Prioritizing the Prevention of Child-Family Separation: The Value of a Public Health Approach to Measurement and Action

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Abstract: Disaster-affected children are among the most vulnerable populations and face a wide range of threats to their health and wellbeing. One of the most significant risks to children is separation from their family, a problem that occurs in most humanitarian contexts. Because separation can have lasting adverse consequences for children's health and wellbeing, child protection actors frequently develop programs to respond to the needs of separated children. However, methods to measure prevalence, characteristics, and root causes of separation are scarce and rarely deployed in humanitarian settings. Existing measurement and programmatic approaches focus primarily on responding to already separated children and give little attention to the prevention of separation at a population level, the context and prevalence of separation, and the root causes of separation. Analyzing how a public health approach helps to fill these gaps, this paper presents a systematic, conceptual and practical case for incorporating a public health approach in the measurement of and programming for separation of children in humanitarian settings. It argues that a population-level, preventive approach to measurement and programming will complement the more common case-based, responsive approach to separation of children and enables children's well-being amidst adversity.

Keywords: Child protection, humanitarian, UASC, population-level, adversity.

The United Nations estimates that in 2018, 132 million people around the world were affected by crises and in need of urgent humanitarian assistance and protection [1]. Children, defined as people under 18 years of age, often comprise a large portion of those affected by humanitarian crises [2, 3]. The United Nations Children's Fund (UNICEF) [4] estimated that "535 million children—nearly one in four—live in countries affected by conflict or disaster, often without access to medical care, quality education, proper nutrition, and protection." Save the Children [5] estimated that by 2016, 357 million children lived in a conflict zone—a 75% increase from the 200 million estimated in the early 1990s. UNHCR estimated in 2014 that 51% of refugees globally were under the age of 18. Demographic information shows that children and youth comprise almost half of the population in most disaster and conflict-afflicted countries.[1]

Children living through disasters (be they human-made or natural) are among the most vulnerable population and face a wide range of threats to their lives and wellbeing; as outlined in the *Minimum Standards for Child Protection in Humanitarian Action* [6] and shown in the seminal report *A Matter of Life and Death* [7]. The risks that children frequently face in crises include injury, psychosocial distress, recruitment into armed forces or groups, involvement in hazardous labour, different types of violence, including physical, emotional, and sexual, separation from usual caregivers, and exploitation [6-9]. Emergency conditions pose not only new risks to children but also exacerbate pre-existing risks. They also weaken protective systems and structures that protect children against such risks [7, 10, 11].

The futures of children affected by humanitarian crises are also often compromised due to physical and mental health strains [3, 10, 12-14]. Conflict and crises jeopardize the healthy development and well-being of children [15]. Evidence from the health and nutrition sectors has linked childhood deprivation and traumatic experiences to developmental challenges as well as higher morbidity and mortality [16, 17]. Toxic stress in the early years of life has lasting, adverse effects on children's neural and physical development [18].

SEPARATED CHILDREN

Separation from their usual caregivers is one of the most common and consistent threats to children in emergency settings [19-21]. An estimated 50,000 children were rendered homeless in Europe at the end of World War II [19]. Between 1970 and 1984, roughly 22,000 unaccompanied Vietnamese children fled the conflict to neighbouring countries [21]. The 1994 Rwandan genocide separated over 100,000 children from their families in Rwanda and neighbouring

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[1]See population estimates of the World Fact-book of the US Central Intelligence Agency for countries such as Nepal, the Philippines, Central African Republic, Democratic Republic of Congo, South Sudan, etc. https://www.cia.gov/library/publications/resources/the-world-factbook/.

E-ISSN: 1929-4247/20

countries [22, 23]. According to Eurostat (2018), 284,445 unaccompanied minors sought refuge in European Union countries between 2008 and 2017.

The *IASC Guiding Principles on Unaccompanied and Separated Children* define separated children as "children who have been separated from both parents, or their previous legal or customary primary caregiver, though not necessarily from other relatives" [24 p13]. Unaccompanied children are defined as "children who have been separated from both parents and other relatives and are not being cared for by anyone adult who, by law or custom, is responsible for doing so" [24 p13]. Separations can be divided into two general categories: accidental and deliberate. Involuntary separation is “not planned or anticipated, and occurs against the will of the parent/caregiver and child(ren)” [25 p53]. Voluntary separation “occurs when parents, caregivers, or children themselves make a conscious decision to separate, whether during (‘primary separation’) or after the emergency (‘secondary separation’)” [25 p54]. This paper addresses both accidental and deliberate separations.

It is well documented that separated children face psychological burdens and experience a multitude of risks and long-term impacts on their wellbeing [8, 20, 21, 25, 27]. To quote Anna Freud and Dorothy Burlingham [27 p37], “[The war] becomes enormously significant the moment it breaks up family life and uproots the first emotional attachments of the child within the family group.” Separation may compound other risks, primarily due to the loss of families’ protective function [20, 29, 30]. Compared to other children, separated children face an increased likelihood of recruitment and abduction into armed forces and groups [15, 31]. They also suffer from higher levels of food insecurity and an increased risk of child labour and sexual exploitation [32, 33].

Separation can also have short- and long-term social, developmental, and psychological effects, including chronic stress and anxiety [12, 34-36]. Evidence shows that responsive family care, especially in a child’s early years, results in better developmental outcomes later in life. A meta-analysis of 75 studies found that separated children reared in institutions had significantly lower IQ scores than their peers in foster care [37].

Preventing separation and responding promptly, when it does occur, is essential to ensuring the healthy development and long-term wellbeing of children affected by humanitarian crises. The work done to support separated children sits under the umbrella of child protection, which is defined as "the prevention of and response to abuse, neglect, exploitation, and violence against children” [6]. The field of Child Protection in Humanitarian Action (CPHA) seeks to protect children in humanitarian settings caused by armed conflict, political violence, natural disasters, global warming, extreme poverty, and other adverse conditions. Programs to address the needs of separated children have been a consistent feature of humanitarian response dating as far back as World War II [19, 28, 38]. Today, in almost all humanitarian crises, some form of intervention to respond to child-family separation is in place. Family Tracing and Reunification (FTR) and case management procedures are established and understood across child protection action. Well accepted and widely used inter-agency guidelines and minimum standards now exist to guide family tracing, reunification, and alternative care programming [6, 25, 26].

THE PREVENTION GAP

Despite substantial gains in addressing the needs of separated children, progress has been far more focused on response rather than on prevention. For example, the two most common programmatic approaches to address the separation of children from caregivers (i.e., Identification, Documentation, Tracing and Reunification (IDTR) and Alternative Care) focus mostly on responding to the needs of individual children who have been separated from caregivers. Yet prevention should be a high priority in humanitarian action. The scale of threats to children in humanitarian contexts makes it inconceivable that responsive approaches alone can address the needs of all children who get harmed in these contexts. Additionally, if preventing harm is viable and in the best interest of the child, the only responsible and ethical approach would be to prevent the damage before it occurs. From this standpoint, preventative strategies that target all vulnerable children, families, and communities are a necessity.

Even in the highly detailed guidance that has been developed around issues of separation, there are few practical recommendations on how to prevent separation. There have been repeated calls for the systematic inclusion of preventative approaches in programming, but few suggestions regarding how to operationalize these. An emphasis on the complementary role of preventive and responsive

strategies to separation is explored in some of the earlier guidelines and principles developed for child protection in emergencies [19, 21, 39]. Examples of attempts to prevent separation at the policy level in humanitarian settings also exist [39, 40]. More recent guidelines and standards also emphasize prevention and response [6, 41]. UNICEF's child protection strategy stipulates that "successful child protection begins with prevention" [41 p2].

Most other technical guidelines related to Unaccompanied and Separated Children (UASC) dedicate a negligible portion of their text to the idea of primary prevention. Those guidelines and tools that guide primary prevention are often limited to awareness-raising and methods of avoiding the most common types of separation, such as those taking place during population movement [21, 26, 43]. Few existing guidelines and tools actually provide practical recommendations and examples regarding contextual identification and addressing root causes of separation [44].

Fortunately, prevention is possible, though achieving it will require an understanding of and programmatic attention to root causes of separation. Analysis of the categories of separation provided by Ressler *et al*. [19], outlined in Table **1**, suggests that all voluntary categories, as well as most of the involuntary ones, could potentially be prevented at the program level. This point is illustrated by the following two cases, from Rwanda and Indonesia, respectively.

Case Study 1

> *Experience post-1994 genocide in Rwanda demonstrates that separation is preventable, even in the most complex and dire of situations. World Vision staff in the North Kivu province of then Zaire identified that one of the leading causes of voluntary child separation was lack of access to food among the newly-arrived Rwandan families. This was done by observing the process of abandonment by parents and subsequently discussing with these parents the factors informing their decision to entrust their children with the humanitarian community. World Vision then managed to prevent further separations by providing food support. This realization also supported the return and reintegration of already separated children to their families*. [45]

Case Study 2

> *In Indonesia, after the Indian Ocean tsunami and earthquake of 2004, considerable attention was given to the issue of institutional care, as the number of Panti Asuhan (children's homes/orphanage) grew exponentially. While international agencies addressing child protection needs in Aceh responded by giving cash grants to households to try to ensure families stayed together, some overseas donors, individual givers, and the government were supporting institutional care.*
>
> *The Ministry of Social Affairs with support of "Save the Children" conducted research, which found up to 97.5% of children placed in residential care in the aftermath of the tsunami in Aceh had been placed there by their families. The research found that if funding had been directed at helping families and communities rather than institutions, most girls and boys placed in institutional care could have remained at home. It also highlighted the costs of supporting institutional care, which was far higher than the costs of supporting families directly* [46].

As these cases illustrate, efforts to prevent separation need to be grounded in an understanding of the root causes, context, and prevalence of separation, as well as characteristics of children already separated. As discussed below, a public health approach helps enable this understanding.

This paper argues that a public health approach can help to fill the prevention gap in addressing child-family separation in humanitarian settings. Public health approaches provide programmers with tested measurement and programmatic approaches to prevention, particularly primary prevention, at the population level [47, 48].

METHODS

In making a case for a more robust prevention focus in the child protection sector, the paper begins with an interpretive analysis of what is meant by a public health approach to measurement. This entails an examination

of different conceptualizations of public health approaches to measurement that are prominent in the public health literature and the work of key public health agencies such as WHO and CDC. It includes a contrast with individualized medicine and a critical analysis of measurement within the discipline of public health, highlighting its strengths and potential pitfalls when applied to child-family separation.

The second part of the paper analyzes how a public health approach can be applied to the issue of child-family separation in humanitarian settings. It provides a comparison of the case-based versus public health approaches to measurement and their implications for child protection programming. This section analyzes the added value that a public health approach can bring to the child protection sector, primarily in terms of supporting population-level measurement to inform preventive work.

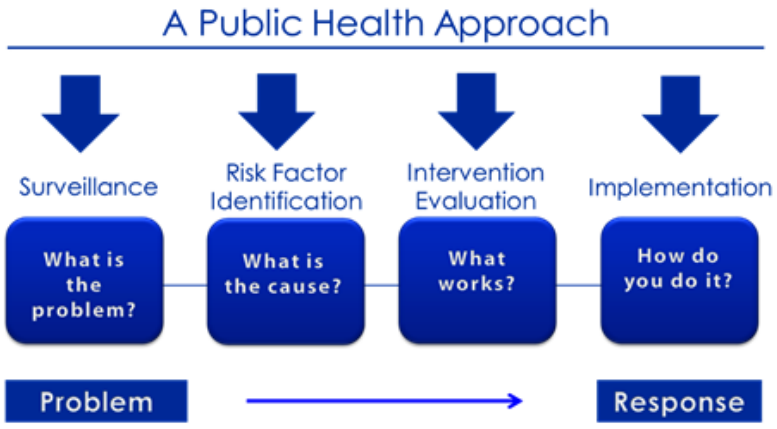
The third part of the paper develops a logical case in favour of a holistic approach to the measurement of, and programming for, child separation. It argues that case-based and public health approaches are complementary concerning understanding and addressing the separation of children in humanitarian crises in a manner that balances response and prevention.

A PUBLIC HEALTH APPROACH

The CDC defines public health as "the science and art of preventing disease, prolonging life, and promoting health through the organized efforts and informed choices of society, organizations, public and private communities, and individuals" [49]. In defining their approach to violence prevention, the CDC and the World Health Organization suggest that public health is concerned with providing the maximum benefit for the most significant number of people [50, 51]. This does not imply that public health ignores the care of individuals, but instead aspires to extend better care and safety to entire populations [52]. While there is variability in how public health is defined by different actors and sectors, there is consensus regarding the focus on the population, as opposed to individuals [49, 51, 53, 54].

The Centers for Disease Control and Prevention [49] describes a public health approach as incorporating four main steps from problem definition to response (see Figure **1**).

The value of a public health approach to prevention becomes evident when contrasting it with a medical approach. Medicine, as a science and practice, predominantly looks at health from the perspective of the individual. A doctor or a nurse works with the individual to alleviate his or her pain and suffering resulting from a disease or other health conditions. In contrast, the entry point of public health is the population. The American Public Health Association explains that public health “deals with health from the perspective of populations, not individuals” [55]. Population, however, includes sub-groups within a broader population [50]. This can be the whole society, a community, or a group or subgroup among the



Source: CDC. Public Health 101 Series. 2018

Figure 1: A Public Health Approach.

population. The public health approach complements the individualized lens of the practice of medicine by recognizing the centrality of the social, contextual, and relational aspects of health and wellbeing [56] of groups and populations.

According to the Centers for Disease Control and Prevention [57], 25 of the 30 years added to average life expectancy in the United States during the 20th century are attributable to advances made in public health. Only about five of the 30 years are due to medicine. This significant contribution is owed to the emphasis in the public health sphere on primary prevention at the population level [58]. Evidence supports a clear link between an increase in public health spending and a decline in preventable diseases [59-61].

Primary, Secondary, and Tertiary Prevention

Both medical and public health professionals implement some form of prevention in their work, though they do so in different ways. These differences become apparent in considering primary, secondary, and tertiary prevention [62]. Primary prevention is the main emphasis of public health, while secondary and tertiary prevention is often applied by medical professionals. Primary prevention is characterized by intervening before an adverse health outcome occurs or becomes imminent by addressing known risk factors and strengthening protective and promotive factors linked to the condition [62-64]. Examples of addressing risk factors include administering vaccinations, altering risky behaviours (poor eating habits, tobacco use, etc.), and banning substances known to be associated with a disease. Promoting an active lifestyle, such as walking or biking instead of driving, is an example of strengthening protective factors.

Secondary prevention attempts to identify and halt the development of diseases in the earliest stages or before the onset of signs and symptoms [62-64]. Frequently used steps in secondary prevention include screening measures, such as mammography and regular blood pressure testing, that guide appropriate preventive interventions. Tertiary prevention is linked to the management of the health condition post-diagnosis, to decrease the risk of disease progression or reoccurrence and address the risk of long-term effects on the individual, such as disability [62-64]. This is in addition to addressing the immediate symptoms of the disease, which constitutes a curative response.

Measurement in Public Health: Strengths and Potential Pitfalls

The population focus is evident in public health approaches to measurement. Public health incorporates five core sciences, including public health surveillance and epidemiology [49].[2] WHO [65] defines public health surveillance as “an ongoing, systematic collection, analysis and interpretation of health-related data essential to the planning, implementation, and evaluation of public health practice.” Within the public health discipline, qualitative methods complement and enrich quantitative methods [66]. The information produced by public health surveillance is used to guide prevention and response efforts in health-related crises [67].

Despite the strengths of a public health approach regarding prevention at the population level, the adoption of a public health approach can have potential shortcomings. Some public health work has privileged more positivist approaches, such as epidemiology, which relies heavily on quantitative methods to study the distribution of health phenomena and their determinants in a population. Sole reliance on quantitative epidemiological methods will not be able to capture the diverse forms of separation, the context-specificity of separation or the nuances of separated children’s lived experiences. The approach may also come up short in clarifying the nexus of beliefs, social norms, and practices that work to perpetuate separation and/or obstruct its prevention. To achieve a more comprehensive approach, the field of public health frequently uses mixed methods. Myriad examples in the public health literature show how complex research questions can be answered effectively through a combination of quantitative and qualitative methods [27, 68-71].

Another potential pitfall is the use of universally defined constructs with limited flexibility for contextual adaptation. The lack of adequate contextualization of a construct can lead to an incomplete picture of complex social phenomena, such as drug or alcohol abuse, health-seeking behaviours, hand washing and general hygiene, and so on. Separation, too, is a complex construct. If it were operationalized only based on global definitions and understanding, researchers might

[2]The other three are: Public Health Laboratories, Public Health Informatics, and Preventions Effectiveness.

fail to develop a full understanding of separation in a particular context and of how it can be prevented and responded to effectively. To navigate these challenges, the following sections present a contextualized, mixed methods, public health approach to understanding, responding to and preventing separation.

A Public Health Approach to the Problem of Separated Children

A public health approach to child protection entails a focus on protection at the population level with a strong emphasis on primary prevention. Applied to the problem of separated children, a public health approach would,

- examine closely the context of the separations,
- identify multiple separation causes and sub-groups, using population-based measurement approaches,
- address the root causes of separation, and
- guide humanitarian action that reduces risk factors and strengthens protective and promotive factors related to separation at the population level.

Applying Primary, Secondary, and Tertiary Prevention to Separation

The core idea of a public health approach—focusing on prevention and response at the population level—applies readily to issues of separation in humanitarian settings. Primary prevention entails first identifying which factors contribute to or mitigate the risk of separation in a particular humanitarian context and then addressing those factors to reduce the incidence of separation in the affected population. For example, if in a specific context, poverty, lack of access to school, and seasonal floods have been associated with the separation of children between 13 and 17 years of age, steps to reduce those risks would constitute a primary prevention intervention. Concurrently, if positive parenting were a protective factor that mitigated the risk of separation, promoting positive parenting at the population level could contribute to the primary prevention of separation.

Secondary prevention, when applied to separation, addresses the vulnerabilities of children and families who are identified as being at high risk of separation due to characteristics of the children or to aspects of the family, community, and/or broader social environments or interactions across these different levels. Tertiary prevention of separation can be conceptualized as efforts to reduce the short- and long-term impact of separation on children who have already been separated from their caregivers, including the risk of secondary separation and/or other types of harm (e.g., recruitment into armed groups or trafficking). This is in addition to the efforts to reunify those children and/or place them in a family-based alternative care setting, which constitutes responsive measures.

The power of primary prevention lies in part in reducing the need for responsive as well as secondary and tertiary prevention services. It also eliminates some of the suffering associated with high levels of vulnerability and separation.

A Contextualized Approach to Defining Separation

An essential first step in measuring separation is to define the term and unpack some of its complexities by, e.g., identifying some of the different sub-groups that may exist in a population. Global definitions, such as the IASC definition outlined above, can suggest that separation is a unitary, homogeneous construct. In reality, the categories of UASC include significant diversity regarding sub-groups of children, the causes of their separation, the current conditions of the children, the lived experience of children, and the short- and long-term consequences of separation.

Ressler *et al*. [18 p115] identified nine categories of separation, divided into voluntary and involuntary types (see Table **1**).

As suggested by Table **1**, children become separated under a variety of circumstances and for different reasons [44, 72]. Some children are accidentally separated from their usual caregivers (for example, during population movements), while others are separated voluntarily—either of their own will or by that of their caregiver(s) [20]. Children can also become separated forcibly, as in the case of forced recruitment into armed groups. Voluntary separations may occur as an unintended consequence of poorly-designed humanitarian interventions, such as targeting of relief items only for separated and unaccompanied children, or the provision of residential care facilities or other services that exclusively target separated children [19-21, 30, 73]. For example, in post-genocide Rwanda, a sudden increase in the number of existing institutions created a “pull factor” by incentivizing the

Table 1: Categories of Parent/Child Separations

Involuntary Separation: Against the Will of the Parents	
1. Abducted:	a child involuntarily taken from parent(s).
2. Lost:	a child accidentally separated from parents.
3. Orphaned	a child whose parents are both dead.
4. Runaway:	a child who intentionally leaves parents without their consent.
5. Removed:	a child removed from the parents as a result of the loss of suspension of parental rights.
Voluntary Separation: With the Parent's Consent	
6. Abandoned:	a child whose parent(s) has deserted him [or her] with no intention of reunion.
7. Entrusted:	a child voluntarily placed in the care of another adult, or in an institution, by parents who intend to reclaim him [or her].
8. Surrendered:	a child whose parents have permanently given up their parental rights.
9. Independent:	a child living apart from parents with parental consent.

Source: Ressler *et al*. 1988, 115.

abandonment of children by parents who were unable to provide for their children [74, 75].

In other situations, the lack of attention and/or proper documentation by medical personnel may hinder the return of a child to his/her family upon release from medical facilities. Marie de la Soudière, a veteran of child protection in humanitarian action, believes that up to 80% of approximately 5,000 separations that took place during the 2017–2018 post-election violence in Kenya were linked to families' decisions to make education available to their children [76].

Some cultures consider certain types of voluntary separation as protective measures, while others may regard them as a violation of child rights. For example, in Haiti, an estimated 150,000 and 500,000 children are subjected to the practice of restavèk [77]. Many families of restavèk children would argue that their children are sent to live with more affluent families as a protective measure. While one may disagree with this practice, it attests to the complexity of the construct of separation and the importance of understanding it in context.

That the causes and impact of separation vary significantly according to the context cautions against rigid, universalized constructions of the phenomenon of child-family separation. This more contextual, variegated perspective on separated children invites an analysis of root causes, context, and separated children's lived experiences. This kind of study, which is based on both qualitative and quantitative methods, helps to guide practical efforts toward sustained family reunification and more effective preventative measures.

A Public Health Approach to Measuring Separation

Reliable evidence to effectively identify program needs and tailor child protection programming approaches are rarely available in emergency contexts [10, 25]. Therefore, many child protection interventions are not based on a systematic, rigorous analysis of the situation and needs, vulnerabilities, and capacities of children and their families [7, 78-80]. Even when child protection issues are identified, the scale and distribution of needs remain unknown to programmers and policymakers [81]. While some measurement approaches have been developed specifically to measure separation in emergencies [27, 82, 83], they are not used systematically. Identifying root causes and determinants of separation, which can inform primary prevention, is also mostly absent from extant data collection approaches.

In developing a public health approach to measuring separation, methods of measurement can be borrowed and adapted from the core sciences of public health [49]. In fact, there are many examples of such efforts in the field of child protection [27, 82, 84-86]. Public health surveillance systems provide a wealth of theoretical and practical lessons from a variety of settings regarding how to monitor trends and patterns of complex social phenomena at the population level. These include analysis of context, root causes, incidence, and short- and long-term consequences of harm or an adverse condition.

Regarding separation in humanitarian settings, a public health approach to measurement offers distinctive value-added in several respects. As discussed above, qualitative methods applied at a

population level can help to illuminate the situation and lived experiences of different categories of separated children, while informing subsequent quantitative measurement efforts. At the same time, quantitative methods can provide a picture of how widespread problems are in a population.

The value-added of a public health approach to measurement becomes most apparent in contrast to case-based measurement, which is currently the most widely used measurement approach. The case-based measure aims to identify individual cases of separated and unaccompanied children and is useful mainly concerning response and secondary and tertiary prevention for individuals. In contrast, by emphasizing population-level measurement, public health approaches provide a much-needed understanding of prevalence, trends, and patterns, including root causes and protective factors. Efforts such as enumeration, screening, and case-finding for UASC belong to the case-based measurement category, as they aim to identify individual children who have already been—or are at very high risk of being—separated. Assessments, estimation, and population monitoring belong to the population-based category.[3] They do not necessarily attempt to identify individual cases, though that can be a positive consequence of the process. Overall, a public health approach could help to enable the population-based measurement to generate information that the child protection sector needs to fill its prevention gap and continue its processes of maturation and its increasing use of robust evidence.

A Holistic Approach to Measuring and Addressing Separation of Children from their Caregivers: Towards More Effective Practice

Case-based and population-based approaches are complementary and are useful when applied appropriately and in tandem. Case-based measurement can provide pertinent information on the vulnerabilities and needs of specific children and/or their families that may require support. This can, for example, ensure identification of separated and unaccompanied children, and those at higher risk of separation, so their immediate needs and heightened vulnerabilities can be addressed. Population-based measurement provides programmers with much-needed information on the scale, patterns, and trends which can be essential to program planning, fundraising, and advocacy, as well as efforts to prevent new, unnecessary separations. While these approaches employ different methods, a combination of techniques can provide a comprehensive approach that is needed. In protracted humanitarian contexts, it is particularly important that population-level monitoring systems are implemented to capture the changing nature of separation, the underlying causes, and the characteristics of those impacted. This will ensure the continued relevance of interventions.

Learning from the public health sector, a holistic approach to measurement and programming for separation seeks to identify and address the unique needs of children who are separated or made unaccompanied, while also addressing the root causes of separation at the population level. In essence, it attempts to address the problem of separation from both preventive and responsive perspectives. A holistic approach promotes primary, secondary, and tertiary prevention, coupled with effective, responsive services for those already separated from caregivers.

A Framework for a Holistic Approach to Measurement of Separation

It is beyond the scope of this paper to formulate specific guidance on the measurement of separation in humanitarian action, which is best achieved using inclusive, inter-agency and multi-context dialogue and consensus. However, it is useful to identify some of the practical implications of the analysis presented above. Below is a three-step outline of a measurement framework, together with examples that draw extensively on a public health approach. The outline that follows assumes the context of a protracted emergency.

The first step is to define separation contextually. This entails understanding child care in context and how family units are defined, including the boundaries of extended family. It requires an appreciation of what communities do when families are unable or unavailable to protect their children, including how customary care is understood and practised. This involves an analysis of what types of separation are considered by the families and communities as protective or beneficial for children. It also warrants an analysis of existing laws related to child-family separation and care. Qualitative methods of inquiry should be employed to this end.

[3] 'Monitoring' is used in place of the term "surveillance." The term 'surveillance' is more commonly used in public health.

Part of this work can take place in the preparedness phase of humanitarian intervention. Methods used within public health for the study of complex social phenomena, such as health-seeking behaviours, can be adapted to this purpose [87, 88]. Birnbaum *et al*. [89] conducted a grounded process of inquiry in Rwanda to determine how Congolese refugee communities define acceptable customary caregiving arrangements. While caregiving is only one component of the definition of separation, the process they used as well as practical tools they developed can guide the development of similar approaches to contextually define separation in a humanitarian context.

The second step is to assess the scale, characteristics and root causes of the issue, including risk and resilience factors. This should ideally be followed by setting up a population-based monitoring system that can provide up to date data to programmers. During an upsurge of adversities in a protracted context, a snapshot will be required as a baseline for programming and trend monitoring, which can be achieved through a survey. This snapshot should be followed by the establishment of a monitoring system that can continually provide data to inform the analysis of changes in the nature and manifestations of separation. Methods used for this aspect must not only provide data on prevalence and incidence, but also generate information on root causes and characteristics of those being affected, such as age, gender, ethnicity, and special needs. Therefore, a mix of qualitative and quantitative methods of inquiry is needed. Identification of root causes must include both risk and resilience factors. Identifying root causes can be done through the analysis of a mix of primary and secondary data.

Stark *et al*. (2016, 2018) [27, 82], developed and tested an approach that used rigorous research methods that generated reliable estimates of the prevalence of separation and basic characteristics of separated children. The methodology can be adapted and used in different contexts to help assess the scale and characteristics of separation in a relatively prompt fashion. The Deinstitutionalization of Orphans and Vulnerable Children in Uganda (DOVCU) project [90, 91] documented a participatory process of defining and prioritizing vulnerabilities that can lead to child-family separation. The Accelerating Strategies for Practical Innovation & Research in Economic Strengthening (ASPIRES) has also developed effective ways of assessing and addressing vulnerabilities to inform reintegration and prevention of unnecessary separations [92, 93]. Rubenstein *et al*. [86] documented the process of setting up and managing an active monitoring/surveillance system that is rooted in the community and linked to services. It is likely that a combination of methods used in these examples will provide the most holistic overview of the issue of separation.

The data from step two would be used by practitioners to implement a mix of preventative and responsive programs. The third step will be to evaluate the effectiveness of programs responding to the separation of children from their caregivers and preventing new child-family separations. This step requires defining measurable indicators and establishing clear goalposts in response to both baseline data and information on patterns and trends of separation. Defining such indicators and goalposts for prevention of separation might be this step's most challenging aspect. While these should be explored locally, some tools and approaches exist within the health sector that could inform this step. For example, the "Lives Saved Tool" is used to estimate mortality prevention when introducing or scaling up maternal, newborn, and child health (MNCH) interventions. Such widely used approaches can provide well-tested structure for similar measurement of separations averted through preventative programs.

Canavera *et al*. [85 p7] developed and piloted a "rigorous, population-based survey to monitor the performance and effectiveness of the child protection system at a decentralized level." This model has been tested in selected districts in Senegal and Côte d'Ivoire [85, 94]. In the first step of this process, ethnographic interviewing methods were used to determine contextualized definitions of child protection and well-being, as well as child protection risks, and protective factors and assets. They used the contextual insights that emerged from the ethnographic interviews to inform their survey instruments. The survey component used a multi-stage sampling frame that produced representative data at the level of each department. This model can also be adapted and complemented with other relevant approaches to support the evaluation of prevention and response programs.

DISCUSSION

A public health approach to measurement and programming can transform the way child protection actors address child-family separation in humanitarian

crises. Public Health's clear orientation towards measuring and addressing issues at the population level, coupled with its multi-disciplinary nature, can bring significant value added to the child protection sector. When adapted and contextualized, public health methods enable measurement of prevalence and nature of separation at a population level, which helps both programmers and donors to act in a manner that is proportional to the magnitude and nature of the problem. It provides a careful analysis of the context, enabling contextually relevant humanitarian action. It identifies root causes as well as protective and promotive factors that can guide efforts at primary prevention at the population level. And it supports establishment of monitoring systems that can continually inform and improve programs. Collectively, this not only fills the previously identified gaps in current practice but also points the way toward a new era of measurement and action that stands to improve the lives of children.

Different types of humanitarian settings may require different approaches to measurement according to considerations such as the phase of the emergency, access, and movement of the population, among others. More similarities than differences exist across humanitarian crises in terms of information needs and applicable methods, but contextualization is necessary to ensure relevance. While the framework presented above is not to be taken as established guidelines, it provides a solid foundation to build upon. It must be further developed and tested in a variety of humanitarian contexts.

Much remains to be learned about how best to implement a public health approach and its feasibility in different humanitarian contexts. In some settings, it may not be possible to implement all aspects of a public health approach at the programmatic level. However, even a partial application of a public health approach can help gauge the scope and severity of the problem and provide valuable information to guide both preventative and responsive efforts, as well as the funding they require. It may also reveal trends and patterns that can help in conducting targeted advocacy with non-state actors for an end to recruitment and use of children.

There is scant literature on the cost-effectiveness of taking a public health approach to child protection in humanitarian settings. While convincing evidence supports the cost-effectiveness of preventative approaches in the area of public health, the same has not been established for the child protection sector [95-99]. Therefore, systematic evidence is needed to support an economics argument for primary prevention, both from cost-effectiveness and human capital perspectives. This evidence is fundamental for stimulating increased investment in this area. In developing public health approaches to child protection in humanitarian settings, it will be important to take an orientation of ongoing learning, using implementation science to strengthen the evidence-base and the feasibility of the approaches.

To be more effective, humanitarian action requires a multidisciplinary approach to the prevention of harm to children. Efforts to support vulnerable children must ultimately be as holistic as are the causes of their vulnerability.

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Received on 17-01-2020 Accepted on 25-02-2020 Published on 16-03-2020

https://doi.org/10.6000/1929-4247.2020.09.01.5