seems like the patients that are in it, the nurses or case managers contact them so they're the ones, so I don't think the patients have to be very proactive."
> - Clinic Physician

All these misunderstandings about the program and intervention created expectations on the part of the clinic physicians and other providers that were challenging for the nurses, social workers, and even clinic care coordinators to negotiate and dismantle. A care coordinator from one of the partner clinics clarified this.

> "Expectations from the providers, that's a little challenging 'cause we want their participation, but it's interesting to try. They understand, but they don't understand what it is that we're trying to do, so managing those expectations has been a little bit of a challenge from our end." - Clinic Care Coordinator

In addition to expressing a lack of understanding and a desire for more education about the program, the clinic physicians also communicated that they felt there was a lot of information about their patients, especially things that happened between clinic appointments, that the program clinical staff could be sharing with them. They expressed that this would help them care better for their patients and facilitate their participation in

the intervention. A clinic physician explained that he has access to the nurse care

manager's contact information, but updates would be helpful.

> "From their cards, yeah, it's less of me reaching them, it would be more like me
> being in the loop of what's happening … but there are a lot of things happening
> that they're involved with that I might not ever know about. It's that kind of
> communication that I was talking about that might be helpful." - Clinic Physician

Lack of sufficient education and marketing about the program also created some

territorialism on the part of clinic partners and patients' other providers, such as mental

health. Nurse care managers and social workers explained that providers sometimes

expressed concern that the program might be duplicating services. A social worker

articulated, "We have seen this reluctance from providers, like, 'Who are you? I'm doing

this already. We're duplicating services.'" or as a nurse explained regarding her

experience at mental health clinics, "I think they think that we're walking on their toes or

trying to take over, which we're not trying to do at all." A clinic care coordinator from

one of the partner clinics explicitly expressed her concerns about this.

> "… an area that I question sometimes is duplication of efforts. If we have
> resources here and there's social worker services through the program, but some
> of our patients should really be using our social workers' services. So it's like
> there's a duplication of efforts and I'm thinking, does that make sense?"
> - Clinic Care Coordinator

In a challenging economic environment this territorialism, at worst, led to a

competitiveness that undermined the cooperation needed for smooth, effective

administration of the intervention. A program administrator described this reaction on

the part of a clinic physician when a program nurse was able to make progress with a

patient.

> "We had one physician who had called us up and said, 'You know, I was never
> truly able to crack into this person. This person would never really follow through
> for me, but he followed through for one of the nurses. What did you do

differently?' Instead of celebrating it, this person is like, What did you do?! What did you do?! So I think what makes it challenging is that sometimes people have a tendency to, particularly I think in the economy and the times that we're in, everyone really wants to really be on top and it works best when everyone is integrated and supportive." - Administrator

Funding and technical partners. Conflicts that impeded the implementation of the intervention extended beyond the agency's clinical partners to their government funding partner and also the entity that was contracted to create the data system for the project. The most damaging experience was with the data system contractors. The failure on the part of this partner to create a workable, efficient data system in a timely manner was perhaps more damaging to the implementation of the program than any other factor according to research participants. Research participants related that their relationship started out well, "like gangbusters", as one administrator put it, but deteriorated rapidly when the contractors adopted a new project and all but abandoned their data system. Program administrators explain how the problem went beyond poor design to lack of delivery of the product in a timely fashion, or at all, and complete absence of communication.

> "We still don't have it? How is that even acceptable? So that's the biggest for me, being unable to help our team because of something that's out of our control is I think the most frustrating." - Administrator

Although research participants communicated that their government funding partner's support outweighed their hindrances, problems were caused by what was characterized as their inconsistencies, and precipitous changes in the program model, guidelines, and funding. An administrator illustrated this.

> "It's the constant tension with them around monthly monies coming through and how much are we going to get this month. It's based on the overall population size that changes month to month and so we get a per member per month and we gotta hit a certain number in order to make ends meet." - Administrator

Lack of sufficient communication about these changes exacerbated the obstacles they

created. Administrators explained how difficult it was for the administering agency to

rapidly change course when the government partners made adjustments, even if they

were informed in a timely manner, which was not always the case, as recounted by this

administrator.

> "Well they had just made a decision that they're not going to pay us as much
> because they were having budget issues, but didn't say anything to us. I know
> they were going through some personnel issues, a lot of change, but it wasn't
> communicated. We say we're going into the red. We need these clients. Then
> they're saying, well you have to do this first or that first." - Administrator

Administrators also mentioned the annoyance of being micromanaged by their

government partners. They attributed this to performance early on that did not meet the

partner's standards, but had been corrected for a significant amount of time. This was

described frequently as the funder's "need for numbers." An administrator and clinic

care coordinator expressed their frustration with having to provide quantifiable evidence

of project success in an intervention with a very complex population embedded in a

challenging health care system.

> "You're in the trenches doing the work and being questioned a lot. It's hard,
> because they're supposed to trust us that we're professionals and doing our job
> and doing the best we can, and I know sometimes they want their numbers and I
> know why. I know that they then have to go argue to higher-ups and I fully
> understand that, but it's just sometimes it can be just let us work and let us do it."
> - Administrator

> "I am able to see first hand the changes that it makes in our patients at the clinic
> level. I like the level of support. I wish that the funder and others could really see
> all of the hard work that goes on. You know, we can tell them we're doing this,
> that, and X, Y, Z, but to really actually see how the patient came to us and how
> they've changed by the end of the program are, you know, those things sometimes
> are hard to relay." - Clinic Care Coordinator

Challenging macro influences. Research participants frequently cited adjustments they were able to make to mitigate micro and mezzo challenges in implementing the intervention. Conversely, they characterized macro or systems challenges as mostly intractable barriers around which they had to work, as related by this administrator.

> "When it's all said and done, at the end of the day, barriers still exist in the community, and regardless of the empathy and compassion and all the good-hearted effort, we can't make things different. We can't make people necessarily get same day appointments. We can't find people emergent beds in detox. Those that are on methadone and are also drinking and then also using crack, at the end of the day, if you're urine is "this" and all the systems say you have to have this type of urine in order to get in, we're not going to be able to have a magic wand to get you in."
> - Administrator

In addition to the ailing economy and resulting continual, severe budget cuts, deficiencies in community health clinics, mental health treatment, chemical dependency treatment, and Medicaid transportation and interpreter services posed serious problems in implementing the intervention. Regulatory legislation on health information disclosure also created a formidable barrier.

Community health system. Several practices at what participants described as, a grossly under-resourced community health clinic system that serves the "lion's share" of the safety net population, created challenges in intervention administration. These included long waits to obtain appointments, delays in appointment start times, short appointments, and inexperienced, generalist providers.

First, the waiting list to obtain an appointment to establish care with a safety net provider was up to six months long, as explained by this social worker.

> "Right now if you were to call and try to get an appointment as a new client in adult medicine, you're going to have an appointment four to six months from now. So, and with somebody with chronic health conditions, you know,

congestive heart failure, hypertension, diabetes, they don't need to wait four to six months to get into a doctor and get connected." - Social Worker

This created a huge obstacle for administering an intervention that had a core goal of establishing a medical home and only lasted twelve months.

The challenges in fulfilling the intervention's core goals of patient medical stabilization and self-management did not end once patients were established with providers. Obtaining emergent appointments when ill was nearly impossible as this social worker describes, "So if I'm in medical crisis, or I believe I'm in medical crisis, and I call my doctor, I find out I can't get an appointment for another month and a half, you know." The waiting did not end in securing appointments.

Once an appointment was scheduled, the patient and the program clinician accompanying them could wait, according to a social worker, "an hour or more" for a visit that only lasted 10 minutes. This contracted appointment length also posed great problems for the medically and socially complex patients in the program. One social worker clarified, "People that we see that are homeless and they're actively using, so their needs for each visit is not a ten, fifteen minutes. It's 45 minutes to an hour and a half." Clinic physicians also complained about the untenable situation of short appointments. One even suggested counteracting this by trying to have the nurse care managers schedule more frequent (short) appointments rather than wishing for a systemic change lengthening appointments.

Research participants observed that the quality of the safety net providers that their patients saw in the community health and mental health clinics was often inadequate for the severity and comorbidity of their illness profiles. This added extra work for the social workers and nurse care managers to get them medically and psychiatrically

stabilized. This problem was mostly due to staffing medical residents and new graduates

as this administrator explained.

> "Community-based health places are staffed by fairly new graduates. Our clients and many people have said this, are some of the most complex, difficult, people to work with. You have to have sort of your best-trained physicians, your internal medicine doctors, your psychiatry professionals, to work with this group. You can't just take the least skilled people like your brand new resident doctor and say deal with this person who's got five diseases, pancreatic cancer, whatever else."
> - Administrator

This administrator also related an incident highlighting consequences of these staffing

practices.

> "There was a case where a person had really significant pain and the community clinic felt that the gentleman was pain med seeking and didn't really follow through and it took a lot of energy and time to press on and get a second opinion and this particular gentleman had very invasive bone cancer into his hip and into his abdominal cavity."   - Administrator

Social, mental health, and chemical dependency services. State funded services

crucial to patients' active participation in the intervention were routinely inadequate.

Mental health services, Medicaid sponsored transportation to and from medical

appointments, and Medicaid sponsored interpreter services had all been noticeably

reduced in a way that prevented smooth execution of the implementation. The most

troublesome service gap according to the research participants was the lack of available

chemical dependency treatment beds with timely availability. It was very difficult for

patients with substance abuse problems to participate without treatment as this clinic care

coordinator explains.

> "I know treatment is a huge, constant, battle. Resources are limited, people are trying to get treated when they want help and the help is not available for them and so it can be difficult for us to constantly advocate and say, 'You know, we have this patient who really is ready to change, who wants the help, but there's nothing available.' So that can get frustrating on the patient's behalf because

there's no resources or there's no treatment or there's no … they cut the funds for that." - Clinic Care Coordinator

Clinical information legislation. Finally, participants stated that the Health Information Portability and Accountability Act (HIPAA), and other legislation such as 42 CFR (Code of Federal Regulations for chemical dependency treatment) involving confidentiality and communication of health information, slowed, and in many cases prevented, clinicians' ability to exchange information with patients' providers, inhibiting the ability to coordinate their care.

Beneficial Influences

Despite the daunting challenges to implementing the intervention, there were many strong beneficial factors that served to diminish them and facilitate implementation. Certain components of the intervention were well matched to the patient population and its inherent adaptability served to moderate the features that were incompatible with the patients. The goals of the intervention were also compatible with the missions of the organizations and entities involved in the implementation. On the mezzo level the expertise and extraordinary efforts of the clinical staff were crucial to implementation, as were the strong leadership and functional partnerships among those involved in the project. On the macro level, despite the unyielding challenges, the project did have the advantage of timeliness in that it was aligned with current movements in health care, such as shared clinical information across systems.

Beneficial intervention influences. Some degree of compatibility between an intervention and community context, organizational mission, and characteristics of the patient population are important for successful implementation (Bhattacharyya et al., 2009; Damschroder et al., 2009; Feldstein & Glasgow, 2008; Greenhalgh et al., 2004;

Stith et al., 2006). Patient-centered interventions also make implementation smoother

(Feldstein & Glasgow, 2008; Wandersman et al., 2008). Although there were some

significant challenges in fit between the complexities of the patient population and certain

components of the intervention, there were strong elements of congruence as well. These

elements of MI technology, a holistic and interdisciplinary approach, intensive staff-

patient interface, and community base were also strongly patient-centered. In instances

in which the fit is less compatible, the inherent adaptability of an intervention (a core

around which various elements can be adapted without significantly compromising

fidelity) can facilitate implementation (Greenhalgh et al., 2004). This intervention

demonstrated adaptability, which ultimately made the implementation viable.

Adaptability. The scope of the treatment was expanded from physical illness to

include psychosocial issues, which was necessary for patients with significant

psychosocial deficits to participate. The time of the intervention was doubled from six

months to twelve months when it was clear that more time was needed for this particular

patient population to meet their health goals. These two primary adaptations were

accomplished without the core elements of chronic care management and MI being

altered.

Compatibility with organizational missions and fit with patient population. The

missions of the various organizations participating in the delivery of the intervention

were similar in their focus on the health and well being of vulnerable populations. The

agency administering the intervention and the community health clinics were already

charged with caring for the vulnerable and underserved that the program patient

population represented. The missions of these entities and that of the intervention were similar, which eliminated potential obstacles to implementation.

Motivational interviewing. Participants expressed that the foundation of the intervention, MI, was a particularly good therapeutic strategy for this population. Research participants described how its features of non-judgment, listening, and patient-centeredness served them very well in facilitating health stabilization and self-management among the patients. As an administrator explained, MI is, "Nonjudgmental. Meeting the patient where they're at helps because I think so often the people we take care of in whatever context feel judged." Listening was another feature of MI that furthered appreciation, trust, and ultimately engagement from a population group that had a history of unsatisfactory experiences with medical providers. Patients reported how important active listening was to them as explained by these clinicians.

> "The theme that I've been hearing from my caseload lately, is, 'just having someone who will hear me, and listen to me, and help me verbalize my needs to the doctors or my health care team' … You know, 'You're the only person that's actually taken the time to listen to me and hear that I have all these things that I need to talk about' … 'Having you just listen to me is the best thing about it.'"
> - Nurse Care Manager

> "MI is definitely huge when we're working with patients, mostly the listening piece. They just really feel listened to." - Clinic Care Coordinator

The patient-centered component of MI ensured that with a population of patients who had multiple, challenging medical and psychosocial needs, only those on which the patient was focused, and for which the patient was ready to tackle, were addressed. Otherwise, in the face of many, overwhelming issues, patients could end up paralyzed for the entire twelve months, not accomplishing anything. A clinic care coordinator perfectly illustrates this efficient strategy.

"Our agenda might not be their agenda and so when you're using MI and you're actively listening, a lot times, without even talking, you can find out what's important to them. So, through that, I'm able to know where to go with them. I'm not going to spin my wheels working with them here, because it's not important to them. They just said, X, Y, and Z is important to them, so instead I'll put my energy working there." - Clinic Care Coordinator

In addition, in using this approach clinicians focused on incremental steps, which

were achievable for their patients. These often looked like very minor steps, but for a

patient population with so many challenges and psychosocial barriers this strategy

prevented failure and discouragement at the outset, as explained by this administrator.

"They don't make the goal to be this huge thing - I'm going to lose 100 pounds this summer - but help them break it down into these small goals so they start getting success. And then they feel better because of the success. I think that helps keep them." - Administrator

Another feature of MI helpful in the success of meeting intervention goals was

coaching and modeling to facilitate productive meetings between patients and physicians,

as described by this clinic care coordinator.

"I've seen the best results, is where the nurse is bringing the patient to the clinic. Now, by doing that, she's already identified what they're going to talk about, so they've gone through that, so the patient is aware, so they've already agreed on goals. Then they get the patient here, and then they help the patient feel comfortable in this setting." - Clinic Care Coordinator

Modeling and coaching by the nurse care managers and social workers were not

exclusive to patients. They were done for the benefit of clinic physicians as well, albeit

largely unrecognized by them, to demonstrate skills to build workable, sustainable

relationships with their patients.

Holistic, interdisciplinary. The holistic, interdisciplinary features of the

intervention made it viable with this population. It evolved to be unspecific to particular

disease, or physical illness in general. It expanded out of necessity to also address mental

illness, chemical dependency, and socioeconomic issues. An administrator explained,

"You want somebody who's able to think about more than just diabetes, because these

patients have more. They have diabetes but they've got chemical dependency, depression

…" Commensurate with the expansion of the intervention to attend to psychosocial and

socioeconomic problems, social workers, experts in these fields, were added on as staff

clinicians. Addressing the patients' mental illness and chemical dependency made it

possible for many of them to engage in the program due to symptom reduction and basic

need fulfillment. Meeting basic needs such as housing also provided incentive to the

patients to continue because of the tangible benefits. A social worker remarked on how

the holistic nature of the intervention and clinical team enhanced the results.

> "So, the importance of what the nurse is doing with the medical teaching, but also
> for me to work on housing, and how these two things play an excellent role in the
> outcome of the these clients, of managing their health condition."
> - Social Worker

Patient interface. The nurse care manager interface with the patient was

illustrated frequently by the word, "intensity." Research participants attributed the

intensity to frequent, accessible, "one on one", and "face to face" contact. Nurse care

managers were frequently referred to as a "go to" for patients. They made regular check-

in calls to patients. Clinicians considered themselves highly accessible. Patients,

explained a clinic care coordinator, "Call two, three times a day. If they can't get a hold

of the nurse, for instance, they can get a hold of me." Even if a patient's specific nurse

care manager was not available in any given moment, chances were high that a social

worker, other nurse care manager, or their clinic care coordinator would be. This served

to retain and engage this population that routinely slipped through the cracks. A clinic

care coordinator clarified, "It's a lot of individual attention that patients haven't gotten in

a long time that they just respond to."

Another component of the contact between the nurse care managers and patients was going to appointments together. Nurse care managers and social workers explained that this gave them a great advantage in accurately identifying the barriers to care facing the patients. In addition, "walking with the clients" as one nurse called it, gave them a unique perspective of exactly how patients were treated and what their experiences were in the health care system. Incidents of mistaken identity, when clinic providers assumed that accompanying clinicians were patients, allowed them to tailor the strategy and scope of the intervention more precisely.

A community health clinic physician characterized his patients' relationships with the nurse care manager as follows, "To my patients I think it's the social, the sense that someone's looking out for them in a hard world." In addition to seeing the benefits of the intervention for the patients, clinic physicians perceived many benefits of the program for themselves as providers for these complex patients. This kept them engaged and cooperating with the program, despite the poor education and marketing about it. Physicians appreciated that the program clinicians provided an extra set of eyes on patients, managed complex treatment plans, medication regimens, and complex psychosocial issues, mitigated the inadequate time allotted for appointments by coaching patients prior, accompanied patients to appointments they would not have otherwise made, provided important collateral information, and collaborated with them to solve problems. The following illustrate physicians' appreciation for the intervention, specifically the roles of the nurse care manager and social worker.

"What makes my job easier is having a name and number, someone I can call to say, we're doing this referral. Can you make sure this patient gets to this appointment, or, next time can he bring his med list because it seems like he's confused?" - Physician

"There's someone out there organizing this person, who otherwise is just in chaos." - Physician

"When the case manager comes to the appointments, it's very helpful 'cause it's like you have more continuity from the other places they've gone, or we actually get information." - Physician

Because this patient population had such a high rate of comorbidity, they often had multiple providers, including primary care, medical specialists, mental health, and chemical dependency. In what one administrator called "a crazy mess" the patients had a difficult time utilizing and communicating the array of information with which they came away from all their appointments. It was challenging for their health care personnel to identify and find the time to communicate with patients' various other providers. There was no viable way to meet the intervention goal of stabilizing patients' health without navigating patient systems by facilitating communication and collaboration between providers as described by this administrator.

"They may be seeing 10 different people but that's part of the problem is that you've got 10 different people that probably aren't even talking to each other. So what the program does – it tries to connect all 10. That's, I think, one of the biggest advantages, and the client may not even realize. A lot of what's going on the client may not know or may not really comprehend until it effects them, until they say, 'Hey I went to my doctor's and they said they talked to this specialist and that's never happened before.'" - Administrator

Community based. The community-based nature of the intervention was crucial to successful implementation and future sustainment. Without the community base all the work with patients over 12 months would not likely be maintained because no inroads

to the sustainable potential treatment and support in their daily lives would have been forged. An administrator highlights the importance of a community foundation for the intervention.

> "That kind of care management in this population is worthless, so really you need the face to face contact, and you need the intensive care management, but you also need to connect it to the primary care home. So I think what we're able to do is leverage a resource across these clinics in a way that the care management is connected to the medical home, but also reaches deep in to the community where these people live." - Administrator

Quality and Observability. Research participants were enthusiastic about multiple facets of the program and their perception of its effectiveness for patients. They universally praised the intervention model, which they described as "cutting edge," "innovative," "exceptional," and "inspirational." A nurse care manager remarked, "Just thank goodness it exists. It's just a gift right now because this is probably the best there is." They universally expressed the hope that they could continue to improve it and it would continue to be funded. An administrator expressed his pride and potential disappointment if the program ends.

> "At the end of the day I don't know what kind of measurable difference we'll make but I certainly get enough satisfaction out of the individual cases I hear and what I see that I feel like we're making a difference and I think we might ultimately be on to a very innovative model … If in whatever, a year, the state came back and said, you didn't save us any money, that's it, I'd be very sad, but I would feel like it was fabulous time spent and I would know that we had made a real difference."- Administrator

Research participants, particularly clinicians who had regular contact with the patients, were inspired by the stories of patient determination and success and routinely passed them on to administrators. These stories served to create a reverence for the patients and their struggles, and a belief that the program was truly making a difference as the administrator above mentioned. A nurse and social worker recount examples.

"'It's amazing the amount of education that I got from you. I'm doing better with my diabetes.' While he was in the program, he lost 60 pounds and he's very engaged with his mental health provider, with his psychiatrist, and he knows when he's not doing well, and he knows what steps he needs to take to prevent relapses. I mean, this is what they have shared." - Social Worker

"It's just an incredible gift to hear about the clients, the complexities of their lives, what they've had to work through whether they've been on the street, homeless. Some had great jobs, lost money, ended up going through divorce, got shot, stabbed. One lady, domestic violence, rolled down the ravine. Just the incredible human spirit has been just great." - Administrator

Research participants were particularly enthused about the role of healthcare system and community building they perceived themselves to be performing in administering the program. They expressed great pride and satisfaction that their work was helping to identify systems barriers, build health care safety net infrastructure and reform, and strengthen communities. They also saw possibilities for replication in other geographic areas across the country. An administrator expressed his excitement.

"You can just feel that it's different, the system building that's happening across the county with the community clinics and with the safety net hospital and the effect the nurses and social workers are making with individuals clients and doctors in clinics. It's very exciting." - Administrator

Beneficial micro influences of staff and program assets. High quality clinical staff with characteristics, attitudes, and behaviors that enhance implementation of interventions, such as requisite knowledge and skills, belief in and support for the intervention, and general professional qualities (e.g. willingness, sense of social justice, good judgment, ethics) are important for facilitating the process of implementation (Damschroder et al., 2009; Durlak & DuPre, 2008; Fixsen et al., 2009; Fixsen et al., 2005; Wandersman et al., 2008). This project excelled in employing and motivating clinical staff with those assets. Research participants from all groups raved about the quality of the staff clinicians (nurse care managers and social workers).

This respect was not limited to clinicians. Administrators, and funders, involved in the administration of the intervention were also admired for their attributes, as were community heath clinic personnel. An administrator described this experience as, "Working with some very talented people has been a real grace and also very humbling." A clinic physician remarked about the program staff, "I like my role knowing that I'm working with competent people who are really paying attention to things." The feeling from the clinic providers was returned by a clinical staff member one who stated, "The people within the clinic systems are all interested and committed. They go the extra yard. They do things they don't have to do."

Everyone involved in the program flowed with pride and enthusiasm for it. This created a passion that drove them to keep moving through and around the colossal challenges the patients and environment consistently presented. An administrator illustrated this speaking about staff from the area agency on aging implementing the intervention.

> "They have an ability to just get across the goal line so to speak. They just persevere. There are times when I just think, oh my god, we're never going to get this worked out and they just keep at it, and they do it well." - Administrator

The high level of skillfulness of the nurse and social work clinicians was instrumental in making the intervention easier to administer. They reported and were described as exercising powerful persistence, creativity, and compassion in their work with the patients. Research participants emphasized their continually expanding clinical knowledge and skills. A clinic care coordinator described their behavior as, "They go above and beyond. They're just really good."

Both program clinicians and other research participants referenced the persistence

applied to engage patients in recruitment and in active participation in the program.

Research participants universally expressed unlimited perseverance with patients by

nurses and social workers, which they explained could mean, "not giving up after two

phone calls," "dogging them and using their MI skills instead of leaving a few messages

here and there," and "what it takes to get your foot in the door." As an administrator

explained, "The clinical team is willing to give it a shot. They work really hard on

people who might appear at first to not be able to engage but people do; it may take them

a while." This was paired with their expression of compassion to patients. An

administrator described what he heard when listening to the nurses and social workers on

the telephone with patients as, "Everyone's very compassionate and they just let them

talk. You don't hear a lot of, 'You should.'"

Facilitating the successful completion of the intervention by patients often

involved exceptional creativity on the part of the clinical staff. For example the nurses

and social workers often adapted to unconventional meeting venues in order to access

and interact with their patients. They gave examples of meetings held in a barn, a fish

and chips restaurant, and a coffee shop, instead of a conventional office setting. They

also used creativity in helping patients navigate the health care system and accomplish

their health goals. An administrator illustrated two situations in which clinicians

arranged alternatives to visiting the emergency room for patients.

> "They come up with these really creative plans, for instance a clinic that allows a
> particular person who goes to the emergency room four times a week to have
> same day visits, so if you need a visit then you come to the clinic and you can get
> in that day, so they quit going to the emergency room, so get more appropriate
> care. The other really creative thing I heard was the nurse had one person who
> went to the ED every Tuesday, so this person started calling the nurse every
> Tuesday." - Administrator

With a patient population that had high levels of medical and psychiatric comorbidities, the clinicians dealt with a wide range of diseases. Most impressive was their ability to adaptively expand their knowledge and skill repertoires to effectively serve their patients, as this administrator explains.

> "The staff has gotten more skilled. It is amazing to me just in the conversations that we have clinically to see the level of skill and sophistication … They just get more experienced and I think they really work with that such that there's sort of an eternal quality improvement cycle that's going on. It's very, very impressive."
> - Administrator

Beneficial mezzo influences. On organizational and inter-organizational levels there were some key strengths that facilitated the implementation of the intervention. First, age, size, and maturity of an organization affect the implementation process. The older, larger, and more mature an organization, the greater advantage to the implementation process (Aarons et al., 2011; Damschroder et al., 2009; Fixsen et al., 2009; Fixsen et al., 2005; Greenhalgh et al., 2004; Mendel et al., 2008). The agency administering the intervention possessed these structural advantages. The alignment of the missions of all the organizations with each other and that of the intervention provided a solid platform on which to work together. Prior excellence in service delivery and a commensurate reputation of the agency implementing the intervention were also key drivers in the success of the implementation. Attributes of the organizations involved in this project, previously demonstrated to facilitate implementation of interventions, included absorptive capacity (prior skills and knowledge and ability to use them) (Aarons et al., 2011; Greenhalgh et al., 2004), innovative culture (Aarons et al., 2011; Damschroder et al., 2009; Durlak & DuPre, 2008; Feldstein & Glasgow, 2008; Mendel et al., 2008; Proctor et al., 2009), flexibility and adaptation (Greenhalgh et al., 2004;

Mendel et al., 2008), minimization of competing demands (Feldstein & Glasgow, 2008),

ongoing training (Aarons et al., 2011; Damschroder et al., 2009; Durlak & DuPre, 2008;

Feldstein & Glasgow, 2008; Fixsen et al. et al., 2005; Greenhalgh et al., 2004;

Wandersman et al., 2008), dedicated staff (Damschroder et al., 2009; Feldstein &

Glasgow, 2008; Fixsen et al., 2005; Mendel et al., 2008; Stith et al., 2006), functional

partnerships (Aarons et al., 2011; Durlak & DuPre, 2008; Greenhalgh et al., 2004;

Wandersman et al., 2008), administrative and clinical leadership (Aarons et al., 2011;

Durlak & DuPre, 2008; Feldstein & Glasgow, 2008; Fixsen et al., 2005; Greenhalgh et

al., 2004; Wandersman et al., 2008), and individuals with inter-organizational ties

(cosmopolitanism, boundary spanning) (Aarons et al., 2011; Damschroder et al., 2009;

Glisson & Schoenwald, 2005; Greenhalgh et al., 2004).

Mission alignment among participating organizations. The organizations

involved in the administration of the program "strongly share the same mission of serving

these vulnerable patients," according to an administrator. There is evidence, particularly

on the parts of the administering agency and the partner clinics, that this philosophy and

commitment was not just relegated to paper or exclusive to higher levels of the

organizational hierarchies. The mission to serve vulnerable patients effectively trickled

down. The administrative staff and clinicians in these organizations clearly embraced it

in their unsolicited expressions of satisfaction that, as one staff member remarked,

"Forgotten people, very ill people, are getting the attention they deserve and the

community's better for it."

Prior excellence and recognition. The experience and reputation of the agency

administering the program was a great help in easing its implementation. It was

described as a "very highly regarded and experienced organization" by one administrator

and as having a "history of being very innovative" according to another. It had

successfully taken risks and executed prior, well-regarded, pioneering projects with

different partners, such as academic institutions. The organization was well known and

respected nationally by other similar organizations in its field. Community organizations

and providers, many with whom the program interfaced, showed interest and trust in this

program due at least partly to the excellent reputation of the agency. Because the

program was community based and required the support and cooperation of many

different providers and agencies, the past performance and brand equity of this agency

was a significant advantage in implementing the intervention.

Culture of flexibility and adaptation. Willingness on the part of the agency and

clinic care partner leadership to exercise flexibility and continually adapt the intervention,

a direct result of the experienced, state of the art leadership and culture of innovation at

the agency, was perhaps the most influential factor in the success of the implementation.

The agency and clinic partner leadership responded to barriers to implementation by

selling adaptations to the funders and making multiple significant changes without

seriously compromising the core of the intervention. The majority of these adaptations

were a result of characteristics of this core safety net population that had been

overlooked, despite the intervention's exceptionally good fit with the patients and their

needs. An administrator summed up the continual evolution of the program stating, "I

think that as we learn, this program and what we're doing, it changes all the time … We

certainly are constantly changing and talking about different processes and how we can

make the program better for the patients."

A fundamental change to the intervention itself was made when it became

obvious that two of the common features of the patient population were active, poorly

treated mental illness and chemical dependency, and deficits in basic needs. It was

apparent to the clinicians that in many cases it was not possible to even begin working on

medical stabilization and teaching patients health self-management skills due to

debilitating mental illness symptoms and lack of access to things essential to basic

survival, such as housing and transportation prohibited. The decision was made to

expand the focus of the intervention to not only medical but also psychosocial stability.

In order to accomplish this, they added social workers to the clinical team to address the

mental illness, chemical dependency, and basic needs issues. A research participant

clarifies the scope of this change.

> "The beginning of the project was more on just diseases. Clients had lots of the
> different diseases. The change then was more to clients had lots of diseases plus
> mental health issues plus chemical dependency … The focus changed more to
> looking for treatment and working with the mental health system."
> - Administrator

A nurse added the crucial supplement of meeting basic needs in her explanation of the

change in focus.

> "They cannot achieve it because of the barrier that's there. So what happened in
> the program that's really great is that as those barriers have been identified.
> There's more emphasis on housing … We're really just seeing people, you know,
> work to get into a better housing situation and that makes a difference in how they
> can care for themselves." - Nurse Care Manager

It became clear this expanded focus needed to start during recruitment to

effectively enroll and engage patients. After the social workers were hired, one who was

also a certified chemical dependency counselor and trained in MI, made the engagement

calls to enroll patients. This task had formerly been contracted out to another agency and

performed by their volunteers with minimal success.   Employing a social worker who

was professionally accustomed to interacting and intervening with vulnerable

populations, or "had tangible experience working with this population on the street" as

one administrator remarked, had knowledge of chemical dependency and mental illness,

and experience doing brief interventions, immediately improved enrollment and early

engagement significantly.

When it was accepted that patients needed more than a medically focused

intervention to successfully accomplish their health goals and complete the intervention,

it became evident that it would take more than six months to stabilize them medically and

psychosocially, let alone to impart the skills of health self-management. A nurse care

manager voiced her concerns about the six-month limit.

> "They also only give us six months to work with them and I had concerns that we
> were actually doing more harm than good doing six months with this clientele.
> Many of them have huge trust issues, and so there's a great deal that goes into just
> … It's about relationship building is what a lot of it is and building that trust and
> so it was like when we had six months, I felt like we had just got the trust built
> and just started some engagement and then it was like we were dropping them on
> their heads." - Nurse Care Manager

In response to these concerns the intervention time limit was expanded to twelve months

or longer, if needed.

Other alterations were implemented in order to match the needs of the patient

population.   The original structure to have the assessment completed at one sitting over a

couple of hours proved difficult for patients and also the clinicians administering it. Even

patients without active mental illness or chemical dependency symptoms did not have the

attention span to spend hours answering questions about all the areas of their lives and

completing validated instruments. They also did not have the inclination to divulge the

kind of in-depth personal health and social information the assessment demanded with someone they had just met. Clinicians also found having only one session difficult because in their packed days they rarely had stretches of time that long. For these reasons assessment completion time was expanded to several shorter sessions rather than just one. In addition to that change, the engagement social worker tried to begin asking assessment questions in her initial phone call and also obtaining medical records to mine them for as much information as possible before the nurse care manager met the patient, thereby cutting down the number of questions and time needed.

The original intervention also included one visit with the client to their primary care provider, which quickly proved to be inadequate considering the level of comorbidity and severity of illness. The intervention expanded to accommodate more than one physician visit with the clients, as one nurse explained.

> "One PCP visit turns into a whole slew of them. Then they have, like five doctors, specialty doctors, and then you're finding that they need that support throughout the whole year we're working with them with all the different people they have on their health care team so we're attending more than one visit and lots and lots of phone contacts." - Nurse Care Manager

A related change involving the interface between agency clinicians and the partner community health centers was bringing in the clinic care coordinators from the start of the program. At the outset of the program, clinic care coordinators stepped in when the patients were completing the intervention and ready to move exclusively to their home clinic. This resulted in a "disjointed handoff" as one nurse termed it. The patient was faced with a brand new person - the clinic care coordinator, and a precipitous separation from the program and agency clinicians he or she had worked with for a year. Realizing the difficulty in this arrangement for vulnerable patients with trust issues and

dependence on their nurse care managers, the program changed the structure to have the

clinic care coordinators actively involved with the patients from the start. This allowed

patients and clinic care coordinators to build relationships throughout the intervention so

it was established when the patient completed the intervention, making it less traumatic

for them. The program changed the terminology of intervention completion from

"graduation" to "transition" to reflect this new arrangement.

Dedicated resources of staff and training. Despite the clinical staff members'

challenges with large caseloads and multitasking, the program had the benefit of having

clinicians dedicated solely to the intervention. Lack of competing demands within the

agency allowed them to focus all their energies on the implementation of the intervention.

Employing agency clinical staff to add this project to their duties, which often happens in

under-resourced safety net agencies, could easily have completely derailed the

implementation of the intervention.

Both administrators and clinicians spoke about the excellent organizational

support for staff clinicians and clinic care coordinators offered in the form of skills

trainings specific to the intervention. Trainings mentioned were MI, brief interventions

for anxiety and depression, suicide prevention, and trainings on specific illnesses such as

diabetes. According to the research participants the most important and extensive of

these trainings was MI which was seen as the core of the intervention. MI trainings were

expanded after the commencement of the program with a grant from one of the funding

agencies. Administrators and clinical leaders remarked at how skillful the clinicians

became by participating, and clinicians raved about the quality, describing the trainings

as "pretty profound," "fabulous," and "a strong foundation." The staff felt particularly

supported by the one-on-one clinical staffing and skill building sessions to which they had regular access as part of the ongoing training.

Effective partnerships. Despite the annoyances of micromanagement and inadequate communication described by agency administrators regarding their funding partners, research participants universally extolled the overall high quality of the partnerships between all the organizations and entities involved in the project. These included the funders, the agency administering the program, and the community clinics. One administrator explained that the excellence of this "true partnership" was shown when they completed the Wilder Survey, which measures the quality of community partnerships.

First, all partners were represented as displaying enthusiastic commitment and full participation in the project, even several years into it. An administrator described the quality of the project partnership as, "We don't have any dead wood out there which is good. Everyone's really committed and we want to see change happen." At the time of these interviews the partnerships were described as firmly entrenched and seasoned due to the hard work of all organizations involved to build that infrastructure. "We still have the same partners that we've been working with from the first two years. They know us. They come to our shop; we've gone to their shop," explained an administrator. Another administrator illustrated the consistent devotion on the part of project organizations.

> "We have monthly operations meetings. We have yearly retreats and then we have weekly meetings with each of the clinics separately where the clinical teams work together and work on processes and this whole process improvement and alignment. Even though it's frustrating and people don't feel like we're getting anywhere, we are, and everybody comes! They come all the time, and this is in the fourth year!" - Administrator

It was not just the organizations involved in the actual day-to-day implementation of the

program that actively participated. Research participants expressed appreciation and awe

for the partner most removed from the daily operations of the project, the funder, for their

hands-on engagement, as this administrator explains.

> "The government partner, they don't just sit there. I mean they actually roll up
> their sleeves and try to change things on their end and get obstacles out of the way
> to make things work better for us, so that makes it possible." - Administrator

This level of commitment to the project and common focus across organizations resulted

in not only greater ease in implementing the intervention but larger health care safety net

systems improvement, as this administrator clarified.

> "Every Friday we sit at a table, the community clinics and the medical center and
> the nurses and you talk about systems and what you can do to improve it and the
> work that's been done over the last few years has been amazing and it's where
> health care needs to go forward. You have to have all these people talking to each
> other, especially in a region." - Administrator

Second, the willingness to engage in cooperative teamwork on an operational

level made the degree of problem solving needed for such a multifaceted project with

several organizations and complex patients doable. A clinic care coordinator describes

this process.

> "I like the fact I'm supported. We have monthly meetings. We're not just out
> here doing whatever, but we're coming to the table and we present the issues. We
> present the problems. We hash them out. We work through them. We can come
> back and say, 'Hey, this isn't working. What can we do better?' I like the
> transparency that our team has. Everybody's pretty up front and supportive of
> each other." - Clinic Care Coordinator

Third, the breadth of knowledge, spheres of influence, and resources among the

partners and willingness to share them was instrumental in successfully implementing the

intervention. A clinic care coordinator describes her experience.

> "It makes it easier because I know that I have support. We have a lot of different

partners, a lot of different people at the table with a lot of different expertise. It makes me more confident to do my job because I know if there's something I don't know much about, I have an RN I can ask. I have a health educator. I can ask the Medical Director, who's brilliant. I mean, so that makes my job a lot easier because I know that as a team member, I have a huge support system."
- Clinic Care Coordinator

The sharing of tangible resources among partner organizations was particularly crucial to keeping the intervention afloat at certain times. "There's been a lot of sharing of resources, which again builds trust and a sense of community across a partnership, stated an administrator." For example, the agency administering the project bailed it out with tens of thousand of dollars when the patient flow was not what it should have been. An administrator remarked, "That just speaks of the importance of having an agency where you've got some slack resources you can move around for a period." They also provided tens of thousands of dollars to the partner clinics to aid them in participating in the intervention. The funders offered extra financial support as well to enhance the program by providing an outlay to pay for extensive MI training for the clinicians. When discussing this an administrator remarked, "I think that kind of a sharing of resources or leveraging resources has helped."

Leadership. Individual leaders of all the organizational entities involved in the intervention, administering agency, funders, and partner clinics, were lauded for their professional expertise and recognition, as well as commitment to the program. The administrative leader from the community clinics was valued for his stature and connections in the community safety net system and the administrative leader at the agency was considered a national expert in her field. Research participants expressed feeling "privileged" to work with multiple people of this caliber. Many of them

speculated that the project would not have been successful, or even launched, without their high levels of skill, accomplishment, and engagement.

Beneficial macro influence of timeliness. Research participants offered many more challenging than beneficial macro influences. They could not identify any health system influences that were beneficial, but timeliness of the project with regard to some of the trends in the larger health system was an advantage. The larger healthcare environment was focused on shared clinical information across systems, mental health integration (patients get mental health needs met by PCPs), and impending national level health care reform. According to research participants, the program goals reflected these emphases in the larger health care landscape and generated interest in and support for the project. An administrator explained this.

> "There's a lot of interest in the project at the state level but also within the county because of other concurrent initiatives around creating more shared information, clinical information across safety net providers, and integration of mental health into primary care practice." - Administrator

Interactions Between Factors

Although it is valuable to identify the individual factors that were challenging and beneficial to implementing the intervention, these factors did not act in isolation but in synergistic ways with each other. The deeper story these interactions tell is essential to beginning to understand the unique features of the implementation process in core safety net settings. Only by identifying the consequences of the interactions between factors at the same or different levels (intervention, micro, mezzo, macro) can the full complexity of the process, and outcome of the implementation be visible. Examining these interactions often answers the key questions of "how" an implementation unfolded. This addresses the problem of a lack of implementation research about translating knowledge

into practice in the low-income settings (Glasgow & Emmons, 2007; Kessler & Glasgow,

2011; Sanders & Haines, 2006). Figure 10 provides a framework to identify and record

intervention, micro, mezzo, and macro contextual factors and their interactions with each

other. Every possible combination of contextual factor interactions is represented. Table

2 illustrates the beneficial and challenging factors at each level. Table 3 contains key

interactions between contextual factors. The influence of beneficial factors on

challenging factors and on other beneficial factors advanced the implementation and

seemed to carry its viability in some cases. Challenging factors aggravated each other.

Woven together, the combination of all these factors, despite formidable challenges,

supported the implementation.

Intervention component interactions. The original intervention had a primary

deficit in fit with the patient population that made the intervention impossible to

administer to most of the patients without adaptation. It was initially focused solely on

medical problems, but the patient population was so burdened with mental illness,

chemical dependency, and psychosocial stressors that they could not begin to attend to

their physical illnesses in the way the intervention demanded. The inherent adaptability

of the intervention allowed it to be modified enough, by adding a psychosocial

component, that the patient population could participate.

Intervention and micro interactions. At the intersection of the intervention and

micro factors, the high level of quality of the intervention excited the clinical staff

delivering the intervention, affecting their behavior by motivating them to engage in the

implementation in the face of serious challenges. Clinical staff behaviors of perseverance

and exceptional effort minimized what could have been devastating problems of poor fit

of the intervention (before adaptation) with patient characteristics, provider attitudes and behaviors, and the impoverished social service and healthcare systems environments.

Intervention and mezzo interactions. Intervention and mezzo level factors combined in ways that both benefited, and hindered the implementation. Structural and cultural characteristics of the organizations involved, such as large size, maturity, well-developed networks, learning culture, and flexibility, along with strong leadership and functional partnerships, facilitated the adaptation of the intervention from its original form, and the continual skill building needed by the clinical staff for the modifications. The good fit of the goals of the intervention with the missions of the organizations implementing it, and commitment to it by personnel in those organizations, was a motivator for both staff and administrators in the face of challenges. Unfortunately, insufficient staffing impeded the optimal implementation of the intervention by inhibiting the element of intense clinician-patient interface and consequently thwarting the ability to fully address the high needs of the patient population.

Intervention and macro interactions. The macro influence of insufficient mental health and chemical dependency treatment systems capacities constrained the adapted intervention. When they successfully adjusted the intervention to have a dual focus on physical illness *and* psychosocial problems, rather than a sole focus on medical issues, that effort was impeded by an inability to obtain the services for patients to address their substance abuse and mental illness.

Micro and mezzo interactions. At the juncture of micro and mezzo factors, clinical staffing at baseline, and after the departure of a nurse care manager, fell short of being able to adequately address the multiplicity and severity of medical and

psychosocial problems of the patients. However, creative and heroic efforts on the part

of the clinical staff helped avert potential disasters due to the mezzo challenges of

inadequate staffing, high caseloads, and inefficient workflow. A learning culture at the

agency administering the intervention promoted continual skill building by providing

consistent, high quality supervision, and advocating and obtaining funding for training

for clinical skills needed by the clinical staff for the original intervention, and the

additional skills and expertise in mental health and chemical dependency the expanded

intervention demanded.

Micro and macro interactions. At the intersection of micro and macro factors,

the extraordinary willingness and effort of the clinical staff circumvented the regulatory

issues affecting sharing of health information such as HIPAA. The staff simply did the

cumbersome extra work that the inability to electronically share patient information

created. The enthusiasm on the part of the clinical staff that they were participating in

timely health care efforts of system building and healthcare reform was a significant

motivator for them in expending effort to meet the many challenges of the

implementation.

Mezzo component interactions. The lack of a basic resource of a functional data

system for the project significantly increased work and level of frustration for the already

overburdened clinical staff and also administrators, and slowed the implementation.

Fortunately the strong organizational structural and cultural characteristics (e.g. maturity,

flexibility) and leadership facilitated the program in moving forward despite such a

fundamental deficit. These characteristics also softened challenges in relationships

between the agency administering the implementation and their project partners.

Mezzo and macro interactions. Although macro factors such as regulatory

barriers and inadequate systems capacity increased the staff work burden and challenged

the implementation of the intervention, beneficial mezzo factors mitigated these mostly

intractable problems. Advantageous structural and cultural features of the organizations

and strong leadership were critical in pushing through and around these limitations.

Without these beneficial mezzo level factors sustaining the implementation through these

obstacles, it could have easily failed.

Discussion and Conclusions

The environment in which this intervention was implemented presented

formidable challenges and lacked many of the known facilitating characteristics of

providers, organizations, and the greater economic, political, and care provision systems.

Despite these obstacles, the intervention was implemented. Research participants,

including administrators and front line clinicians, provided detailed information about the

specific strengths that propelled the implementation forward and exactly how these assets

helped. This is vital information considering that EBPs are generally developed and

tested in better resourced and more forgiving environments.

In its original form the intervention was unsuited for the population due to the

assumption that the participants would have the resources to stabilize and manage their

health. In reality, the patients were challenged in their every day lives with severe and

multiple illnesses, lack of resources for basic physical survival, and active mental illness

and chemical dependency. The intervention initially contained some elements well suited

to this group such as the MI approach, and intense interface between the patient and

clinician, both helpful for their prior traumatic experiences in the health system and

resulting lack of trust. The administration of the intervention through a sustainable community base was also a good match. However, adding the psychosocial focus and social workers, as well as lengthening the program to accommodate patients' daunting basic needs, were crucial to its successful implementation.

Both clinical staff and administrators met significant challenges on a micro level from the patients and clinic providers, and on a mezzo level from organizational and inter-organizational barriers. Despite having their time dedicated solely to this program, agency clinical staff described a job that seemed almost humanly impossible considering the unwieldy caseloads and workflow, along with hazards encountered in the field. Staff turnover had dire, practically unfixable, effects on the program. Clinic providers made implementing the intervention harder by acting in direct opposition to its MI component when judging, shaming, and scolding patients. Agency and clinic administrators contended with micro-management, lack of communication, and capricious decisions from the funding partners, as well as no communication from the data system contractor. At the time of the interviews the program was managing to run without an up-to-date, functional data system.

It would have been understandable if these obstacles brought the implementation of the intervention to a complete standstill. Research participants reported several factors that seemed to propel the implementation along, despite the obstructions. Devotion of all administrators and clinicians to the intervention and agency missions of the health and well-being of vulnerable patients; enthusiasm about the intervention due to its innovativeness and impact on patients; extraordinary effort and creativity of the clinical staff despite lack of incentive through benefits; solid leadership by experienced and well-

networked individuals; strong elements of organizational structure and culture, such as the maturity of the organization and the culture of flexibility; and respect and cooperation between partners, agency administrators and staff clinicians, kept the implementation afloat. Notably, none of these factors are dependent on the immediately accessible concrete resources health and social service organizations serving this population are often lacking.

Given that core safety net organizations are unlikely to consistently gather the recommended resources or be able to proceed through the implementation process in the prescribed ideal manner, examination of factors compensating for the enormous challenges is important to future success of implementation of EBPs in safety net settings. This implementation offers some key guidance as well as further questions.

This study demonstrates the importance of picking an intervention that has a reasonable degree of fit with the patient population, providers, organization mission, and larger environment, before attempting to implement it. If the intervention cannot be adapted where the fit is poor, particularly in the case of patient characteristics and needs, it might not be viable. Conversely, features of good fit can facilitate an implementation and compensate for other challenges, as evidenced by the compatibility with the goals of the intervention and mission of the organizations delivering it in this case. Dedication to the matching organizational and intervention mission and goals was at least part of the reason the clinical staff remained so dedicated in very challenging circumstances. Prudent hiring practices for experience and traits may have contributed as well.

Choosing an intervention that was highly regarded and seen as having value by those delivering it, whether intentional or not, was a key driver in commitment to the

implementation at all levels. Notably, no research participants mentioned the validity of the evidence base, identified as a factor for successful implementation for the intervention in the literature (Damschroder et al., 2009). However, all groups of participants referenced the high quality of the intervention they perceived, and the enthusiasm and motivation it generated in them.

On the mezzo level, providing ongoing training and skill building was instrumental in providing clinical staff with a sense of efficacy and keeping them engaged and equipped with the proper skill set to manage and treat a patient population with severe illness and psychosocial stress. However, providing adequate education and training about the intervention to the entire constellation of clinicians involved in an implementation is also important. Failure to provide this for the community health clinic primary care providers, who were partners in the project, caused barriers to smooth implementation, possibly preventing patients from receiving the optimal benefit of the intervention.

The aforementioned are key strategies in which organizations can plan to engage before and during an implementation. On a mezzo level, the particular organizations involved in delivering the intervention also possessed some of the ideal advantages in implementation outlined in the literature, including solid structural characteristics, such as size, maturity, and well-developed networks, combined with strong leadership. The respect of staff, providers, and administrators for the various leaders of the project, united with their high regard for the quality of the intervention was a powerful element in the success of the implementation. Previously established organizational cultures of flexibility and learning blended with strong structural characteristics and leadership

allowed for crucial adaptation of the intervention and numerous episodes of crisis management and redirection in suboptimal circumstances (e.g. lack of data system delivery). These features helped maintain the viability of the implementation when it could have easily collapsed.

This very challenging implementation with its constant stream of obstacles clearly survived in significant part due to the exceptional effort of the clinical staff, and the support and buffer of solid structural characteristics, flexible organizational culture, and strong leadership. However, these interviews were conducted early in the implementation process and it unclear how long heroic staff efforts without benefits can be maintained and if the sustainability of an intervention can be dependent on that.

Similarly, given that not all and maybe not the majority of core safety net entities implementing EBPs have the mezzo level advantages these organizations did, prompts the question of what strategies less well resourced organizations could employ to implement EBPs with this population. It is an endorsement for ongoing efforts in entities across the safety net to continually be developing their capacity in the form of leaders, organizational infrastructure, and most importantly in these characteristically low resource settings, networks of all kinds. These cooperative efforts, including the system building that was a component of this intervention, are what will ultimately provide and sustain safety net systems that support the hard work of implementing EBPs for vulnerable patients.

Chapter 4: Problem Solving Treatment Implementation

The Problem Solving Treatment (not its real name) was a home-based intervention to manage minor depression in older adults. Problem solving treatment is a skills enhancing behavioral depression treatment (Mynors-Wallis, 2002) that was combined with physical and social activation in this intervention. The treatment was administered by an urban area agency on aging in collaboration with an academic partner. It was funded by the Centers for Disease Control through the academic partner. Clients already receiving services from the agency, who scored in the range of minor depression on a scale that was administered as part of the routine agency assessment, met the eligibility criteria for the intervention, and agreed to participate, received the treatment. Case managers at the agency performed the assessments, and identified and recruited eligible clients. Dedicated counselors, employed specifically for the project, delivered the 7-session treatment in clients' homes. The intervention included problem-solving steps and action plans for physical and social activity and pleasant events.

Research Design and Methods

Sampling

Stratified purposeful sampling was employed to recruit a mix of individuals performing each of the various roles in the implementation of the intervention. These roles included academic and agency administrators, clinical supervisors, counselors, and case managers. Counselors and case managers were recruited with the help of agency administrators through flyers, e-mails, and word-of-mouth. A total of 33 participants, including 9 program administrators, 4 supervisors, 18 case managers, and 2 counselors agreed to participate. All the administrators, supervisors, and counselors involved in the

implementation of the intervention agreed to participate, as did a majority of the case managers.

Data Collection

One individual interview and 8 focus groups were conducted with key informants. The groups were homogeneous by role (i.e. case managers were in groups with other case managers only). A total of thirty-three participants included an academic administrator, agency administrators, supervisors, case managers, and counselors; focus groups contained 2-7 participants each. The individual interview was completed because that individual had a unique administrative role. Focus groups, which are typically used to take advantage of communication between research participants, were chosen for that purpose (Kitzinger, 2006). They helped stimulate discussion and novel ideas among the homogeneous groups of professionals at the same organizational level (no hierarchy) who were performing the same tasks and had identical roles in the process of implementing and delivering the intervention.

The focus groups were conducted at the participants' respective places of employment in private offices or rooms. The interview was conducted by this qualitative researcher. The focus groups were conducted by this qualitative researcher, accompanied by a note taker. The semi-structured interview guide (Appendix 2) focused broadly on facilitators and challenges to implementing the intervention, employing open-ended questions. All focus groups and the interview were audiotaped and transcribed verbatim. The focus groups and the interview ranged from forty-five minutes to two hours.

Data Analysis

Grounded theory, an inductive method of analysis used to develop or modify theories about how things work by grounding them in empirical data (Corbin & Strauss,

2008), was used as the framework for this analysis. Open coding for themes, without employing a priori codes, was accomplished by analyzing each interview or focus group transcript line by line, using constant comparison, a process through which each piece of data is compared and contrasted with other data to build a conceptual understanding of categories (Corbin & Strauss, 2008). Subsequently, axial coding was employed to group initial codes into higher order themes and construct a larger theoretical framework. Theoretical memoing, a technique to track developing ideas and categories, and gradually develop theory, was the central to this process. (Corbin & Strauss, 2008). Atlas.ti software was employed in the analysis.

Limitations

There were several limitations to this study. What was gained in specificity was lost in generalizability due to small sample size and lack of breadth in the types of core safety net populations, interventions, and settings. Second, the data was initially collected for the purpose of evaluation and secondary analysis was conducted for these studies. This prevented theoretical sampling, usually employed in the method of grounded theory. Third, funders were not included in the interviews, nor were clients. Fourth, despite being briefed on confidentiality, there was a chance that peer focus group participants were not forthcoming or candid due to due to interpersonal issues, organizational politics, or the potential consequences of sharing information and opinions in the presence of colleagues. Fifth, this researcher's dual role as a researcher and front line core safety net clinician might have created some unintended bias.

Results

There were many factors, both beneficial and challenging, influencing the implementation of this program on intervention, micro, mezzo, and macro levels. Micro factors evolved from characteristics of the client population and treatment providers, such as illness profile and provider educational level. Influences in the mezzo arena were related to organizational level issues, such as staffing. Macro issues originated from forces beyond the individuals and organizations involved with implementation of the intervention, such as funding environment and government policies.

Challenging Influences

The implementation of this intervention ran into many challenges, including low enrollment and inadequate resources of personnel and funding. The intervention fit with the client population diminished with changing demographics. On the micro level language and cultural issues, and mental illness stigma experienced by the clients, created barriers to administering the intervention, as did clients' focus on having a regular friendly visitor, peripheral to the goals of the intervention.

On the mezzo level, there was concern about the counselors delivering the intervention possessing adequate clinical skills and training. Due to heavy workloads and lack of incentive case managers were described as not participating fully in their role of client identification and recruiting for the intervention. Case manager turnover presented a problem for implementation. Lack of standardization of the process of client recruitment for the project was identified as a barrier to optimal enrollment. Finally, the departure of the academic partner from the project and a difficult funding environment contributed difficulties for the implementation due to diminished resources. On the

macro level the funding environment was challenging and keeping the program funded demanded constant attention and adaptation.

Challenging intervention influences. Research participants identified several areas that presented challenges to effective implementation of the intervention. A good fit between an intervention and the demographics, culture, and needs of a client population is instrumental to successful implementation (Damschroder et al., 2009; Durlak & DuPre, 2008; Feldstein & Glasgow, 2008; Greenhalgh et al., 2004; Stith et al., 2006), as is patient-centered design that addresses barriers (Feldstein & Glasgow, 2008; Wandersman et al., 2008).   Research participants reported several ways in which this intervention fell short of those ideals. First, they questioned whether the intervention was compatible with the agency client population due to stringent eligibility criteria that excluded too many potential participants. Various mental illness diagnoses, lack of proficiency in English, and age less than 60 years created barriers to participation in the intervention for a significant number of agency clients. Second, the intervention screening tool was difficult for the clients to complete and did not always accurately identify potential participants who would benefit. Finally, research participants identified areas in which they thought the intervention might have negative effects on clients.

Eligibility criteria and intervention fit. Incongruence between the intervention eligibility criteria and the client population created a significant barrier to implementation according to research participants. These criteria resulted in low enrollment, described by a case manager as, "more screening out than screening in." There was a slim margin of eligibility based on degree of mood disorder. Clients could not suffer from too much or too little depression based on a depression screen score. Those clients remaining with

the required diagnosis of minor depression were few. A case manager described a

discouraging scenario with one of his clients.

> "She said, 'I got a call from that nice young man, but he said I was too depressed
> to be seen.' and she sounded so depressed when she said that. I thought I am not
> referring anyone again if I'm not sure if they are going to qualify because it is
> depressing to hear, 'You're too depressed for me to see you.'" – Case Manager

In addition to needing a diagnosis of minor depression, clients could not have other

mental illness diagnoses, including anxiety, bipolar disorder, thought disorders (e.g.

schizophrenia), or any psychosis. Clients with active chemical dependency and cognitive

impairment (e.g. dementia) were also excluded.

The agency had a significant population of Somali, Russian, Serbo-Croatian, and

Hispanic clients who could not participate due to lack of proficiency in English. One

case manager estimated that 2 out of 3 of her clients spoke English as a second language

(ESL) status so were ineligible for the program. Another estimated that in her practice

30-40% were Russian speaking. The final criterion was age. Clients initially were

required to be at least 60 years old to enroll, yet many of the agency clients were

younger, disabled individuals.

A case manager illustrated the severity of the exclusion criteria in reviewing her

client list for possible participants in the problem solving treatment.

> "So here is my 84 clients, first round I did. Thirty-one go out because English is a
> second language. Twenty-two went out because they are under the age of 55.
> Nine went out because they have intensive mental services, … One of them has
> dementia and 15 have depression, which left 1." – Case Manager

Research participants questioned the fit of the intervention with their client population

and its needs. One case manager described the eligible clients as the, "cream of the crop"

who basically didn't need that much help and could follow the intervention easily. Those

who really needed help were left out as this case manager describes.

> "I sit next to the counselor and hear him all the time talking to his clients, and it
> sounds like the focus of this particular type of counseling is with people who are
> more able than our general client, more physically able, more cognitively able and
> who can set goals, who are actively physically able to accomplish things . . . I see
> it more as a healthy aging kind of program … So I guess I don't see that it's a
> program that's going to meet the needs of a very big percentage of my clients that
> have so many needs that need to be met." – Case Manager

Screening tool. The depression screening tool, the Patient Health Questionnaire 9

(PHQ-9), on which program eligibility was based, happened toward the end of a very

long general assessment the case managers administered to new agency clients. Case

managers explained that when it was time for the depression screen many clients were

just too exhausted to reliably participate. Case managers also stated that clients were

confused and annoyed by some of the questions on the screen due to a combination of

lack of specificity of the probes, and the complexity of overlapping symptoms of

comorbid illnesses. One case manager gave the example of the depression screen

question, "Is everything you do an effort?" explaining that many of these clients had

chronic medical conditions and chronic pain that made activities of daily living a

significant effort regardless of mood. Several case managers called the screen "useless"

at accurately identifying clients who could benefit from the program.

Negative consequences for clients. Administrators and case managers both

expressed concern that there might be negative consequences of the intervention for

clients. The overall assessment, including the depression instrument, was used to

determine the number of hours clients were eligible for state-funded, in-home services.

There was speculation by multiple case managers and administrators that improved mood

after completing the intervention was responsible for decreases in eligible service hours on which these clients, who frequently had serious physical challenges, depended. They also suspected that clients were aware of this possibility and consequently under-reported or over-reported their mood symptoms to avoid having their hours cut. These concerns decreased case managers' motivation to refer clients to the program.

Challenging micro influences. Changes in client population demographics since the advent of the intervention implementation, such as age, language, and complexity and severity of illnesses, were thought to adversely affect the implementation of the intervention. Attitudes and behaviors of clients, such as lack of motivation to participate in the intervention with the purpose and goals originally intended, cultural behaviors and attitudes that clashed with the Western medical model-based intervention, and reluctance to accept mental illness diagnoses due to stigma, hindered the implementation process. Staff members also generated some problems to successful implementation of the intervention, including questionable counselor credentials and skills, and resistance to recruit intervention participants by the case managers.

Client demographics. Demographics of clients, as well as level and type of disease burden, strongly affect the ability to successfully implement interventions (Bhattacharyya et al., 2009; Damschroder et al., 2009; Feldstein & Glasgow, 2008; Stith et al., 2006). A gradual change in client demographics over the course of the program implementation largely shaped the problem of poor intervention fit discussed in the previous section.

Over the course of several years the agency client profile gradually shifted from typical aging elderly to disabled and more medically complex as this counselor describes.

"The client is more complicated that when I started 8 years ago. We were serving really elderly and those frail, elderly people with just normal aging. But right now all the clients coming in are just more than that." - Counselor

In addition to having complex, chronic medical illness, the new client population

also had significant mental illness. A supervisor explained, "We don't have cute little old

ladies any more. These are people with advanced mental health and behavioral issues."

The client population also decreased in age due to younger individuals with serious

physical and mental illness meeting requirements for funding. A supervisor explains the

shift.

"Almost half are less than 60 years old, which is a big change in the last 20 years. This is similar in our home-based clients. Many younger clients receive SSI because of a mental disability." -Supervisor

Finally, the number of English as a second language (ESL) clients increased. One

case manager estimated that two out of three of her clients spoke ESL. Many of those

were not able to participate due to lack of proficiency in English. These new

demographics greatly decreased the likelihood of the average client being eligible to

receive the intervention, making it a mismatch with the agency's more recent client

population. Staff described the agency client population as "diverse" and expressed

disappointment that the intervention was not available to the breadth of clients.

Client attitudes and behaviors. Clients who were enrolled in the program

sometimes became sidetracked from the primary goals of the intervention by their

pleasure of having the social contact of a regular visitor. Counselors explained that many

of the clients were isolated and lonely and primarily wanted someone with whom to

socialize. They lacked motivation for the primary program goal of problem solving. For

example,

"They have the individual attention from one person that is really caring for them and that helps them, and often times the client tells me, 'I am so glad that you come in so I can have someone to talk to', but I always remind them that is not the purpose that I am coming in." - Counselor

This pleasure at having a regular friendly visitor in their homes also led to problems with termination, as the program was time-limited. Instead of using the skills and tools presumably acquired through the intervention, according to a case manager, some clients continued to call their counselors. An administrator illustrated the challenge of breaking ties when the intervention was completed.

"The client is used to hanging out with an extra person in their home, and this can be challenging for some clients. They miss the interaction with someone that they have bonded with." - Administrator

The non-English speaking population, which was a significant crosscut of the total clients served by the agency, and the elderly population, presented cultural issues, mainly related to mental illness stigma. Staff expressed concern that the intervention was a Western model that was difficult to adapt to other cultures. A case manager gives an example.

"My Russian clients, they always say no when I do a referral, about 99% they say no to anything about the intervention because they are very private you know in their cultures. They see a mental health label, it means you're crazy; they don't see the distinction." - Case Manager

Clients affected by mental illness stigma due to cultural or societal influences presented a major obstruction to implementing the intervention. Case managers stated that clients felt "threatened," "afraid," and "labeled" if told they were suffering from depression. As this administrator explains, many of their clients were reluctant to accept a mental illness diagnosis.

"For as much as we try to have the program described in sort of non-clinical terms, ultimately people do have to deal with the fact that they are depressed.

You can only couch that in mood and other things for so long but sooner or later people have to accept that they're depressed and that does put them face to face with stigma about being mentally ill." - Administrator

This resistance to accepting a diagnosis of depression due to mental illness stigma, in addition to being problematic in various ethnic cultures, was also reported to be a generational issue. Many older clients were reluctant to believe they had mental health problems, and were scared about potential treatment. A counselor in a different generation than many of the older clients clarified this issue.

"We're working with an older population mostly, so they don't have quite the same amount of exposure that our generation has to being willing to talk about our feelings and emotions. So you have an older population that is maybe more protective and generally not as forthright about those kind of things." - Counselor

Despite that insight, an administrator explained that they had not made much progress in identifying the specific stigma-related concerns of these clients, or developing strategies to overcome them.

Counselor credentials, skills, and training. Case managers expressed concern about counselors' credentials and training. Some of them believed they were not really adequately trained to do mental health counseling. Others thought that they did not have enough training for the intervention considering the recent major cultural, age-related, and illness profile changes in client demographics. One case manager stated that she was reluctant to use the term "counselor" when introducing the program to her clients because she felt they were not professionally qualified. Another explained reluctance to refer those who met the initial criteria due to concern that it was not administered by true mental health professionals.

"If I had people that had higher depression and the first sentence out of their mouth is, 'This started in 1976.' and they want intensive counseling type stuff, I've been hesitant to refer thinking in my head I need to get them to a legitimate, and I hate to use that word, legitimate mental services, where they have a case manager or psychiatrist." - Case Manager

Case manager resistance. Counselors delivered the intervention, but case managers were largely responsible for the recruitment. According to the counselors, seasoned case managers were difficult to acclimate to this role. Training them to promote the intervention was difficult due to the stress of their current positions and a "mindset" against accepting more duties. Counselors felt their resistance to refer was a barrier to successfully implementing the intervention.

Challenging mezzo influences. Research participants offered three general categories of obstacles to implementation of the intervention at the organizational level: resources, staff relations, and procedures. Lack of sustained, dedicated resources can derail an implementation (Aarons et al., 2011; Damschroder et al., 2009; Durlak & DuPre, 2008; Fixsen et al., 2005; Greenhalgh et al., 2004; Mendel et al., 2008). A significant gap in personnel and funding with no immediate strategy or plan for replacement was the result of the departure of the academic partner. Staff turnover is a problem widely noted in implementation of interventions, as is lack of planning for this inevitable event (Greenhalgh et al., 2004; Durlak & DuPre, 2008). Case management staff left their positions with some frequency during this implementation and lack of prior planning made these occurrences significantly disruptive. In addition, the training for new staff was seen as inadequate. The good managerial relations and support crucial for line staff motivation and effectiveness for successful implementation (Feldstein &

Glasgow, 2008; Fixsen et al., 2005; Greenhalgh et al., 2004) was impaired with

overburdened and unfairly compensated case managers. In addition there was no

incentive for case managers to refer clients, or for counselors to treat clients. Finally,

standardization and monitoring of certain procedures necessary for sustaining

implementation (Aarons et al., 2011; Damschroder et al., 2009; Fixsen et al., 2005;

Greenhalgh et al., 2004) were absent in some cases.

   Departure of academic team. Research participants reported noticeable decline

in personnel and funding when the academic partner left. The program was initially a

research project and was managed by the academic research team. When the research

team left, they were not replaced with dedicated agency personnel, as explained by this

administrator.

> "We lost some resources when we went from research to dissemination. The
> former research coordinator for the randomized controlled trial did follow-up
> screening after the PHQ-9 screen and introduced the program to the clients, which
> then slid onto the counselors. Soon, the counselors were doing screening,
> recruiting, marketing, plus delivering the intervention to clients. So there was a
> service gap after the research ended. We never really recovered from that."
> - Administrator

   Recruiting, marketing, and data collection were serious gaps, according to

another administrator. Consequently, managers, supervisors, and staff picked up the

tasks of the program as they were able, in addition to their regular duties. This added

extra pressure and work for the staff and also obstructed the optimal implementation of

the intervention. A counselor described how the burden of recruitment took valuable

time away from intervening with clients.

> "You can't see the time that is put into recruitment, publicity, making calls and
> not connecting to people. I have 3 referrals and I still haven't talked to any of
> them. I called last week and I'm calling this week and I've reviewed their case
> care plans and I've spent time checking that out and I talked to one." - Counselor

Case manager turnover. Administrators and supervisors spoke about deficits in personnel resources, specifically case managers. They mentioned significant case manager turnover as problematic, considering most of their case managers were long-time employees who were very experienced. Turnover happened for a variety of reasons one of which was case managers moving into counselor positions. Training new case management staff took a significant amount of time, and the multitude of things they needed to learn included identifying and recruiting participants for the problem solving intervention. This piece of the training was not included in the general case manager orientation and therefore, according to some staff, overlooked. This left the program with a gap in case management personnel while training took place, but also a gap in adequately trained personnel to identify and recruit participants.

Case manager challenges and inequities. Case managers, and other research participants as well, felt that they confronted many challenges in their participation in implementing the program. They did not have the time they needed to adequately perform their roles of participant identification and recruitment, which significantly jeopardized the implementation. They also expressed unhappiness and disenchantment with the way they were treated as stewards of the intervention.

Providing dedicated staff for implementation efforts is ideal, but when that is not possible it is necessary to minimize competing demands for staff who already have significant responsibilities (Aarons et al., 2011; Feldstein & Glasgow, 2008; Proctor et al., 2009). A primary problem in implementation was adding the extra duty of recruitment to case managers' already voluminous, stressful workloads. For the most part, administrators, case managers, and counselors voiced concern that case managers

did not generally have time to recruit clients for the intervention. An administrator

explains,

> "I happen to think the case managers have a hard enough job. I would like to see more of the work of getting people hooked up to the intervention taken off the case managers' plate because I think there's a lot that they have to do and the system ought to make much more of this possible. For instance, there's no real reason the case manager has to make the referral." - Administrator

A case manager agreed that using case managers for referrals was illogical.

> "I know that other kind of health research programs are having difficult time recruiting participants and subjects. I think one of the problems is that you are laying all the responsibility on the field staff to do the recruitment. I think the recruitment needs to be shared a little bit more with someone else."
> - Case Manager

Others explained that case managers' low priority of recruitment for the intervention was

due to more emergent client problems.

> "Case managers have a whole wide range of responsibilities. There are lots of needs that the clients have that the case manager is responsible for and so I think the intervention becomes a competing demand and sometimes in the priority it's a low priority. The person really is about to lose their housing. The fact that they're depressed is not something the case managers necessarily spend a lot of time worrying when they first pick up the case." - Administrator

A case manager gave a specific example.

> "I think it sometimes becomes a low priority with all the other things that need to be done. There are skin issues, or if they need equipment right away, those things I do first. If they are super depressed, then they don't qualify and those are the people that would be more urgent if they were that depressed. If they are just kind of mildly depressed, okay, put that over here." - Case Manager

The increased workload was not the only factor that contributed to case managers'

demoralization and discouragement. Adding to the case management burden, the

intervention was just one of many state programs and pilots they had to juggle with their

clients. In addition, case managers felt much pressure from management to recruit clients

for this intervention specifically, and felt "blamed" for the low enrollment. One case

manager described it as, "a culture of guilting you into making the referral." They felt

the pressure was due to funding being dependent on outcomes. A case manager

described the experience as "pressure from management to refer, refer, refer, to justify

the research and the money that was coming in."

Case managers also resented that the number of referrals they made often showed

up in their performance reviews. One case manager explained, "There's the pressure for

us to refer people to the intervention, I mean on my evaluation, oh, you only referred 1

person …" Administrators acknowledged that pressure. One administrator offered that

counselors felt analyzed as well, contributing to a general culture or criticism in the

organization, as he explains.

> "I think there are issues around getting the program implemented appropriately
> that are causing sort of critiques and some criticism of a whole lot of people
> within the system." - Administrator

Managerial and supervisory actions and behaviors that created this environment of blame

and criticism thwarted the sense of psychological safety for staff members that supports

successful implementation (Aarons et al., 2011; Greenhalgh et al., 2004).

The case managers bore the brunt of adding recruitment to their duties without

extra compensation, so they felt frustrated that the intervention counselors had to assume

relatively little of the burden. Supervisors describe the situation.

> "You have case managers knocking their brains out to do ten to fifteen
> assessments a month and clients calling all of the time. They are barely making it.
> The counselor in the cubicle next to you may have six to eight clients. People
> know what they do. There is a big discrepancy between the case managers and the
> people that do the intervention." - Supervisor

> "The half time intervention counselor sees 6 clients. A half time case manager
> sees 45. So the case managers get a little testy. That has been problematic."
> - Supervisor

The situation for the case managers was difficult enough that one administrator expressed concern that between their already heavy caseloads and new intervention responsibilities, they might pursue unionization.

Lack of incentive. Without rewards, or incentives at the least, for staff members instrumental in implementing an intervention, the process becomes precarious (Damschroder et al., 2009; Durlak & DuPre, 2008; Feldstein & Glasgow, 2008; Greenhalgh et al., 2004; Wandersman et al., 2008). Case managers became discouraged about referring clients not only because they were not compensated monetarily or otherwise for their extra work, but due to the stringent eligibility criteria, the chances that their efforts would be fruitful were small. An administrator describes the logic in case managers' lack of enthusiasm for referring clients to the intervention.

> "If we exclude people who have "x" then your incentive for making the referral is pretty low because there's all these reasons that that referral is not going to go anywhere. If you knew that you know 9 out of every 10 people you refer is going to get treated, then you have more incentive to go ahead and refer people. I'm not sure that they have that. I think they probably have the sense that a lot of these people aren't getting treated, so why go through this process." - Administrator

Another barrier to referral was lack of feedback about the clients who actually screened in and completed the intervention. Both an administrator and a supervisor referred to the post-referral period as a "black hole." One supervisor related, "We hear about it anecdotally when people come back from conferences. That's a long way around." Administrators also expressed concern that counselors had limited incentive to treat as many clients as possible with the intervention, as illustrated in the following example.

> "The counselors really have no incentives for treating people because they are paid regardless of what their caseload is. They're going to get paid. If this was a fee for service kind of thing, then they would have an incentive because every time they treated somebody they get paid. That's sort of the way private practice

works … so even short of that I don't know that there are any clear productivity targets or expectations." - Administrator

Standardization and monitoring of recruiting. Another difficulty in effectively implementing the intervention was lack of standardization and monitoring of recruiting procedures. Staff members and administrators remarked that there was no standard system or procedure outlined for making a referral, including lack of time frame. A counselor explained that this was done purposely to simplify it for overloaded case managers to refer whenever and however they could manage. However, other research participants felt this was limiting the effectiveness of referrals as expressed by this administrator.

> "I think having a set system would probably help them so that everybody is clear that this is the way the whole process is supposed to work, I'm not sure they have that." - Administrator

Case managers expressed that referrals might be easier and more successful if they had a standard script for introducing it to clients. One case manager speculated about the lack of uniformity of the process.

> "I'd be curious to know what is being spoken, what spiel is being used by case managers to talk about the intervention. If you reviewed every case manager you might get 65 different answers to what the spiel is." - Case Manager

Another offered this suggestion.

> "If there was some short quick concise way to talk about the program that was standardized that wouldn't take up too much time that there would be enough information that can be conveyed to the client to have an accurate account of what it's about. They could say yes or no, or maybe, maybe meaning that you can refer that on to the counselor to talk to the client a little more. I think that would be helpful." - Case Manager

There was also concern expressed about the lack of monitoring of the referral process, as if recruitment was given to chance that was completely dependent on the style

and amount of time of individual case managers. Some case managers, "never referred"

clients to the program and some did. An administrator explained this scenario.

> "I don't think the case managers have any concept at all about the significance of
> depression to their caseload. They know the number of cases they have, they
> know the number of annual assessments they were supposed to do, but I'm not
> sure this gets monitored and reported in a way that people are conscious of it. It's
> more if you're an individual case manager and you happen to be committed to
> making sure that this particular client gets treated, then you follow up on your
> own." - Administrator

As discussed in a previous section, low enrollment was identified as a problem,

due to stringent eligibility criteria, such as language proficiency. However, other factors,

such as lack of standardization of processes, were definitely contributors. As one

administrator explained, "Fifty percent of our 4,000 clients speak English as their primary

language, and less than 100 have been enrolled in the intervention."

Intervention screening. Supervisors and case managers expressed concern about

intervention screening practices. First, the screening used by case managers to refer

clients to counselors for assessment for the program was only two questions long. They

felt this was an inaccurate way of identifying clients who could benefit, often screening

out those who might fit, and screening in those who would ultimately be rejected.

Second, the first contact and screening by counselors was frequently done by telephone.

Supervisors and case managers thought this was not an optimal way to establish rapport

with clients and encourage them to enroll in the intervention. They also mentioned that

many clients did not have phones, did not answer their phones, or were hearing impaired.

Challenging macro influences. Macro challenges were primarily related to the

funding environment. Obtaining consistent funding was difficult. An administrator

explained that initially, after the RCT, they "cobbled together" money using discretionary

funds and some housing funding. Research participants remarked that the state had not

been very helpful with funding to sustain the implementation and the money they

received from the academic partner as part of the research project was minimal. They

had recently received external money through a county levy, which would fund two

contract agencies to deliver the intervention. However, ongoing and future funding for

the intervention remained an unknown and continual challenge. An administrator

described the funding mix.

> "Through discretionary funding through the Older Americans Act, through
> Medicaid, since we serve Medicaid clients, through the county human services
> levy for a new counselor, and subcontracts, a CDC grant for the intervention,
> which is funding these focus groups, I believe, and a university contract to pay
> some of a counselor's time. It sounds robust but they are little pieces."
> - Administrator

There was also tremendous pressure to maintain the numbers of clients

participating in the intervention to justify the funding. One administrator remembered a

time in which staff members were told to loosen up on the diagnostic eligibility criteria.

They were not necessarily seeing clients with depression in an effort to maintain the

numbers to continue funding.

In addition to a somewhat scarce funding environment, the intervention ran into

an obstacle with a funding mandate. The initial client eligibility criterion of older than 60

years of age was solely based on requirements of a funding stream, as an administrator

explained.

> "The type of clients that we can serve is based on funding source, so we have to
> put clients in silos. But the problem with funding tied to 60 and over is that the 50
> to 60 year old clients are not eligible. This can be frustrating since it was a 60 and
> over issue only because of funding source." - Administrator

Beneficial Influences

Although there were many obstacles to the implementation of the intervention, they were managed and circumvented by the influence of beneficial factors. The innovative nature of the intervention, the accolades it received, and positive results reported by clients and witnessed by staff clinicians, enthused administrators and staff to deliver it despite problems. It helped that this intervention was well matched to the mission of the organization administering it, and some needs of the client population and larger health services systems. Organizational structural assets, leadership, and culture of flexibility fostered adaptation of the intervention, which was crucial due to the challenge of changing client demographics. Administrative ingenuity and overall staff buy-in transformed potentially deleterious issues into manageable ones that made the implementation sustainable.

Beneficial intervention influences. Despite the misalignment between the intervention and the client population already discussed, several characteristics of the intervention created efficiencies in its implementation. The intervention met the needs of the client population and wider service infrastructure, filling some significant gaps in care. The home-based setting combined with the less clinical, more casual nature of the intervention, described as "mental health lite" were key factors in this congruence. The intervention was also compatible with the mission of the organization administering it. The state of the art quality of the intervention, the recognition the agency received for it, and its effectiveness, based on observation of clients and their feedback, created an environment of enthusiasm in the organization.

Fit with client population and community needs. The program played a unique role in the community, filling needs that no other program did. The intervention addressed minor depression, an illness that often "falls through the cracks," as one case manager explained. An administrator clarified that it is such an important intervention because, "There is a lot of mild depression that goes untreated. The longer it goes, the harder it is to benefit from the rest of the service plan. Thus there is a huge need and benefit for the people." The home-based nature of the intervention also filled a need for the frail, elderly, homebound population because most mental health services were office-based and not available in the home.

Home-based mental health service. Research participants reported two specific features of the intervention that enabled its implementation. First the home-based nature of the intervention allowed a large segment of the agency population, the homebound (frail elderly and otherwise), to participate. A case manager pointed out other benefits of in-home services.

> "It's such a barrier to get into a bus or go into a mental health agency. The fact that counselors come to their home is really good." - Case Manager

Participants explained that there was a dearth of in-home mental health services in the county so this filled a definitive need. Many of the clients who benefited would not have been able to receive home-based mental health services outside of this program. This motivated staff to deliver the intervention, and clients to participate in it.

"Mental health lite". The delivery of mental health treatment in the intervention was described by a supervisor as, "A low key approach to providing mental health services. It is mental health lite, which is more acceptable to older adults," adding, "No one wants to be considered crazy." The stigma of mental illness was a significant barrier

to treatment for many of the clients in the agency population. Elderly individuals typically had difficulty accepting a mental illness diagnosis and consequent treatment, as did clients with cultural attitudes and beliefs that deemed mental illness unacceptable. By offering the intervention's problem solving treatment as part of an entire package of services and eliminating heavy clinical language, by substituting "counselors" for "therapists," clients were more likely to participate.

Compatibility with mission. According to research participants, a large part of the mission of the agency administering the intervention was to help people live independently as long as and with the highest quality of life possible. They felt the program facilitated that purpose by addressing issues of social isolation, emotional needs, and difficulties managing health. The program naturally wove itself into the general purpose of the agency, creating one less obstacle to implementation.

High quality intervention. Research participants expressed great enthusiasm for delivering an innovative, state of the art intervention. They explained that the program gave the agency a certain amount of notability because it was seen as an exemplary model that other states and agencies would like to adopt. It was also been a topic at national conferences. A supervisor and an administrator describe how it impacted the agency and staff.

> "The program has enhanced our reputation as an agency tremendously. We've gotten a lot of attention from a number of sources … it has been the topic of a number of conferences, and it is nice to feel that you are not just reacting but being proactive as an agency versus not just responding in a crisis model. We can anticipate needs and then respond to them." - Supervisor

> "There's also a prestige factor. We are a known entity. We recently presented in Nashville about the program. There's an energy you get. We worked hard. It was not easy, but the solutions actually worked and now other agencies are interested and want to know how to do the intervention." - Administrator

Beneficial micro influences. Front-line staff and clients facilitated the implementation of the intervention in multiple ways. Clients gave feedback about their positive changes resulting from the intervention; counselors effectively engaged clients and case managers; and despite pressures on case managers, staff members (case managers and counselors) largely bought into the intervention with enthusiasm.

Client feedback. Clients provided positive spontaneous verbal commentary, and also written feedback on exit surveys, about the program. One counselor made a habit of bringing clients when introducing the program to the case managers because their praise of the intervention helped motivate case managers to make referrals. An administrator referred to client exit surveys as filled with "glowing remarks about how much they enjoyed being in the program." Other administrators remarked they had never heard of a client saying anything negative, and the percent who disenrolled was very low, and usually due to prohibitive health issues or moving. A supervisor and a case manager gave some reports of positive feedback they received.

> "Several clients have had real success. They're like poster children. There is this stereotypic view of the depressed person, not getting out of their apartment, then going through the program, going down into the community room, getting engaged. Their testimonials show this, at least two that were quite life changing."
> - Supervisor

> "I still see a resident in one of the housing authority buildings who says wonderful things about the counselor and about the program. He was involved in the program and he's a leader and he's a member of the resident council of this particular building." - Case Manager

The positive feedback motivated the case managers to engage with the program, as illustrated by this case manager who stated, "I would be inclined to utilize the program because I haven't heard a lot of negatives."

Front line staff members were also enthused about the results of the intervention they witnessed in their clients. They reported feeling "empowered" by the positive changes they saw in their clients, as related by this counselor,

> "They are able to make changes and they are improving their quality of life and we can see it. It is really empowering for us to see that we had something to do with the changes this person made in themselves. From Session 1 to Session 8 you can see they are dressing better; they're smiling more." – Counselor

Positive progress they witnessed in their clients, in addition to improvement in mood, included eating better, exercising more, losing weight, cooperating with caregivers, decreasing hospitalizations, setting up appointments with health providers, increasing independence, decreasing hoarding and clutter, quitting drinking, establishing or reestablishing hobbies, and improving self-rated health. A counselor provided this vignette about one of his clients.

> "He was an active alcoholic; he stopped drinking and he increased his social activity and increased his artistic output. He was actually an oil painter, and he was able to make enough oil paintings to have a little show in his building, so I consider that to be hugely successful, especially the drinking. That was a major accomplishment." - Counselor

Effective engagement by counselors. Although case managers had some concerns about the credentials and training of the intervention counselors they also delivered praise about them. They described the counselors as very enthusiastic about the intervention. They also admired the skills the counselors demonstrated in engaging clients. Two case managers gave the following examples.

> "She seems to be really able to relate to the people in asking them, keeping them centered and focused." - Case Manager

> "The counselor has this great ability to talk to people and get them to talk to her. She got me to talk to her; it's not an easy thing to get someone to do."
> - Case Manager

They also reported feedback from their clients about how much they liked the counselors and benefitted from the intervention. One case manager remarked, "They love her. Anyone I have gotten to engage with the counselor, they love it!"

Staff buy-in and enthusiasm. There was a significant amount of buy-in to the intervention by agency staff due to their enthusiasm about its quality and the results they witnessed. Case managers, for whom the program made extra work, were willing to participate for the benefit of a "better quality of life" for their clients. Research participants expressed that the concrete evidence they saw of solutions to clients' problems motivated them to actively participate in the intervention of the program.

Multiple staff also spoke about successfully using the intervention on themselves and sharing intervention techniques with people in their lives outside work. Counselors explain their utilization of the intervention.

> "Well, I think when I remind a client to use that skill I'm reminding myself constantly that I can benefit from the same thing too." - Counselor

> "I explained it to them and one friend said I really need that and I told her I cannot do it outside the system but I did explain to her what it is all about. She said that is a good idea and she should focus on other areas instead of focusing on all the things that make her depressed." - Counselor

Another facet of the program that excited the agency staff and administration was the increasing empowerment and independence the clients gained, as this supervisor explains.

> "My background is nursing and I believe in wellness and resources and improvements vs. creating a silo of dependency. We are rewarding people for their small steps." – Supervisor

In addition to the benefits to clients, staff were also motivated by benefits to the case managers and the agency. The increased stability in the clients, attributed to the

intervention, was thought by some participants to create more stable caseloads for the front line case managers. Staff members were also inspired by benefits to their agency such as the opportunity to work with a university, and the positive public relations about the intervention that spread out to the Board of Directors and the State. Research participants appreciated the way they perceived the intervention to impact larger systems of which the agency was part, such as decreasing state health care costs, relieving the mental health system burden, and encouraging appropriate health and social service use by clients.

As previously mentioned, administrators and staff were also satisfied and motivated by the enhanced reputation that administering the intervention gave to the agency. Administrators explained that their participation had gotten attention from a number of sources and that they had been able to present at a number of conferences on the intervention. Front line staff expressed pride in being "a model to society, to the rest of the nation" due to the intervention. A case manager summed it up stating, "We were just hearing about how wonderful we are in our innovative programs, so looking good, that's important."

Beneficial mezzo influences. There were many influences at an organizational level that nurtured the implementation process. Resources already in place at the agency and those added for the intervention, including an academic partnership, a comprehensive service package, user-friendly processes, and a flexible organizational culture supported the implementation of the intervention.

Resources. The foundations of mature organizations with already established social networks and resources are a great asset in successful implementation (Aarons et

al., 2011; Damschroder et al., 2009; Feldstein & Glasgow, 2008; Greenhalgh et al., 2004)

and buffered challenges in this case. The agency initially provided certain resources and

built others along the way that supported implementation of the intervention. Those

available at the outset included technological infrastructure, a data system, and a

screening tool. Electronic referral capabilities, treatment team staff, and clinical

supervision were added for the intervention project. Research participants explained that

already having a depression screen (PHQ-9) in their routine client assessments that were

administered on a yearly basis was a big boost in implementing the intervention because

it allowed for quick identification of potential clients. Having a well-managed data

system already in place at the agency allowed both case managers and clients to easily

access these depression scores. An administrator explains,

> "The fact that they have this depression screen in their routine assessments is a
> huge benefit. It is the first step of the treatment - identifying people. Having it in
> a computer database means that they can look it up and not have to rely on an
> individual case manager to remember who is or is not depressed. They have a
> system where they can look this up." - Administrator

Initially, when case managers made referrals they were using paper forms. As the

project progressed the form was made available online. Case managers believed this

facilitated implementation of the intervention because it provided a record and paper trail

that held the agency and case managers accountable for responding to client referrals.

Beneficial academic partnership. By partnering with the university to deliver the

intervention, the agency gained resources that not only facilitated the implementation of

the intervention, but benefited the organization and its staff and clients in general. They

gained personnel, money, mentorship, and an additional program for their clients

resulting in more stable caseloads for front-line staff, extra attention for the clients who

participated, and career advancement opportunities for the case managers. All these strengthened the implementation of the intervention.

The university provided a small amount of money for implementation of the intervention. Initially they also provided a research coordinator who was responsible for the recruitment and follow-up screening of clients. Research participants mentioned new learning by administrators and staff as a result of the intervention partnership. An administrator spoke about gaining experience with EBPs and RCTs.

> "This was our first effort in randomized controlled trial research. The agency had never done something like this before. There was a learning curve, about what evidence-based practice is, and there was not much evidence-base in the field, so we worked with the university, learned about intervention and control groups, problem solving treatment, and appropriate measurements." - Administrator

Participants also cited chronic disease management and MI as knowledge and skills they accrued in administering the intervention.

Comprehensive service package. The addition of the intervention was seen by research participants as one of several innovative program additions that contributed to a, "comprehensive service package." Having this package was seen as beneficial to both clients and staff. Clients benefited from the array of service options rather than what one case manager called a, "one size fits all" situation. This service enhancement provided motivation to deliver the intervention, as this administrator described.

> "The agency has embraced the program because there is a strong desire to provide a comprehensive service package to the clients that we serve, not just stand alone services." - Administrator

Benefits for case managers. The case managers did additional work for the intervention without receiving any formal rewards or benefits for their participation in the intervention. In addition to the incentive of increased progress and stability of their

clients, they experienced some benefits related to their workloads that might have

motivated them to participate in the intervention implementation. Counselors concluded

that it was, "saving more time than it is costing for the case manager" and "more a benefit

than taking more time of theirs if you look at the whole intervention program." Although

case managers did not express this belief, they did voice appreciation for the way the

program sometimes lessened their workloads and provided consultation about their

clients. This had the effect of making caseloads more stable and as one counselor

explained, "In the long run when the client is more stable it saves them a lot of work." A

supervisor described the program as a "resource for case managers."

Case managers were required by the State to fulfill a certain number of contacts

with clients yearly. When program counselors went to see the clients it could count as

one of these contacts, as this case manager explains.

> "We have to make note of the contact. And there has to be certain types of
> content for it to count. But he's (the counselor) been educated on that and he
> knows that it is benefiting us so he is willing to do that." - Case Manager

Besides fulfilling state requirements, contact with the counselors created other benefits

for the both the clients and case managers. The extra attention to clients through the

intervention helped clients get their needs met, provided more eyes on the client, and

created partnerships in treatment between case managers and counselors.

The contact with counselors through the intervention helped clients get more of

their needs met than they did with only overburdened case managers. According to case

managers, the isolated clients benefited from more people being interested in their

well being and having more time to spend with them. The case managers explained that

they only visited the clients once or twice a year, so the six home-based interactions with

counselors provided significant extra attention. A case manager explained how

counselors also caught client issues that might otherwise slip through the cracks.

> "…but it kinda helps balance some of that load, those things that we just might
> have gone by the wayside if she hadn't been there." - Case Manager

The program also provided an "extra set of eyes" on the client through the

counselors, allowing more frequent and comprehensive assessments of client well being

for which case managers had limited time. This additional observation provided

important information about clients, as communicated by this case manager.

> "That is another set of eyes and ears with the client that can see things that aren't
> quite right. He can convey to us clients' needs and concerns he's not there to
> meet, but he can inform me of it." - Case Manager

The extra contact had the advantage of providing not only information, but unique

perspectives about client situations. A case manager explains,

> "Another set of eyes on the client. Any time you have a second or third set of
> eyes looking in, because we get so tunnel-visioned on what our purpose is that we
> could miss something and another person gets out there and they can see and pick
> up and bring us … they drop one sentence that no one has heard and it sheds a
> whole lot of light …" - Case Manager

Counselor involvement with clients through the intervention also afforded case

managers partnerships in client care through information sharing, mutual teaching and

learning, and consultation. A case manager described the arrangement as "being part of a

team." Counselors and case managers shared their different perspectives on clients and

staffed clients together to the benefit of all involved. Several research participants

described the benefits of this interaction.

> "I think he (the counselor) saw her needs in a different way than I did and he was
> helpful trying to find the best help for her." - Case Manager

> "Counselors have a different spin, working in partnership to discuss cases helps
> the case manager think about cases a little bit differently." - Administrator

There were a couple additional ways the intervention reduced case managers' workloads. First, the intervention provided an in-house option to refer clients with significant depression scores. Case managers were mandated by the state to refer clients over a certain score to services and it was much easier to fulfill that requirement within the agency than to access the community mental health system. Second, case managers saw the intervention as opening career opportunities for them as program interventionists. They explained that several had made that move from case manager to program counselor.

Referral process. Despite the concerns already discussed about lack of standardization of the client recruitment and referral process, some research participants expressed that the ease of the process of referral to the program enabled intervention implementation. They reported physical presence in the agency of the counselors, education and marketing efforts by the counselors, marketing by the case managers to clients, and flexibility of referral methods all contributed to this success.

The presence in the agency of the counselors who delivered the intervention was a reminder and an incentive for the case managers to make referrals. Physically seeing the counselors on a regular basis during the course of the day prompted case managers to remember to make referrals to the program. In addition, knowing the counselors and feeling comfortable with them increased case managers' motivation to propose the program to their clients. A case manager explains,

> "I was just thinking that it's probably also a little easier to sell it to the client since we know the counselor and we can say, yeah we know this person, they are nice." - Case Manager

Counselors had multiple strategies for educating case managers about the program

and reminding them to refer. They attended case manager meetings and used brochures,

flyers, and posters to educate and remind case managers and aid them in marketing the

program to clients.   An administrator describes some of these efforts.

> "The counselors attended team meetings to talk up the program, refreshing the
> case managers about referrals … The list that the counselor gives the case
> managers also helps. We want to have them thinking before they talk to the
> clients. Be prepared, remember to bring flyers." - Administrator

Case managers expressed appreciation for the reminder lists counselors sent to them over

email with clients who likely fit the profile, and the educational materials about the

program for both clients and case managers they handed out.

> "It was helpful to me and I don't know if the counselor is still doing this, but he
> was looking at what assessments I had coming up and would send me an email
> saying, 'So and so looks like they might be a good candidate for the program.'
> and that was very helpful to me to put it in front of me and it did increase my
> attempts to get people into the program." - Case Manager

> "She's (counselor) on my team as well so she's always giving out brochures,
> she's really great to consult with, great to talk with." - Case Manager

> Case managers particularly liked the flyers that the counselors prepared for

them to give to the clients. They appreciated having a tool with them at client

assessments to help explain and market the program to the clients who were likely

eligible by virtue of the depression screen done during the assessment. A case manager

explains.

> "What I like, and he still has them, is the picture of him and a little advertisement
> flyer about the program, because I take those with me just like I do the forms.
> When I'm doing the assessment and the client already scored that mark of 5 or
> better, I already have something to hand to the client. So it's a flyer that's used as
> an advertising tool as well as a door opening to the counselor when he calls the
> client. That, to me, works." - Case Manager

> Counselors also regularly sought out new case managers to brief them about the

program and gave updates about the program to case management teams once a quarter.

They also occasionally brought clients engaged in the intervention to case manager team

meetings as this counselor explains.

> "I've talked about the program in staff meetings and I brought a client with me at
> least once to introduce the program and talk about what it has done for him, so
> they get it from a client perspective." - Counselor

Counselors expressed that one of the most important ingredients for obtaining

client referrals from case managers was making ongoing regular contact and building

relationships with them as this counselor describes.

> "I think how I get a referral is sometimes I see that as a personal relationship with
> myself and other case managers. I can see that those who have more
> communication with me refer cases to me more." - Counselor

After the counselors had done their job educating and marketing to case

managers, the case managers then skillfully marketed the program to the clients. They

successfully employed their own counseling skills and the materials prepared by the

counselors to recruit clients as this case manager illustrates.

> "I carry the flyers with me. It has her picture on it and it has bullets and it has the
> name of the program and bullets of what it is. If nothing else I get my foot in the
> door by, hey it's not going to hurt to talk to her and feel her out. She'll be the one
> to best explain what the program is about. Would you mind if I gave your name
> to the counselor? We all work as a team." - Case Manager

Case Managers also influenced counselors and facilitated implementation of the

intervention by encouraging flexibility and extra effort in screenings when clients were

resistant or did not look like perfect candidates on paper. Case managers were familiar

with client attitudes and behaviors due to their frequent interaction with them, and used

this knowledge to direct counselors for good referral outcomes. As these case managers

explain, the results of these efforts could be procuring clients for the intervention who

otherwise would not have been participants.

"I've even gotten into a discussion, like I'm negotiating, 'Come on, give it a try, call the client anyway, I know he doesn't meet your requirements, but I really think your program is good.' I've had this same conversation, and then as it turned out it did work. But it was just like don't you want the business or not?" - Case Manager

"As soon as you don't try to embrace the client and we just allow the, 'No I don't want to see you' with just a phone call, we don't get past the front door; we don't get past the threshold. The disadvantage to the client would be, well we're only going to try 3 times and if he's not going to respond to us in 3 times, too bad, we just can't take him. And that happened and so then I said lets try 3 more times, … it worked the 6th time. " - Case Manager

Finally, the ease and simplicity of the referral process was seen by some of the research participants to be a key driver in referrals and implementation of the intervention. Despite paper and online forms, ultimately the referral process was described as simple in that it could involve just sending an email to the counselor. It was flexible in that there was no strict, prescribed referral procedure. Case managers expressed appreciation for the ease and simplicity of referring because of the considerable demands on their time. A counselor explains these features of the referral process.

" … We want to make it pretty simple because case managers are so overloaded with other things to do. They can refer to me by calling and leaving a voice mail or by emailing me or saying something to me personally and catching me one on one. It's not much of a complicated matter … or maybe they want to discuss if someone is a candidate, they are not sure so we do that. I've had case manager say, take a look at this person and let me know if you think they might be a good candidate. That's a nice way too." - Counselor

Culture of flexibility and adaptation. Strong, visionary, leadership that creates a flexible, adaptive organizational culture makes implementation smoother and possible at all in some cases (Aarons et al., 2011; Damschroder et al., 2009; Durlak & DuPre, 2008; Greenhalgh et al., 2004). A culture of flexibility and adaptation on the part of the agency and its academic partner drove the success of the implementation of this intervention.

Several key eligibility criteria adaptations in age, language, mental illness, and program

length criteria enabled the implementation to move along successfully. An administrator

explains,

> "We have been trying to sort of nibble away around the edges of some of the
> exclusionary criteria so that more of the people can get treated, get rid of some of
> the barriers." - Administrator

When the program started the age criteria was 60 years and older. Because there

were open spots in the program and clients under 50 years old the agency thought could

benefit, they negotiated with their academic partner to lower the age. Although the

academic partner supported the decision to expand, the funding mandated clients be 60

years of age or older. The agency resourcefully worked around this by finding an

additional, more flexible funding source.

Mental illness criteria also posed a problem that the agency creatively and flexibly

navigated. The original program criteria included only those with minor depression.

Clients who were diagnosed with major depression were excluded. This left a significant

number of clients who could benefit from the intervention screened out. Eventually they

modified the criteria to include clients with major depression diagnoses, provided they

were being properly treated and monitored with medication for the illness. According to

one administrator, they made this decision because the "program will augment the anti-

depressant treatment that they are given."

Other major limitations to implementing the intervention were exclusion of

clients not proficient in English, and inadequate length of time of the intervention.

Eventually, the agency took a step to address language by hiring a native Chinese-

speaking counselor to offer the intervention to Chinese-speaking clients. Also, clients

with discharge issues, needing more time in the program, were accommodated on a case-

by-case basis, as illustrated by this case manager.

> "I have a lady that legitimately is having some discharge issues and there are still
> some good things to be working on so she has been able to extend it. I think the
> last few months is one telephone call a month; they set goals." - Case Manager

Beneficial macro influences. Macro level influences that facilitated

implementation of the program were mentioned sparingly and centered on funding

opportunities. Although funding was an ongoing stress, research participants expressed

feeling fortunate to be able to access funds to consistently deliver the program when other

agencies were not able to do so. An administrator explained, "Money is an issue clearly

for the other agencies. They don't have enough money to offer the program," adding that

they had fortunately, "been very successful in keeping the program funded." This

success included finding additional funding when an initial source was attached to only

those clients over 60 years of age. The program had access to funds from their academic

partner for some time, discretionary funds from the agency, and eventually a state levy.

Interactions Between Factors

Both beneficial and challenging factors in the implementation of the intervention

interacted together to propel or inhibit the implementation. These mutual influences

provide the detail about how the complex process of the implementation unfolded. This

detail is the crucial information needed for improving implementation of EBPs in the

core safety net. Figure 10 provides a framework to identify and record intervention,

micro, mezzo, and macro contextual factors and their interactions with each other. Every

possible combination of contextual factor interactions is represented. Table 4 illustrates

the beneficial and challenging factors at each level. Table 5 contains key interactions

between contextual factors.

Intervention and micro interactions. The high level of quality of the

intervention perceived by all involved in the implementation, driven by a combination of

client feedback and recognition locally and nationally, softened the resistance of the case

managers to fully engage in the implementation and promoted staff buy-in. The

compatibility of the organization mission with the goals of the intervention had a similar

effect.

Intervention, mezzo, and macro interactions. The structural assets of the

agency administering the intervention such as size and maturity, along with a culture of

adaptation and flexibility and good partner relations, facilitated the adaptation of the

intervention eligibility criteria. Without these advantages, changing the eligibility criteria

to reflect the changing age, language, culture, and burden of illness demographics might

not have been possible. However, there was another crucial element on the macro level

that fostered a more sustainable change in the eligibility criteria for age by lowering it.

The emergence of a funding opportunity in the form of a state levy circumvented the

funding mandate that restricted the age to over 60 years.

Micro component interactions. Challenging micro level factors both

exacerbated each other and were mitigated by beneficial micro level factors. The

changing demographics of the clients, which were not compatible with the original

eligibility criteria, seemed to add further frustration and resistance for the case

management staff. The staff was already disgruntled about the extra work of recruitment

for the program, but feeling that their efforts were futile because so few clients actually

met the eligibility criteria increased their dissatisfaction and diminished their motivation

to participate in the implementation. Fortunately, client feedback about the benefits of

the program and high engagement of the counselors with the case managers and the

implementation process balanced some of the case manager resistance.

Micro mezzo interactions. On the mezzo level, benefits to the case managers,

such as extra attention to their clients, opportunity for collaboration with counselors, the

ease of referral, and the addition of a service as part of a comprehensive package to offer

their clients, mitigated the burdens of their responsibility as non-dedicated staff for

recruiting for the intervention and facilitated their buy-in to the implementation.

However, it was also expressed that lack of a standard recruitment process exacerbated

case managers' resistance to participating in the implementation because they were not

held accountable and they did not feel comfortable without a standard procedure for

approaching clients. Ongoing provision of high quality clinical supervision by a

psychiatrist moderated any problems associated with the concern that the counselors

delivering the treatment were not professionally prepared for that role.

Mezzo component interactions. Like micro factors, challenging mezzo level

factors both exacerbated each other and were mitigated by beneficial mezzo level factors.

The foundation of baseline structural characteristics of the organization administering the

intervention such as age, maturity, well-developed networks, along with an adaptive and

flexible organizational culture, and some available resources allowed the organization to

sustain the implementation after the academic partner left. A strong academic

partnership also provided a means of funding earlier in the implementation.

Discussion and Conclusions

The primary obstacles facing the implementation of this intervention were an inconsistent, unpredictable funding stream, and low enrollment. The less than optimal enrollment was due to two factors primarily. First, the gradual change in demographics of the client population from minimally depressed, normally aging, English speaking clients to those who were younger, seriously physically and mentally ill, and non-proficient in English, rendered many clients ineligible to participate. Others were reluctant to enroll due to factors such as mental illness stigma and difficulty completing the long, complicated assessment.

Second, the lack of dedicated personnel filling all the significant roles needed for the intervention implementation cut down on recruitment referrals. Case managers who were already overwhelmed and not given additional compensation or formal rewards or incentives were not equipped with the time needed to thoughtfully and consistently make referrals. They were also resentful and resistant to referring clients in the opinion of some research participants. They were discouraged from the start because so many of their clients ended up being ineligible anyway.

These challenges in the implementation of this intervention and the strategies used to overcome or circumvent them offer some considerations in safety net settings regarding resources and adaptation. The importance of choosing an intervention that has some adaptability and having organizational leaders and a culture that is flexible enough to make modifications when necessary is clear in this project. The core of the intervention was not adapted, but its implementation would not have continued without

significant changes to eligibility criteria. In this case some of the need for modifications in eligibility criteria would have been apparent before the implementation started (e.g. cultural issues), but others crept up due to gradual demographic changes. One aspect of fit that was a powerful facilitator in the face of challenges, particularly those related to lack of dedicated staffing, was a strong match between the organization mission, staff affiliation with that mission, and the intent of the intervention. Clearly, it is prudent to examine the fit and potential threats to it before adopting an intervention and beginning an implementation.

As this project demonstrated, using front line staff in a social service agency to adopt important implementation duties in addition to their regular roles rather than using dedicated staff is not ideal. Employing them in this effort without formal incentives or rewards is worse. In this case it definitely slowed referrals and ultimately the number of clients participating because the staff did not have the time needed and were resistant due to discouragement and resentment. In many cases in safety net settings, funding might not be available for dedicated implementation staff, but creative arrangements and incentives or rewards could be employed in its absence. For example, in this project the counselors, who were hired solely for the purpose of delivering the intervention, could have been employed possibly to recruit clients. The incentive of positive client feedback had a big impact in motivating case managers. Benefits to case managers involving assistance and input from counselors about their clients, and stabilization of their caseloads, also provided some incentive. Other small incentives or rewards might have made a difference in attitudes and behaviors of staff.

Safety net settings are generally under-resourced and the funding environment continues to be mercurial and impoverished. In order to launch the implementation of any intervention in this setting it is reasonable to assume that planning at the outset for sustained funding might not realistic. Calculating the risk of funding gaps and the assets available to mitigate them, while buffering potential issues with achievable planning, is a difficult task, but a reality. This organization had the advantage of being large and networked enough that it was tapped into the array of potential funding sources. These factors, in combination with the commitment and creativity of its leaders, saved it from coming to a complete standstill due to lack of funding. It is difficult to accurately assess whether they foresaw their eventual funding problems at the beginning of the implementation. The departure of the academic partner and the resources they brought seems more predictable than the demographic change that eliminated many clients' eligibility to use the funding stream. However, it seems important to plan for foreseeable funding issues with some strategies for how they might be resolved.

Chapter 5: Shared Health Plan Implementation

The Shared Health Plan (not its real name) was a computer-based personal health record (PHR) that allowed clients to manage their health information and share it with those involved in their medical care to improve the safety, efficiency, and effectiveness of health care across organizational boundaries. The computer program was created by a private developer and initially administered through a county healthcare intranet. It was then piloted with chronically mentally ill clients enrolled in an urban core safety net community mental health clinic, which is part of a county medical center. Clients entered their own health and personal information into the plan database with the help of community health center clinical staff (case managers and peer specialists). They could then notify their various healthcare providers to sign up for an account and access the information, ideally providing a centralized health record for a clients' multiple providers.

The original purpose of the data collection for evaluation was to determine how the implementation of the pilot unfolded, what worked well and what was challenging about it, and the perceived benefits and disadvantages of the intervention to administrators, staff, and clients.

Research Design and Methods

Sampling

Stratified purposeful sampling was employed to recruit a mix of individuals performing each of the various roles in the implementation of the intervention. These roles included administrators from organization that developed the intervention and from the community mental health clinic and county medical center through which it was

administered; and clinical supervisors and staff (case managers and peer specialists) from the community mental health clinic. Each of the 5 administrators and the 2 supervisors involved in the intervention agreed to participate. Clinical supervisors approached clinical staff members about participating. All 14 clinical staff members involved in implementing the intervention were recruited and agreed to participate. Overall there was a total of 21 participants.

Data Collection

Five individual interviews and 3 focus groups were conducted with research participants. A total of 21 participated: 5 administrators in individual interviews, 1 focus group of 2 supervisors, 1 focus group of 8 staff members, and 1 focus group of 6 staff members. Focus groups, which are typically used to take advantage of communication between research participants (Kitzinger, 2006), were chosen for the supervisors and staff members for that purpose. They helped stimulate discussion and novel ideas among the homogeneous groups of professional providers at the same organizational level (no hierarchy) who were performing the same tasks and had identical roles in the process of implementing and delivering the intervention.

One interview was conducted over the telephone due to geographical distance and the other interviews and focus groups were conducted in person at the participants' respective places of employment in private offices or conference rooms. All interviews and focus groups lasted approximately one hour.

This qualitative researcher and another researcher jointly conducted all interviews and focus groups. One of the interviewers asked questions and the other took detailed notes of everything said in the interviews and focus groups. Immediately afterwards, the

note-taker typed up the notes and the other interviewer reviewed them and added any missing information. The semi-structured interview guide (Appendix 3) focused broadly on facilitators and challenges to implementing the intervention using open-ended questions.

Data Analysis

Grounded theory, an inductive method of analysis used to develop or modify theories about how things work by grounding them in empirical data (Bernard & Ryan, 2009; Corbin & Strauss, 2008), was used as the framework for this analysis. Open coding for themes, without employing a priori codes, was accomplished by analyzing each interview or focus group transcript line by line, using constant comparison, a process through which each piece of data is compared and contrasted with other data to build a conceptual understanding of categories (Corbin & Strauss, 2008). Subsequently, axial coding was employed to group initial codes in to higher order themes and construct a larger theoretical framework. Theoretical memoing, a technique to track developing ideas and categories, and gradually develop theory, was the central to this process (Corbin & Strauss, 2008). Atlas.ti software was employed in the analysis.

Limitations

There were several limitations to this study. What was gained in specificity was lost in generalizability due to small sample size and lack of breadth in the types of core safety net populations, interventions, and settings.   Second, the data was initially collected for the purpose of evaluation and secondary analysis was conducted for these studies. This prevented theoretical sampling, usually employed in the method of grounded theory.   Third, clients were not included in the study. Fourth, despite being

briefed on confidentiality, there was a chance that peer focus group participants were not

forthcoming or candid due to interpersonal issues, organizational politics, or the potential

consequences of sharing information and opinions in the presence of colleagues. Fifth,

this researcher's dual role as a researcher and front line core safety net clinician might

have created some unintended bias.

Results

The administrators who decided to implement the Shared Health Plan had the

vision, proactivity, and sense of innovation to pilot an intervention on the forefront of

health care trends. Unfortunately the implementation was fraught with many

intervention, micro level, and mezzo level challenges, and benefited from relatively few

supports. The intervention was a poor fit with the population targeted to use it,

chronically mentally ill clients at an outpatient mental health clinic. The front line staff

tasked with delivering the intervention were already overworked and not involved in the

minimal planning for the implementation or compensated for their efforts. These

difficulties were exacerbated by lack of central project leadership, political tension, and

absence of structural supports. Countering these challenges were timeliness of the

project in the greater health care environment, some efforts to improve operations, and

perceived client benefits that motivated the front line staff delivering it.

Challenging Intervention Influences

An intervention must possess a certain level of good fit and compatibility with the

client population receiving it, the organization and its end users delivering it, and the

needs of the larger community for successful implementation (Aarons et al., 2011;

Bhattacharyya et al., 2009; Damschroder et al., 2009; Durlak & DuPre, 2008; Feldstein &

Glasgow, 2008; Glisson & Schoenwald, 2005; Greenhalgh et al., 2004; Stith et al., 2006; Wandersman et al., 2008). This intervention had significant incongruities on all three levels. There were several features of the intervention that made it challenging to implement in this particular safety net setting with this particular population.

Electronic record security. First, administrators, supervisors, and staff members expressed what they perceived as clients' mistrust in secure confidentiality when medical records were being extended to providers outside the system. This was partly due to mental illness symptoms (i.e. paranoia). Several research participants offered that they, themselves were not sure they would be willing to participate due to these concerns. One explained that very secure data systems have security breaches all the time and she thought this project would be no different.

Complexity and usability. Second, the intervention was significantly complex, as well as time and labor intensive for both the staff and clients. A low level of complexity and high level of usability are implementation facilitators (Damschroder et al., 2009; Feldstein & Glasgow, 2008; Greenhalgh et al., 2004). In addition to being a poor fit with this particular client population, the intervention was hard to implement due to higher complexity and lower usability. One research participant estimated that it took 10-12 hours for a staff member and a client to work together setting up an account. The research participants consistently described the computer interface as "overwhelming" and "difficult to use." Staff stated they had a hard time with it themselves. One supervisor remarked, "You have to be savvy to use it." For the most part staff and clients were not savvy enough to avoid being discouraged by the complexity of the intervention.

Observability. Third, supervisors and staff had a difficult time ascertaining how the chronically mentally ill population would benefit from the intervention. This lack of observability, the ability to envision clear benefits for clients, which propels the implementation process in its early stages (Feldstein & Glasgow, 2008; Greenhalgh et al., 2004), thwarted staff motivation. They expressed the belief that there was a misfit between the intervention and the clinic population. They also had doubts about the utility of the intervention for their clients, given that most of them had providers only within the medical center system, which already had a cross-system comprehensive electronic medical record.

Adaptability. Finally, given incompatibilities between an intervention and the client population, organization and end users, and/or the larger environment, it is important for it to be inherently adaptable for successful implementation. This means that it has an identifiable, unalterable core that drives the effectiveness of the intervention and more malleable factors that can be modified to fit the client needs different from those of the population used in efficacy trials (Greenhalgh et al., 2004; Wandersman et al., 2008). In this case the fit was incongruent enough that modification of the peripheral features outside the core of the intervention, patient computer-based participation in their electronic medical records, would probably have needed significant modifications to be effective with this population.

Challenging Micro Influences

Clients, staff, and medical providers possessed characteristics and exhibited attitudes and behaviors that impeded implementation of the intervention. The intervention was originally tested on populations markedly different from the chronically

mentally ill, including older, normally aging adults. Clients' mental illnesses and low levels of computer literacy proved to be major obstacles to implementation with this population. Staff members' lack of buy-in, and outside providers' reluctance to participate in the intervention also impeded the implementation process.

Client characteristics, attitudes, and behaviors. Clients possessed two primary characteristics that created significant barriers to implementing the intervention effectively: chronic mental illness and low computer literacy. Many clients experienced paranoia as a symptom of mental illness. According to research participants, typing personal health information into a computer with the realization that it could potentially be accessed by multiple people inside and outside the medical center system was too stressful for paranoid clients. Simply considering participation could exacerbate their symptoms. One supervisor remarked, "Just the name, *Shared* Health Plan creates paranoia because it suggests a sharing of their confidential medical information."

In addition, due to mental illness stigma, clients were often very sensitive about their medications and diagnoses and reluctant to share them. Staff members reported that clients told them, "I don't want them to know about my psychiatric problems." and requested, "Don't talk to my PCP about my problem." One staff member explained that after completing the first session of helping clients put their medications into the plan, if they had no prior rapport with her, they routinely did not return for the second session. The staff member attributed this to the clients' discomfort in discussing their psychiatric medications.

A more serious problem related to mental illness communicated by staff members was that many clients did not know or understand their mental illness diagnoses, so

broaching that topic to enter diagnoses into the plan was uncomfortable, stressful, and potentially destabilizing for them. Entering psychiatric medications also alarmed and confused some of the clients because the plan interface used brand names while many of the clients used generic medications, producing a discrepancy in dosage amounts.

The computer-based structure of the intervention was a "huge obstacle" to implementation according to a staff member. According to research participants, the majority of clients had low to non-existent levels of computer literacy and it took a significant amount of time for them to learn the basics. Because of this, they needed assistance from already overextended staff to create their plans. One staff member estimated that only 5% of the clients had adequate levels of computer literacy to create and utilize their plans on their own. Most of them also did not have email accounts, which were needed to participate, or personal computers, to access and work on their plans at home.

Other client-driven obstacles to implementing the intervention were speaking English as a second language, identification with the Western medical model (very different from the client-driven assumption behind the plan), and inability to concentrate for the amount of time a session required. Many clients were reluctant to engage in the intervention when it was introduced, but the combination of these challenges made those who did enroll much less likely to stay engaged. A staff member reported that, by his calculation, of 250 clients, only 40 had enrolled in the intervention, and only 7 of those were actively engaged.

Staff and provider attitudes, and behaviors. Line support for the implementation of an intervention and belief that the intervention will produce the

intended results are necessary for effective implementation (Damschroder et al., 2009; Durlak & DuPre, 2008; Fixsen et al., 2009; Fixsen, et al., 2005). Administrators expressed that reluctance of staff to "buy in" to the project impeded its implementation. Some administrators expressed frustration because they could not understand why the staff members were not excited and motivated about the intervention. They accused the staff of "putting up barriers" to the pilot and not "selling" the intervention to clients. One administrator acknowledged understanding the staff "resentment" towards the project because she felt they were not involved in the selection of and planning for the intervention. Another related that there were no benefits for the front line staff and they were not convinced it was worthwhile.

Staff members attributed their reluctance to engage in the intervention to reservations about its benefits, and concerns about potential negative effects on clients. Staff members stated they were encouraged to keep clients engaged with the intervention by supervisors and administrators but they could not find reasons to convince the clients that it had value. Supervisors were not helpful with this obstacle because they failed to see value in it themselves and were at a loss to articulate benefits. Supervisors and staff expressed concerns about the medication component of the plan. The client was responsible for inputting their current medications, about which they were not always fully informed, presenting a potentially hazardous situation, even when staff members tried to help sort out their prescriptions.

Clients' providers outside the mental health clinic also proposed a challenge to the implementation of the intervention. For the program to function, providers needed to register with the plan and participate in it, and none had done so. It was unclear whether

this was due to communication failures about the project or complexities in the process of registering. In addition, most of the clients received all their care within the medical center of which the mental health clinic was a part, so providers did not have much incentive to participate in another information system. The information they needed was in the medical record they were already using.

Challenging Mezzo Influences

Support and commitment of leaders (Aarons et al., 2011; Damschroder et al., 2009; Fixsen et al., 2005; Greenhalgh et al., 2004; Wandersman et al., 2008) for an innovation, positive organizational culture and climates (localized cultures in an organization) (Aarons et al., 2011; Damschroder et al., 2009; Feldstein & Glasgow, 2008; Fixsen et al., 2005; Greenhalgh et al., 2004; Wandersman et al., 2008), teamwork and collective efficacy (Aarons et al., 2011; Wandersman et al., 2008), inclusion of staff in planning and decision making (1), and clear communication among all stakeholders involved in an implementation (Damschroder et al., 2009; Wandersman et al., 2008) are crucial to its success. As will be illustrated in this section, these elements were weak in this implementation. Organizational and inter-organizational level challenges included organizational factors, administrative and leadership decisions regarding the intervention, lack of resources dedicated to the project, and operational problems.

Organizational factors. Research participants commented that even before the implementation of the intervention, there was general disorganization in the mental health clinic. In addition, already existent political tension in the wider medical center system among individuals involved in implementing the intervention, negatively affected its implementation.

Leadership and planning. There was inadequate vetting of and planning for the program before it launched. Research participants explained that one administrator volunteered the clinic to participate in the pilot but did not "realize what she was getting herself into." She never fully vetted it with staff or administrators or made a strategic plan for its implementation. There was only one meeting of administrators at which they decided the project would be beneficial. Another decision, made at a brief meeting of administrators, was to focus the project on "feasibility.' An administrator emphasized that, had they not decided to focus on feasibility, they would have planned more for the implementation and provided resources. Administrators expressed surprise that the project was proving to be unfeasible.

Research participants saw lack of staff involvement in the adoption and planning of the intervention as particularly damaging to its implementation. Supervisors, staff and administrators commented that the staff members administering the program were not involved in decisions about its adoption, comprehensive explanations about its utility to the clients, and planning for its implementation. Supervisors agreed that they would have preferred a better explanation of the intervention and clearer expectations of themselves and their staff rather than the administrative mandate to "Just do it!" they reported they received. Consequently, in the focus groups staff members expressed confusion about multiple aspects of the intervention, such as whether their role in offering the plan to clients was to present it or actively market it. They were also unclear as to how outside providers would utilize it.

There was a lack of a central leader taking control of the implementation of the intervention. Both administrators and supervisors were portrayed by research

participants as lacking commitment to the project. Various administrators described each other as "not on board", "not committed", and "peripherally involved", and seeing it as, "an inconvenience and a burden." The innovation developer was also criticized for lack of commitment to smooth implementation due lack of assistance in the design of the implementation process, and starting the clinic on a version of the program they knew they were going to modify in the near future. The atmosphere of blaming and criticism with regard to the project damaged the assets of psychological safety and mistake tolerance that facilitate implementation (Aarons et al., 2011; Greenhalgh et al., 2004).

Lack of dedicated resources. Ideally an implementation of an intervention given dedicated resources, including personnel, has the best chance of being effective (Aarons et al., 2011; Damschroder et al., 2009; Durlak & DuPre, 2008; Fixsen et al., 2005; Greenhalgh et al., 2004; Mendel et al., 2008). Using current personnel requires minimization of competing demands (Aarons et al., 2009; Feldstein & Glasgow, 2008; Proctor et al., 2009). It has also been clearly shown that staff incentives and rewards help motivate line staff to actively participate in implementations, particularly when they are not monetarily compensated (Damschroder et al., 2009; Durlak & DuPre, 2008; Feldstein & Glasgow, 2008; Greenhalgh et al., 2004; Wandersman et al., 2008).

No funding or personnel resources were exclusively dedicated to what was described as a "labor intensive" project. Clinical supervisors and staff were tasked with implementing the intervention on top of an already overwhelming amount of responsibilities without compensation or incentives. Administrators remarked, "The mental health staff are overwhelmed." and "You can work people only so much before you burn them out." Both supervisors assigned to run the pilot agreed that this kind of

intervention with complicated clients was very time consuming and "too much" to participate in effectively on top of their other duties. Recruiting clients and clinical staff took a considerable effort as did helping clients create their plans. Staff members expressed hopelessness about implementation of the intervention given the lack of resources allocated to it.

In addition to a lack of funding and manpower, supervisors and staff were not adequately trained in a timely manner to deliver the intervention. Only one staff member was trained at the beginning of the pilot and that training turned out to be insufficient because the innovation developer made changes to the project shortly after it. The additional staff members and supervisors were not officially trained until shortly before these interviews and focus groups, which was well into the implementation of the project.

Procedural and technical challenges. In addition to lack of planning for project resources and training, there were some procedural and technical challenges that presented themselves during the course of the implementation. First, when clients were recruited the developer sent them letters about their enrollment in the program. Research participants pointed out that due to the housing and social instability of many of the clients, some of them never received them.

Clients were randomly assigned to staff members to begin their participation. Supervisors and staff members explained that random assignment meant that the client would not necessarily know the staff member. They reported that the lack of an established relationship greatly reduced engagement by the clients. As one staff member stated, "If somebody doesn't know me, they are 90% likely to no show."

Problems with the plan interface on the computer, described as a "nightmare" by one supervisor created a formidable barrier to beginning the intervention and great frustration of staff and clients. The interface initially had extra security measures that made it difficult to impossible for clients to log in. These included the request for an additional name and password, and personal identification such as a birth certificate, which many clients did not have. An additional problem with the interface was that unless the cache was cleared when a previous client logged out, the current client could not log on. The program would only allow the login and password of the previous one. Staff perceived that clients disengaged due to these procedural and technical obstacles.

Beneficial Intervention and Macro Influences

Timeliness. Although the implementation had many challenges, it addressed some principal current issues of the macro health care delivery landscape. Centralizing the electronic medical record and encouraging clients to be proactive in the management of their health were at the core of the intervention and major trends in health care and future funding. Administrators had the foresight and proactivity to pilot an intervention on the forefront of health care trends.

Administrators described the intervention as "cutting edge", "the wave of the future," "a hot topic," "high profile," and "innovative." They cited centralized medical information for continuity of care of safety net patients, who often access care across different institutions and organizations, as a timely issue in health care. They explained that a centralized medical record helps avoid redundancies when providers and systems do not communicate. Administrators saw this pilot integrating with a concurrent wider county effort to create a more comprehensive medical database. Clinician administrators

were particularly drawn to the potential of this intervention to solve medication reconciliation challenges.

The intervention was also only attempted for those with mental illness by one other academic medical institution prior to this effort, adding to the innovative and pioneering draw of it. Administrators also mentioned funding from the Obama administration for centralized electronic medical record efforts. They were enthusiastic about becoming familiar with a technology that was about to take off before it actually did. Notably, only one clinical staff member echoed the benefits related to a centralized electronic medical record, by comparing it to advantages Group Health reaps by sharing medical records across hospitals and clinics.

Another feature of the intervention aligned with current trends in health care, the opportunity for clients to participate more fully in the management of their own health, excited administrators and some staff. Administrators expressed the importance of engaging clients in their own health management and giving them the tools, such as this intervention, to do so. They emphasized the importance of client driven care in the future and advocated "pushing" clients to take charge even if they were resistant. Staff framed the concept differently in affording clients "ownership" and "empowerment" regarding their health care. One staff member referred to the intervention as providing, "client choice and voice." She explained that clients are sometimes more comfortable being honest when not face-to-face with their providers. She offered that a client might find it easier to write, "I don't like this drug. It makes me dull and fat," in her plan rather than directly communicating it to a psychiatrist.

Beneficial Micro Influences

Client and staff attitudes and behaviors. According to research participants, clients and staff expressed enthusiasm about certain aspects of the pilot program. Staff members commented on how much clients enjoyed filling out the "About Me" section of their plans. Despite the fact that providers were not looking at the plans, some clients were motivated by the pleasure they got sharing information about their personal lives and activities.

Some staff members communicated that they were, and clients could be "sold" on the pilot by the wallet-sized record of their health information they received when participating. Some staff members seemed to feel good that they could give clients something "tangible." The symbolic importance of this card was summed up by one staff member who stated, "It keeps the clients' current meds and keeps them safe – that is the real blessing of this whole project." Some staff also thought clients could be motivated to participate in the project by invoking Facebook. One staff member explained that calling it "Facebook for your health" helped sell it to the clients who were familiar with that networking site. Finally, staff members were enthused by the increased socialization they attributed to clients' participation in the intervention. Because most of them did not own personal computers, they went to the social space of the clinic computer lab to work on their plans.

Beneficial Mezzo Influences

Adding personnel, extra training, and some procedural and technical adjustments eased the implementation of the intervention. Initially, there was only one clinical

supervisor assigned to manage the project. When it was clear that it was too much work for one person, another supervisor was added. Similarly, when the clinical case managers were overwhelmed with adding the intervention to their responsibilities, the administration employed clinical peer specialists to help them. Using peer specialists was particularly helpful according to staff because the "less hierarchical, more equitable" relationship with clients encouraged higher levels of disclosure and communication. Another great improvement was the addition of a training by the innovation developers for those who missed the initial session, because they became involved in the project after it had occurred (most of the staff), and as a refresher for those who had. One staff member described this training as making, "a world of difference."

There was one significant technical improvement. Initially, there were too many folders in the plan interface, confusing clients. The decision to reduce them to three made it much more manageable for clients. Procedural improvements included having the staff call clients for reminders before pilot project appointments and employing a spreadsheet for tracking clients.

Interactions Among Factors

Figure 10 provides a framework to identify and record intervention, micro, mezzo, and macro contextual factors and their interactions with each other. Every possible combination of contextual factor interactions is represented. Table 6 illustrates the beneficial and challenging factors at each level. Table 7 illustrates the ways in which the factors influencing this implementation came together to affect each other. In this case the nuances of the process of implementation were created more by challenging factors potentiating each other, than beneficial factors positively buffering the challenges.

Intervention and micro interactions. A lack of fit, that could potentially be called intractable, between the core of the intervention component and the client population, significantly slowed implementation. The core of the intervention was its computer-based structure to create and participate in a personal electronic medical record. The majority of the client population had low to non-existent computer literacy and did not own computers.

On the level of the intervention, the lack of fit, and absence of observable benefit to the clients, had a harmful effect on staff attitudes. They significantly hindered staff buy-in to the implementation of the intervention. The selling points of the client wallet card with medication information, and social opportunities afforded to clients by going to the computer lab, were not enough to shift staff beliefs and attitudes about the lack of utility of the intervention. Similarly, redundancy of the intervention due to current provider access to a central medical record for most of the clinic clients, gave them little motivation to participate in the program.

Intervention, micro, and mezzo interactions. The combination of intervention characteristics, micro factors of client characteristics, and mezzo factors related to staffing, intensified the challenges faced in this implementation. The clients had chronic, serious mental illness and exhibited active symptoms of paranoia, and also sensitivity to mental illness stigma. These features were not commensurate with the intervention core of sharing highly personal information on a computer. The intervention was also complex enough that the clinical staff members reported having difficulty learning and navigating it themselves. The level of complexity and the time and attention required to

teach clients the program and help them feel comfortable enough to participate, combined with inadequate staffing, was a formidable combination of challenges.

Intervention and macro interactions. On a macro level, the "cutting edge" nature of the intervention was consistent with the most current trends in health care. Implementing the intervention put the clinic at the forefront of innovations in medical record centralization and client agency in participating in their own health care. Unfortunately, the chronically mentally ill population might have been too much of a stretch in fit for the intervention to be reasonably adapted.

Micro and mezzo interactions. Procedural challenges on the mezzo level such as recruitment letters delivered by mail, and random assignments of clients to case managers with whom they were not familiar, clashed with micro level characteristics of a population with housing instability, reticence to share personal information due to mental illness symptoms, and trust due to sensitivity to stigma. Technical challenges with the computer program interface at the clinic exacerbated issues of mental illness symptoms and trust as well.

Baseline political tension and disorganization in the clinic, lack of central leadership for the intervention, non-dedicated staffing for the intervention, and technical challenges with the computer interface all contributed to general lack of buy-in to the implementation by front line staff tasked with delivering the intervention.

Discussion and Conclusions

This intervention tapped into two current issues prevalent in health care, centralizing the electronic medical record and client health self-management. Organization administrators had the vision to grab the opportunity to engage in this state-

of-the-art innovation. Unfortunately, there was not enough good fit and compatibility between the intervention and the client population, the organization, and the needs of providers for it to be fruitful. Research participants were concerned it might have actually had some negative effects on clients. This intervention, and PHRs in general, were initially tested on populations that were fundamentally different from the chronically mentally ill population at this community mental health clinic.

Failure to fully vet the intervention, and plan for calculated difficulties exacerbated the poor fit and compatibility. The first stage of implementation process is adoption. Ascertaining whether an intervention has enough fit and compatibility with clients, organizations, end users, and the needs of the larger community is crucial to avoid potentially wasting resources and negatively affecting the individuals it was designed to help (Fixsen et al., 2005; Rogers, 2003).

Assuming an intervention has adequate levels of fit and compatibility, leadership and administrative commitment to the project must be in place to engage in planning and assemble sufficient resources. For this intervention there was no central leader to champion the intervention or take primary control of the implementation. Research participants reported resistance to the project on the part of some administrators. This resulted in inadequate planning for the implementation of the intervention. This was evidenced by low enrollment and minimal participation by clients, a change in staff administering the intervention (case managers to peer specialists), and first time training for staff many months into the project. More coordinated, active planning would not have overcome the challenges of fit and compatibility, but it might have moderated them enough for better implementation from which some clients could have benefited.

A significant planning oversight was lack of provision of personnel with the time to administer the intervention. Adding a complicated, time-intensive intervention to the duties of clinicians already stretched very thin by heavy caseloads in an overtaxed mental health clinic and system, and without adequate training was not ideal. This situation distressed staff in the short term. Potential long-term consequences of the resentment the staff felt for being burdened with a project for which they had no time, of which they did not see the benefit, and for which they were not adequately educated or trained, to the detriment of their baseline responsibilities, was unclear.

Risk taking, experimentation, and openness to innovation are features of organizations that successfully adopt and implement EBPs (Aarons et al., 2011; Damschroder et al., 2009; Durlak & DuPre, 2008; Feldstein & Glasgow, 2008; Greenhalgh et al., 2004; Mendel et al., 2008; Proctor et al., 2009). These were all qualities the mental health clinic and medical center administrators demonstrated when they understandably embraced a chance to pioneer an intervention that had current trends in health care at its core, with their own population. A miscalculation of the ability of these particular end users to administer this unmodified intervention, to this specific population, combined with lack of planning and resources, made this implementation problematic on many levels.

Chapter 6: Overall Discussion and Conclusions

There is utility in comparing results across all three studies. The three EBPs, implemented for chronically ill, multimorbid, vulnerable populations in urban core safety net settings, in partnership with various funding and academic entities, navigated arduous challenges. Interviews with front-line staff and administrators doing this work on the ground gives insight into the unique environments and obstacles, and strategies used to steer through them. There were several contextual factors, spanning all levels (i.e. intervention, micro, mezzo, macro), that were key influences of the implementations in each of the three studies. These contextual factors were challenging, beneficial, or both. Table 8 represents all contextual factors across all three studies and indicates which factors are among these key influencers.

Given the heavy emphasis on organizational factors in the implementation literature, these findings give a clearer vision on how factors related to the intervention, and on micro, and macro levels can affect implementation, as well as what factors on the mezzo level might predominate in the urban core safety net. Taken together, they provide information about elements that can compensate for deficits in this setting. These overall results emphasize several key areas, predominant in each implementation, on which to focus when implementing interventions in the core safety net.

The Health Self-Management intervention, administering community-based chronic care management through MI, proved initially to be incompatible with the client population's severity of illness and psychosocial deficits. Adaptation of the intervention to accommodate the population, strong fit between the mission of the agency delivering

the intervention and the purpose of the intervention, and baseline strong organizational infrastructure, leadership and social networks ultimately facilitated its success.

The Problem Solving Treatment, a home-based, solution-focused treatment for minor depression in a geriatric social service agency population, was incompatible with the changing demographics of the agency clientele. Using overburdened staff to perform a crucial function in the implementation thwarted the process of implementation. Adaptation of the eligibility criteria, positive feedback from clients, and very creative and proactive pursuit of funding were among the factors buffered the challenges this implementation faced.

The Shared Health Plan, an electronic PHR for the chronically mentally ill, addressed current trends in the area of health care provision, but was so incongruent with the client population's illness profiles, resources, and abilities, that major modifications were needed for a viable fit. In combination with lack of planning and dedication of any resources for the project, it was difficult to implement.

There were multiple shared challenging and beneficial implementation contextual factors related to the intervention, patients, providers, organizations, and greater environment among these three implementations. These can be instructive to future core safety net implementations and implementation research. In addition, it was clear in all cases that these factors do not effect implementations in isolation, but interact synergistically together. Challenging and beneficial contextual factors weaved together in a such a way that the fabric of their combination was either strong enough to support the implementation or had vulnerabilities that caused its collapse.

The Importance of Fit and Adaptability

These three implementations clearly demonstrated how essential it is to adopt an intervention with a workable combination of adequate fit with the patient population and inherent adaptability. All three of these interventions demanded adaptations or adjustments related to features of the patient populations. These populations possessed characteristics often attributed to safety net populations, including comorbid illnesses, chronic mental illness, chemical dependency, unfulfilled basic needs, language and cultural barriers, and low literacies (e.g. English language, technical). The results of these studies also suggest that in the core safety net population, concerns about fit should expand to include assessment for potential negative effects to patients. Research participants in all three studies expressed concern that elements of the interventions were exacerbating vulnerabilities of these patient populations and potentially having unintended negative effects.

The Health Self-Management intervention was only viable when it added a psychosocial component to address mental illness, chemical dependency, and patient needs, and lengthened the program to accommodate patients who had greater severity of illness than originally anticipated. The Problem Solving Treatment accommodated client needs, not by altering the intervention, but modifying the eligibility criteria. Both these projects also had features of good fit with patients and the health care environment, which balanced out the incongruities. The MI component was particularly well-suited to the high need Health Self-Management patients and the "mental health lite" strategy

matched the Problem Solving clients who were particularly reactive to mental illness stigma.

The treatment of mental illness, and home and community based features of both interventions served unique needs in the local health care delivery systems and increased the chances of sustainability. The Problem Solving intervention had the advantage of filling a community service gap in home-based care for milder mental illness in a geographical area that had an overburdened community mental health system. Despite the challenge of a culture clash between the intervention tenets and the Western medical model ascribed to in the community health clinics, the Health Self-Management intervention filled a distinct need in the community by addressing the formidable needs of multimorbid, complex Medicaid patients. Through the implementation, those who administered the intervention were also engaged in the very valuable function of connecting resources and building system infrastructure.

In contrast, the Shared Health Plan intervention was too complex and demanded a level of computer and health literacy the chronically mentally ill population generally did not possess. The ability of the intervention to be adapted enough to enable participation without altering its complicated, computer-based core is questionable. In addition, in the health system environment in which the project took place, the intervention did not fill a gap, but was redundant. The goal of having a centralized electronic medical record with client participation was overshadowed by the fact that most of the clients received all their care, primary and specialty, in a system that already possessed this capability. Their providers had no incentive to participate in another system.

Compatibility Can Make a Difference

Compatibility, or the fit between characteristics related to the organization and the intervention (Bhattacharyya et al., 2009; Damschroder et al., 2009; Greenhalgh et al., 2004) and its implementation, proved to be a very important implementation driver. Compatibility between the missions of the organizations and the goals of the interventions in the Health Self-Management and Problem Solving Treatment implementations afforded some compensation for the challenging patient populations and environments, and understaffing. Research participants spoke about their commitment to the patient populations and the missions of their organizations, which were in harmony with the intent of the interventions. This compatibility buffered challenges by providing staff with the same common purpose and enthusiasm for serving the vulnerable that they had in their everyday roles in the organizations.

The implementation of the Shared Health Plan diverged in this regard with equally powerful consequences. There was minimal congruence that the research participants could identify between the mission of the clinic to serve the vulnerable, chronically mentally ill, and the intervention purpose (instituting a PHR in which clients could participate) which was initially tested with a different, higher functioning population. The exception to this perceived incompatibility was the empowerment of the client population by giving them a tool for control of their own health care. Unfortunately, the tool was a poor match with the skills and resources of the participants. Consequently, the staff were not only unenthusiastic about implementing the intervention because they did not see it furthering the general goals of working with their clients, but

they were also concerned that it might be generating some negative consequences for them.

Quality and Observability Matter

The perceived quality of the intervention by those delivering it was another factor that motivated those involved in the Health Self-Management and Problem Solving Treatment implementations. Their perception of high quality in both cases came from a combination of unsolicited patient reports, observance of patients, and extramural recognition. Closely connected is the concept of observability, or the ability to see positive effects of the intervention. Notably, although research participants raved about the interventions, none mentioned the evidence base. They spoke about the value of the interventions in relation to their patients, organizations, and communities. EBPs are not often tested for efficacy in safety net settings so it is reasonable to think that interventions with weaker conventional evidence bases could have high value and possibly effectiveness in a core safety net setting and vice versa.

The Importance of Assessing Beliefs, Attitudes, and Behaviors

In addition to patient characteristics; patient beliefs, attitudes, and consequent behaviors, rarely mentioned in the literature with any specificity, figured significantly into the implementation of these three interventions. The obstructive influences, which were evident in all three implementations, were sensitivity to mental illness stigma, lack of trust in providers due to a history of bad experiences in accessing health care, and belief in and adherence to the medical model and certain features of religious faith. These factors caused patients to be reluctant or unwilling to fully participate in the interventions. In implementing interventions in core safety net settings, beliefs, attitudes,

and behaviors of patients, in addition to demographic characteristics, should be assessed

for fit with the intervention and modifications made to accommodate them.

Clinical staff and provider beliefs, attitudes, and behaviors also had a powerful

impact in all three implementations. In the Health Self-Management implementation,

judging and shaming attitudes and behaviors of the clinic providers added a burden in

administering the intervention, which emphasized gaining the trust of patients, and extra

work for the clinical staff who had to handle the negative effects of these attitudes and

behaviors on patients. In the other two studies, clinical staff resistance and resentment

slowed implementation of the interventions. Conversely, positive staff behaviors of

perseverance and creativity in the Health Self-Management implementation and high

counselor engagement in the Problem Solving Treatment, mitigated other challenges. It

is important to assess baseline cultural attitudes and behaviors such as those of the clinic

providers, and other potential attitudes and behaviors stemming from forces related to

implementation (e.g. resentment due to no compensation for extra work), to strategize

ways in which to manage them.

Need For Adequate Clinical Staffing

Inadequate staffing was a challenge of the implementation of all three

interventions. Only one project, Health Self-Management, provided fully dedicated

clinical staffing for the intervention. Even though the nurses and social workers were

tasked exclusively with delivering this intervention, the volume of patients and level of

severity of their problems, combined with inefficient workflow, was burdensome. The

administrators of the Problem Solving Treatment provided dedicated counselors for the

intervention but tasked an overburdened case management staff at the organization with

recruitment when the academic team, who originally assumed that duty, left. Staff

clinicians and peer counselors were responsible for the administration of the Shared

Health Plan on top of their regular responsibilities at the organization. In the second two

cases there was no compensation for the extra work. These three projects demonstrated

that, in addition to the obvious deceleration of implementation, and possible insults to the

fidelity with which the intervention was being administered, resentment and potential

consequences in attitude and behavior resulted, in at least one case, from not providing

adequate staff or enough time for staff to fully perform their duties. Presumably this

resentment can bleed outside any particular implementation project and be an ongoing

negative consequence for agencies and patients they serve.

Staff in all the implementations were reported by at least some of the research

participants to have performed as expected, or even exceptionally well in difficult

working conditions. Some of this was due to motivating factors such as indirect benefits

(e.g. more stable caseload), or enthusiasm about the intervention and its compatibility

with the mission of the organization. However, that is not necessarily a reliable

foundation on which to build sustainability. It is unclear how long extraordinary staff

effort without commensurate compensation can maintain itself, even with strong

motivators.

High Quality, Sustained Clinical Training, Supervision, and Education

Training in how to actually administer an intervention is clearly important, as

evidenced by the gaps in knowledge expressed by those involved in the Shared Health

Plan implementation, who did not receive training until well into the project. Similarly,

in the Health Self-Management program, clinic providers demonstrated a significant lack

of understanding of the intervention in which they were participating, indicating a more

formal, sustained educational strategy was necessary.

Long-term, high quality clinical training and education had many benefits in both

the Health Self-Management and Problem Solving Treatment implementations. The

Health Self-Management clinicians and partner clinic care coordinators and providers all

received ongoing trainings in MI, the core through which the intervention was

administered. Staff clinicians administering the Health Self-Management and Problem

Solving treatment interventions received ongoing clinical supervision with medical and

mental health specialists. According to research participants, this collection of supports

for clinical staff administering interventions continually enhanced the quality of the

interventions, built staff sense of efficacy in administering the intervention, and acted as a

motivator for clinicians.

The Power Combination of Organizational Structural and Cultural Assets

The organizations implementing these interventions possessed a unique

combination of assets. They were all older, relatively large, mature organizations with

experienced leadership, and well-developed social networks. Two also demonstrated

cultures of learning, flexibility, and adaptability. In the Health Self-Management and the

Problem Solving Treatment projects this combination of advantages seemed to balance

out some of the challenges and make the implementations feasible. These characteristics

contributed to heading off and managing serious crises in the implementations (e.g.

unworkable data system, funding incongruent with changing demographics) that smaller,

less experienced and resourced agencies could not have weathered. This has significant

implications for research and practice because many interventions in the core safety net are implemented in settings that do not necessarily possess all or any of these advantages.

Relationship, Network, and System Building

A significant buffer to the resource-related problems of the core safety net was inter-organizational relationships and networks. More than anything, in the core safety net, where resources are scarce, these implementations showed that continual building (before, during, and post implementation) of individual and inter-organizational networks, inter-organizational capacity, and safety net system infrastructure are very powerful. They provide core safety net organizations with the courage, resources, and fallback to engage in bringing state of the art interventions to their vulnerable patients. Strong partnerships in these implementations were a result of this type of continuous relationship building.

Many of the macro level challenges in these implementations, such as inadequate treatment system capacity and scarce funding, were described as intractable by research participants. The social capital that the organizations involved in two of these implementations (Health Self-Management and Problem Solving Treatment) had built were instrumental in sustaining them in the face of immutable challenges, and the implementation of the interventions served to further build and fortify the core safety net health care system. The Shared Health Plan's vision of participating in health care system building by engaging in a form of a centralized medical record in which clients could participate was unfortunately derailed by poor fit and low adaptability. Ongoing relationship building, system-level thinking, and cooperation seem to be powerful antidotes to micro, mezzo, and macro level obstacles.

Implications for Research, Policy and Practice

      Research. The frameworks presented in Chapter 1 have limitations in two domains when considering what this study revealed about the urban health care core safety net. The first involves the scope of the research fields from which or for which the frameworks were constructed. For example, Greenhalgh et al. (2004) and Fixsen et al. (2005) synthesized implementation literature across many fields, including health, but outside of it as well. Consequently, the models reflect settings that are better resourced than the health care safety net. Fixsen et al. (2005) focus on ideal mezzo level factors (e.g. ongoing dedicated resources) in the implementation process that, on the whole, are not realistic for the average core safety net setting.

      Some of the other frameworks were derived closer to health care safety net settings, but were very specific to certain practice areas, possibly limiting their application. Specific areas were rural children's services (Glisson & Schoenwald, 2005), violence prevention (Wandersman et al., 2008), health promotion for children and teens (Durlak & DuPre, 2008), mental health services (Proctor et al., 2009), and child welfare and specialty mental health (Aarons et al., 2011). Greenhalgh et al. (2004), Damschroder et al. (2009), and Feldstein & Glasgow (2008) provide frameworks that focus on health services, although they utilized models outside this field and focus on health services as a whole, not specifically core safety net settings.

      The results of this study demonstrate that a key contextual factor in implementing interventions in core safety net settings is patient characteristics. This includes patient demographics, attitudes, beliefs, and behaviors. In addition to limitations in scope of these frameworks with core safety net settings, few of the models include patient

characteristics at all. Those that do, the Consolidated Framework for Advancing

Implementation Research (Damschroder et al., 2009), the Practical, Robust

Implementation and Sustainability Model (PRISM) (Feldstein & Glasgow, 2008), and the

Draft Conceptual Model for Implementation Research (Proctor et al., 2009), do not

represent patients as the influential agents they are in the process of implementation.

These frameworks also focus on demographic characteristics and mostly ignore patient

attitudes, beliefs, and behaviors. What patients bring to an implementation, the fit of

those factors with an intervention, and the possibility of adapting an intervention for a

more beneficial fit is crucial. This study did not include interviews of patients, but

considering the powerful influence of patient characteristics, beliefs, attitudes, and

behaviors on implementation it revealed, eliciting patient voice should be a high priority

for future research.

Continuing to study the contextual factors in the implementation of interventions

in health core safety net settings, and the processes by which they affect implementation,

demands qualitative methods to identify the unique influences in this setting and uncover

the answers to the question of how this process happens. As more studies and

identification of contextual factors about implementation in the core safety net

accumulate, developing a taxonomy of intervention, micro, mezzo, and contextual factors

specific to this arena and how they influence implementation individually, and in

interaction with each other, can serve as the basis for new frameworks specific to this

setting, and inform and prime safety net organizations for optimal success in the

implementing EBPs.

It has been suggested that implementation research needs investigations involving meticulous detail about the aspects of programs, contexts, and settings, and questions that illuminate a process and answer questions about what features account for success in one context and failure in others (Greenhalgh et al., 2004; Sanders & Haines, 2006). This type of research that examines the details and nuances of the implementation process and the various contexts in which it takes place, such as this study, is still needed to serve as the foundation for frameworks for implementation in the core safety net.

Research participants, administrators and staff alike, in two of the three studies spoke about the value of the interventions, but not in terms of their scientifically tested evidence bases. They referenced the high quality and effectiveness for their own patients and service provision communities as motivators to participate in the implementation. Expanded categories of what constitutes evidence, such as promising practices, and clinical interventions or administrative practices that have empirical evidence that support efficacy and show promising results of positive outcomes but lack the degree of empirical evidence, are needed to show they produce the outcomes (U.S. Department of Health and Human Services, 1999).

Research methods that reach outside of traditional efficacy and effectiveness trials to establish evidence, such as pragmatic clinical trials (PCTs) and community based participatory research (CBPR) should be considered. PCTs address practical questions about the risks, benefits, and costs of interventions in the real world of routine clinical practice (Roland & Torgerson, 1998). CBPR is a practice that involves communities and researchers as collaborative partners and has the potential to expand the boundaries of

evidence beyond that which is tested empirically (Israel, Schulz, Parker, & Becker, 1998; Wallerstein & Duran, 2010).

CBPR is particularly well suited to address some of the key challenges of implementation in health care core safety net settings found in these studies. CBPR involves communities and researchers as collaborative partners in all phases of research, builds on strengths and resources of communities, promotes an environment of co-learning and empowerment that addresses social inequalities, and disseminates the knowledge and findings to all partners (Israel et al., 1998). The process helps provide motivation for and maintenance of implementations by beginning with a research topic important to the community and ultimately building capacity for long-term sustainability of the intervention after the research team leaves (Minkler, 2005; Wallerstein & Duran, 2010).

This approach, in which community members express their needs, available resources, and share proprietary practices, increases the likelihood of good fit and patient engagement, a challenge in these studies. Community participation combined with attention to equalizing power relations between researchers, practitioners, and community members can improve the lack of patient trust from negative past experiences in the health care system (Wallerstein & Duran, 2010), also an obstacle highlighted in two of these studies. Finally, this approach contributes to the sustainable system building that seems to be so crucial for implementation of EBPs in the health care core safety net.

Commensurate with the approach to expand research activities to widen the boundaries of what constitutes evidence in the interest of effective implementation of

interventions in the core safety net setting, relaxation of funding structures mandating traditional EBPs should be considered.

Policy. The Affordable Care Act (ACA) (March 2010) aims to expand health insurance coverage, control costs, and address the problems of poor health outcomes (American Public Health Association, 2012). Components of the act include expanding access by increasing Medicaid coverage and opening insurance exchanges, controlling costs, improving quality, and investing in prevention (Emanuel, 2014). Several core ACA initiatives address key issues that surfaced in these three studies and can benefit core safety net settings in implementing interventions. These focuses are care coordination of patients across providers, systems, and the community, which involves the network and system building so crucial to the core safety net; dual-eligible Medicaid/Medicare patients (who are often relegated to the safety net); funding for core safety net community health clinics; and incorporation of community level involvement (American Public Health Association, 2012). Similarly, research on implementation in the core safety net can inform successful execution of the ACA.

Research on the processes, challenges, and facilitators of implementation in safety net settings are valuable for the care coordination efforts that will be deployed as part of the ACA, particularly since many of the newly insured will be Medicaid recipients receiving care in the core safety net system. Characteristics and beliefs of core safety net patients and the way in which they interact to influence the level of fit of an intervention seem particularly relevant because, as this study demonstrated, they can derail an entire implementation.

In addition, the type of social capital and system building highlighted in these studies is crucial to facilitating the Medicaid expansion and efficiencies needed for the implementation of the ACA, and providing for those who will be left out of it. Strategies for infrastructure and partnership building in administering interventions that coordinate care in the community across providers and systems are also significant.

Social work practice. These studies also present significant implications for social work practice. Social workers have a mandate in the NASW Code of Ethics (2008) and Standards for Social Work Practice in Health Care Settings (2005) to challenge social injustice to vulnerable and oppressed individuals and groups in general, and with regard to the access and provision of health care. Therefore, it is important for social work front line clinicians, managers, and administrators, particularly those in core safety net settings, to understand the process of implementation of EBPs in order to advocate for the health and well being of their clients.

It is very clear from these studies that the fit, compatibility, and inherent adaptability of an intervention are very important components in its implementation success of failure. It is crucially important for organizations to assess these features *before* adopting and beginning an implementation to avoid negative consequences for providers and patients, as well as wasted resources. Implementations have the greatest chance of success when availability of resources needed for a project is evaluated before adoption as well.

Practitioners on the front lines, as revealed in the interviews for this project, often have valuable, nuanced information about their patients, the process of care delivery, and the organizations and systems through which care is delivered. Managers and

administrators should solicit and work to incorporate this information. Front line social

work staff have an obligation to share this information and advocate for interventions

which promote the well-being of their patients above all other potential beneficiaries of

EBP implementations, particularly when there are threats to high quality, ethical patient

care. Practitioners have intimate knowledge of patients and can advocate for EBPs and

adaptations that fit patients to their advantage. Official leaders and organizations

representing the profession of social work have an obligation to monitor the landscape of

EBP implementation for vulnerable patients and take coordinated action when patient

care or ethics are compromised.

These studies also showed that understaffing is a common issue that affects both

the quality of interventions being implemented and patient and staff well being. Social

work front line practitioners, managers, administrators, a professional leaders need to

organize to advocate for more appropriate staffing, for themselves, and ultimately for the

benefit of their patients.

Much of the sustained success of EBP implementations in the core safety net,

particularly with the advent of the ACA, will depend on relationship and network

building at the individual, community, organization, and systems levels. In macro

practice, social workers engage in facilitating connections and collaborations among

various entities to address community problems and build capacity and social capital

(Weil, Gamble, & MacGuire, 2010). This work is vital for implementing and sustaining

EBPs in the core safety net. Social work leaders, educators, scholars, and practitioners

need to insure that attention to macro practice, especially in regard to health and mental

health practice receives space in educational curricula and resources in the field.

Results of this study revealed that challenging and beneficial contextual factors weave together in such a way that the fabric of their combination is either strong enough to support the implementation or possesses vulnerabilities that cause it to falter. It is reasonable to assume that there will always be major challenges in the core safety net. It will not ever be easy to achieve all the ideal conditions most current implementation research suggests. However, identifying contextual elements that influence specific contexts and weaving them together in a combination that creates a strong enough fabric of factors to support an implementation, as two of these projects demonstrated, is possible.

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SYSTEM ANTECEDENTS FOR INNOVATION

THE INNOVATION
Relative advantage
Compatibility
Low complexity
Trialability
Observability
Potential for reinvention
Fuzzy boundaries
Risk
Task issues
Nature of knowledge
 required (tacit/explicit)
Technical support

Structure
 Size/maturity
 Formalization
 Differentiation
 Decentralization
 Slack resources

Absorptive capacity for new knowledge
 Preexisting knowledge/skills base
 Ability to find, interpret, recodify,
 and integrate new knowledge
 Enablement of knowledge sharing
 via internal and external networks

Receptive context for change
 Leadership and vision
 Good managerial relations
 Risk-taking climate
 Clear goals and priorities
 High-quality data capture

SYSTEM READINESS
FOR INNOVATION
Tension for change
Innovation-system fit
Power balances
 (supporters v. opponents)
Assessment of implications
Dedicated time/resources
Monitoring and feedback

COMMUNICATION
AND INFLUENCE
DIFFUSION
(informal, unplanned)

 Social networks
 Homophily
 Peer opinion
 Marketing
 Expert opinion
 Champions
 Boundary spanners
 Change agents

DISSEMINATION
(formal, planned)

Resource system

LINKAGE

The innovation

Knowledge
purveyors

Diffusion

Dissemination

Change agency

LINKAGE

Outer context

User system

System antecedents

System readiness

Adoption/assimilation

Implementation

Consequences

ADOPTER
Needs
Motivation
Values and goals
Skills
Learning style
Social networks

ASSIMILATION
Complex, nonlinear
 process
"Soft periphery" elements

IMPLEMENTATION
PROCESS
Decision making devolved
 to frontline teams
Hands-on approach by
 leaders and managers
Human resource issues,
 especially training
Dedicated resources
Internal communication
External collaboration
Reinvention/development
Feedback on progress

OUTER CONTEXT
Sociopolitical climate
Incentives and mandates
Interorganizational
 norm-setting and
 networks
Environmental stability

LINKAGE
Design stage
 Shared meanings and mission
 Effective knowledge transfer
 User involvement in specification
 Capture of user-led innovation

Implementation stage
 Communication and information
 User orientation
 Product augmentation, e.g. technical help
 Project management support

Figure 1: Conceptual Model For Considering the Determinants of Diffusion, Dissemination and Implementation of Innovations in Health Service Delivery and Organization

Figure 2: Framework for Implementation

Figure 3: Interactive Systems Framework

Interactive Systems Framework for Dissemination and Implementation

Framework for Effective Implementation

Figure 4: Framework for Effective Implementation

Figure 5: The Practical Robust Implementation and Sustainability Model (PRISM)
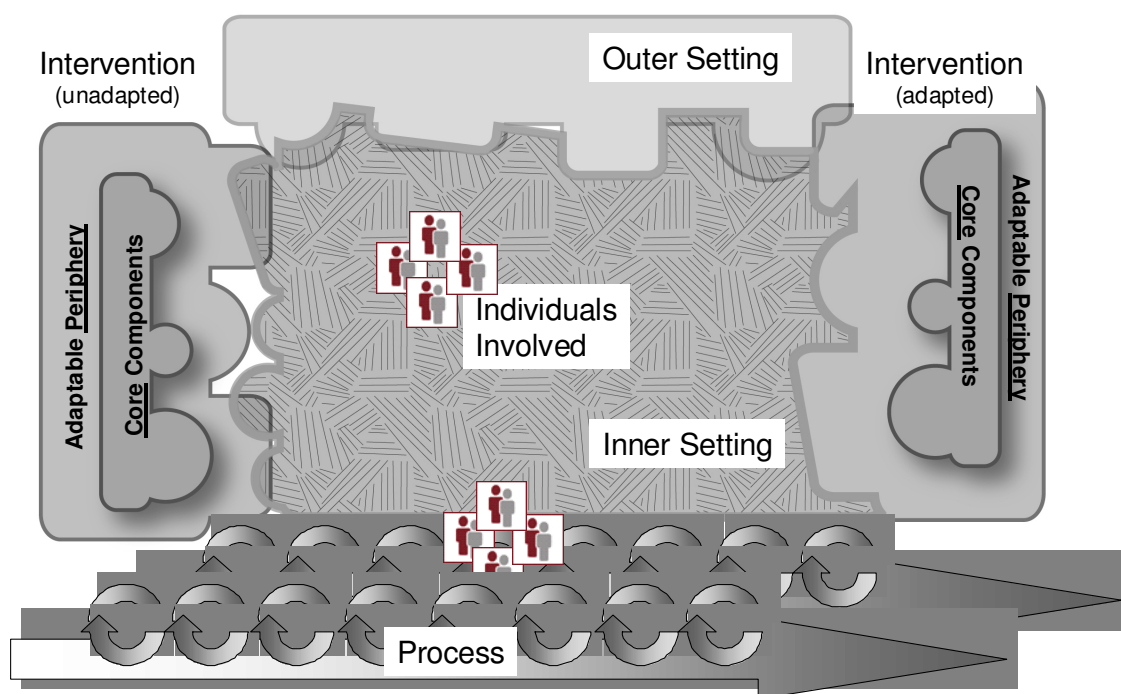
Figure 6: Consolidated Framework for Implementation Research
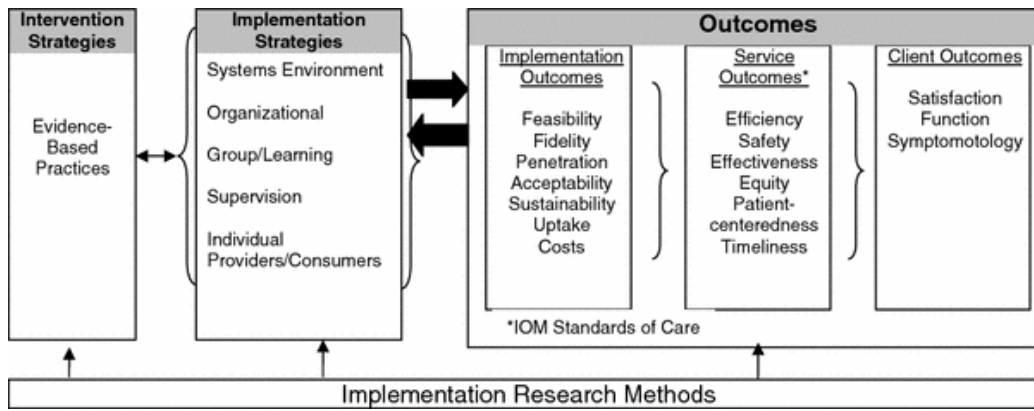
Figure 7: Conceptual Model of Implementation Research
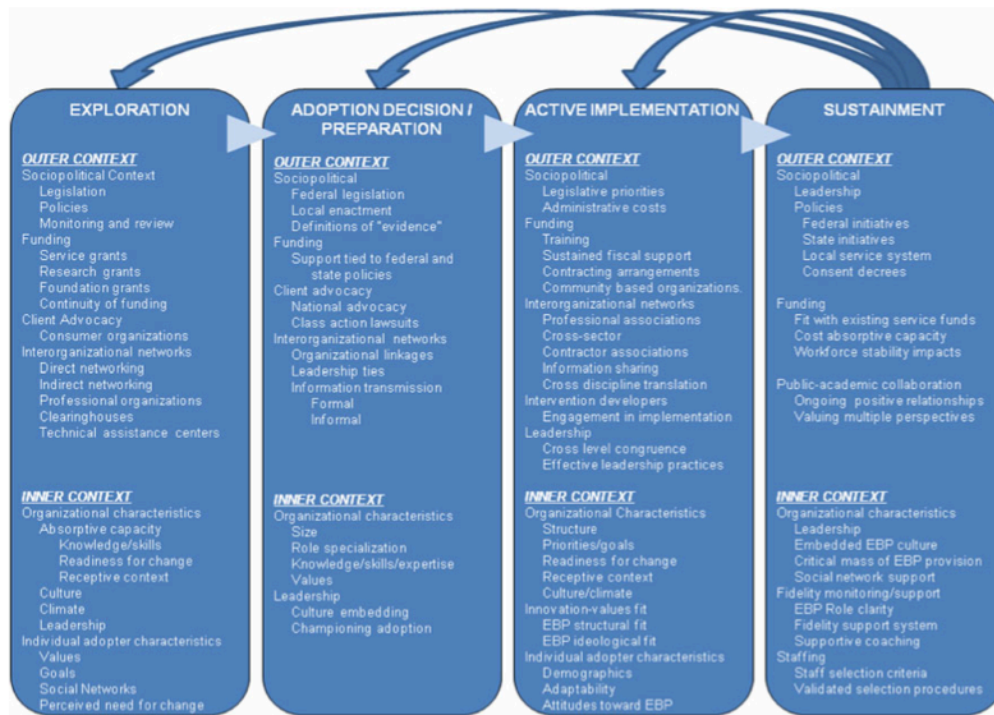
***Figure 8: Conceptual Model of Evidence-Based Practice Implementation
in Public Sector Services***
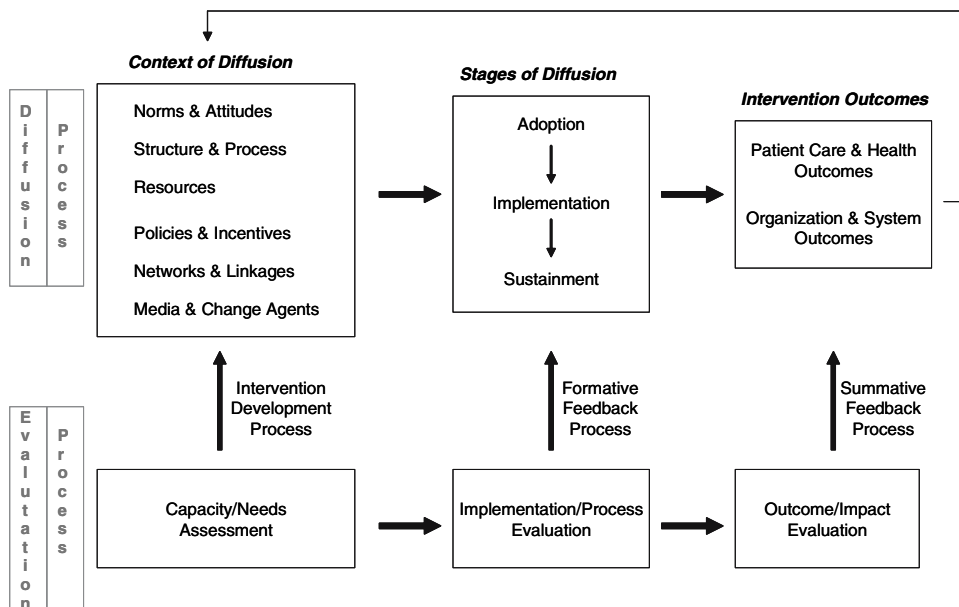
Figure 9: Framework of Dissemination in Health Service Intervention Research

Micro Contextual Factors

Intervention Contextual Factors

Macro Contextual Factors

Mezzo Contextual Factors

Intervention & Micro Interactions

Intervention Micro & Macro Interactions

Macro & Mezzo Interactions

Intervention & Macro Interactions

Intervention Mezzo & Macro

Micro & Macro Interactions

All

Intervention & Mezzo Interactions

Mi/Me/Ma

I/Mi/Me

Micro & Mezzo Interactions

Figure 10: Framework for Implementation Contextual Factors and Interactions

Table 1: Implementation Contextual Factors

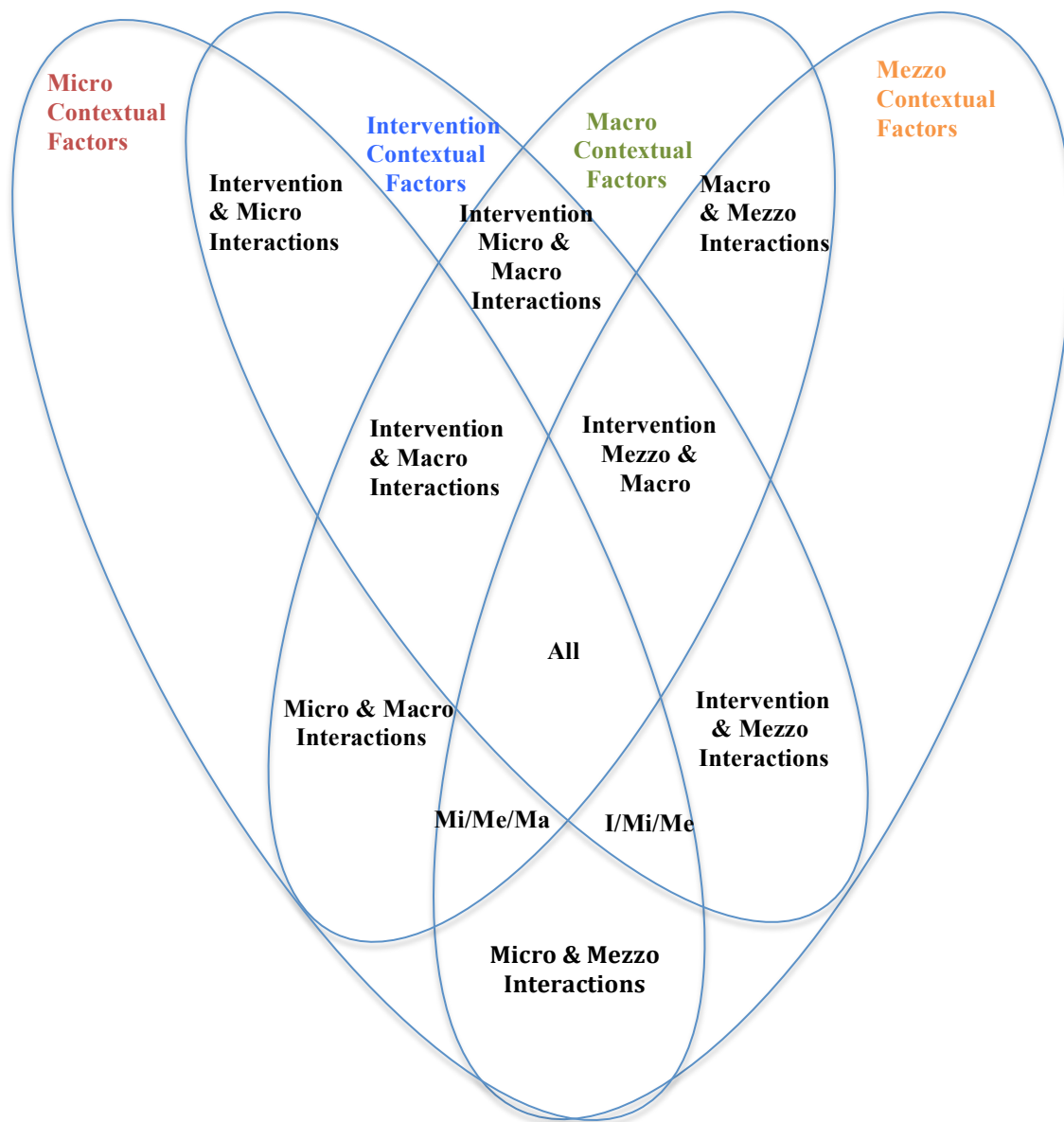| Intervention	Micro	Mezzo	Macro
Fit/ Adaptability Degree to which intervention aligns with characteristics of patients & community; Degree it can be modified to meet local needs	**Patient Demographics** Socioeconomic characteristics of patient population	**Structure** Organizational age, size, maturity and social architecture (degree of centralization)	**Sociopolitical Environment** Larger political, social, economic environment
Compatibility Degree to which intervention aligns with features of an organization, or environment	**Patient Disease Burden** Quality, severity, and quantity of disease	**Culture/ Climate** Organization norms, assumptions, values; Employee perception of and affective response to work environment	**Consumer Advocacy** Activities of consumer advocacy groups that usually benefit adoption and implementation of interventions
Complexity Degree of difficulty, complication of intervention	**Patient Needs/Resources** Resources patients have and those they need to participate in the intervention	**Capacity** Organization readiness, infrastructure, and resources to implement an innovation.	**Policy** Government or other policies that would affect implementation, including mandates
Observability Degree to which effects of intervention can be seen	**Patient Skills/Knowledge** Skills and knowledge patients possess to participate in the intervention	**Networks** Degree to which an organization has ties to extramural individuals and organizations	**Funding Environment** Availability of funding; legislative priorities; competition for funding
Evidence/Quality Perception of strength of evidence base and/or quality	**Provider Skills** Professional clinical skills	**Purveyors** Individuals from innovation development team who coach an implementation on-site	**Regulatory** Regulatory policies or legislation that affect implementation of an intervention
Risk Level of risk adopting and implementing an intervention entails	**Provider Traits** Inherent characteristics not teachable in professional education (e.g. integrity)	**Champions** Individuals who advocate for the implementation of an intervention	
Design/Packaging Design and presentation of an intervention	**Provider Education & Training** Professional education and training	**Leadership** Intramural leadership as well as clinical leadership related to implementation of an intervention	
Relative advantage Advantage in relation to other interventions	**Patient & Provider Beliefs/Attitudes** Beliefs and attitudes that affect the implementation of the intervention	**Partnerships** Ideally no hierarchy; mutual trust, shared decisions/responsibility and problem solving	
Cost Cost and opportunity cost of implementing an intervention	**Patient & Provider Behaviors** Behaviors that affect the implementation of the intervention	**Process/procedure** Processes and procedures related to the implementation of the intervention	
Trialability Small scale trial possible		**Resources** Dedicated for implementation	

Table 2: Health Self-Management Contextual Factors

INTERVENTION	Challenges	Benefits
Fit with patients	Focus on chronic medical illness and length of program	Clinical features of intervention: MI, intense interface
Compatibility		Organization mission
Adaptability		Addition of psychosocial and expansion of program length
Quality & Observability		High regard by staff, administrators
MICRO: Patient	Challenges	Benefits
Burden of Illness	Illness severity and comorbidity; mental illness and chemical dependency	
Socioeconomic Factors	Lack of stable, housing, transportation, telephone	
Beliefs, attitudes, behaviors	Lack of trust in health care, belief in medical model, religious beliefs, and compliance	Expression of satisfaction
Culture, language	Lack of English proficiency; culturally bound medical concepts	
MICRO: Providers	Challenges	Benefits
Education, skills		Skill of clinical staff
Beliefs, attitudes, behaviors	Provider shaming and judging	Perseverance and creativity of clinical staff
MEZZO: Baseline	Challenges	Benefits
Structural characteristics		Mature, esteemed, well networked
Cultural characteristics		Flexible, adaptive, learning, innovative
MEZZO: Intervention	Challenges	Benefits
Leadership		Strong clinical, organizational, and project leadership
Technology	Inadequate data system	
Dedicated resources		Clinical staff, data system
Training		Ongoing MI and clinical training
Staffing	Caseload, workflow, turnover, multitasking and field hazards	
Quality of partnerships	Micromanagement, poor communication, territorialism by partners; lack of education to partners	Mission alignment, engagement, mutual respect, cooperation, shared responsibility
MACRO	Challenges	Benefits
Systems capacity	Inadequate capacity of mental health, chemical dependency, and community health clinics	
Regulatory	HIPAA	
Timeliness		Aligned with trends: cross-system information, health care reform
Funding environment		

Table 3: Health Self-Management Contextual Factor Interactions
Red: Challenging interactions; **Green:** Beneficial interactions

Driving Influences ↓	Intervention	Micro	Mezzo	Macro
Intervention	Level of adaptability overcame problems with fit.	Intervention quality motivated positive staff behaviors.		
Micro	Staff behavior minimized all challenges of intervention fit.		Staff behavior mitigated staffing and data system challenges.	High effort of staff overcame intractable regulatory obstacles.
Mezzo	Structural characteristics, culture, leadership, and partnership facilitated adaptation. Inadequate staffing inhibited intensity of intervention.	Organizational culture promoted continual skill building. Organization mission and administrator and staff commitment to it motivated them in face of challenges. Staffing level was inadequate to fully address patient issues.	Strong organizational structure, culture, and leadership mitigated problems with data system, and with partner relationships. Inadequate data system increased staff workload.	Structure, culture, and leadership fostered continuation of the project despite intractable regulatory and systems capacity barriers.
Macro	Health care trends motivated staff to administer intervention. Inadequate mental health and chemical dependency systems capacities impeded adaptation of addition of psychosocial intervention.	Alignment with health care trends motivated staff to administer intervention.	HIPAA and low systems capacities increased staff work burden.	

Table 4: Problem Solving Treatment Contextual Factors

INTERVENTION	Challenges	Benefits
Fit with clients	Eligibility criteria: age, mental illness, language	Features of intervention: home-based, "mental health lite"
Fit with community needs		Home-based mental health services and treatment for minor depression
Compatibility		Organization mission
Adaptability		Modified eligibility criteria
Quality		High regard by staff, administrators, community
MICRO: Clients	Challenges	Benefits
Client characteristics	Demographic changes in age	
Burden of Illness	Increase in severity of mental and physical illness	
Beliefs, attitudes, behaviors	Mental illness stigma, desire for a "friendly visitor"	Unsolicited positive client feedback
Culture, language	Increase in ESL clients	
MICRO: Providers	Challenges	Benefits
Education, skills	Concerns that counselor skills and training were inadequate for client illness severity level	
Beliefs, attitudes, behaviors	Case manager resistance to participating in implementation	Buy-in by staff, counselor engagement
MEZZO: Baseline	Challenges	Benefits
Structural characteristics		Mature, well networked
Cultural characteristics		Flexible, adaptive
Resources		Data system in place
MEZZO: Intervention	Challenges	Benefits
Dedicated resources		Dedicated clinical staff
Staffing	Inequities between front line staff and dedicated intervention counselors; case manager turnover; departure of academic team	
Staff incentives	Extra work for case managers with no compensation	More stable caseloads for case managers due to counselor involvement, comprehensive service package
Procedures	No standardization of monitoring and recruitment; challenging screening tool	Easy referral process
Quality of partnerships		Beneficial academic partnership
MACRO	Challenges	Benefits
Funding environment	Funding mandate based on client age	Funding opportunity in the form of a government levy

Table 5: Problem Solving Treatment Contextual Factor Interactions
Red: Challenging interactions; **Green:** Beneficial interactions

Driving Influences ↓	Intervention	Micro	Mezzo	Macro
Intervention		Quality and compatibility promoted staff buy-in. Stringent eligibility criteria discouraged case managers and fostered their resistance.		
Micro	Staff buy-in to organization mission softened staff resistance and fostered motivation.	Positive client feedback and counselor engagement reduced case manager resistance.		
Mezzo	Strong organizational features of structure and culture, and supportive partnerships facilitated adaptation of eligibility criteria.	Benefits for staff, easy referral process, and creation of comprehensive service package relaxed staff resistance and cultivated staff motivation. Ongoing, high quality clinical supervision of counselors reduced any inadequate experience or training. Lack of standardization of recruitment procedure exacerbated staff resistance.	Strong organizational structural and cultural features allowed project to continue when academic partner left.	Academic partner contributed resources in a sparse funding environment.
Macro	Unique funding opportunity allowed adaptation of eligibility criteria.			

Table 6: Shared Health Plan Contextual Factors

	Shared Health Plan	
INTERVENTION	**Challenges**	**Benefits**
Fit with clients	Computer-based (security)	
Fit with community needs	Redundant	
Adaptability	Low adaptability	
Complexity	High complexity	
Observability	Low observability	
MICRO: Clients	**Challenges**	**Benefits**
Client characteristics	Low computer literacy and ownership	
Burden of Illness/es	Active chronic mental illness, psychotic symptoms	
Beliefs, attitudes, behaviors	Mental illness stigma	Liked certain minor intervention features
MICRO: Provider	**Challenges**	**Benefits**
Beliefs, attitudes, behaviors	No staff buy-in, fear that intervention could have negative effects on clients; no provider participation	
MEZZO: Baseline	**Challenges**	**Benefits**
Structural and cultural characteristics		Age, size, maturity; cultures of innovation, risk
Organizational health	Disorganization and political tension	
MEZZO: Intervention	**Challenges**	**Benefits**
Planning	Minimal vetting, planning	
Leadership	No central leadership, champion	
Technology	Computer program and interface problems	Technical adjustments
Dedicated resources	None	
Training	Delayed training	
Staffing	Front line staff with already heavy caseloads	Addition of personnel
Staff incentives	None	
Procedures	Random assignment to counselors; recruitment letters to clients without stable housing	Procedural adjustments
MACRO	**Challenges**	**Benefits**
Timeliness		Aligned with trends of patient proactivity in health management, and medical record centralization

Table 7: Shared Health Plan Contextual Factor Interactions
Red: Challenging interactions; **Green:** Beneficial interactions

Driving Influences ↓	Intervention	Micro	Mezzo	Macro
Intervention		Poor fit and low observability discouraged staff buy-in. Redundancy of intervention prevented provider participation. Elements of intervention combined with client characteristics made adaptation difficult.		Lack of adaptability prevented the opportunity to take advantage of an innovation on the cutting edge of healthcare trends.
Micro				
Mezzo	Staffing was inadequate for high level of complexity of intervention.	Baseline organizational deficits, lack of central leadership, and lack of planning, contributed to staff resistance. Certain procedures were incompatible with the client population. Staffing was inadequate for severity of client illness and computer illiteracy.		
Macro				

Table 8: Overall Contextual Factors
Italics: Key contextual factors present in all three studies

	Health Self-Management		Problem Solving Treatment		Shared Health Plan	
INTERVENTION	**Challenge**	**Benefit**	**Challenge**	**Benefit**	**Challenge**	**Benefit**
Fit with patients/clients	X	X	X	X	X	
Fit with community needs				X	X	
Compatibility		X		X	X	
Adaptability		X		X	X	
Quality		X		X	X	
Observability		X		X	X	
Complexity					X	
MICRO: Patient/Client						
Patient/client characteristics	X		X		X	
Burden of Illness	X		X		X	
Socioeconomic Factors	X					
Culture, language	X		X			
Beliefs, attitudes, behaviors	X	X	X	X	X	X
MICRO: Provider	**Challenge**	**Benefit**	**Challenge**	**Benefit**	**Challenge**	**Benefit**
Education, skills		X	X			
Beliefs, attitudes, behaviors	X	X	X	X	X	
MEZZO: Baseline	**Challenge**	**Benefit**	**Challenge**	**Benefit**	**Challenge**	**Benefit**
Structural characteristics		X		X		X
Cultural characteristics		X		X		X
Experience, reputation		X				
Resources				X		
Organizational health					X	
MEZZO: Intervention	**Challenge**	**Benefit**	**Challenge**	**Benefit**	**Challenge**	**Benefit**
Planning					X	
Leadership		X			X	
Technology	X				X	X
Dedicated resources		X		X	X	
Training and Supervision		X		X	X	
Staffing	X		X		X	X
Staff incentives			X	X	X	
Procedures			X	X	X	X
Quality of partnerships	X	X		X		
MACRO						
Systems capacity	X					
Regulatory	X					
Timeliness		X				X
Funding environment			X	X		

Appendix 1: Health Self-Management Interview and Focus Group Guide

Are there things that make it challenging to administer the program?

Are there specific things that you think would make it easier for you to administer the program?

Are there things that facilitate client retention in the program?

Are there things that impede client retention?

Are there things that make your patients' participation in the program challenging?

Are there things that facilitate clients' involvement in their own care in the program?

Are there things that impede clients' involvement in their own care?

Are there ways you engage clients in the program? Have they changed over time?

What has your experience of collaborating with collateral health professionals been? Are there ways it has been easy? Are there ways it has been challenging?

Were you trained in motivational interviewing as part of the program? What has your experience of being trained in motivational interviewing for the program been? Has it impacted your work with program clients?

What are some things you like best about the program or your role in it?

What are some things you like least about the program or your role in it?

Are there things you would change about the program?

Appendix 2: Problem Solving Treatment Interview and Focus Group Guide

5 minutes

PROJECT INTRODUCTION/PRESENTATION OF PURPOSE: Introduce focus group discussion leaders and explain the need to record the meeting discussions.

<u>Overall goal</u>: In this discussion, we are hoping to better understand your knowledge and ideas about the X Program.

Emphasize the confidentiality of the focus group discussion: "What you hear and say at this gathering, stays here."

- ❖ Encourage participants to speak up
- ❖ Encourage all to respect each other's opinions and inputs
- ❖ Encourage participants to understand that 'there are NO right or wrong answers'. Oftentimes it is the response that is different from what has already been said that provides the most useful information.
- ❖ We will be focusing our discussions on the X program at X Organization.

5 minutes

GROUP INTRODUCTION: Have participants introduce themselves.

A) What is your name, your role at X Organization, and how long you have been in that role?
B) What do X Organization staff know and perceive about the X Program?
Probes:
      1) What is the X Program?
      2) How does it work (process) and how have you been involved in the process?

15 minutes

B) What are perceived benefits of the X Program?
Probes:
      1) Can you identify benefits of the X Program for your clients or, if you do not see clients directly? Can you identify benefits of the X Program for the population that X Organization serves?
      2) Can you identify benefits of the X Program for you?
      3) Can you identify benefits of the X Program for other X Organization staff? For the X Organization?
      4) Are there benefits for anyone else?

15 minutes

C) What are perceived negative consequences of the X Program?

Probes:

      1) Can you identify disadvantages or negative consequences of the X Program for your clients?

      2) Can you identify disadvantages or negative consequences of the X Program for you?

      3) Can you identify disadvantages or negative consequences of the X Program for other X Organization staff? For the X Organization?

      4) Are there disadvantages or negative consequences of the X Program for others?

30 minutes

E) What are some barriers to enrollment in the X Program and what would facilitate greater enrollment?

Probes:

      1) What currently facilitates enrollment in the X Program? What is working well?

      2) What are current barriers to enrollment in the X Program?

      3) What (else) makes it hard for you to connect your clients to X Program?

      4) What would make it easier for you to connect your clients to X Program?

      5) What else do you think would reduce barriers to greater enrollment in the X Program? (can refer back to barriers mentioned in 2 not related specifically to case managers connecting clients)

F) Is there anything else you would like to add before we end the group?

Appendix 3: Shared Health Plan Interview and Focus Group Guide

- o How were you involved with the project? What was your role?
- o Tell me about your understanding of the project and its purpose.
- o Tell me about introducing clients to the Project. What was it like? How long did it take?
- o What were clients' reactions to the project?
- o Do you feel that you received enough training to work with clients on the project?
- o What, if anything, would have made it easier for you to introduce clients to the project?
- o How often do you think the clients access their personal health record?
- o What do they use the project for?
- o Do you perceive the project to be helpful? How?
- o What barriers have you encountered using the project?
- o Suggestions for improvement?
- o What were the benefits, if any of using the project, to clients and to staff?
- o What were the negative consequences, if any, of using the project, to clients and to staff?

VITA

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