Integrating Primary Care and Behavioral Health With Four Special Populations

Children With Special Needs, People With Serious Mental Illness, Refugees, and Deaf People

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Special patient populations can present unique opportunities and challenges to integrating primary care and behavioral health services. This article focuses on four special populations: children with special needs, persons with severe and persistent mental illness, refugees, and deaf people who communicate via sign language. The current state of primary care and behavioral health collaboration regarding each of these four populations is examined via Doherty, McDaniel, and Baird's (1996) five-level collaboration model. The section on children with special needs offers contrasting case studies that highlight the consequences of effective versus ineffective service integration. The challenges and potential benefits of service integration for the severely mentally ill are examined via description of PRICARe (Promoting Resources for Integrated Care and Recovery), a model program in Colorado. The discussion regarding a refugee population focuses on service integration needs and emerging collaborative models as well as ways in which refugee mental health research can be improved. The section on deaf individuals examines how sign language users are typically marginalized in health care settings and offers suggestions for improving the health care experiences and outcomes of deaf persons. A well-integrated model program for deaf persons in Austria is described. All four of these special populations will benefit from further integration of primary care and mental health services.

Keywords: primary care, special needs, SPMI, refugee, deaf

The integration of primary care and behavioral health is rewarding and challenging on many fronts. The challenges increase and expand in complexity when considering certain special service populations. Herein, we consider four: children with special needs, persons with severe and persistent mental illness, refugees, and deaf people who communicate via sign language. Each of these special populations would benefit greatly from more integration between behavioral health and primary care services. In this four-part article, we describe the current state of service integration for each of these populations, and we recommend changes to improve care. We take as our common theme the five-level model of primary care and behavioral health integration described by Doherty, McDaniel, and Baird (1996).

Increasingly, models of collaborative care are being promoted throughout the health care system (Hojat et al., 1999). Yet, progress has been hampered by lack of agreement on a clear operational definition of collaboration across the range of potentially relevant disciplines. Studies on collaboration are found in fields as diverse as health care, program evaluation and management, psychology, and communication, where a bewildering range of terms, constructs, and theories are applied to the notion of working together. Researchers in this field may use the terms

coexistence, co-location, cooperation, partnering, networking, coordination, team building, coalition building, or collaboration interchangeably (Doherty, 1995), making comparison of these studies difficult. Few authors have tried to codify this language into a single unified system. For our purposes, we use the five-level model proposed by Doherty and colleagues (Doherty, 1995; Doherty et al., 1996), which is presented in Table 1. In this model, collaboration is described as existing on a continuum, with levels that are qualitatively distinct from one another. However, the model does not suggest that all health care professionals need to engage in the higher levels of collaboration. Rather, the model outlines the different types of collaborative effort to help providers choose a level that is the best fit for what they are trying to achieve (Doherty et al., 1996). In the remainder of this article we describe the challenges and current status of integrating primary care and behavioral health services in regard to four special populations, referencing the state of the art, either broadly or in terms of specific programs, in keeping with Doherty et al.'s (1996) integration model.

Collaboration in Health Care for Children With Special Health Care Needs

The Maternal and Child Health Bureau defines children and youth with special health care needs as "those who have, or are at increased risk for having, a chronic physical, developmental, behavioral or emotional condition and who also require health and related services of a type or amount beyond that required by children generally" (McPherson et al., 1998, p. 138). There are an estimated 10.2 million children with special health care needs in the United States (U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau, 2007). The breadth of the definition of special health care needs and disability status makes this patient population diverse in scope and complexity. Often these children are served by multiple systems with no interconnection. Underfunding for behavioral health services frequently presents significant challenges for the provision of coordinated, quality care.

The medical home model of care has been well described and is embodied in family-centered, coordinated, community-based, culturally competent systems of services and supports. The core components of a medical home include the following: access to care, family-centered care, cultural responsiveness, continuity of care, comprehensive care, compassionate care, and coordination of care (Sia, Tonniges, Osterhus, & Taba, 2004).

At the core of a medical home exists collaboration among all providers and the family to best meet the needs of children with special health care needs (CSHCN). Some have envisioned a medical home as a single place where a child receives care; however, this is rarely the case. Patients with high complexity rarely receive all of their needed physical and behavioral health care from the same treatment team. CSHCN may receive specialized care from a primary care physician (PCP), various medical specialists, behavioral health providers, physical therapists, occupa-

Table 1
Doherty, McDaniel, and Baird's (1996) Five Levels of Collaboration Between Primary Care and Behavioral Health

Level	Description
Level 1: Minimal collaboration	Health care professionals work at different locations, do not integrate their services, and have little communication.
Level 2: Basic collaboration from a distance	Health care professionals still practice in separate locations and do not integrate their services, but they do communicate more frequently. Health care professionals see each other as resources, but they do not share power or responsibility, and they do not understand each other's organizational culture.
Level 3: Basic collaboration on site	Health care professionals co-locate services, but they do not integrate their services. Providers communicate frequently. Although they see themselves as part of a larger system and they value the role other professionals play, they still do not appreciate each other's organizational culture.
Level 4: Close collaboration in a partly integrated system	Health care professionals co-locate services and integrate some of their systems, including coordinated treatment plans. They also participate in more frequent communication and face-to-face consultation.
Level 5: Close collaboration in a fully integrated system	Health care providers co-locate, have integrated systems, and provide seamless services. Health care providers meet routinely and have a deep appreciation of each other's organizational culture. Power and decision making are shared among all team members.

tional therapists, the education system, the child welfare system, and many others. As a result, a high degree of communication and collaboration is essential to avoid medical errors, duplication of services, or conflicting management recommendations to the family and others involved in the care of the child. This need for high levels of collaboration led to the development of the medical home model. The level of collaboration required of the many professionals who work with CSHCN is even more difficult to achieve than the collaboration between medical providers and behavioral health providers serving the general population, per Doherty et al. (1996). While it is necessary for providers to collaborate in order to effectively care for CSHCN, until recently, few professions have provided training in collaboration as a core part of graduate education (Hojat et al., 1999). To help address this gap, we outline below recommendations for developing collaboration and provide examples of how intentional development of collaboration can lead to better outcomes for CSHCN.

Developing Collaboration

While Doherty et al.'s (1996) model discussed above helps to define collaborative care, working clinicians and practice leaders still need help with the problem of how to achieve collaboration among health care providers. Much of the extant literature is focused on developing what can be broadly termed "structural factors" (Mattessich, Murray-Close, & Monsey, 2001). These include the development of concrete processes designed to promote collaboration, such as memoranda of agreement, co-located facilities, and common policies or procedures for treating patients. The literature has less depth around developing the "relational factors" that are necessary for true collaboration to take place, such as trust, appreciation of different organizational cultures, and altruism. While structural factors can help to create an environment that promotes collaboration, health care providers will not be willing to relinquish control over the care of their patients to another provider unless they know and trust the other provider (Hojat et al., 1999; Lee, Stajkovic, & Cho, 2011).

Unfortunately, professionals do not tend to trust each other by default. In fact, risky situations are likely to lead to high levels of distrust. However, it is in these high-risk situations, such as providing care for CSHCN, that collaboration is most necessary. Trust is not developed easily, but under the right situations, individuals can be encouraged to engage in trusting behaviors (Evans & Krueger, 2011). Two factors have been shown to positively influence trust—competency and benevolence (Lee et al., 2011). In order to trust another provider with his or her patients, a provider must believe that the other provider has an adequate level of competency. However, competency alone is not sufficient to ensure trust. A provider must also believe that the other provider has the best interests of the patient and the referring provider at heart.

The only way that a provider can learn about the abilities and benevolence of other providers is through personal exposure to their values, priorities, and the care they render in a variety of situations, which takes time and effort. Opportunities to meet one another, share personal information, and develop ongoing relationships take place naturally within large institutions or practices through casual conversations or in meetings. These opportunities can also occur through membership in professional organizations, attending conferences, or involvement in community initiatives. However, membership or attendance alone is not enough to develop cross-systems collaboration. Providers must be intentional in their efforts to meet and get to know colleagues. Unfortunately, in the current environment of cost containment and high service volumes, efforts to build cross-systems relationships are often not rewarded. Building relationships is not seen as "real work." Health care providers, particularly physicians, do not have the time to engage in nonbillable activities. Therefore, the development of relationships with other providers must be regarded as critical to quality patient care and must be rewarded or incentivized by practice leaders and plan architects accordingly (Doherty, 1995).

Collaborative Care for Children With Special Health Care Needs

While some providers may be able to manage patient care without developing true collaboration, providers working with CSHCN cannot provide adequate care without developing collaborative relationships. Recently, Kellar-Guenther and Pickler (2011) interviewed adult siblings, one with a developmental disability (DD) and one without, to identify their current providers. The young adults with DD had an average of 4.4 providers, while their unaffected siblings had an average of one. Thus, it is imperative that the providers to CSHCN develop collaborative working relationships. Below, we present two cases that illustrate this point.

A case of collaboration done well. M.W. is an 8-year-old boy with a rare inborn error of metabolism resulting in intellectual disability, movement disorder, seizures, and global developmental delays. He is followed closely by a team of four specialists: his inborn metabolic disease team, his neurologist, his dietitian, and his PCP. A social worker is also involved during primary care visits to assist the family with their social or emotional needs. His behavioral health needs are met by the school psychologist at his elementary school. Integral to his care is appropriate medication, fluid, and a strict nutrition plan delivered via gastrostomy tube.

Recently, M.W. became acutely ill with abdominal pain and distention. A volvulus—a twisted, obstructed intestine—was discovered, and a surgeon was called. Before proceeding with surgical treatment, the surgeon communicated with each member of M.W.'s medical team to ensure that care was coordinated and that any special needs were planned for during the surgery and subsequent hospitalization. The social worker was also involved in supporting the family as they made decisions during this life-threatening medical crisis. The family was involved in all management decisions and provided the surgical team with medical literature that assisted the team in decision making and informed surgical technique. M.W.'s school psychologist

assisted in the transition from the hospital back to home and the school routine. Surgery and recovery were successful, and the patient is back to his usual schedule of school and therapies.

In Doherty et al.'s (1996) collaboration model (see Table 1), the team working for M.W. is an example of close collaboration in a fully integrated system. Before working with M.W., the team of five providers (a) knew each other well; (b) communicated often using a variety of methods, including cell phones; and (c) worked within two systems—one health care system and the school system. Additionally, the health care system they worked in promotes an interdisciplinary approach to health care, where providers come to the child rather than vice versa.

In addition to the tight, preexisting relationship between his providers, M.W. had a medical need that was easily diagnosed and could be definitively treated—not always the case with CSHCN with complex genetic conditions. It is also possible that the concrete nature of M.W.'s medical problem made it easier for the team to understand their individual roles and contribution to his care. The team also saw the value that each member provided, including the role of the psychologist who supported M.W.'s return to the family's home and strengthened his community routine as well as the social worker who helped the family make key decisions.

A behavioral health disaster. C.P. is a 21-year-old woman with Prader Willi syndrome. She presents with intellectual disability, behavioral outbursts, and obesity. She lives with her parents, who are skilled advocates on her behalf. Over the past several years, her behavioral problems have been escalating. Recently, she became a danger to herself and others over a misunderstanding while boarding public transportation. Law enforcement was called to the scene, and C.P. was escorted to a psychiatric emergency department. After a thorough evaluation, the attending psychiatrist determined that while medication may help with some of the long-standing behavioral difficulties, the incident leading to her presentation in the emergency department was probably avoidable with behavioral modification techniques. She was started on a low-dose antipsychotic medication and was discharged. The family was instructed to find a psychiatrist in the community who would monitor her medications and assist the family with finding an appropriate psychologist to help with behavioral management in her home environment.

While C.P. responded well to the medications, her family was unable to locate a behavioral health provider to help with medication monitoring or behavioral modification. In desperation, they made an appointment with C.P.'s PCP in order to get help. The PCP attempted to obtain behavioral health care on the patient's behalf but was unsuccessful. After spending more than two hours on the phone, the PCP was able to speak directly with the attending psychiatrist at the psychiatric emergency department. They discussed a plan of care together and agreed that while the PCP would handle refills on prescriptions, the family would see the behavioral health team at the psychi-

atric emergency department; the team would monitor side effects and give behavioral modification training.

Before C.P. could revisit the psychiatrist, another major outburst occurred, leading to police involvement. The police took C.P. from her home, and, after evaluation in the emergency department, she was placed in adult foster care. This placement, while voluntary, was described to the family as the only option for providing C.P. access to a psychiatrist and psychologist, who are now working together to manage her medications and provide therapy. C.P. has been able to retain her PCP, but there has been no communication between this provider and any of the behavioral health professionals involved in C.P.'s care. During the first 30 days of her placement in adult foster care, C.P.'s parents were strongly advised not to see her. Her family felt that the system was not supportive in getting appropriate behavioral health care while she was in their custody. In addition, the PCP believes that had appropriate behavioral health supports been in place, medication and subsequent removal into adult placement would have been unnecessary.

In Doherty et al.'s (1996) model, the team working for C.P. demonstrated only minimal collaboration, which is inadequate for a case with biopsychosocial interplay and management difficulties. While both M.W. and C.P. had a relatively high number of providers, their experiences were very different. M.W. had five providers over two systems, but C.P. had five providers over five systems (two health care systems in different parts of the city, a school system, the developmental disability system, and the legal system). There was no preexisting relationship between C.P.'s providers, no co-location, and no shared philosophy for how to care for her. The psychiatrist in C.P.'s case was accustomed to short-term relationships with patients and returning patients back to the community for long-term support. Neither the PCP nor the family was able to find a behavioral health provider who would commit to a long-term relationship with C.P. Both C.P.'s PCP and family felt a psychologist should have been involved before a psychiatrist, but it was difficult to locate an appropriate provider due to lack of reimbursement for psychological care by C.P.'s insurance. As these two cases demonstrate, developing collaborative models of care based on personal relationships and trust are critical for improving outcomes for CSHCN.

The PRICARe Program: A Collaborative Care Model for Primary Care and Mental Health Integration for Persons With Serious and Persistent Mental Illnesses

People with serious and persistent mental illnesses (SP-MIs), such as schizophrenia and bipolar disorder, face substantial physical health challenges, dying an average of 25 years earlier than the general population. Most of this mortality is attributable to conditions such as diabetes and cardiovascular disease (Manderscheid, 2006). Psychotropic medications commonly prescribed for SPMIs also have

side effects (e.g., weight gain, insulin resistance, and metabolic syndrome) that predispose to adverse health consequences (Newcomer, 2007). Early medical intervention and preventive care aimed at reducing risk factors and managing chronic diseases can greatly improve the health of individuals with SPMI and can reduce the risk of premature death (Druss, von Esenwein, Compton, Zhao, & Leslie, 2011). However, this population faces many barriers (e.g., difficulty making and keeping appointments and difficulty describing physical symptoms; Druss et al., 2011) and, therefore, often does not receive high-quality primary care.

In Colorado, an academic–community partnership was established in 2008 to create a sustainable, integrated care system for individuals with SPMI. Colorado Access (a nonprofit Medicaid and Medicare health plan), the University of Colorado's Department of Family Medicine, and the Mental Health Center of Denver (MHCD), a community-based mental health center, developed a collaborative program called "Promoting Resources for Integrated Care and Recovery" (PRICARe). Funded by a grant from the Colorado Health Foundation, PRICARe's mission was to develop, evaluate, and sustain a program through which persons with serious mental illness can access integrated primary care and behavioral health services in locations that are familiar and acceptable to them—the community mental health clinics where they receive care for their psychiatric disorders.

The program added to their existing multidisciplinary team of mental health clinicians a full-time family nurse practitioner to provide primary care services onsite at MHCD to clients diagnosed with SPMI and co-occurring substance use disorders. The program's target population is clients who consider the mental health center their "medical home" and who are reluctant or unable to receive primary care in an offsite medical clinic. These individuals have medical needs ranging from routine screening and preventive care to care coordination services and aggressive management of chronic medical conditions.

PRICARe Development and Infrastructure

Primary care resources. The PRICARe partnering organizations each had specific roles in the establishment of co-located primary care services at MHCD. The Department of Family Medicine was responsible for recruiting, employing, and supervising the PRICARe primary care provider.

Clinical integration/organization. Co-locating a primary care clinician (PCC) within the mental health clinic was a necessary but not sufficient step toward integration. Integration also required regularly scheduled provider and clinic operations meetings involving the PCC, psychiatrists, case managers, three clinical psychologists (two of whom were primarily in administrative roles and one primarily in a clinical service role), as well as master's-level psychotherapists, the use of a shared electronic health record, and face-to-face contact to coordinate care. The MHCD medical director and head nurse provided onsite clinical oversight and management for the PRICARe program. Additionally, PRICARe project staff from the part-nering organizations met monthly at MHCD to review primary care service delivery progress and to address any issues or barriers facing the PCC.

Project oversight. The Colorado Access health plan provided the PRICARe project with a director (Jeanette A. Waxmonsky) who is a clinical psychologist and health services researcher with experience in primary care and mental health integration. As project director, she served as the interface among all three partnering organizations and the grantor, led the monthly PRICARe clinical and operations meetings, met with project staff as needed to troubleshoot implementation problems, and oversaw all clinical and other data collection.

Systems integration/operational issues. Clinical service delivery and billing systems had to be modified to enable integration. As a provider in the Department of Family Medicine, the PCC could bill for professional services through University Physicians Incorporated (UPI).[1] Billing was prepared by MHCD and forwarded to the Department of Family Medicine for submission to UPI.

MHCD's director of research and development, a clinical psychologist, created PRICARe's clinical flow processes and was responsible for the integration of behavioral health and PCC medical records. MHCD modified its existing electronic health record (EHR)[2] so that the PCC could document medical care in the same system as MHCD's mental health providers; thus PCC notes can be viewed by the entire mental health treatment team. The MHCD clinic nurses and medical assistants provided ancillary support for the PCC. Clinic nurses and medical assistants assumed responsibility for telephone triage of medical problems. They also functioned as primary liaisons between the PCC and the prescribing psychiatrists and performed duties such as venipunctures, blood pressure readings, and taking medical histories. Grant funding was used to redesign the PCC's clinic space into dedicated, fully equipped medical exam rooms.

Financial integration. The partnership recognized that the PRICARe model would not be capable of offering all of the efficiencies of a large primary care practice, such as high-volume patient flow, or the full support from nursing and administrative staff customary in primary care settings. However, if mental health clients are shown to be receiving redundant, fragmented, or inappropriate care (e.g., overuse of emergency services or avoidable hospitalizations), there may be cost savings or cost offsets available to support some of the PRICARe program services. The Colorado Access health plan is collecting system-wide billing data for all Medicaid[3] recipients,

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[1] UPI is the University of Colorado's clinical practice plan, which handles contracting, coding, billing, collecting, and other business functions for university faculty clinicians.

[2] STAR is MHCD's name for the CMHC MIS electronic health record, accounts receivable, and front office scheduling system developed by Netsmart Technologies.

[3] Medicaid is the payer for approximately 51% of MHCD services.

which should provide useful information about the costs, savings, and benefits of this program.

PRICARe's sustainability depends on the PCC's ability to increase clinical revenues through Medicaid, Medicare, and private insurance payments over time. PRICARe's innovative interdisciplinary team approach may prove difficult or impossible to sustain through billable services alone. For these reasons, Colorado Access is developing a detailed financial model that will help to make the "business case" for the project's sustainability and dissemination.

Level of Primary Care/Mental Health Collaboration

The PRICARe partners have been able to achieve Level 4 collaborative care in Doherty et al.'s (1996) model: close collaboration in a partly integrated system. The PRICARe PCC is embedded in the mental health center. The front office staff schedules PCC appointments and handles insurance and billing. The PCC and mental health providers share the same scheduling system and EHR, thus allowing all providers real-time access to each other's appointments, notes, and labs/tests. The PCC participates in medical staff, therapist, and case manager meetings. As a result of the PCC being on site and visible, available for consultation, and able to see new referrals quickly, the mental health team has grown to appreciate the value of the primary care services the PCC provides. The interdisciplinary and inter-professional team that has emerged now manages these clients' primary medical and psychiatric problems, and other psychosocial issues, in a comprehensive, integrated fashion. Most important, the PCC has also changed the culture of the mental health center by educating staff and patients about primary care services. To the project staff's surprise, mental health clients as well as many nonphysician MHCD staff needed education on what primary care services entail and what the differences are among primary care, urgent care, and emergent care in regard to level and intensity of services provided.

Implementation Challenges

The PRICARe program has faced many implementation challenges. MHCD had to develop an EHR that could accommodate the needs of the PCC, which was a resource-intensive task. The original PCC was a physician who was not perceived as a "good culture fit" with the MHCD team. In the second round of hiring, PCC candidates were vetted by all key leadership staff across all three organizations. The candidate who was ultimately hired for this role was a family nurse practitioner with considerable experience providing care for patients with SPMI.

An ongoing challenge has been addressing operational differences between mental health care and primary care. For example, many of the mental health clients receive mental health services through a capitated Medicaid behavioral health system and are not accustomed to paying co-pays for medical services through fee-for-service Medicaid. Some clients are unable to afford these co-pays and cannot avail themselves of these integrated services. Additionally, the front office staff was unfamiliar with collecting co-pays for the variety of medical insurance programs. Billing processes between MHCD and UPI had to be established and periodic meetings were needed to correct errors in billing and increase efficiencies in processing claims.

Accessing specialty medical care for mental health clients continues to be a major challenge. The PCC and her nurse coordinator spend significant time finding specialty medical providers willing to see mental health clients and accept Medicaid or Medicare. Additionally, because specialty services are not provided in the mental health center, case managers often need to spend considerable time making sure that clients get to these appointments.

Lessons Learned From PRICARe

To date, the PRICARe program has 439 patients actively enrolled in primary care services at MHCD. Most clients have four or five medical conditions or complaints on their initial visit and require multiple follow-up visits to address their medical needs. The PCC spends the majority of her time educating and encouraging clients to see her early on, when problems first arise, and to see her before going to an emergency room. On several occasions the PCC has intervened with clients who have minor health issues to prevent them from inappropriately utilizing emergency care services. Now that the program is fully implemented, the next challenge will be to complete the financial analyses and develop the business case for sustainability.

The most important lesson to date from the PRICARe program is that while it takes considerable lead time and resources to develop an integrated primary care/behavioral health clinical delivery system within the mental health setting and to establish an efficient and effective multidisciplinary clinical team for successful program implementation, it is well worth it. Through PRICARe, we have created a system in which clients recognize that they have a "health team" that cares for both their mental health and medical care needs. Moreover, this model is consistent with the recovery-based approach of the mental health center.

Refugee Health

A refugee is defined as someone with a well-founded fear of being persecuted for reasons of race, religion, nationality, membership in a particular social group, or political opinion and is unable or unwilling to avail himself or herself of the protection of their country. Refugees are distinguished from immigrants because immigrants generally move to improve the future prospects of themselves and their families, whereas refugees have to move if they are to save their lives or preserve their freedom (U.N. Refugee Agency, 2013).

In the field of refugee health, there is a striking absence of published work describing the collaboration between primary care and behavioral health care. This is in stark contrast to clinical experience and published reports describing the high prevalence of behavioral health concerns among refugees, the complex barriers refugees face in accessing the health care system, and the challenges in

delivery of high-quality care to this population. Mental health service provision is patchy and poorly integrated with other clinical services for many reasons: "limited funding, inadequate performance and accountability measures to improve service access, a shortage of bilingual mental health professionals, and a lack of capacity or willingness among mainstream services to accommodate the needs of ethnically and culturally diverse populations" (de Anstiss, Ziaian, Procter, Warland, & Baghurst, 2009, p. 595). Therefore, in Doherty et al.'s (1996) model (see Table 1), collaboration among health care professionals for refugees exists mainly at the "minimal collaboration" or "basic collaboration from a distance" levels.

Need for Research in Refugee Health to Explicitly Address Collaboration and Integration

Research on behavioral health in refugee populations has focused primarily on the mental health sequelae of pre- and postmigration trauma and stress that refugee populations endure. The majority of published information consists of descriptive reports of symptomatology. Several literature reviews and meta-analyses report prevalence rates for depression and posttraumatic stress disorder (PTSD). For example, in a sample of 7,000 refugees across multiple studies (Fazel, Wheeler, & Danesh, 2005), prevalence rates were 3%–86% for PTSD and were 3%–80% for major depressive disorder. Another meta-analysis (Steel et al., 2009) reported a range of PTSD prevalence of 0%–99%. Much of the heterogeneity in findings relates to study design features such as sampling methods, sample size, language issues, and reliability or validity of diagnostic interview methods chosen. Prevalence rates are much lower and reasonably similar for PSTD (ranging from 9% to 15%) when comparing studies with larger sample sizes; yet, these prevalence rates are still several-fold higher than those in the general population.

For refugees, protective factors (i.e., factors associated with better mental health outcomes) include a stable living environment post-resettlement, family cohesion, economic opportunity without loss of socioeconomic status, social support in the host country, community integration, and younger age (Fazel, Reed, Panter-Brick, & Stein, 2012; Pacione, Measham, & Rousseau, 2013; Porter & Haslam, 2005; Reed, Fazel, Jones, Panter-Brick, & Stein, 2012).

The status of current scholarship indicates a great need to move beyond descriptive cross-sectional research to incorporate longitudinal designs and studies of interventions (van Wyk & Schweitzer, 2013). Research on community-based interventions to improve mental health outcomes is critically needed. Community-based participatory approaches, in which refugees are genuinely and authentically engaged in all phases of the research process, are necessary to advance our knowledge of culturally appropriate behavioral health interventions (Carroll, 2004).

Need for Collaboration to Address Social Determinants of Mental Health and Prevention

Research from the perspectives of refugee groups suggests that the most appealing and useful types of collaboration are those that improve resources for job and language training, provide health education (specifically, healthy lifestyle practices), and foster community mental health discussion groups (Asgary & Segar, 2011; Centers for Disease Control and Prevention, 2013). Therefore, collaboration with colleagues across the domains of primary care, social services, psychology, education, occupational rehabilitation, and housing is a promising strategy for preventive mental health care for refugees. Given the complexity of interventions addressing social determinants of mental health (e.g., education, employment, housing), formulating a shared agenda or a set of actionable strategies with partners is a formidable challenge. Yet, there are many formal and informal networks of diverse professionals and community members already established for mutual support, program development, education, and advocacy on refugee health issues in the United States and internationally. Leveraging these preexisting networks could be a strategy for developing collaboration in research and clinical care for refugees.

One example of a network developed to overcome common barriers to collaboration is the Rochester (New York) Committee on Refugee Resettlement (RCORR). RCORR is a broad alliance of professionals and community members from academia, the Rochester City School District, social work, health, resettlement agencies, the law, and community leaders concerned about refugee resettlement and acculturation. The group meets monthly for purposes of education, advocacy, networking, and support. In part due to RCORR members' collaboration, a local health system (Rochester General Health System) was awarded a grant from the Jacob and Valeria Langeloth Foundation to train refugee community members to be peer counselors and cultural liaisons to help link community members in need of mental health services to appropriate care. This project, "Pathways to Wellness," is an example of a novel community-informed model of intervention to improve access and delivery of mental health services for refugees through better linkages throughout the health care system. Outcomes from this project are expected by 2015.

Need for Collaboration to Improve Access to Care and Quality of Care

Refugees face many barriers to care due to resettlement challenges, language barriers, stigma, and lack of knowledge of the health care system (Carroll, 2004; Pavlish, Noor, & Brandt, 2010). A study of refugees and service providers (Asgary & Segar, 2011) found multiple interrelated barriers: internal (mental illness, fatalism, mistrust, perceived discrimination), structural (limited health and mental health care services, service unaffordability, inadequate interpreter services, inadequate shelter, unemployment, food insecurity, and poor cultural competency among

providers), and systems (e.g., difficulty navigating a complex system and inadequate community support) barriers. Given such challenges, strong collaboration between psychologists and medical practitioners is essential to establish clear diagnoses, treatment plans, and resources for assessing progress. Collaboration with refugee community leaders and cultural organizations also is very important to address communication difficulties. Provision of quality interpreter services is necessary but alone is not sufficient to address all the communication difficulties that refugees face. Improving access and quality of care also requires a systems approach to reduce or eliminate structural barriers to care and improve care coordination across specialties.

Emerging Models of Creative and Promising Collaborations

There are reports of models of collaboration emerging, for example, in the Cambodian community (Grigg-Saito et al., 2010). A community health center worked with other local organizations to form an integrative health center blending Eastern and Western approaches to primary medical, mental health, and substance abuse care. When Buddhist monks assisted with consultations, the collaboration improved rates of mental health screening. This collaboration exemplifies Level 5 of Doherty et al.'s (1996) model ("close collaboration in a fully integrated system") because partnering organizations explicitly came together to form a new and better-integrated system to improve community members' health care.

Another study evaluated multidisciplinary collaboration to provide acupuncture treatment for chronic pain in refugees with a history of severe violence exposure, showing that it was appealing and effective at reducing pain scores (Highfield, Lama, Grodin, Kaptchuk, & Crosby, 2012). This acupuncture program exemplifies Level 4 collaboration ("close collaboration in a partly integrated system") because the clinicians were co-located and engaged in explicit coordination and integration of treatment plans.

A recent review (Williams & Thompson, 2011) found beneficial effects of community-based mental health services in improving mental health outcomes among refugees who experienced trauma. Other work has advanced a conceptual framework for preventive mental health interventions to address the needs of refugee families, emphasizing community collaboration, innovative health services strategies, and comprehensive dynamic intervention approaches (Weine, 2011). Thus, recent work illustrates the great potential of testing novel partnerships, consistent with Levels 4 and 5 of Doherty et al.'s (1996) model.

The Signing Deaf Population: Emerging From Health Care Marginalization

The sign language-using deaf population is a sizable American cultural and language minority group with limited access to competent medical and mental health care, despite bearing a larger disease burden in both cases than the general population (Barnett, Klein, et al., 2011; Fellinger,

Holzinger, & Pollard, 2012). In a review, Mitchell, Young, Bachleda, and Karchmer (2006) concluded that estimates of the size of the American Sign Language (ASL)-using deaf population approaching a half-million have the greatest validity. The ASL-using deaf population is distinct in many ways from persons who are audiologically deaf but who do not share the same language and cultural attributes. Persons whose deafness occurs after early childhood rarely use ASL or affiliate socioculturally with the Deaf[4] community. Such persons usually are primarily users of English, and their medical needs, knowledge base, and service utilization patterns differ from those of ASL users (Barnett & Franks, 2002; Iezzoni, O'Day, Killeen, & Harker, 2004; Pollard & Barnett, 2009).

Health care marginalization of the Deaf community results from a complex interaction of barriers and experiences across multiple levels of the social-ecological matrix (Smith & Chin, 2013). Examples include communication barriers between clinicians and deaf patients and their families (including insufficient access to medically qualified sign language interpreter services); a limited "fund of information" among many deaf persons regarding biology, disease, and health care (Pollard & Barnett, 2009; Pollard, Dean, O'Hearn, & Haynes, 2009); deaf persons' frequently limited knowledge of family medical history and constrained expectations regarding the patient role (stemming from communication barriers within the family and between deaf youth and clinicians); and the parallel limited fund of information among many clinicians regarding how to work effectively with deaf persons and sign language interpreters. The frequent result is that clinicians, deaf patients, and their families all abide a status quo of inadequate patient comprehension and engagement during clinical encounters.

Deaf individuals' access to quality health and mental health care varies greatly across the United States. Cities with large Deaf communities may have some deaf and hearing clinicians with ASL fluency and the requisite knowledge, but their offices are typically isolated pockets of access and competence and do not imply broader, system-wide know-how in those regions. Notably, states with the best system-wide reputations for Deaf population *mental health* care (e.g., Alabama, North Carolina, and South Carolina) invariably achieved this only after litigation forced the public mental health system to address aggrieved Deaf plaintiffs' needs (usually via the Americans with Disabilities Act [ADA] of 1990), leading to improvements benefiting many other Deaf and even hearing consumers. Given the differing ways publicly funded physical care

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[4] In keeping with contemporary writing practices in the deafness field, the uppercase "D" is used when referring to deaf persons as a specific sociocultural group, and the lowercase "d" is used when the intent is a more general reference to people whose hearing loss precludes auditory communication. While acknowledging the Deaf community's heterogeneity, the capitalized term is generally understood as referring to persons who have hearing loss in the severe to profound range, prefer to communicate in sign language, and otherwise demonstrate social and cultural affiliation with the Deaf community.

versus mental health care are managed, statewide improvements such as these have no counterparts in the primary care system.

Adults deaf since birth or early childhood report higher rates of obesity, suicidality, and intimate partner violence (Barnett, Klein, et al., 2011), as well as adverse childhood experiences that would benefit from an integrated, collaborative approach to care. Care integration beyond Doherty et al.'s (1996) Levels 1 or 2 (see Table 1) virtually never occurs for deaf persons in the United States. Moreover, communication barriers, lack of provider knowledge regarding sign language and Deaf culture, and frequent resistance to employing interpreters in health and mental health care settings (despite the ADA of 1990 and other legal mandates) combine to impede access to health care fundamentals for many Deaf consumers, much less integrated care. Even in Rochester, New York, regarded as having the country's largest Deaf population per capita, the notable presence of a number of sign-fluent health and mental health practitioners does not signify a robust interdisciplinary care environment. In fact, collaborative care for this population rarely exceeds Level 2 in Doherty et al.'s scenario, where clinicians in separate systems communicate as needed regarding shared patients and view one another as important resources.

Outside the United States, where national health care systems tend to facilitate nationwide improvements, greater integration of primary care and mental health services for deaf people has occurred. A prime example is the Institute of Neurology of Senses and Language in Linz, Austria, where an interdisciplinary program staffed by experts in psychology, neurology, psychiatry, pediatrics, developmental and child neurology, general medicine, linguistics, audiology, social work, and speech and language therapy collaborate across four distinct but closely integrated, co-located departments, one of which is the Health Center for the Deaf (HCD). Yet HCD staff observe the same fund of information deficits with deaf users of Austrian sign language that U.S. clinicians report. Clinicians in both countries also observe an increase in treatment adherence associated with language-accessible care and education efforts, including individual counseling and health education programs open to the local Deaf community (Fellinger, Holzinger, Schoberberger, & Lenz, 2005; McKee, Barnett, Block, & Pearson, 2011).

In order for Deaf patients and families in the United States to reap the benefits of greater integration of primary care and behavioral health services, consistent with collaboration at the higher levels of Doherty et al.'s (1996) model, communication barriers within and between multiple systems must be addressed. High-priority goals in this regard include the following.

Increase the Number of Deaf and Hearing ASL-Fluent Clinicians

An increasing number of deaf and other ASL-fluent individuals are entering the health care workforce, especially in the mental health professions (Pollard, 1996). The number of sign-fluent physicians and nurses in the United States is much lower, though it is slowly increasing due to the popularity of ASL programs at the secondary and postsecondary levels (attracting hearing persons) and to improved access to higher education for deaf persons (including medical and nursing school) spawned by the ADA and advancements in technologies such as amplified and visual-readout stethoscopes. Yet, enrollment of deaf persons in most health care education programs remains hindered by attitudinal barriers, concerns about interpreter service costs, and other matters (Task Force on Health Care Careers for the Deaf and Hard-of-Hearing Community, 2012).

Direct communication between Deaf patients and ASL-fluent providers would enhance quality of care. Sign-fluent clinicians also can educate other members of the collaborative health care team regarding the sociocultural context of being Deaf, promoting "culturally affirmative" care (Glickman & Harvey, 1996), an approach that recognizes that sociocultural and linguistic factors play an important role in the success of treatment and prevention services.

Include Deaf People on Collaborative Care Teams in Other Roles

A program in Minnesota has trained Deaf persons to be community health workers, also known as health care system "navigators" (Agency for Healthcare Research and Quality, 2011). These navigators not only accompany Deaf consumers to health care appointments to help bridge communication barriers and information gaps, but they also foster consumer learning and treatment adherence via home visits and hosting educational programs for Deaf audiences. Navigators conduct trainings on deaf-related topics for health care professionals as well. The reduction in medical appointment "no shows" and greater adherence with treatment recommendations are among the program's documented benefits. Some insurers pay for patient navigator services.

Include Qualified Professional Interpreters on the Collaborative Care Team

Sign language interpreters play a crucial role in the U.S. health care system, although specialized training opportunities regarding working in health and mental health care settings are limited. The inadequacy of current payment models for interpreter services adds to the challenge of increasing the pool of qualified health care interpreters. Specialized training is essential—bilingualism alone is insufficient for effective interpreting practice in health and mental health care settings (Dean & Pollard, 2013; Pollard, 1998). Rather than viewing interpreters as mere "technicians of translation," effective collaboration with interpreters requires involving them as fellow practice-professionals, fully integrated with the collaborative care team. Interpreters can provide the team with information regarding language, communication, and sociocultural context. The Registry of Interpreters for the Deaf (RID) has published "standard practice papers" on interpreting in health and mental health care settings (RID, 2007a, 2007b), and as a result, more health care-related continuing education pro-

grams for interpreters are becoming available. Examples include a week-long training hosted annually by the Office of Deaf Services in Alabama's State Department of Mental Health and a 12-month certificate program in Healthcare Interpreting begun in 2011 at the National Technical Institute for the Deaf in Rochester, New York.

Use Technology to Facilitate Communication

Technology advancements are enabling greater connections between Deaf individuals and health care providers. "Videophones," now common in Deaf households with broadband Internet access, allow Deaf persons to communicate in ASL with sign-fluent clinicians or with interpreters working at video relay service (VRS) centers, who, in turn, translate conversations between Deaf callers and hearing people (e.g., clinicians) who use spoken English. (In most U.S. communities, one can dial 711 to reach a VRS call center.) Video relay services are funded by the Federal Communications Commission (FCC), for use when the deaf person and the hearing person are in different locations, since these calls involve the telephone that must be accessible to deaf persons per the ADA. In contrast, video remote interpreting (VRI) services can be used when the deaf person and the hearing person are in the same location (e.g., a health or mental health care setting). These services are not funded by the FCC. Fee-for-service VRI businesses use video technology to "bring the interpreter into the room" (virtually) and are optimally used when a qualified interpreter is not available locally or not available in a timely manner in emergency situations.

Use Technology to Facilitate Health-Related Education

Internet-based information about health and mental health topics is increasingly available in ASL. Many short-topic video blogs ("vlogs") and even some longer films in ASL are being posted online. As with all Internet-based information, quality is variable—both the quality of the information content and the quality of the ASL. At the University of Rochester Medical Center, the Deaf Wellness Center and the National Center for Deaf Health Research have produced ASL vlogs (which feature a single narrator) as well as "dialogic" films (featuring interaction between a number of Deaf characters) on numerous health and mental health topics. A related trend is the adaptation of health research publications into sign language formats. Forward-thinking editors of such journals as *Preventing Chronic Disease* (Barnett et al., 2011) and *The Lancet* (Fellinger et al., 2012) have facilitated the production of summaries or even full-length sign language adaptations of articles focused on Deaf health and mental health topics.

In sum, pieces are in place, though not yet very well-integrated, to build effective interdisciplinary collaborative teams, including primary care physicians and psychologists, that will enhance comprehensive care with deaf ASL users and their families around the United States. These teams can draw on existing local, regional, and national resources in this effort, emulating the levels of service provided in programs such as the one in Austria.

While most members of American collaborative care teams may not be fluent in ASL, all such teams should strive to include individuals who are ASL-fluent, especially deaf persons. Close collaboration in fully integrated systems (Level 5 in the model of Doherty et al., 1996) that are both linguistically accessible and culturally affirmative has great potential to reduce disparities in health, mental health, and access to care experienced by deaf ASL-users, their families, and their communities.

Closing

Populations with special health and mental health care needs will benefit from closer integration between primary care and behavioral health service providers, as advocated in this special issue of the *American Psychologist*. The four special populations described herein represent a mere fraction of the total number special populations it would be possible to define. Each presents unique challenges and important learning opportunities for collaborative care. Through these brief excursions into the physical and psychological health service issues presented by children with special health care needs, persons with serious and persistent mental illness, refugees, and the ASL-using Deaf population, we have noted a wide range of collaborative care initiatives and associated degrees of effectiveness. In all cases, however, the perceived benefits of collaborative care—whether via the authors' actual experience, observations of better integrated care systems, or merely hypothesized—have been resoundingly endorsed. Doherty et al. (1996) provided a useful framework for examining the current state of collaborative care in our respective fields of specialization. More important, Doherty et al.'s five-level model of collaborative care offers all of us in the health care field, regardless of specialization, guidance on how we can work together to achieve greater and more effective levels of collaboration.

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