Published in final edited form as:

Intervention (Amstelveen). 2014 December ; 12(Suppl 1): 94–112. doi:10.1097/WTF.0000000000000070.

Dissemination and implementation of evidence based, mental health interventions in post conflict, low resource settings

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Abstract

The burden of mental health problems in (post)conflict low- and middle-income countries (LMIC) is substantial. Despite growing evidence for the effectiveness of selected mental health programs in conflict-affected LMIC and growing policy support, actual uptake and implementation have been slow. A key direction for future research, and a new frontier within science and practice, is Dissemination and Implementation (DI) which directly addresses the movement of evidence-based, effective health care approaches from experimental settings into routine use.

This paper outlines some key implementation challenges, and strategies to address these, while implementing evidence-based treatments in conflict-affected LMIC based on the authors'

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There are no conflicts of interest for the authors.

collective experiences. Dissemination and implementation evaluation and research in conflict settings is an essential new research direction. Future DI work in LMIC should include: 1) defining concepts and developing measurement tools, 2) the measurement of DI outcomes for all programming, and 3) the systematic evaluation of specific implementation strategies.

Background

The burden of mental health problems in low- and middle-income countries (LMICs) is substantial. However, the gap between those who experience them and those who receive any type of treatment is large, particularly in LMICs, where up to 90% of people needing care do not receive health services (Demyttenaere et al., 2004; Saxena et al., 2007; Thornicroft, 2007).

Stemming from the recognition of the treatment gap, a growing body of evidence for treatments in humanitarian settings, and the general prioritization of mental health within the field of global health (WHO, 2008 ; 2009), there has been increased support for the use of evidence-based treatments (i.e., those interventions that have been shown to be effective in randomized controlled trials) in LMICs. For example, in the Mental Health Gap Action Programme (mhGAP; WHO, 2010a; Barbui et al., 2010; Dua et al., 2011), a set of treatment recommendations based on syntheses of research literature, the World Health Organization endorses the use of some evidence-based interventions as frontline treatment for mental health problems.

Despite growing evidence for the effectiveness of some mental health programs in conflict-affected LMICs and growing policy support (e.g., mhGAP), actual uptake and implementation by governments, non-governmental organizations (NGOs), and community-based organizations (CBOs) have been slow (Thornicroft et al., 2010). Notably, high-income countries have also documented significant challenges with dissemination and implementation of EBT (Shafran et al., 2009). A key direction for future research and the next frontier within science and practice is how effective treatments can actually be implemented in real-world health and community settings.

Dissemination and Implementation Science

Dissemination and Implementation (DI) science is an emerging field that directly addresses the movement of evidence-based, effective health care approaches from experimental settings into routine use (Peters et al., 2013; Rubenstein & Pugh, 2006; Thornicroft, 2012; Thornicroft, Lemp, & Tansella, 2011). Dissemination may be defined as “an active approach of spreading evidence-based interventions to the target audience via determined channels using planned strategies” while implementation is described as “the process of integrating evidence-based interventions within a setting” (p. 26; Brownson, Colditz & Proctor, 2012). While the translation of evidence-based interventions into practice to improve overall public health outcomes is a common theme for NGOs, governments and funders, actual knowledge on and evaluation of the *process* of how to disseminate information and support the use of programs is less developed.

In a brief overview of implementation science, Proctor and colleagues (2009) clarify that two important pieces are needed for effective DI: 1) an evidence-based treatment or program, and 2) a method, plan, or “technology” for implementing the evidence-based intervention in routine practice. The idea of an “evidence-based intervention” within DI can be quite broad and include practices, processes, policies, guidelines, treatments, or programs. These may have different levels of evidence depending on the program and the problem it addresses. Within health there is literature documenting the various levels of evidence, with RCTs considered to be important and one of the “highest” levels of evidence (Centre for Evidence-Based medicine, <http://www.cebm.net>; Burns, Rohrich, & Chung, 2011; Tansella et al., 2006). Current recommendations focus less around a particular time when an intervention is “ready” or has enough evidence to move to DI examination, and more around building hybrid studies that examine implementation challenges, processes, and outcomes during effectiveness evaluations (Curran et al., 2012).

Many different conceptual models have been designed and researched to better understand the multiple factors that affect the implementation and dissemination of EBTs (e.g., Tabak et al., 2012; Proctor et al., 2009; Aarons, Hurlburt, & Horwitz, 2011; Damschroder et al., 2009). Most models conceptualize the importance of the multiple ‘layers’ involved in ultimate delivery of EBTs in real-world settings and the need to consider each of these layers carefully. For example, one model describes three general layers: 1) *Policy* – including legislatures and governments; 2) *Organizations* – including decision making processes, leadership, and organizational culture and climate; and 3) *Individual* – including providers and consumers individual and/or group behaviors (Shortell, 2004; Proctor et al., 2009). There is also general agreement that it is crucial to consider dissemination and implementation over time: from pre-implementation (and adoption in principle), early/mid implementation, and longer-term maintenance and sustainability implementation to maintenance (Aarons et al., 2011). Furthermore, the emerging DI field has started to hone in on selection and measurement of some of the key indicators of success of implementation processes (see Table 1). Figure 1 is a reprint of the Proctor et al. (2009) conceptual model that shows one example of how the evidence-based intervention, DI strategies and DI outcomes fit together.

From a global perspective, Tansella and Thornicroft (2009) state that “if the development of implementation science is in its infancy, then its application to mental health practice may be considered as embryonic”. This is particularly true within LMICs and even more so in (post-)conflict LMICs where there is limited descriptive literature on DI outcomes, barriers, and/or facilitators, and even fewer rigorous studies examining specific strategies of implementation. Programmatically, dissemination and implementation is becoming more common (e.g., Ventevogel et al., 2011), but these efforts are largely void of rigorous evaluation of their success.

This paper presents DI research in conflict-settings as an essential new research direction. The authors utilize advances on some mental health interventions showing evidence through randomized controlled trials in such settings as a starting point. Most of these studies may be considered hybrid studies in that although the effectiveness of the interventions on reduction of symptoms was the primary outcome, the researchers also monitored some implementation

outcomes (e.g., fidelity). Based on the authors' collective experiences with these studies, we seek to outline key implementation challenges and strategies in implementing evidence-based interventions in conflict-affected LMICs (see Table 2 for list of authors' studies).

Implementation Challenges and Strategies

Delivering an evidence-based intervention in a conflict-affected LMIC is rife with challenges, some which are relevant across settings and others that are context specific. Many of these challenges and potential strategies we discuss below cut across the time frames of implementation (pre-, during, and maintenance), as well as the various levels of implementation (policy, organization, and individual).

Lack of Properly Trained Personnel

A difficult challenge is the shortage of individuals with professional mental health training (Eaton et al., 2011; Kakuma et al., 2011; Kieling et al., 2011; Saraceno et al., 2007). The comparisons between high-income countries (HICs) and LMICs are stark: for example, one general psychiatrist is available in lower resource settings, on average, for a population of 1.7 million (Patel & Thornicroft, 2009; Jacob et al., 2007). Most LMICs do not have training programs dedicated to mental health services (WHO, 2011).

This challenge has led to the growing movement advocating use of non-specialists in so-called task-sharing models to provide evidence-based psychotherapeutic treatments (Verdeli et al., 2003; Patel et al., 2007; Saxena et al., 2007; Jordans & Tol 2013; Chatterjee et al., in press). In all the studies highlighted within this paper conducted within conflict-affected areas (Table 2), lay workers provided the evidence-based interventions. A recent Cochrane review (van Ginneken et al., 2013) identified preliminary evidence for the effectiveness of mental health interventions provided by such non-specialists in LMICs, for certain mental health problems. Although this is a currently recommended approach, there is agreement that there is still much to learn about how to do this well depending on the context (Pérez - Sales et al., 2011). For example, a recent review of a task-sharing approach concluded that there is a significant lack of data on the acceptability and feasibility of this model, with many studies not measuring and/or reporting on these variables (Padmanathan & De Silva, 2013). The task-sharing model must also adequately address the fact that individuals with limited training need different support than providers with more extensive mental health services training (who themselves need ongoing supervision). A multi-level system apprenticeship model of training and supervision has been used to provide layers of ongoing support and supervision, and ensure fidelity (Murray et al., 2011; Jordans et al., 2012). The apprenticeship model employs layers of support (e.g., direct providers, local supervisors, experts) and involves a process over time including initial training, practice among peers, limited clients with close supervision, and eventual (based on skill) graduation to more independent use of the EBT. For example, in the trial in the Democratic Republic of the Congo (Bass et al., 2013), a system was set up with community-based service providers who were supervised by Congolese psychosocial supervisors associated with an international NGO. For the trial, the supervisors were provided in-country supervision by a U.S.-trained social worker (limited Cognitive Processing Therapy specific expertise), who in turn was

supported long-distance by the U.S.-based Cognitive Processing Therapy expert trainers. Three more recent studies have been completed on a Common Elements Treatment Approach (CETA), which is a transdiagnostic approach that teaches counselors certain components and then how to put the components together in particular ways to treat varying symptom presentation (see Murray et al., 2013b for details). In the CETA trials done in Iraq, Colombia, and the Thailand-Burma border, local lay counselors were supervised by local supervisors who were all trained simultaneously. Supervisors had weekly phone calls with U.S.-based CETA trainers for the duration of the study reviewing every case for fidelity and continually training supervisors – both on the treatment components and the ordering/sequence.

Attrition of Personnel

A related challenge is attrition of lay workers taught to provide evidence-based interventions. Most countries or projects have yet to devise a formal job position or title for the individuals now trained to deliver evidence-based interventions in non-specialist settings. Without a formal “place” in the health infrastructure, problems arise such as limited future work opportunities and/or individuals not using their skills past a particular project life (Padmanathan & De Silva, 2013). Attrition due to situations like health issues, maternity leave, and/or displacement is also common and requires the ability to constantly re-train a non-specialist workforce in evidence-based interventions. The relocating of health workers to other areas was also a factor in Iraq and Timor-Leste based on the author’s experiences.

One idea yet to be realized is to engage policy makers enough to create a new “place” within the health care system for those trained in evidence-based interventions for mental health. Research is needed to evaluate the added value of dedicated mental health workers (e.g. counsellors) providing EBTs as a new cadre within the health system. This research is currently ongoing in Nepal, as part of the PRIME program (www.prime.uct.ac.za). To deal with loss of counselors over time, one strategy often suggested is to train locally based individuals in how to train on the evidence-based interventions. A Training of Trainers is a specific form of training that seeks to provide would-be trainers with the necessary knowledge and skills to become trainers themselves (International Labour Organisation, 2002; see also USAID, 2008). There is limited research on whether existing Training Of Trainers efforts or programs have achieved a desired level of change in capacity of individual trainees (Davis et al., 1999 ; Steinert et al., 2006).

Another strategy to reduce attrition of personnel is to build the capacity of an educational institution so that there is a formal degree program related to the ongoing implementation of EBTs in mental health (Thornicroft et al., 2012). For example, institutionalizing a new curriculum on effective treatments within the local mainstream educational system. In Nepal, for example, this was tried by developing a one-year post-graduate diploma course in psychosocial counseling (Jordans et al., 2003). In conflict-affected settings, the lack of stability or organization within a government often makes this particularly challenging. In Iraq, the authors (LM, PB, GZ, AA), as well as members of the Ministry of Health, have discussed this strategy with local universities and attempted to engage them. University

representatives stated challenges such as finances, lack of human resources (professors, trainers), and low priority for mental health education compared to other academic interests.

Danger and Instability

Perhaps more specific to conflict affected regions are dangerous events that occur prohibiting ideal implementation. For example, during the trial in Southern Iraq (Weiss et al., submitted), many of the study sites experienced bombings, political events that prohibited movement, and/or increased security check-points. During the trial in the Democratic Republic of the Congo (Bass et al., 2013), rebel attacks on the study villages were not uncommon, resulting in study participants and the treatment providers having to sometimes spend the night in the bush. In Colombia, there were multiple political events that caused an area to be ‘shut down’, where individuals were not allowed to travel for a period of time, and occasionally abductions took place. Events such as these can drastically affect the ability of clients to access services, for counselors to see clients safely, and for supervisors to communicate with counselors.

Approaches to manage this risk have varied widely depending on the context and extent of danger. In the studies listed in Table 2, the authors worked closely with locally based organizations that had intimate knowledge of the context and already had a wide range of safety procedures in place, and these were adopted allowing for mental health program implementation despite the danger. Additional strategies have been used with some success. For example, in the Democratic Republic of the Congo, if supervisors could not get to the villages to provide in person supervision, phone-based supervision was instituted. In the trial completed in Southern Iraq, the same solution was used when road blocks were put up prohibiting travel due to bombings and/or violence. During the trial on the Thailand/Burma border with torture-affected Burmese refugees, counselors saw many of their clients in or around their homes due to the challenges of a refugee moving around in the open. In conflict-affected areas, implementation plans that take into account possible disruptions like these is critical.

Lack of facilities

Although integration of mental health within primary health care settings is a recommendation (e.g., Yasamy et al., 2011; Lund et al., 2012), these efforts are often not accompanied by the resources needed to expand primary care facilities to accommodate more and/or different patients (i.e., those coming for mental health-related problems). A severe lack of a private space, particularly locations that are confidential enough for discussing mental health issues, is often a major challenge. This is closely linked to stigma (reviewed below). In addition, health care settings are often not close enough to allow for regular attendance for counseling/therapy sessions. This is particularly challenging in rural settings, such as our study sites in the Democratic Republic of the Congo and a mountainous country like Nepal, where primary health centers are often a day or two walk away from villages. Finally, there is often an unmistakable scarcity of facilities that address high-risk situations – for example child abuse and neglect, gender-based violence or suicidal behaviors.

One approach to the lack of space is for counselors to meet the clients in other locations – spaces that are comfortable and private and more proximal to where the clients live. Some of these may include community centers or religious spaces. In the Democratic Republic of the Congo, group therapy was provided in a small building located in the study participant's village so they could easily access it for treatment and also see the counselor outside of session if they needed additional services. Engagement with clinic directors and the larger Ministries of Health in some cases has helped in developing schedules for the limited space. For children, especially, it is deemed important to aim to provide services in a non-stigmatizing, separate environment – for example, in schools (Jordans et al., 2013).

An approach to the lack of facilities for high-risk situations has been to develop creative, setting-specific safety plans that find and/or create local services or organizations that can help with issues like suicide, homicide, and abuse (Murray et al., 2014). On the Thailand/Burma border, a safety plan began with calling supervisors to further assess the risk, and then engage a local doctor who was willing to be 'on call' for high risk cases. The protocol included engagement of multiple staff and resources on the ground to find a solution specific to each individual case (e.g., a personal visit by the doctor, a 24-hour watch set-up, entry to a local shelter for a short period of time). In the event of a safety issue in northern Uganda (within an internally displaced persons camp), research personnel also called a local supervisor who may personally assess the adolescent. Given the long distance to a hospital, if the supervisor was concerned about the youth they would work with the family and others within the camp (e.g., neighbors, camp leaders) to develop an overnight watch until the supervisor returned the next day to re-assess.

Transportation

Travel to receive services is an issue for mental health programs across almost all areas of the world and arguably may be even more problematic in conflict affected areas. In all the studies completed by the Applied Mental Health Group (<http://www.jhsph.edu/research/centers-and-institutes/center-for-refugee-and-disaster-response/response-service/amhr/index.html>), a significant proportion of the budget had to be dedicated to transport of clients to be able to access services, counselors to be able to serve clients, and/or supervisors to consult with counselors. In terms of DI, this 'logistical' category significantly affects sustainability post-project as it is unlikely governments in LMIC would be able to provide this. Literature from the Middle East also cites insufficient local transportation as a major problem (Eapen and Ghubash, 2004).

The option to move services further into the community and away from primary care settings where services are sparse has been and should continue to be investigated. In (post-)conflict settings, such an approach may have the added benefit of addressing the damage to the social fabric caused by armed conflict (Scholte et al., 2011). For example, health houses or posts are increasingly cited in policy documents as a potentially closer layer of primary health care services to the population (MoH/Afghanistan, 2005, MoH, 2009). In our work, this strategy is helpful in some ways, but still requires transport for supervision in most cases. In Democratic Republic of the Congo, services were provided closer to consumers in the villages, but still required significant transport resources for supervisors.

The Basic Health Services Package for Iraq also utilizes this concept where a rurally-located center has 2-3 community health workers trained in the provision of basic health services (Ministry of Health Iraq, 2009). The strategy to move services into the community is also being implemented in Nepal. In most cases, resources for ongoing supervision would still be needed, unless over time trained supervisors were also positioned in these rural settings, or in some instances if technology was dependable enough that they could be reached if needed.

Stigma

Lack of knowledge and/or stigma about mental health services has long been identified and documented as a key implementation barrier (e.g., Thornicroft, 2006). Patterns of stigma have been identified across the globe's regions, but specific patterns and their impacts on mental health vary across socio-cultural settings. One example may be when a primary health clinic is "known" in the community as treating diseases like HIV/AIDS, and thus seem more stigmatizing to those attending the clinic for mental health treatment.

We have employed two overlapping strategies. First, to adopt language that is *least* stigmatizing within the local setting. This means moving beyond simple translations of mental health terms, instead assessing through ethno-psychological studies what are the best suitable terms to be used (e.g., Kohrt & Hruschka, 2010) and/or conducting qualitative studies to understand local terminology (e.g. Bass et al., 2008). Second, in several of our programs, psychotherapeutic services are systematically combined with efforts to reduce the levels of stigma among people within the community, as well as among service providers themselves (e.g., trainings, dramas done within community settings). Another strategy is to engage the support from the community at all the stages of implementation. For example, in Colombia, the implementing organization worked with individuals identified as 'community leaders'. These leaders helped the implementation process by facilitating access to remote areas and addressing stigma in the community.

Going beyond this, despite clear evidence that stigma and discrimination are both common and severe worldwide (Lasalvia et al., 2012; Thornicroft et al., 2009), there is at present a clear information gap concerning effective interventions to reduce stigma and discrimination in LMICs at all levels. Developing and testing candidate interventions for stigma is a priority in the coming years and could greatly affect the DI of evidence-based interventions.

Lack of Leadership

Leadership has the capacity to help or hinder implementation of an innovation and change within a system (Aarons, Sommerfeld, & Wilging, 2011; Damanpour & Schneider, 2006). Identifying leadership in health systems in post-conflict settings may be particularly challenging when there is frequent turn-over of personnel and disorganization of previously established health system hierarchies. This may affect the range of health system actors from the level of the Ministry of Health to remote community health systems. For example, experience by authors from Iraq (AA, GZ) describes how effective leadership on mental health initiatives was achieved within the Ministry of Health, but quickly challenged due to personnel changes. Similarly, in humanitarian settings, funding priorities may change

drastically with frequent changes in personnel of donor organizations – thereby affecting the longer-term commitments that recipients of funding can make.

In the process of a program that aims to integrate mental health into primary health care in post-conflict Nepal, some authors have found changes at the policy level are highly challenging with a fragile government system. With no mental health focal point within the Ministry of Health, different people function as *de facto* focal points. After considerable investment and headway in explaining the importance of the Ministry of Health's role in supporting the process of development of mental health services, the process begins from scratch again when the person is shifted to an entirely different position. With little structure or policy to fall back on, this can happen several times over a couple of years.

Despite the fact that personnel may change, there is still a general agreement that DI efforts need to include engagement of leaders, stakeholders, and policy level personnel. Attempts to expand the reach of these engagement efforts so that buy-in is 'deeper' than one person has been met with mixed success. In cases where government leadership is still in flux, as is often the case in post-conflict settings, we are attempting to engage leadership from other organizations that are closely linked and/or respected by the government. In Burma, for instance, there are a number of organizations that are able to influence policy at times and have been helpful advocates for the implementation of certain evidence-based interventions.

Lack of Trust in the system

Trust in the quality of health services, treatment fidelity, and human treatment of clients and patients are crucial requirements for the successful implementation of services. Many factors undermine the trust of populations and individuals in health services provided at public health facilities (Gilson, 2003; Whetten et al., 2006), including the destruction of the physical infrastructure, limited investment, the politicization and militarization of health services, the inequitable distribution of health care resources, unregulated privatization, and the brain drain of professionals – many factors which are exacerbated in times of conflict (Dewachi et al., 2014). In addition, increasingly vocal media and civil society organizations are exposing medical errors and incidents on some areas further contributing to the skepticism towards traditionally patriarchal health service provisions (El-Jardali et al., 2010; World Bank, 2013).

As a concrete example, the Maoist insurgency in Nepal was partially aimed at reducing the unequal distribution of governmental (health) services in urban and rural areas. However, the armed conflict increased this divide (Tol et al., 2010a). As another example, in Iraq, many individuals who are able are leaving middle-eastern countries to receive health care in other countries because they do not trust the existing medical services (e.g., Dewachi et al., 2014). If the community does not trust the overall health system and mental health services are integrated into this broader system, this will become yet another barrier.

Certain strategies have been discussed and/or promoted, but none have been scientifically evaluated in LMICs. For example, there have been calls for engaging general community members and mental health service users in the design, formulation, implementation, and evaluation of health policy in general and mental health services' provision in particular.

This type of participatory ‘people-centered approach’ to the provision of mental health services may include community input into legislation or the engagement of civil society organizations in building trust and enhancing knowledge about mental health disorders (Ruggeri & Tansella, 2012). In some LMIC this may include reaching out to traditional healers and treating them as partners, with a goal of agreeing on a delineation of tasks and responsibilities.

Policy

Policy plays a critical role in the dissemination and implementation of services. A fundamental problem underlying the treatment gap is the low priority accorded to mental health issues by most governments in LMICs (Saxena et al., 2007, Bird et al., 2011). In humanitarian settings, a collection of ten case examples in low- and middle-income countries highlights the important role that policy reform played in ensuring that the initial emergency-related mental health services were eventually translated into sustainably improved mental health care systems (WHO, 2013). Humanitarian settings may in fact form a good time to reform or implement existing policies, as there may be a heightened willingness on behalf of policy makers to consider the importance of mental health services.

Some researchers suggest using an argument of advocacy to policy makers – essentially positing that access to mental health services as a fundamental human right (Funk et al., 2006). Others suggest using education to influence policy, stating that there is a significant lack of broad public health perspective among leaders in the mental health community (Saraceno et al., 2007; Jenkins et al., 2010). A recent article outlines an attempt to put such solutions into action (Abdulmalik et al., 2014). The Mental Health Leadership and Advocacy Program was described as a process for individuals in a leadership role in government and civil society with the goal of educating leaders on mental health and promoting its advancement among policy priorities (Abdulmalik et al., 2014). The authors document success based on outcomes such as planning meetings, advocacy activities (e.g., radio shows), and, for some countries, a mental health plan within the government.

Funding

Perhaps most daunting and cross-cutting among challenges in conflict-affected LMICs is the shortage of funding to implement, support, and sustain services. According to the WHO, US \$60 per capita healthcare spending is necessary to cover basic health needs in LMICs (Gostin, 2012; WHO, 2010b). Mental health care allocations within health care budgets are virtually non-existent, with LMICs devoting on average 1% or less of their health budget on mental health, with this funding often going to psychiatric hospitals in large cities (Saxena et al., 2007). As a result, individuals and families depend on out-of-pocket expenditure with potential impoverishing effects (Kankeu et al., 2013; WHO, 2010b).

Furthermore, mental health problems themselves represent a significant factor in earning loss for affected individuals and families (Levinson et al., 2010). In (post)-conflict settings these resource limitations often lead to an over-reliance on external emergency funds and/or NGOs to provide and finance mental health services. Financing of NGOs can vary widely and tends to fluctuate with changes in funder priorities and political influences. For example,

an analysis of funding for mental health and psychosocial support programs in humanitarian settings found that less than 15% of funding was disbursed through existing medical, social welfare, or primary education systems – thus raising concerns about the sustainability of funding through shorter-term emergency mechanisms (Tol et al., 2011).

Although well-known, this challenge has not been well addressed. One strategy the authors have used is to engage the Ministry of Health (or other governmental agency) early in post-conflict work funded by outside organizations so they can see the importance, challenges, and successes. These efforts may include working to have mental health listed as a priority within a National Strategy Plan through education around the effects of mental health problems – for example, on productivity. This has been met with limited success. For researchers and program evaluation staff, another idea tried is to include cost-effectiveness analyses that aid governments and funders in understanding the costs of mental health programming and the associated outputs. There remain many financial challenges in transitioning funding from outside donors to governmental health authorities within the country, even when there is a commitment by the government (WHO, 2013). This is clearly an area where attention is needed to more rigorously evaluate promising models.

Looking Ahead: A DI Research Agenda for (post)conflict LMICs

This paper introduced the importance of DI research and laid out some of the primary implementation barriers experienced in the testing of evidence-based interventions in post-(conflict) LMICs. Although the studies highlighted within conflict-affected areas included creative strategies for addressing these challenges of implementation, there is much work to be done. Rigorous research in the dissemination and implementation of evidence-based mental health practices globally remains sparse and is methodologically limited, particularly in post-(conflict), lower resourced settings.. We advocate that DI research needs to become a priority within LMICs to realize actual implementation of the growing body of interventions that have evidence of effectiveness, with the eventual aim of reducing the treatment gap.

In our opinion, a DI research/evaluation agenda should aim to address at least three key issues. First, more knowledge is required on defining concepts and developing measurement tools for low resource settings. Even in high-income settings, these are identified challenges ‘at an early stage, leaving the field without clear directions for conceptualizing and evaluating [DI] success’ (Proctor & Brownson, 2012; Proctor et al., 2011). The development of DI measurement tools in LMICs will need to factor in key differences from high-income settings such as limited specialist work force, diverse organizational structures, no accessibility to ongoing training, and weak funding infrastructures. For example, existing DI instruments from higher income settings have items asking about insurance plans or conference attendance that would not be relevant to most low-resource contexts (Murray et al., 2013a). Assessment tools will be critical in order to advance any dissemination and/or implementation goals.

Second, there should be deliberate examination of implementation outcomes measured before, during, and after implementation of evidence-based interventions for all programming. This was considered a major research priority in a consensus-based research

agenda for mental health and psychosocial support in humanitarian settings (Tol et al., 2011b). There is substantial documented experience to build on, including years of field-based mental health programming leading to anecdotal reports and/or case studies (e.g., WHO, 2013; see also an *Intervention* special issue from 2011 on integration of mental health into primary health care in emergency contexts – Ventevogal et al., 2011). However, without more rigorous knowledge on DI outcomes across various settings, as well as the synthesis of this data, the effort in identifying effective treatments in LMICs' post-conflict settings will likely not translate to actual improvements in accessibility to services for affected populations.

Finally, a critical area of the dissemination and implementation science field that is often neglected is the systematic evaluation of the effectiveness of certain implementation *strategies* through randomized controlled trials (Proctor et al., 2009). Specific to LMICs, and even more so in conflict-affected areas, part of the challenge is to design and evaluate implementation strategies that both work and are sustainable in such low resource contexts. For example, although an apprenticeship model has been used in many trials, it requires investments of time, resources, and expertise that are difficult to sustain. One direction would be to conduct studies to unpack the critical components and minimal time frames of training and supervision to still produce well-trained staff in order to make the best possible use of scarce resources. Certainly implementation strategies need to be examined to determine how to effectively engage policy and governments in mental health integration.

In delivering these three aspects of future DI research, collaborations between universities, governments, and implementing organizations will be crucial. Collaborative DI projects between academic, implementing, and policy organizations provide ideal contexts for learning to flow both ways. For instance, to academics about which effective programs have better chances for sustainable implementation, and to implementing and policy organizations about systematic evaluation of implementation. Such collaboration could take the form of adding DI indicators into routine program monitoring and evaluation and/or becoming a secondary aim in an effectiveness trial. Feedback loops will also be critical in that if a treatment or program is difficult to scale up, it may be too complex and need to be re-evaluated in a simplified format to aid in dissemination and implementation efforts.

Conclusion

The field of global dissemination and implementation needs to advance significantly to realize any longer term sustainability of implementation of EBTs leading to a reduction in the treatment gap. Three major directions laid out include: 1) definition of DI concepts and development of DI measurements appropriate for low resource settings, 2) evaluation of implementation outcomes within the numerous programs running in LMICs; and 3) study of of implementation strategies (rather than anecdotal, or descriptive case studies).

Acknowledgments

Support for the preparation of this article was provided by the Implementation Research Institute (IRI), at the George Warren Brown School of Social Work, Washington University in St. Louis; through an award from the

National Institute of Mental Health (R25 MH080916-01A2) and the Department of Veterans Affairs, Health Services Research & Development Service, Quality Enhancement Research Initiative (QUERI) (LM).

All authors have read and approved the final paper and have met the criteria for authorship.

References

- Aarons GA, Hurlburt M, Horwitz SM. Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health*. 2011; 38:4–23. [PubMed: 21197565]
- Aarons GA, Sommerfeld DH, Wilging CE. The soft underbelly of system change: The role of leadership and organizational climate in turnover during statewide behavioral health reform. *Psychological Services*. 2011; 8(4):269–281. [PubMed: 22229021]
- Abdulmalik J, Fadahunsi W, Kola L, Nwefoh E, Minas H, Eaton J, Gureje O. The Mental Health Leadership and Advocacy Program (mhLAP): a pioneering response to the neglect of mental health in Anglophone West Africa. *International Journal of Mental Health Systems*. 2014; 8:5. [PubMed: 24467884]
- Barbui C, Dua T, Van OM, Yasamy MT, Fleischmann A, Clark N, Saxena S, et al. Challenges in developing evidence-based recommendations using the GRADE approach: the case of mental, neurological, and substance use disorders. *PLoS Med*. 2010; 7:8.
- Ba o lu M. Rehabilitation of traumatised refugees and survivors of torture. *British Medical Journal*. 2006; 333(7581):1230–1231. [PubMed: 17170393]
- Bass JK, Annan J, Murray SM, Griffiths S, Cetinoglu T, Wachter K, Bolton PA, et al. Controlled trial of psychotherapy for sexual violence survivors in DR Congo. *New England Journal of Medicine*. 2013; 368(23):2182–2191. [PubMed: 23738545]
- Bass JK, Ryder RW, Lammers M, Mukaba TN, Bolton PA. Post-partum depression in Kinshasa, Democratic Republic of Congo: validation of a concept using a mixed-methods cross-cultural approach. *Tropical Medicine and International Health*. 2008; 13(12):1534–1542. [PubMed: 18983279]
- Bird P, Omar M, Doku V, Lund C, Nserekro JR, Mwanza J. Increasing the priority of mental health in Africa: findings from qualitative research in Ghana, South Africa, Uganda and Zambia. *Health Policy Plan*. 2011; 26(5):357–365. [PubMed: 21147845]
- Bolton P, Bass J, Betancourt T, Speelman L, Onyango G, Clougherty KF, Verdelli H, et al. Interventions for depression symptoms among adolescent survivors of war and displacement in northern Uganda: a randomized controlled trial. *Journal of the American Medical Association*. 2007; 298:519–527. [PubMed: 17666672]
- Bolton P, Lee C, Haroz EE, Murray L, Dorsey S, Robinson C, Bass' J, et al. A randomized controlled trial of a transdiagnostic community-based mental health treatment for comorbid disorders among Burmese refugees in Thailand. Submitted.
- Brownson, RC., Colditz, GA., Proctor, EK. *Dissemination and Implementation Research in Health: Translating Science to Practice*. Oxford University Press; New York: 2012.
- Burns PB, Rohrich RJ, Chung KC. The levels of evidence and their role in evidence-based medicine. *Plastic and Reconstructive Surgery*. 2011; 128(1):305–310. [PubMed: 21701348]
- Chatterjee S, Naik S, John D, Dabholkar H, Balaji M, Koschorke M, Thornicroft G, et al. Cost-effectiveness of a community based intervention for people with schizophrenia and their caregivers in India: the COPSI randomised controlled trial. *Lancet*. In press.
- Chowdhary N, Jotheeswaran AT, Nadkarni A, Hollon SD, King M, Jordans MJD, Rahman A, Verdelli H, Araya R, Patel V. The methods and outcomes of cultural adaptations of psychological treatments for depressive disorders: a systematic review. *Psychological Medicine*. 2013:1–16.
- Cohen, JA., Mannarino, AP., Deblinger, E. *Treating trauma and traumatic grief in children and adolescents*. New York: Guilford Press; 2006.
- Curran GM, Bauer M, Mittman B, Pyne JM, Stetler C. Effectiveness-implementation hybrid designs: combining elements of clinical effectiveness and implementation research to enhance public health impact. *Medical Care*. 2012; 50(3):217–226. [PubMed: 22310560]

- Damanpour F, Schneider M. Phases of the adoption of innovation in organizations: effects of environment, organization and top managers. *British Journal of Management*. 2006; 17:215–236.
- Damschroder L, Aron D, Keith R, Kirsh S, Alexander J, Lowery J. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Science*. 2009; 4:50. [PubMed: 19664226]
- Davis D, O'Brien MA, Freemantle N, Wolf FM, Mazmanian P, Taylor-Vaisey A. Impact of formal continuing medical education: do conferences, workshops, rounds, and other traditional continuing education activities change physician behavior or health care outcomes? *Journal of the American Medical Association*. 1999; 282:867–874. [PubMed: 10478694]
- Demyttenaere K, Bruffaerts R, Posada-Villa J, Gasquet I, Kovess V, Lepine JP, et al. WHO World Mental Health Survey Consortium. Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. *Journal of the American Medical Association*. 2004; 291(21):2581–90. [PubMed: 15173149]
- Dewachi O, Skelton M, Nguyen VK, Fouad FM, Sitta GA, Maasri Z, Giacaman R. Changing therapeutic geographies of the Iraqi and Syrian wars. *Lancet*. 2014; 6736(13):1–9.
- Dua T, Barbui C, Clark N, Fleischmann A, van Ommeren M, Poznyak V, Saxena S, et al. Evidence based guidelines for mental, neurological and substance use disorders in low- and middle-income countries: summary of WHO recommendations. *PLoS Medicine*. 2011; 8:1–11.
- Eapen V, Ghubash R. Mental health problems in children and help seeking patterns in the UAE. *Psychological Reports*. 2004; 94:663–667. [PubMed: 15154199]
- Eaton J, McCay L, Semrau M, Chatterjee S, Baingana F, Araya R, Saxena S, et al. Scale of services for mental health in low-income and middle-income countries. *Lancet*. 2011; 378(9802):1592–1603. [PubMed: 22008429]
- El-Jardali F, Makhoul J, Jamal D, Ranson MK, Kronfol NM, Tchaghchagian V. Eliciting policymakers' and stakeholders' opinions to help shape health system research priorities in the Middle East and North Africa region. *Health Policy and Planning*. 2010; 25(1):15–27. [PubMed: 19948770]
- Funk M, Minoletti A, Drew N, Taylor J, Saraceno B. Advocacy for mental health: roles for consumer and family organizations and governments. *Health Promotion International*. 2006; 21(1):70–75. [PubMed: 16344283]
- Gilson L. Trust and the development of health care as a social institution. *Social Science & Medicine*. 2003; 56(7):1453–1468. [PubMed: 12614697]
- Gostin LO. The Supreme Court's historic ruling on the Affordable Care Act: economic sustainability and universal coverage. *The Journal of the American Medical Association*. 2012; 308(6):571–572. [PubMed: 22772470]
- International Labour Organisation. Project to eliminate trafficking of children and women. Bangkok, Thailand: United Nations Services; 2002. Retrieved from: <http://www.ilo.org/public/english/region/asro/bangkok/child/trafficking/downloads/tia-f.pdf>
- Jacob KS, Sharan P, Mizra I, Garrido-Cumbrera M, Seedat S, Mari J, Saxena S, et al. Mental health systems in countries: where are we now? *Lancet*. 2007; 370(9592):1061–1077. [PubMed: 17804052]
- Jenkins R, Baingana F, Belkin G, Borowitz M, Daly A, Francis P, Sadiq S, et al. Mental health and the development agenda in Sub-Saharan Africa. *Psychiatric Services*. 2010; 61(3):229–234. [PubMed: 20194398]
- Jordans MJD, Komproe IH, Tol WA, Kohrt B, Luitel N, Macy RDM, de Jong JT. Evaluation of a classroom-based psychosocial intervention in conflict-affected Nepal: a cluster randomized controlled trial. *Journal of Child Psychology and Psychiatry*. 2010; 51:818–826. [PubMed: 20102428]
- Jordans MJD, Luitel NP, Poudyal B, Tol WA, Komproe IH. Evaluation of a brief training on mental health and psychosocial support in emergencies: a pre- and post-assessment in Nepal. *Prehospital and Disaster Medicine*. 2012; 27(3):235–238. [PubMed: 22691295]
- Jordans MJ, Tol WA. Mental health in humanitarian settings: shifting focus to care systems. *International Health*. 2013; 5(1):9–10. [PubMed: 24029839]

- Jordans MJD, Tol WA, Sharma B, van Ommeren M. Training psychosocial counselling in Nepal: content review of a specialised training programme. *Intervention: International Journal of Mental Health, Psychosocial Work & Counselling in Areas of Armed Conflict*. 2003; 1(2):18–35.
- Jordans MJD, Tol WA, Wietse A, Susanty D, Ntamatumba P, Luitel N, Joop TVM, et al. Implementation of a mental health care package for children in areas of armed conflict: a case study from Burundi, Indonesia, Nepal, Sri Lanka, and Sudan. *PLoS Med*. 2013; 10:1.
- Kakuma R, Minas H, van Ginneken N, Dal Poz MR, Desiraju K, Morris JE, Scheffler RM, et al. Human resources for mental health care: current situation and strategies for action. *Lancet*. 2011; 378(9803):1654–1663. [PubMed: 22008420]
- Kankeu HT, Saksena P, Xu K, Evans DB. The financial burden from non-communicable diseases in low- and middle-income countries: a literature review. *Health Research Policy and Systems / BioMed Central*. 2013; 11:31.
- Khamis, V., Macy, R., Coignez, V. The impact of the Classroom/Community/Camp-Based Intervention (CBI) program on Palestinian Children. Save the Children. USAID. 2004. Retrieved at: http://pdf.usaid.gov/pdf_docs/PNADJ085.pdf
- Kieling C, Baker-Henningham H, Belfer M, Conti G, Ertem I, Omigbodun O, Rahman A, et al. Child and adolescent mental health worldwide: evidence for action. *Lancet*. 2011; 378:1515–1525. [PubMed: 22008427]
- Kohrt BA, Hruschka DJ. Nepali concepts of psychological trauma: the role of idioms of distress, ethnopsychology, and ethnophysiology in alleviating suffering and preventing stigma. *Culture, Medicine and Psychiatry*. 2010; 34:2.
- Lasalvia A, Zoppei S, Van BT, Bonetto C, Cristofalo D, Wahlbeck K, Thornicroft G, et al. Global pattern of experienced and anticipated discrimination reported by people with major depressive disorder: a cross-sectional survey. *Lancet*. 2012; 381(9860):55–62. [PubMed: 23083627]
- Levinson D, Lakoma MD, Petukhova M, Schoenbaum M, Zaslavsky AM, Angermeyer M, Kessler RC, et al. Associations of serious mental illness with earnings: results from the WHO World Mental Health surveys. *British Journal of Psychiatry: The Journal of Mental Science*. 2010; 197(2):114–21.
- Lund C, Tomlinson M, De Silva M, Fekadu A, Shidhaye R, Jordans M, Patel V, et al. PRIME: a programme to reduce the treatment gap for mental disorders in five low-and middle-income countries. *PLoS Med*. 2012; 9:12.
- Ministry of Health, Afghanistan. A Basic Package of Health Services for Afghanistan 2005. 2005. Retrieved from: <http://moph.gov.af/Content/Media/Documents/BPHS-2005-FINAL29122010162945969.pdf>
- Ministry of Health, Iraq. Strategy for 2010 – 2014. 2009. Retrieved from: http://applications.emro.who.int/dsaf/libcat/EMROPD_2009_109.pdf
- Murray, LK., Beidas, R., Kasoma, M., Dorsey, S. Mixed methods assessment of implementation barriers and facilitators for mental health programs in Zambia: provider level themes; Seattle Implementation Research Collaborative, 2nd Biennial Conference: Solving Implementation Research Dilemmas; Seattle, Washington. 16-17 May 2013; 2013a.
- Murray LK, Dorsey S, Bolton P, Jordans MJ, Rahman A, Bass J, Verdeli H. Building capacity in mental health interventions in low-resource countries: an apprenticeship model for training local providers. *International Journal of Mental Health Systems*. 2011; 5(1):30. [PubMed: 22099582]
- Murray LK, Dorsey S, Haroz E, Lee C, Alsiary M, Haydary A, Bolton P, et al. A common elements treatment approach for adult mental health problems in low and middle income countries. *Cognitive and Behavioral Practice*. 2013b; 1
- Murray LK, Skavenski S, Bass J, Wilcox HC, Bolton P, Imasiku M, Mayeya J. Implementing evidence-based mental health care in low-resource settings: a focus on safety planning procedures. *Journal of Cognitive Psychotherapy: An International Quarterly*. 28(3) In press.
- Murray LK, Skavenski S, Kane J, Baxter P, Imasiku M, Mayeya J, McKinna B, De Mulder J, Cohen JA, Bolton P. Presentation at USAID. 2014 Apr 9.
- Padmanathan P, De Silva MJ. The acceptability and feasibility of task-sharing for mental healthcare in low and middle income countries: a systematic review. *Social Science & Medicine*. 2013; 97

- Patel V, Araya R, Chatterjee S, Chisholm D, Cohen A, De Silva M, van Ommeren M, et al. Treatment and prevention of mental disorders in low-income and middle-income countries. *Lancet*. 2007; 370(9591):991–1005. [PubMed: 17804058]
- Patel V, Chowdhary N, Rahman A, Verdeli H. Improving access to psychological treatments: lessons from developing countries. *Behaviour Research and Therapy*. 2011; 49:523–528. [PubMed: 21788012]
- Patel V, Thornicroft G. Packages of care for mental, neurological, and substance abuse disorders in low- and middle-income countries. *PLoS Med*. 2009; 10
- Pérez-Sales P, Fernández-Liria A, Baingana F, Ventevogel P. Integrating mental health into existing systems of care during and after complex humanitarian emergencies: rethinking the experience. *Intervention*. 2011; 9(3):345–58.
- Peters DH, Adam T, Alonge O, Agyepong IA, Tran N. Implementation research: what it is and how to do it. *BMJ*. 2013; 347:1–7.
- Proctor, EK., Brownson, RC. Measurement issues in dissemination and implementation research. In: Brownson, RC, Colditz, GA., Proctor, EK., editors. *Dissemination and implementation research in health*. Oxford: Oxford University Press; 2012.
- Proctor EK, Landsverk J, Aarons G, Chambers D, Glisson C, Mittman B. Implementation research in mental health services: an emerging science with conceptual, methodological, and training challenges. *Administration and Policy in Mental Health*. 2009; 36:24–34. [PubMed: 19104929]
- Proctor E, Silmere H, Raghavan R, Hovmand P, Aarons G, Bunger A, Griffey R, Hensley M. Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda. *Adm Policy Ment Health*. 38:65–76. [PubMed: 20957426]
- Rubenstein LV, Pugh J. Strategies for promoting organizational and practice change by advancing implementation research. *Journal of General Internal Medicine*. 2006; 21:S58–S64.
- Ruggeri M, Tansella M. People centred mental health care. the interplay between the individual perspective and the broader health care context. *Epidemiology and Psychiatric Sciences*. 2012; 21(2):125–129. [PubMed: 22789158]
- Saraceno B, van Ommeren M, Batniji R, Cohen A, Gureje O, Mahoney J, Underhill C, et al. Barriers to improvement of mental health services in low-income and middle-income countries. *Lancet*. 2007; 370(9593):1164–1174. [PubMed: 17804061]
- Saxena S, Thornicroft G, Knapp M, Whiteford H. Resources for mental health: scarcity, inequity, and inefficiency. *Lancet*. 2007; 370(9590):878–889. [PubMed: 17804062]
- Scholte WF, Verduin F, Kamperman AM, Rutayisire T, Zwinderman AH, Stronks K. The effect on mental health of a large scale psychosocial intervention for survivors of mass violence: a quasi-experimental study in Rwanda. *PLoS One*. 2011; 6:8.
- Shafan R, Clark DM, Fairburn CG, Arntz A, Barlow DH, Ehlers A, Freeston M, Garety PA, Hollon SD, Ost LG, Salkovskis PM, Williams JMG, Wilson GT. Mind the gap: Improving the dissemination of CBT. *Behaviour Research and Therapy*. 2009; 47:902–909. [PubMed: 19664756]
- Steinert Y, Mann K, Centeno A, Dolmans D, Spencer J, Gelula M, Prideaux DJ. A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: best evidence in medical education guide. *Medical Teaching*. 2006; 28:497–526.
- Shortell SM. Increasing value: a research agenda for addressing the managerial and organizational challenges facing health care delivery in the United States. *Medical Care Research and Review*. 2004; 61(3):12S–30S. [PubMed: 15375281]
- Tabak RG, Khoong EC, Chambers DA, Brownson RC. Bridging research and practice: models for dissemination and implementation research. *American Journal of Preventative Medicine*. 2012; 43(3):337–350.
- Tansella M, Thornicroft G. Implementation science: understanding the translation of evidence into practice. *British Journal of Psychiatry: The Journal of Mental Science*. 2009; 195(4):283–285.
- Tansella M, Thornicroft G, Barbui C, Cipriani A, Saraceno B. Seven criteria for improving effectiveness trials in psychiatry. *Psychological Medicine*. 2006; 36:711–720. [PubMed: 16512969]
- Thornicroft, G. *Shunned: discrimination against people with mental illness*. Oxford: Oxford University Press; 2006.

- Thornicroft G. Most people with mental illness are not treated. *Lancet*. 2007; 370(9590):807–808. [PubMed: 17826153]
- Thornicroft G. Evidence-based mental health care and implementation science in low- and middle-income countries. *Epidemiology and Psychiatric Sciences*. 2012; 21(3):241–244.
- Thornicroft G, Alem A, Antunes Dos Santos R, Barley E, Drake RE, Gregorio G, Wondimagegn D, et al. WPA guidance on steps, obstacles and mistakes to avoid in the implementation of community mental health care. *World Psychiatry*. 2010; 9:67–77. [PubMed: 20671888]
- Thornicroft G, Brohan E, Rose D, Sartorius N, Leese M. Global pattern of experienced and anticipated discrimination against people with schizophrenia: a cross-sectional survey. *Lancet*. 2009; 373:408–415. [PubMed: 19162314]
- Thornicroft G, Cooper S, Bortel TV, Kakuma R, Lund C. Capacity building in global mental health research. *Harvard Review of Psychiatry*. 2012; 20(1):13–24. [PubMed: 22335179]
- Thornicroft G, Lempp H, Tansella M. The place of implementation science in the translational medicine continuum. *Psychological Medicine*. 2011; 41(10):2015–2021. [PubMed: 21320391]
- Tol WA, Barbui C, Galappatti A, Silove D, Betancourt TS, Souza R, van Ommeren M, et al. Mental health and psychosocial support in humanitarian settings: linking practice and research. *Lancet*. 2011a; 378(9802):1581–1591. [PubMed: 22008428]
- Tol WA, Barbui C, van Ommeren M. Management of acute stress, PTSD, and bereavement: WHO recommendations. *Journal of the American Medical Association*. 2013; 310(5):477–478. [PubMed: 23925613]
- Tol WA, Jordans MJD, Regmi S, Sharma B. Cultural challenges to psychosocial counselling in Nepal. *Transcultural Psychiatry*. 2005; 42(2):317–333. [PubMed: 16114588]
- Tol WA, Kohrt BA, Jordans MDJ, Thapa SB, Pettigrew J, Upadhaya N, de Jong JTMV. Political violence and mental health: a multi-disciplinary review of the literature on Nepal. *Social Science & Medicine*. 2010a; 70(1):35–44. [PubMed: 19833427]
- Tol WA, Komproe IH, Susanty D, Jordans MJ, Macy RD, de Jong JTMV. School-based mental health intervention for children affected by political violence in Indonesia: a cluster randomized trial. *Journal of the American Medical Association*. 2008; 300(6):655–662. [PubMed: 18698064]
- Tol WA, Komproe IH, Jordans MJ, Gross AL, Susanty D, Macy RD, de Jong JTMV. Mediators and moderators of a psychosocial intervention for children affected by political violence. *Journal of Consulting and Clinical Psychology*. 2010b; 78(6):818–828. [PubMed: 21114342]
- Tol WA, Jordans MJD, Vallipuram A, Sipsma H, Sivayokan S, Macy RD, de Jong JTMV, et al. Outcomes and moderators of a preventive school-based mental health intervention for children affected by war in Sri Lanka: a cluster randomized trial. *World Psychiatry*. 2012; 11(2):114–122. [PubMed: 22654944]
- Tol WA, Patel V, Tomlinson M, Baingana F, Galappatti A, Panter-Brick C, van Ommeren M, et al. Research priorities for mental health and psychosocial support in humanitarian settings. *PLoS Medicine*. 2011b; 8(9):e1001096. [PubMed: 21949644]
- Tol WA, Komproe IH, et al. School-based mental health intervention for children in war-affected Burundi: a cluster randomized trial. Submitted.
- Tol WA, Stavrou V, Greene MC, Mergenthaler C, van Ommeren M, Garcia Moreno C. Sexual and gender-based violence in areas of armed conflict: a systematic review of mental health and psychosocial support interventions. *Conflict and Health*. 2013; 7(1):16.doi: 10.1186/1752-1505-7-16 [PubMed: 23915821]
- USAID. Rwanda: training of trainers manual. 2008. Retrieved from: http://pdf.usaid.gov/pdf_docs/PNADM806.pdf
- van Ginneken N, Tharyan P, Lewin S, Rao GN, Meera SM, Pian J, Patel V, et al. Non-specialist health worker interventions for the care of mental, neurological and substance-abuse disorders in low- and middle-income countries. *Cochrane Database of Systematic Reviews*. 2003; 11
- Ventevogel P, Perez-Sales P, Fernandez-Liria A, Baingana F. Integrating mental health care into existing systems of health care: during and after complex humanitarian emergencies. *Intervention*. 2011; 9(3):195–210.

- Verdeli H, Clougherty K, Bolton P, Speelman L, Ndogoni L, Bass J, Weissman M. Adaptation of Group Interpersonal Psychotherapy (IPT-G) for a Developing Country: Experience in Uganda. *World Psychiatry*. 2003; 2(2):114–120. [PubMed: 16946913]
- Weiss W, Murray L, Zangana G, Mahmooth Z, Dorsey S, Gross A, Bolton P, et al. A community-based transdiagnostic mental health treatment among torture survivors in Southern Iraq: a randomized control trial. Submitted.
- Whetten K, Leserman J, Whetten R, Ostermann J, Thielman N, Swartz M, Stangl D. Exploring lack of trust in care providers and the government as a barrier to health service use. *American Journal of Public Health*. 2006; 96(4):716–21. [PubMed: 16507725]
- World Bank. Fairness and accountability: engaging in health systems in the Middle East and North Africa. Washington, D.C.: World Bank; 2013.
- World Health Organization. The global burden of disease: 2004 update. Geneva, Switzerland: World Health Organization; 2008.
- World Health Organization. Mental health systems in selected low and middle-income countries: a WHO-AIMS cross-national analysis. 2009. Retrieved from: http://whqlibdoc.who.int/publications/2009/9789241547741_eng.pdf
- World Health Organization. mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings: Mental Health Gap Action Programme (mhGAP). Geneva, Switzerland: World Health Organization; 2010a.
- World Health Organization. The World Health Report: health systems financing. Geneva, Switzerland: World Health Organization; 2010b.
- World Health Organization. WHO Mental Health Atlas. Geneva, Switzerland: World Health Organization; 2011.
- World Health Organization. Building back better: sustainable mental health care after emergencies. 2013. Retrieved from: http://apps.who.int/iris/bitstream/10665/85377/1/9789241564571_eng.pdf?ua=1
- Yasamy MT, Maulik PK, Tomlinson M, Lund C, van Ommeren M, Saxena S. Responsible governance for mental health research in low resource countries. *PLoS Med*. 2011; 8:11.

Fig. 1.
Conceptual model of implementation research

Table 1

Dissemination and Implementation Outcomes	Definition
Acceptability/Satisfaction	The perception that a given EBT is agreeable, palatable, or satisfactory
Adoption/Uptake	The intention, initial decision, or action to try or employ an EBT.
Appropriateness	The perceived fit, relevance, or compatibility of the EBT: 1) for a given setting, provider, or consumer; or 2) to address a particular issue or problem
Cost	The additional expense of implementing an EBT and the cost-effectiveness of it.
Feasibility	The extent to which an EBT can be successfully used within an organisation, in a particular setting, or with a certain population.
Fidelity/ Quality of programme delivery	The degree to which an EBT was implemented as it was designed in its original protocol.
Penetration/Access to Services	The integration of an EBT within and across a service setting (e.g., across a population)
Sustainability/Standard practice of care	The extent to which the EBT is maintained or institutionalised within a setting's ongoing operations.

Source: Proctor & Brownson, 2012

Table 2

Authors, year	Setting	Design	Study conditions and evidence base	Evidence base for treatment	Participants	Providers	Outcomes assessed	Conflict affected description
Bass et al, 2013	DRC, South Kivu; Community based with services provided in rural settings	Randomized controlled trial	1 Group CPT compared with access to individual support	CPT has multiple RCT from the U.S.	Adults	Psychosocial assistants employed by NGO. Previous training in case mgmt and supportive counseling	Trauma, Depression Functioning Anxiety	Sexual violence survivors, exposure to ongoing rebel violence in their villages.
Bolton et al., (submitted)	Thailand/Burm a border; community based services provided.	Randomized Controlled trial	CETA compared to wait list control.	Other common elements have been tested in the U.S. but the CETA version for LMIC was first tested in this trial and the Weiss et al.	Adults	Lay community members; no formal training in MH and limited education	Trauma, Depression Functioning Anxiety	Burmese refugees subject to arrests and deportation
Weiss et al., (submitted)	Southern Iraq; community based integrated into MoH clinics	Parallel Randomized controlled trial	1 CETA compared to WLC 2 CPT compared to WLC	CPT has multiple RCT from the U.S. See above note on CETA	Adults,	Community health workers in the MoH system; no previous MH training; educated	Trauma, Depression Functioning Anxiety	Ongoing bombings, road closures and political events throughout the study.
Bolton et al., (submitted)	Northern Iraq; community based interated into MoH clinics	Randomized controlled trial	IPT, BA, and a psychosocial intervention designed by the NGO	IPT and BA have multiple RCT from the U.S. The psychosocial intervention has not been tested.	Adults	Community health workers in the MoH system, no previous MH training; educated	Trauma, Depression Functioning Anxiety	
Jordans et al, 2013	Sri Lanka, Burundi, Indonesia, Sudan, Nepal	Multiple designs (including CRTs; n=1 series)	Classroom Based Intervention (CBI)	CBI has had multiple trials across multiple countries	Children	Community volunteers; Teachers	Multiple	Ongoing community violence throughout or in the period prior to the program
Bolton et al., 2007	Northern Uganda	Randomized controlled trial	IPT compared to Creative Play and WLC	IPT has multiple RCT in U.S. Creative play has not been tested	Adolescents	Community members; no formal training in MH and limited education	Trauma, Internalizing problems, Externalizing	Internally displaced persons camp; Ongoing violence in/around the area.
Bonilla-Escobar et al. 2014 (report to USAID)	Buenaventura and Quibdo, Colombia	Randomized controlled trial	1 CETA compared to WLC	See above on CETA Community intervention has not previously been tested	Adults	Community members; no formal training in MH and limited education	Trauma, Depression Functioning Anxiety, Anger	Most affected areas by displacement in Colombia, armed strikes during the program, and

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Authors, year	Setting	Design	Study conditions and evidence base	Evidence base for treatment	Participants	Providers	Outcomes assessed	Conflict affected description
			2	Community intervention compared to WLC				unofficial armed conflict for territory.

Caption:
Interpersonal Psychotherapy (IPT)
Behavioral Activation (BA)
Common Elements Treatment Approach (CETA)
Wait List Control (WLC)
Classroom Based Intervention (CBI)