BRIDING THE REPRODUCTIVE HEALTH GAP BETWEEN THE
HUMANITARIAN AND DEVELOPMENT NEXUS

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ABSTRACT

Approximately one in four individuals requiring humanitarian assistance are women of reproductive age (15–49). A minimum standard was established to address reproductive health in humanitarian settings (RHHS), but RHHS still remains a largely unmet need. This systematic review intends to update readers on current RHHS practices and programs; discuss the impediments to bridging short-term humanitarian responses and long-term development strategies; and provide recommendations for human-development focused, non-governmental organization leaders to better address reproductive health (RH) and family planning (FP) in humanitarian crises. The systematic review included peer-reviewed, quantitative evaluations of RH programs in humanitarian or crisis settings reporting outcome data published in English between January 2014 and March 2019. Ten papers set in five countries met the outlined inclusion criteria from a total of 684 papers identified through the Africa-Wide Information, Academic Search Premier, and Global Health databases. Four papers reported on family planning programs and six on maternal and newborn health (MNH). Evidence from the evaluations reported sexual and reproductive health (SRH) interventions that strengthen existing health system care delivery, apply quality improvement (QI) methodologies, and use of community health worker home-visits to increase SRH knowledge and use of services.

Effective coordination is necessary to bridge the recovery gap between humanitarian relief and development. The relatively narrow RHHS literature base highlights the need for

further generation of evidence to identify best practices and inform future program implementation. Human development non-governmental organizations have an opportunity to bridge the humanitarian relief and development nexus gap by increasing their internal capacity and expanding their expertise to humanitarian settings.

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LIST OF ABBREVIATIONS

ANC	Antenatal Care
CHW	Community Health Worker
EmONC	Emergency Obstetric and Newborn Care
FP	Family Planning
GBV	Gender-Based Violence
IAWG	Inter-Agency Working Group (IAWG) on Reproductive Health in Crisis
IDP	Internally Displaced Person
MISP	Minimum Initial Service Package
MOH	Ministry of Health
MNH	Maternal and Newborn Health
NGO	Non-Governmental Organization
PNC	Postnatal Care
QI	Quality Improvement
RH	Reproductive Health
RHHS	Reproductive Health in Humanitarian Settings
SRH	Sexual and Reproductive Health

INTRODUCTION

Tumultuous situations around the world are escalating as a result of mounting political instability, social upheaval, and economic turmoil. There are 131.7 million people in need of humanitarian assistance globally (1). Approximately one in four individuals in need of humanitarian assistance are women and adolescent girls of reproductive age (14-49), including over four million pregnant women (2). The increasing number of protracted crises have displaced millions and left those who remain behind without the resources to access water, sanitation, food, shelter, medical supplies and services. For women, this includes a lack of access to sexual and reproductive health (SRH) resources.

During an emergency the need for reproductive health (RH) does not suddenly stop or diminish. Crises often add additional stress to weak health systems in developing countries. Women in humanitarian crisis situations experience reduced access to already limited SRH services due to damaged health facilities, shortages of SRH supplies, and inadequate healthcare workforces (3). More than half of all maternal deaths worldwide occur in humanitarian and fragile settings (4). Family planning (FP) methods help to reduce maternal mortality by reducing the chance of pregnancy and associated complications, and estimates predict that contraceptive methods have the potential to avert 44.2% of maternal deaths in developing regions (5). Women in complex emergency settings experience high unmet SRH needs, including high unmet modern contraceptive needs (3,4,6,7). Sexual and reproductive health is considered a human right, and response efforts must continue to improve comprehensive SRH care delivery in crisis settings to help women achieve this right (8). Comprehensive SRH care

includes a full range of FP methods; sexual and gender-based violence (GBV) prevention and clinical care for survivors; transmission prevention, treatment, and management of HIV and other sexually transmitted infections (STIs); as well as pre-, peri-, and postnatal care for pregnant women and newborns.

This systematic review begins with background on the dual challenges of meeting the reproductive health and family planning needs for people in humanitarian settings, describes the challenges associated with funding for humanitarian and development needs, summarizes the existing reproductive health in humanitarian settings (RHHS) programs, and concludes with recommendations for how human development non-governmental organizations (NGOs) with experience implementing SRH interventions can extend their expertise to humanitarian settings.

BACKGROUND

Reproductive Health in Humanitarian Settings

Reproductive health and family planning needs are often overlooked during conflicts, crises, natural disasters, and other emergencies. Neglecting RH and FP needs in conflict settings where women and girls are more vulnerable to sexual violence and exploitation creates chain reactions including: transmission of STIs including HIV; unwanted pregnancies in dangerous conditions; life-threatening complications from pregnancies; as well as other staggering consequences (2). The Inter-Agency Working Group on Reproductive Health in Crises (IAWG) developed and periodically revises the Minimum Initial Service Package (MISP), which is considered the basic standard for reproductive health service provision in humanitarian and crises settings. The MISP is designed to be implemented at the onset of every emergency to address the growing need for reproductive health in humanitarian settings. The main objectives of the MISP are to:

- ensure there is a clear MISP implementation lead,
- prevent sexual violence and respond to survivors' needs,
- prevent HIV and STI transmission and reduce related morbidity and mortality,
- prevent maternal and newborn morbidity and mortality,
- prevent unintended pregnancies,
- plan to integrate comprehensive SRH services into primary health care (9)

Incorporation of the MISP into the Humanitarian Charter and Minimum Standards in Disaster Response Sphere Handbook increased awareness of the MISP and has helped bring

attention to the importance of RH in crisis (10). Several assessments of MISP implementation show trends in increased awareness of MISP objectives and some improvements in implementation (11–18). The MISP has been used in responses to natural disasters (13,18), protracted refugee settings (17), and incorporated into disaster preparedness plans (19). While improvements have been made in recognizing the need for RHHS, a global IAWG review revealed that there is still a significant gap in addressing reproductive health essentials in crises (16). Furthermore, other humanitarian response areas are prioritized over SRH in emergency response despite greater acknowledgment of the importance of reproductive health and sexual health in humanitarian settings (20).

Defining the Nexus

Delivering reproductive healthcare in humanitarian settings requires synergy between short-term relief and longer-term development. Historically, humanitarian aid was created to quickly address emergency situations, while development assistance was designed to sustainably improve social and economic situations. Humanitarian assistance intends to preserve human dignity, save lives, and alleviate suffering, and is guided by the principles of humanity, independence, neutrality, and impartiality (21). Development work aims to gradually build capacity in a society by growing capabilities. Most agencies and organizations developed mechanisms to reflect this historical division and addresses these situations separately.

The scale and complexity of humanitarian disasters seen today require a continuum of assistance and responses to address widespread violence, damage to societies and economies, loss of life, and population displacement. The strict division between relief and development has unintentionally created interruptions in assistance delivery. Fragmented coordination

between SRH service delivery across the humanitarian-development spectrum is reflected by gaps in assistance delivery due to stock-outs, shortages of SRH providers, and lack of funding (11–18,20). The short-term orientation of humanitarian assistance neglects to incorporate development objectives or address the interconnected challenges associated with the underlying issues. Systematic underfunding for the recovery transition between humanitarian relief and development exacerbates the humanitarian-development disconnect (16,22). Increased coordination amongst donors and between implementing actors is needed to concurrently address reproductive health and humanitarian need, poverty, and fragility.

LITERATURE REVIEW

Delivering quality SRH care in humanitarian settings presents many challenges. Poor infrastructure, resource shortages, and safety concerns in disasters and conflict-affected areas can make addressing RH needs problematic. Moreover, it is difficult to determine the underlying need for and effectiveness of SRH service delivery in disaster and crisis settings. Data on reproductive health indicators is largely unavailable. Data collection is made increasingly difficult with additional security and logistical challenges. Particularly in humanitarian crisis settings, pragmatic implementation research competes with rigorous data collection. The aim of this literature review is to summarize existing SRH practices and programs in humanitarian and crisis settings, identify promising scalable practices, discuss barriers to service delivery, and make recommendations for systemic change to better address RHHS.

Search Strategy Methods

This systematic review was modeled after—and updates—Casey's evaluation of reproductive health programs in humanitarian settings published between 2004–2013 by summarizing programs on reproductive health and family planning in humanitarian and crisis settings (23). The search was conducted through the Africa-Wide Information, Academic Search Premier, and Global Health databases. The search was limited to peer-reviewed papers published in English from 2014–March 2019 (see Table 1 for full inclusion/exclusion criteria). The search terms used described conflict and crises in combination with reproductive health and family planning. Since Casey's review, revisions to the MISP designated the prevention of unintentional pregnancies as a standalone objective (9). Search terms for SRH were based on the Inter-Agency Field Manual on Reproductive Health in Humanitarian Settings on sexual and

reproductive health, family planning, HIV/AIDS and STIs, maternal and newborn health (MNH), and sexual and gender-based violence (9). However, the focus of this search did not encompass GBV, as there is a significant existing body of literature on the subject in conflict and crisis settings.

Table 1 Inclusion and exclusion criteria

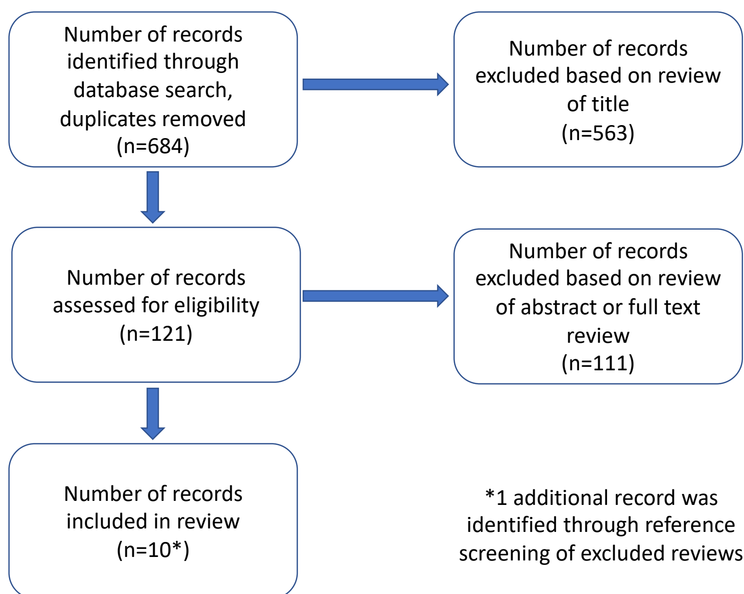
	Included	**Excluded**
Topic	Papers that described reproductive health programs to address maternal and newborn health and family planning	Papers that reported on other reproductive health topics (e.g., Ebola, female genital mutilation, forced or early marriage, reproductive cancers)
Types of Papers/Data	Quantitative evaluations of reproductive health programs or services, including experimental and non-experimental designs that report outcome data	Descriptive or quantitative studies on preparedness or resilience if not linked to an intervention which evaluates outcomes or effectiveness
Settings	Humanitarian crises in conflict, post-conflict or natural disaster settings in low- or middle- income countries	Papers in locations that were not affected by armed conflict or natural disaster, disaster settings in high income countries.
Types of Publications	Full text papers in peer-reviewed journals	Letters, editorials, commentaries; grey literature; abstracts published without full texts; review papers (although these were screened for references)
Language	English	Other languages
Publication Date	January 2014–March 2019	Papers published before 2014 or after March 31, 2019

Results

The search strategy yielded 684 results after duplicates were removed. There were 563 records excluded based on a review of title. Papers describing RH programs and outcomes addressing MNH, FP, HIV and other STIs, and/or GBV were included. Descriptive quantitative

papers were excluded if there were no specific health interventions or outcomes measured. Of the 121 records assessed for eligibility, 111 were excluded based on abstract or full text screening. On closer review of several full-text articles, 21 articles were excluded because they were not rigorously evaluated. One additional record was identified when screening references of excluded reviews. A total of ten studies met the inclusion criteria (Figure 1).

Figure 1 Selection Process for Systematic Review



The ten SRH studies were conducted in five different countries with populations affected by conflict. No study published in 2014 meeting the inclusion criteria was identified. In 2015, three papers published met these criteria. Two papers met the inclusion criteria in 2016, four in 2017, and one in 2018. Additionally, no search results through March 2019 met the criteria. Geographically, two of the studies identified were evaluated in the Middle East, while the remaining eight were carried out in Africa.

Table 2 Description of Papers Included in Systematic Review

Author (Year)	Country	Intervention	Evaluation Design	Key Findings
Family Planning				
Adam (2016)	Sudan	Maternal health workers provided home-based family planning counseling targeting couples.	Cross-sectional post-intervention multi-stage cluster survey of women aged 15–49 years who had experienced pregnancy after joining the internally displaced person (IDP) camp. Initial survey (n=640) administered in February 2007 and follow-up survey (n=640) given in April 2009 in three IDP camps in West Darfur, Sudan.	Modern FP use increased from 10.9% in 2007 to 21.6% in 2009 (p<0.001). As compared with the initial survey, women in the follow-up survey were 5.4 times more likely to be aware of (adjusted odds ratio [aOR] 5.4; 95% confidence interval [CI] 3.9, 7.4) and 2.8 times more likely to use (aOR 2.8; 95% CI 2.0, 4.1) any modern FP method.
Casey et al. (2017)	Democratic Republic of Congo (DRC)	Support of existing healthcare delivery system to make essential supplies available to health facilities. Delivered competency-based training on contraceptive counselling to providers.	Program data review identified women (18+) who had initiated a short-acting (n=304) or long acting (n=244) contraceptive method 12–18 months prior. Women were identified from health facility registries and interviewed between October–November, 2015.	After 12 months, 81.6% women reported using their baseline contraceptive method continuously. Discontinuation was associated with use of a short-acting method (Hazard ratio [HR] 1.74 [95% CI: 1.13, 2.67]) and wanting a child within two years (HR 2.58 [95% CI: 1.45, 4.54]) within the first 12 months.
Casey & Tshipamba (2017)	DRC	Health system strengthening activities were coordinated through Ministry of Health (MOH). These included competency-based family	Mixed methods design. Cross-sectional surveys were conducted in 2008 (n= 607) and 2010 (n= 575) of women of reproductive age (15–49) using a two-stage cluster sampling	Respondents initially reported low knowledge of long-acting and permanent contraceptive methods (6.6% [95% CI: 4.4, 7.6]) or any modern contraceptive method (28.8% [95% CI: 25.1, 30.7]). Use of

		planning training, essential supplies and equipment provision and supply chain management, and monitoring and evaluation.	design in Kasongo, DRC. Facility assessments appraised government health facility capacity to provide contraceptive services in 2007 and 2010. Monthly data collection of 22 government facilities' contraception method initiation between January 2008–May 2014, which was reduced to 9 facilities June 2011–2014.	modern contraceptive methods between 2008 and 2010 increased from 3.1% to 5.9% (aOR 2.03; 95% CI: 1.3, 3.2). Long-acting and permanent contraceptive method initiation was 8% in 2008, which increased significantly ($p < 0.001$) to 83% among supported facilities in 2014.
Chukwumalu et al. (2017)	Somalia	Combination of approaches including adequate equipment and supplies, capacity building activities including competency-based clinical training and provider support, community engagement, and monitoring and evaluation activities were utilized to improve service delivery.	Mixed method evaluation design between four supported health facilities. Routine data collection began January 2013 and was reviewed monthly with MOH partners. Client exit interviews were also conducted annually using standard semi-structured questionnaires. An independent program evaluation was completed in December 2015 by an external evaluator.	The monthly average number of clients receiving intervention services significantly ($p=.006$) increased from 19.91 (Standard Deviation [SD=15.95]) in 2013 to 34.75 (SD=4.11) in 2014. Monthly mean service delivery increased to 37.92 (SD=9.52) in 2015. Over the course of the program, 98% of clients (n=1090) were counselled for contraception, and 88% accepted at the point of service.
Maternal and Newborn Health				
Adam (2015)	Sudan	Maternal health workers provided personalized, home-based education highlighting the importance of facility-based delivery.	Cross-sectional post-intervention multi-stage cluster survey in April 2009 of married women 15–49 years old who had experienced pregnancy after joining the Krending,	Women who received home-based maternal health education had lower odds of home delivery (aOR 0.57; 95 % CI: 0.35, 0.93), compared to not receiving education intervention.

			Krenik, or Habillah IDP camp (n=640) in West Darfur, Sudan.	
Adam et al. (2015)	Sudan	Interpersonal communication campaigns (home and shelter visits, in-clinic sessions and counselling) and mass education campaigns catered towards intervention population socio-cultural norms promoted awareness of antenatal care (ANC), institutional delivery services and postnatal care (PNC).	Cross-sectional post-intervention multi-stage cluster survey of married women aged 15–49 years who had experienced pregnancy after joining the IDP camp. Initial survey (n=640) administered one year after the start of the interventions in February 2007, and three-year follow-up survey (n=640) given in April 2009 in Krending, Krenik, and Habillah IDP camps in West Darfur, Sudan.	More women were aware of ANC (odds ratio [OR] 18.6; 95% CI: 13.1, 26.5) received ≥ 3 ANC visits (OR 8.8; 95% CI: 6.4, 12.0), delivered at a healthcare facility (OR 5.4; 95% CI: 4.0, 7.4) and received a PNC visit (OR 5.5; 95% CI: 4.0, 7.7) in the follow-up than in the initial survey, after multivariable adjustment.
Bouchghoul et al. (2015)	Jordan	Establishment of a non-governmental organization managed obstetric care unit that could provide basic emergency obstetric and newborn care (EmONC). Added additional staff so there was at least one midwife and one obstetrician available or on-call 24/7. Referral system for high-risk pregnancies was	Six month prospective observational study of pregnant women who came to the obstetric care unit for delivery (n=371) in the obstetric care maternity unit in the Zaatari refugee camp. Emergency and high-risk pregnancies (n=82) were identified by delivery characteristics or other indications and referred to nearby hospitals for comprehensive EmONC in	No maternal mortality was reported at the obstetric care unit with availability of basic EmONC and referral system.

		established for comprehensive EmONC.	Jordan between September 2012 and February 2013.	
Edmond et al. (2018)	Afghanistan	Community health workers (CHWs) were trained in behavioral change communication skills during the antenatal and postnatal periods and home visiting in addition to basic CHW training. CHWs performed home visits to pregnant or postpartum women.	Baseline survey assessment in August 2015 pre-intervention (n=1408), and endline survey conducted in July 2016 after one year of intervention (n=1372). Women surveyed were less than 12 months postpartum and from intervention and control districts in the Bamyan and Kandahar provinces of Afghanistan.	Increased care seeking and service use in intervention villages from baseline (8.2% increase facility delivery, 9.8% skilled birth attendant attendance, 11.9% increase care sought for maternal postnatal complications). Intervention did not significantly increase birth preparedness and newborn care practices.
Hynes et al. (2017)	DRC	Facilities were provided with essential medical supplies and new equipment, basic EmONC clinical training was provided. A participatory quality improvement (QI) methodology was used in conjunction with the components. Training was given to QI teams were supported by (trained) coaches, and tested small changes to improve care.	Longitudinal quasi-experimental design at 12 health facilities serving conflict-affected populations in North Kivu, DRC. Intervention facilities were matched with comparable 'peer' facility controls. Patient exit interviews with post-partum women and matched partograph data review were conducted at baseline (n=257) November–December 2015 and endline September–November 2016 (n=224).	QI intervention had a significantly (p<0.05) greater active management of the third stage of labor (aOR 3.47 [95% CI: 1.17, 10.23]) and essential newborn care (OR 49.62 [95% CI: 2.79, 888.28]) rate of change in comparison to control group.

Pham et al. (2016)	Sudan	Supportive supervision, quality assurance, finance, and human resources for midwives in combination with intensive health promotion campaigns.	Supportive supervision, quality assurance, finance, and human resources for midwives in combination with intensive health promotion campaigns.	Coverage of births attended by a skilled health professional improved from 35.7% (95% CI: 21.0, 53.6) in the initial assessment to 52.7% (95% CI: 39.0, 66.0) in the final assessment (p=0.025). Women who received a clean delivery kit did not significantly change (p=0.49) from initial assessment 54.6% (95% CI: 30.5,76.7) to final assessment 47.1% (95% CI: 33.7, 60.9).

Family Planning

The United Nations Population Fund (UNFPA) defines family planning as "the information, means and methods that allow individuals to decide if and when to have children" (24). Four study interventions were categorized as family planning as they aimed to increase availability and use of contraceptive methods (25–28). Programs used different strategies to increase FP use including: Ministry of Health (MOH) support to improve supply chain management, provider trainings, and introduction of monitoring and evaluation systems in DRC (26,27); capacity building approaches providing competency-based training and supportive supervision, infrastructure improvement and supply chain management, and monitoring and evaluation in Somalia (28); and community-based FP training and targeted education in Sudan (25). Competency-based clinical training was provided in three of the FP interventions (26–28), which significantly increased the use of contraceptive methods from 3.1% to 5.9% (aOR 2.03 [95% CI: 1.3-3.2]) and monthly postabortion contraception adoption (50% to 98% of patients) from baseline to the end of the study period. Efforts to strengthen the existing health system infrastructure were taken to improve the availability of essential supplies and improve the system's ability to fulfil this need (26–28). All four FP intervention studies included in this review aimed to increase capacity within the health system to provide FP services. These studies showed significant increases in both awareness indicators and use of FP methods, when methods and use were measured. In Sudan, home-based FP counseling and education training for community health workers (CHWs) were associated with women being 5.4 times more likely to be aware of (aOR 5.4 [95% CI: 2.0, 4.1]) and 2.8 times more likely to use modern FP methods (aOR 2.8 [95% CI: 2.0, 4.1]) in the follow up compared to the initial survey (25).

Maternal and Newborn Health

Six studies evaluated interventions that were focused on improving maternal and newborn health outcomes. Different programs used different interventions to improve outcomes related to pregnancy. Three papers evaluated the effects of community health workers on MNH. In Sudan, mass education campaigns, provider-patient communication, and home-based education were targeted towards pregnant mothers in internally displaced person (IDP) camps (29,30). CHWs were used to raise awareness and use of antenatal care (ANC), institutional delivery, and postnatal care (PNC) services in Sudan. These interventions were associated with significant improvements of the odds of giving birth in a health facility, as well as receiving antenatal and postnatal care visits (29,30). In Afghanistan, female CHWs were trained to provide multiple home-visits to pregnant and post-partum women and deliver behavioral change communication messaging (31). The evaluation by Edmond et al. found that the use of a CHW improved knowledge and care seeking behaviors, but did not improve birth preparedness and newborn care practices (31).

Three interventions used some form of iterative, or quality improvement (QI), approach in humanitarian crisis settings (32–34). An obstetric care unit, staffed and managed by a non-governmental organization, provided basic emergency obstetric and newborn care (EmONC) and established a coordinated referral system for emergency and complicated births in a Syrian refugee camp in Jordan with no maternal mortalities over a six months period (34). Another Sudan-based intervention increased the number of midwives by providing supervisory support, quality assurance measures, human resources for healthcare workers, and monitoring and evaluation activities to the MOH (33). In conflict-affected zones in the DRC, MNH improvements

were made through the contribution of medical supplies and basic training; select intervention groups of healthcare workers were also trained in QI methodologies, which had much greater rates of improvements for active management of the third stage of labor (aOR 3.47 [95% CI: 1.17, 10.23]) and essential newborn care (OR 49.62 [95% CI: 2.79, 888.28]) outcomes in comparison to groups that did not receive QI training (32).

BRIDGING THE GAP BETWEEN HUMANITARIAN AND DEVELOPMENT ASSISTANCE

Effective SRH care delivery relies on coordination across implementing actors and between funding sources to address both the supply and demand side of the equation (35). Challenges on the supply side of SRH delivery include access to necessary supplies and equipment, capable healthcare workforces, supply chain management, tracking resource use, and monitoring need (35). Humanitarian relief efforts aim to save lives and mitigate suffering but cannot begin to address these needs without a concurrent application of development principles simultaneously addressing systemic and existing infrastructure barriers. Emergency RH service delivery requires effective coordination between funding and implementing actors on the ground to avoid provider shortages, running out of essential medical supplies, and ensuring that maternal, sexual, and reproductive health needs are met (11–18,20). Failure to address fundamental human rights creates additional vulnerabilities and negative health consequences for women in crisis settings. Despite greater awareness of RHHS as a problem, gaps in service coverage remain largely due to funding shortages and lack of coordination across the nexus (16).

Further examination of the fundamental principles of relief, recovery, and development helps to understand this issue. Humanitarian and development aid were created to serve different purposes. Namely, humanitarian assistance is meant to delivery lifesaving assistance, preserve human dignity, and alleviate suffering in emergency situations while operating by the humanitarian principles of independence, impartiality and neutrality (22). The purposes of recovery efforts are to restore conditions to where they were prior to an emergency. In

contrast, the goal of development assistance is to improve social and economic conditions over a long-term period by boosting accountability, self-ownership, and alignment between all levels of society to achieve mutually beneficial results (22). Development approaches build upon existing health infrastructure, take cultural context into account, and generate additional SRH service demand.

Actors on both ends of the humanitarian-development spectrum have differing approaches. Development work targets societies as a whole by partnering with central and local governments. This is often a challenge for humanitarian actors in emergencies, particularly in situations affected by conflict. Humanitarian principles of neutrality and independence discourage actors from choosing sides and partnering with governments. Instead, humanitarian relief works prefers to operate in cooperation with civil society partners or independently (36). The seemingly clear divisions between approaches are much more difficult to distinguish on the ground, and gaps in assistance delivery are most prominent in the grey area of recovery, between humanitarian relief and development.

Challenges delivering reproductive, maternal, newborn, and sexual health services reveal the many issues associated with pronounced divisions between humanitarian and development assistance. In the context of an emergency, it is difficult to provide aid without the infrastructure necessary to delivery it. Additionally, the introduction and subsequent uptake of RH services in crisis settings, such as long-acting reversible contraceptives (LARCs), can be low if cultural factors and other barriers to adoption or continuation are not recognized and addressed (23,26,27). Humanitarian aid could create a lasting impact by strengthening existing healthcare infrastructure to deliver SRH services, rather than bypassing the system completely.

However, humanitarian actors often fail to incorporate recovery and plans for longer-term sustainable solutions into their response. Conversely, development programs insufficiently address disaster risk reduction and conflict prevention. Development efforts in conflict-affected states do not often dedicate resources for disaster preparation, leaving societies extremely vulnerable to disasters. Failure to reduce conflict risks and increase overall resilience in fragile states may rapidly devolve into crisis when pressure is applied. Recognizing that relief, recovery, and development are fundamentally linked helps to identify areas that can improve emergency and disaster aid.

Discussion

This systematic review found that some evaluation evidence has been generated for maternal and newborn health, as well as family planning programs in humanitarian crisis settings. Among other research disciplines there are significantly larger evidence bases in humanitarian settings. Subjects including the areas of mental health, communicable diseases, and other aspects of RH including GBV in humanitarian contexts are well researched in comparison to MNH and FP, and suggest that conducting quality evaluations in these settings are possible (23,37). Despite a robust evidence base of SRH programs in non-crisis settings, there is a lack of high quality, rigorous data available in crisis settings. While the evidence base is still relatively slim, this review further supports the case that FP and RH evaluation can be conducted in crisis settings. Efforts must be made to improve RHHS delivery in humanitarian settings and determine the most cost-effective and efficient best practices. Quality, routine data collection is needed to understand the need and progress made in these settings.

Peer-reviewed, published articles do not fully represent programmatic work. Organizations collecting indicator measurements and implementing successful programs should publish and share their results, as there is a gap between the available peer-reviewed research and adaptation of results to areas affected by humanitarian crises. It would be useful for programs to publish their results as well as unsuccessful endeavors so that resources were not invested in the same activities and wasted. This would help to directly link published research to future SRH interventions, particularly for organizations unfamiliar with operating in these humanitarian settings attempt to bridge the relief, recovery, and development nexus.

A lack of knowhow and knowledge prevent many humanitarian organizations from adopting early recovery approaches that incorporate development principles early on (22). Human development non-governmental organizations are in the best position to address this issue to bridge the gap between the nexus of relief, recovery, and development. Development organizations, particularly NGOs with experience in areas of SRH, have the knowledge and coordination experience to improve RH delivery and health outcomes to supplement this shortcoming. With an increase in emergency situations and protracted crises around the world there is a growing need for effective aid delivery. Funding agencies struggle to identify organizations that can provide continuous support along the humanitarian-development nexus, evidenced by low percentages of applications received for recovery or development funding in humanitarian contexts from NGOs already involved in relief efforts (22). An analysis of internal organization capacity revealed that many implementing organizations lack the internal capabilities to operate beyond their existing operations in emergency settings (38). In order to be competitive for funding, organizations must develop and increase their own internal capacity to respond to humanitarian crises.

The field of RHHS would benefit from additional investigation to expand the limited body of literature including bringing more published internal reports to the public domain, conducting rigorous evaluations of programmatic work, and documenting and publishing additional case studies. Future additions to the RHHS body of research should also focus on reviewing and exploring further opportunities for partnerships and coordination between implementing organizations and funding bodies.

RECOMMENDATIONS

Recognizing this opportunity and large market for NGOs to expand their work has the potential to increase an organization's competitive strategy and likely aligns with the existing vision. Internal organizational changes must be made to overcome historical divisions between humanitarianism and development and incorporate both approaches. Leaders of NGOs must be aware of these market opportunities as they are responsible for creating the internal organizational change necessary to be considered for funding awards. Creating the organizational change necessary to address reproductive health during the relief and early recovery stages of a humanitarian crisis requires a sense of urgency to address the reproductive health gap coupled with change-oriented leadership behaviors. These behaviors focus on influencing changes in strategic objectives, strategies, organization structure, organizational culture, increasing flexibility and innovation to adapt to changing environments, and gaining commitment to changes (39).

Articulating a shared vision and developing a strategy to expand internal capabilities to address reproductive health needs in emergency settings help leaders establish credibility for their vision. Gaining the support of the executive team is necessary to expand, or even pilot, operation in crisis conditions as there are many risks to working in humanitarian settings that should be taken into consideration. Effective leaders also build support from middle and working management levels and external players including: government funding agencies like the U.S. State Department's Bureau of Population, Refugees, and Migration (PRM), U.S. Agency for International Development's (USAID) Office of U.S. Foreign Disaster Assistance (OFDA), the U.K. Department for International Development (DFID), etc. (40); contacts already on the

ground in crisis areas (22,40); and consultants (39). Each NGO hoping to expand their capabilities to humanitarian settings should complete a more thorough stakeholder analysis to accurately identify organization-specific opponents to change and strategic feasibility.

Dictating organizational structure changes from the Executive Team is not recommended. Instead, informal crisis response pilot team(s) should be assembled and filled with empowered, competent change agents that agree with and actively support the overall vision and strategy to expand capabilities in relief and recovery zones. Pending the success of the pilot, the team, or temporary working group or task force, should identify what structural changes should be made to integrate the team into the organization structure rather than imposing organizational structure changes from the executive level. Leadership should coordinate and guide the process by which the strategy will be implemented rather than dictating precisely how to create change.

Influencing company culture can be done by adjusting reproductive health strategies to address the issue in humanitarian settings, and changing ways to support and reward practice to accomplish objectives. Directing attention towards and communicating RHHS as a priority during planning and operations management is an important step in cultural change. Prioritizing humanitarian behaviors and principles in new employee recruitment and selection efforts and promoting these values among existing employees by allocating rewards, are also ways that leaders can shape organizational culture (39). By changing the shared assumptions and beliefs, leadership can indirectly influence the motivation and behavior of employees.

If the organization is in a position to make new hires, NGOs can modify their recruitment process and priorities by rewriting job descriptions to include different activities and responsibilities, and hire staff with backgrounds and experience in humanitarian contexts. Leadership must recognize and praise individual contributions towards achieving humanitarian capabilities, as this shows the importance and commitment the organization places on the objective and promotes a culture that reflects this. Management systems can also be redesigned to formally reflect this priority by changing employee evaluation criteria, developing or incorporating metrics that encourage humanitarian thinking and approaches, and incorporating these values into performance evaluations. Another way to change management systems is to modify internal criteria and procedures. NGOs can create internal project and funding proposal requirements that incorporate humanitarian goals and reinforce these principles.

Monitoring and communicating the progress of change is crucial to understanding the effects, both anticipated and unanticipated, of change. Information gathered from monitoring progress allows for targeted adjustments to be made. Quality improvement methodologies highlight the importance of the evaluation phase, as analyses reveal strengths and weakness that should be addressed (41). Results should be communicated to appropriate stakeholders to inform future strategic decisions and celebrate successes when appropriate.

With roughly 32 million women and girls of reproductive age living in crisis settings, there is a tremendous unmet need for RH information and services (37). Non-governmental organization leadership is tasked with creating the internal change necessary to increase

implementing partners' ability to continuously address reproductive health from the onset or early recovery stages of a humanitarian emergency through the development phases.

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