Ethics for Humanitarian Innovation

Background paper

Version 1.0

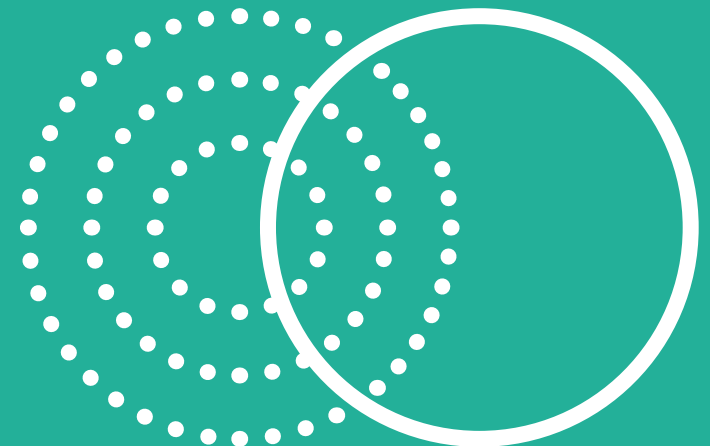Created by

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hhe humanitarian health ethics
reflecting on ethical practice

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About the Ethics for Humanitarian Innovation background paper, case studies and toolkit

Ethics for Humanitarian Innovation is designed to help organisations, teams, and individuals manage their innovation journeys responsibly and successfully. By working through the tools and real-world case studies, anyone looking to innovate as part of a humanitarian response can make sure their values and principles are at the heart of their journey. The Background Paper serves as a guide to the methodology and evidence that informed the *Ethics for Humanitarian Innovation* toolkit design and development.

About ELRHA

We are a global charity that finds solutions to complex humanitarian problems through research and innovation.

We fund and support work that shapes how people across the world are supported during a crisis. As an established actor in the humanitarian community, we work in partnership with humanitarian organisations, researchers, innovators, and the private sector to tackle some of the most difficult challenges facing people all over the world. Our shared aim as collaborators is to improve the effectiveness of humanitarian response.

The innovations we fund through our Humanitarian Innovation Fund (HIF) target better outcomes for people affected by humanitarian crises by identifying, nurturing and sharing more effective and scalable solutions. We have supported more than 200 world-class research and innovation projects, championing new ideas and different approaches to find what works in humanitarian response.

About humanitarian health ethics

The Humanitarian Health Ethics (HHE) research group is a leading research collaborative, which for over a decade has been conducting rigorous studies and capacity building initiatives, and developing ethics guidance. Our research benefits humanitarian and military healthcare practitioners, organisational policymakers, aid agencies and recipients of aid.

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This project was initiated by Elrha and undertaken by members of the HHE. The background paper, case studies and toolkit represent the work of an interdisciplinary team of researchers and practitioners with real-world experience of humanitarian practice and humanitarian innovation, including:

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Introduction

Introduction

During the first decades of the 21st century we have witnessed a consistent increase in humanitarian need, while the nature of crises has only grown more complex in the face of turbulent geopolitical events and climate-related changes. Yet despite this, humanitarian funding has not seen a corresponding rise, resulting in already inadequate institutional budgets being stretched even further.

In response to these challenges, innovation has been seen as a mechanism to reinvigorate the sector: to make better use of slim resources and adapt to the changing landscape of needs. We know that countries that consistently invest in innovation, research and development of new products, processes and services are more productive and adaptive. Unfortunately, spending on research and development across the humanitarian sector remains low, although many humanitarian organisations have incorporated an explicit focus on innovation in their mandates. Elrha's Humanitarian Innovation Fund (HIF) was one of the first to establish a programme focused exclusively on humanitarian innovation; Médecins Sans Frontières (MSF) established the Transformational Investment Capacity (TIC); and various UN agencies have built up innovation hubs over the years.

With this proliferation of innovation-focused entities, there has been a growing awareness of the many ethical challenges which might be encountered during a humanitarian innovation journey. The risks and potential harms generated by introducing new actors, technology and 'innovation' to humanitarian settings are attracting greater attention, creating a need to explore our values and the appropriate parameters more thoroughly.

While there are well-established humanitarian principles, standards and codes of conduct that go some way to address this need – including the Humanitarian Principles, Core Humanitarian Standard, and ICRC Code of Conduct – the 'moral compass' of practitioners varies across organisations, contexts and cultures. Furthermore, humanitarian innovation has fallen into a liminal space between research and routine practice, with confusion over what ethical standards and governance mechanisms might apply (Hunt 2018). As a result, the ethics of humanitarian innovation is a complex and contested terrain, and there remains little guidance for responsibly, effectively and ethically engaging in this evolving practice.

Elrha is committed to responsible research and innovation within the humanitarian system – working in accordance with robust and relevant ethical frameworks. While ethics *in research* are well established and extensively documented, Elrha takes that good work and applies it to humanitarian settings, providing guidance through our Research Ethics Tool. Elrha has also engaged in efforts to draft new principles for ethical humanitarian innovation, led by the Refugee Studies Centre at the University of Oxford, and drawn from the ethics framework developed by MSF.

But principles and frameworks alone are not sufficient. The sector needs targeted, practical tools and real-time support that fit the dynamic and non-linear nature of humanitarian innovation.

Ethics for Humanitarian Innovation aims to fill this gap, providing a clear and evidence-based ethical approach

to humanitarian innovation that draws upon ethical theory and existing ethics resources. Led by Humanitarian Health Ethics (HHE), evidence-generating studies informed early versions of the toolkit, which was later iterated through extensive workshops and consultations within the HIF team, current and prospective HIF grantees, and other humanitarian sector stakeholders. This new resource is designed to complement Elrha's wider investments in support of innovation skills and capabilities, including our Humanitarian Innovation Guide, as part of the broader collaborative agenda to address the ethical challenges of humanitarian innovation.

This paper presents the mixed-methods approach and multi-step design process undertaken to develop the toolkit and case studies. These resources are designed to help organisations, teams and individuals responsibly manage humanitarian innovation projects. The toolkit prepares innovators for the ethical dimension of their activities and actions throughout the innovation journey and helps them navigate ethical challenges as they emerge. However, it does not in any way eliminate the need for robust ethical strategies or approval processes. Instead, it strongly supports the notion that we need careful ongoing attention to ethical issues rather than a few isolated points of scrutiny.

We want to see innovators inspired by their values to develop and implement creative new solutions that benefit people affected by crisis. We want to see ethics embedded deeply in innovation practice, with routine consideration of ethics in everyday actions, project plans and wider organisational policies and practices. And we want to see robust consideration and articulation of ethical decisions, opening up space

for a productive conversation in situations of significant risk. *Ethics for Humanitarian Innovation* is designed with all this in mind, and we are excited to work with our HIF grantees and other stakeholders to put it to use and continue its development.

Research methodology

Research methodology

The research phase of the *Ethics for Humanitarian Innovation* project employed a mixed-methods approach, including a literature review, key stakeholder interviews, a series of workshops and webinars, and the development of several case studies. A further investigation was conducted later in the research process to inform the development of the **Values Clarification Tool**. The following sections provide a brief overview of the methodologies.

Literature review

The literature review sought to identify what is currently known about the ethics of innovation in humanitarian contexts. This review methodology was determined to be the most suitable approach to the exploratory question guiding this research, and the most streamlined way to develop an understanding of an area, and mapping its complex data sources (Arksey & O'Malley, 2005). We identified literature through the following approaches:

— searches for peer-reviewed academic literature across six databases
— documents collected by our team or provided by key informants
— documents identified through the reference lists of other sources
— targeted searches of key interagency and organisational websites
— focused Google searches using incognito* and search strings related to 'humanitarian', 'innovation', and 'ethics'.

Three independent reviewers removed duplicates and reviewed titles and abstracts. With a fourth reviewer to help resolve discrepancies, they then selected the articles for inclusion. A total of 76 documents were retained for analysis.

As the development of resources for *Ethics for Humanitarian Innovation* progressed, it became necessary to pursue a more focused identification and analysis of normative statements of ethical values. This prompted the team to undertake the critical interpretive review.

The questions asked during the analysis and organisation of all the collected material were as follows:

— How is ethics framed in the literature on humanitarian innovation?
— What ethics guidance and resources have been developed?
— What recommendations are given for developing additional ethics guidance?
— What ethical issues are discussed concerning different stages of the innovation cycle?
— What overarching ethical issues are highlighted in the literature on humanitarian innovation?

Introduction

Research methodology

Findings

Development

Discussion

Limitations

References

* Incognito is Google Chrome browser's private mode, which enables searches to be conducted unaffected by a user's previous searches, site visits or use patterns.

Key stakeholder interviews

This component of the study aimed to explore humanitarians' experiences and challenges with innovation; identify best principles for practice; and begin defining humanitarian innovation from an ethical standpoint. The researchers employed a 'qualitative description' methodology (Sandelowski, 2000) and conducted 40 key stakeholder interviews recruited through a purposive snowball sampling[**] method while simultaneously engaging in analysis. Participants included representatives from the UN system, international and local NGOs, government and academia, with varying degrees of engagement and understanding of humanitarian innovation.

Workshops and webinars

Throughout the development of the *Ethics for Humanitarian Innovation* toolkit, several face-to-face workshops were held with innovators in Manila, London, The Hague, Amsterdam and Munich, as well as two online webinars. In total, the researchers engaged with over 50 innovation teams (over 100 individuals). These events provided further opportunities to hear from innovators about their experiences and receive input on draft versions of the toolkit components.

Feedback from these workshops was gathered in several ways: end of session 'sticky note maps' indicating what worked and what needed improvement; one-to-one in-person discussions or email correspondence; and feedback surveys. While it was recognised

that this was a relatively informal and non-standardised approach to gathering feedback, it did allow for adaptation to different innovation groups, workshop approaches, and settings to encourage dynamic, iterative, and ongoing input from innovators into the toolkit development process.

Case studies

A series of case studies was developed, informed by real experiences of humanitarian innovation. The case studies serve two purposes: first, they helped to inform the development of the toolkit, acting as a sense-check of the tools' logic against real-world innovators' experiences; second, the case studies are included as an essential component of the *Ethics for Humanitarian Innovation* resource. They can be used on their own or in conjunction with the toolkit; as training resources for facilitators to draw on; and as tools to help innovators familiarising themselves with the process of ethical deliberation and decision-making. The case studies also highlight common experiences of ethical challenges within the humanitarian innovation sector and promote a culture of transparent sharing of lessons learned.

[**]   Snowball sampling is a non-probability sampling method where existing research participants or stakeholders identify or recruit additional participants from among their acquaintances in a fashion that resembles a snowball growing as it rolls. In our sample of 40 stakeholders, 24 were male and 16 female.

Findings

Findings

The following two sections – *Existing Ethics for Humanitarian Innovation* and *Ethical Considerations for the HIF Innovation Journey* – present the research findings that were most pertinent for the development of the toolkit. The latter highlights some of the ethical considerations for the stages/activities defined in the Humanitarian Innovation Guide.

Existing ethics for humanitarian innovation

It has been argued that "innovating in [the] absence of ethical standards and principles will undoubtedly cause confusion and inconvenience, waste resources and create additional risk and vulnerability." (Binger, Lynch & Weaver 2015).

The humanitarian innovation community has developed a narrow range of resources to address this criticism. The most common approach has been to discuss the ethics of humanitarian innovation based on principles. Authors commonly draw upon fundamental humanitarian principles (Binger, Lynch & Weaver 2015; Campo et al. 2018; Vinck 2013), the do-no-harm principle (Campo et al. 2018; Cohen 2018; Dette 2018; Raymond 2017; Sandvik, Jacobsen & McDonald 2017), as well as other principles and standards informed by various domains of innovation or 'human-subjects' research. Of those who reference standards of research ethics, some emphasise that components of innovation that constitute research ought to undergo formal research ethics review processes and be held to its standards. Some authors also reference other cardinal documents such as the SPHERE standard, the Red Cross/NGO Code of Conduct, and the Core Humanitarian Standard (Ahsan 2012; Campo et al. 2018; Vinck 2013). Others point to models of research ethics – with their solid grounding and explicit guidelines –

and suggest that innovation needs a parallel structure and approach (Betts & Muller 2015).

In an effort to provide guidance for ethical humanitarian innovation, some groups have articulated more specific principles and norms. Our review found three examples of ethical guidance for humanitarian innovation to be particularly influential:

1. As part of a report for OCHA, Betts and Bloom developed the Framework for Analysing Ethical Principles in Humanitarian Innovation. The framework presents considerations organised by level of impact (individual, community, system), innovation principles, risk and mitigation techniques (Betts & Bloom 2014).

2. MSF developed the Médecins Sans Frontières Ethics Framework for Humanitarian Innovation after recognising that tailored ethics guidance was needed for humanitarian innovation projects. The framework includes six guidance statements for ethical innovation: "Identify the problem you are seeking to address and what benefit you expect the innovation to have…Ensure that the innovation shows respect for human dignity…Clarify how you will involve the end-user from the start of the process…Identify and weigh harms and benefits…Describe the distribution of harms and benefits…Plan (and carry out) an evaluation" (Sheather et al. 2016).

3. A joint Humanitarian Innovation Project (HIP)–World Humanitarian Summit (WHS) workshop, hosted by the Oxford Refugee Studies Centre, led to the development of a set of seven principles under the following headings: Humanitarian Purpose; Primary Relationship; Autonomy; Maleficence; Experimentation; Justice; Accountability (Betts & Muller 2015).

Table 1. A Summary of the key ethical considerations highlighted in the collected texts, presented across the stages/activities of the HIF Innovation Guide innovation process

	Key ethical considerations
Recognition	Consideration of sociopolitical (and historical) determinants of the problem; Who has a stake in solving the problem and/or maintaining status quo? (Sheather et al. 2016; Redfield & Robbins 2016)
	Consideration of power dynamics; Who is holding space for whom, how is participation challenging or concealing substantive inequities? (Sandvik 2019; Betts & Bloom 2014; Johnson 2011)
Search	Consideration of previous attempts, and checking assumptions around the novelty of a problem/solution (Ramalingam, Scriven & Foley 2009)
	Consideration of context-specific, indigenous knowledge and solutions, avoiding techno-solutionism (Raymond & Harrity 2016; Hayes 2017; Betts & Bloom 2014)
Adaptation	Consideration of moral alignment between inventor/initial use and adapter/user [as in the case of military unmanned aerial vehicle (UAV) technology being used by humanitarian NGOs] (Fukugawa 2018; Kaplan & Calabria 2016)
	Consideration of contextual specificity and imposition of western ideology/technology (Dette 2018; Axworthy & Dorn 2016)
Invention	Consideration of neophilia and donor influence on the direction of innovation programmes and interest (Obrecht 2017; Ramalingam et al. 2009)
	Consideration of how novel inventions may 'disrupt' systems in a negative sense, and the distribution of costs and benefits (Madianou 2019a; Obrecht 2017; Sandvik 2017; Betts & Bloom 2014)
Pilot	Consideration of risk aversion and risk transfer from donors to affected populations arising from experimentation (Hunt 2018; Sandvik, Jacobsen & McDonald 2017; Blunt 2015; Bloom 2014; Ramalingam, Scriven & Foley 2009)
	Consideration of what failure entails, what a 'good' or 'ethical' failure looks like, and how to communicate failure to foster learning (Sandvik 2017; Obrecht 2016; Sheather et al. 2016; Blunt 2015)
Scale	Consideration of scale as a primary metric of success in humanitarian innovation contexts (Sandvik 2017; Ramalingam, Scriven & Foley 2009)
	Consideration of cultural specificity, ownership of indigenous knowledge when used in new contexts, and distributive justice (RIL 2020; Scott-Smith 2017; Schwittay 2014)

Ethical considerations for the HIF innovation journey

Ethical issues arise at all stages of the innovation journey. The Humanitarian Innovation Guide stages/activities (Search, Recognition, Adaptation, Invention, Pilot, and Scale) have been developed iteratively through consultation with the wider humanitarian innovation literature (Elrha 2018) and strongly align the most commonly articulated activities that we saw across reviewed texts. Remaining cognizant of the fact that the actions associated with each stage/activity may occur in iterative, non-linear, and/or compounding pathways, we used the HIF stages/activities as an organising logic for the ethical considerations presented in the collected literature. This is followed by a brief presentation of the existing ethics resources identified in the collected texts and concludes with a summary table of the findings.

Recognition

Recognition focuses on the identification and framing of a specific problem or opportunity to be addressed by an innovation process (Ramalingam, Scriven & Foley 2009; Elrha 2018). Sheather et al. (2016), writing on the ethical significance of problem definition, asks, "rather than focusing on technocratic fixes, what are the socio-political determinants of the problem and the wider possibilities for solutions? Who has stakes in finding a solution and who may have interests in perpetuating the problem?" Redfield & Robbins (2016) focus on how water and sanitation problems have been framed as humanitarian and global ecological issues "to be solved through private initiative and technological innovation" by western and philanthropic foundations, and how these problem formulations

are often blind to cultural, historical and contextual factors, stating that "their formulation of the problem floats free of any specific legacy of the past…it focuses on health metrics and norms projected into life expectations at a global scale." Sandvik (2019) clearly articulates why this is cause for ethical concern: "inadequate problem definitions mean that technological solutions may fail to respond to the real-life problems they have been deployed to deal with. One common reason for faulty problem definitions is that affected populations are often absent from innovation processes: they are not properly consulted or invited to participate in any meaningful way." Sandvik also reveals something about who holds power and space in the humanitarian innovation sector in using the terms "properly consulted" and "invited to participate in a meaningful way".

Throughout the collected literature, problem recognition/identification is situated at the start of the innovation process (Ramalingam, Scriven & Foley 2009; Sheather et al. 2016; Coletti et al. 2017; Elrha 2018), where 'participatory methods' (Betts & Bloom 2014; Betts & Muller 2015; Binger, Lynch & Weaver 2015; Scott Smith 2016), 'user-centred design' (Betts & Muller 2015), or other similar approaches are seen as the key to ethical, accountable innovation processes. Scott-Smith (2016) considers the question "who is 'humanitarian innovation' really for" and suggests that "it is often the humanitarian community rather than the beneficiary community who request, drive, and benefit from the innovation, which is a serious ethical challenge to the movement as a whole." In such scenarios where humanitarians are innovating "on behalf of others", Scott-Smith (2016) suggests that 'bottom-up' or participatory approaches should be a baseline ethical requirement in order to avoid exacerbating existing power disparities. However, several other sources have highlighted that

Introduction

Research methodology

Findings

Development

Discussion

Limitations

References

the simple "fact of participation or inclusion", as Johnson (2011) writes, "does not always equal meaningful power. In some instances, these rituals of participation, in fact, conceal substantive inequalities." In fact, many of these participatory approaches often begin with 'humanitarians' (read as western, external actors) identifying an opportunity for innovation and then seeking to engage affected populations: "the needs of the affected community are supposed to be the central focus, however, the way the system is designed to operate, it takes away the attention from the people [and shifts the focus] to processes and numbers" (Kumar & Vidolov 2016). Betts and Bloom (2014) echo this concern, adding that "bottom-up, or, community-centred, approaches are not a new idea for humanitarian work" and "often [fail] because they take information but offer no new solutions".

This concept of 'taking information' feeds into a final theme that arose in relation to the Recognition stage: how affected populations and humanitarian contexts may be conceived of as 'sources' to be tapped for innovative ideas. The seminal humanitarian innovation report from ALNAP (2009) stated that "those with perhaps the most groundbreaking ideas for how assistance is provided, and sufficient knowledge of contexts to understand what will work, are people in the affected states themselves." ALNAP (2009) also called for a more 'porous' boundary between the "humanitarian 'firm' and its 'users'," stating that "such open relationships may be a source of potential innovations, especially as many agencies are increasingly concerned with promoting 'downwards' accountability." However, when done poorly, such approaches can instead lead to "marketisation of poverty risk generation, and instrumentalisation of poor people's social and cultural resources" (Schwittay 2014). As such, some have begun

to replace the extractive 'source' metaphor with 'active partners' (Vogel 2017), which instead positions affected regions and populations "in this global chain of value not only as output and processing but also as subjects/institutions with capacity to innovate and create" (Agathangelou 2017).

Search

The Search stage of an innovation process focuses on the process of canvassing existing solutions that could be used to address the problem that has been identified. These solutions may exist within the local context, be drawn from the humanitarian sector more broadly, or come from other domains of practice (Elrha 2018). Ramalingam, Scriven and Foley (2009) capture the essence of the search stage: "we should always assume that we are not the first one who came up with [an] idea. Instead, we should rather ask the question: what prevented the others from making it happen/or taking it to the next level?" From these descriptions, we see how innately tied Search is to its preceding stage (Recognition) and succeeding stages (Adaptation or Invention). If a problem has been recognised and framed as a technological problem, these parameters may limit where and what type of solutions are searched for. If the search stage is undertaken while bearing in mind the question posed by Ramalingam, Scriven and Foley (2009), one may be more oriented towards existing solutions rather than the creation of novel ones.

The most striking feature of the collected texts in relation to the Search stage of the innovation cycle is that they show how true 'searches' (as defined above) are a rarity. Instead, humanitarian innovation processes often reflect an approach rooted in 'solutionism' (Raymond & Harrity
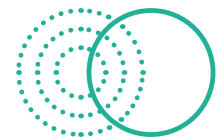
2016; Madianou 2019a; Madianou 2019b). Solutionism is characterised as a "solution looking for a problem" (Hayes 2017), "driven by ideas from outside the affected community or from available products, rather than by the priorities of affected people, resulting in limited or even negative change" (Betts & Bloom 2014). Such an approach fundamentally contradicts the purpose of the Search stage as defined by the HIF, replacing a canvassing of existing solutions with a canvassing of potential problems. Novel information and communications technologies (ICTs) were the most common type of innovation presented in discussions on solutionism, with some authors highlighting how these nascent technologies aim to "gain legitimacy, visibility, and a leg up in the burgeoning business of global emergencies" (Sandvik & Raymond 2017) while promoting and reinforcing existing power imbalances, and "stymieing their ethical application" (Raymond & Harrity 2016). In the Signal Code, Campo et al. (2018) write that "Information communication technologies and data should never be used simply because they can be; the humanitarian need and potential benefits must be clear, causal, and defined." The Signal Code authors focus further on this point, calling the existence of a clearly defined problem and need a critical obligation to avoid blatant solutionism, and stating "if humanitarians cannot determine the humanitarian need that a proposed information activity is intended to address, it is inappropriate for them to engage in such interventions."

Adaptation

Adaptation is often overlooked as an expression of innovation. Yet, as Betts and Bloom (2014) state, "innovation is not the same as invention: it need not involve the creation of something absolutely novel, but often takes the form of adapting something to a different context." When (as it often does if conducted in good faith) the Search stage of an innovation process identifies viable options for adaptation, the ethical challenges that arise are very different to those faced by an innovator who must design a novel product or process to address the identified problem. Some humanitarian organisations have focused on adaptation as their primary approach to innovation – as Ramalingam (2015) writes, "a lot of MSF's role in trying new ideas has not been to invent whole new approaches, but rather to scan the horizon for new approaches and undertake translational research on their efficacy in emergency settings. This can be seen as a valid means by which to overcome the ethical barriers to innovation." However, as Dette (2018) states, "transplanting what works in one part of the world or even [another part of] humanitarian programming is no guarantee for success elsewhere", and there are a number of considerations and ethical challenges associated with adaptation innovations.

The most consistently presented ethical challenge when considering the adaptation of existing tools or processes for humanitarian use is the alignment between the original user/ use and humanitarian principles. As Fukugawa (2018) writes in a reflection on UNICEF's investments in open innovation, "they become more susceptible to external interests that do not share the same moral imperative. Can this moral imperative be sustained as UNICEF continues to expand open innovation? If so, how?" The ethical issue of moral alignment between developer intentions and user application is particularly pertinent when considering innovations that draw a clear lineage to military research and development. Most notable among such innovations are unmanned aerial vehicles (UAV), broadly referred to as drones, as well as remote
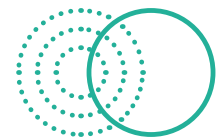
sensing and geospatial technologies. Kaplan and Easton-Calabria (2016) highlight the critical need to engage with the risks posed to humanitarian principles when such military solutions are adapted for humanitarian applications, as well as the importance of separating "tangible risks to humanitarian principles from general unease about certain technologies with military origins, of which there are countless examples in everyday use." The Red Cross and Red Crescent approach to innovation cites the principle of independence as being particularly important to their ability to "work with affected populations to create solutions that are not beholden to other agendas'" (Binger, Lynch & Weaver 2015).

Lastly, adaptation also risks being perceived "as Western-imposed and not organically or indigenously developed," which "may mean that the technology is not adopted, and some projects could become white elephants unless they are carefully planned and managed" (Axworthy & Dorn, 2016). Kreutzer et al. (2020), writing on the adaptation of natural language processing (NLP) innovations, state that "without upfront and ongoing identification of the socio-political complexity that often leads to or accompanies humanitarian emergencies… humanitarians may exacerbate context biases that make a particular group vulnerable." Given that the aim of innovation is to improve the conditions of affected groups, exacerbation of existing vulnerabilities through context-blind approaches can undermine the success of the innovation and the safety of the communities it seeks to serve.

Invention

Invention involves the design and prototyping of novel solutions (Elrha 2018), with the majority of the reviewed texts focusing on 'product' innovations rather than process innovations.

The primary area of ethical concern with regards to the invention stage arises when funders are assessing what is "truly [an] innovation" (Obrecht 2017) based on 'uniqueness'. This often leads to product innovations being seen as the 'most innovative' and therefore most worthy of investment (Obrecht 2017). Some scholars do caution against conflating the metrics of uniqueness and newness with 'innovativeness'. Sandvik (2017) warns against 'fetishising' newness, and Ramalingam et al. (2009) suggest that "novelty should not be seen as good in itself, rather innovations need to be judged on the basis of their contributions to improvements in efficiency, effectiveness, quality, or social outcomes." Obrecht (2017) echoes these concerns of newness as a governing metric of value: "novelty or uniqueness is never a valued characteristic of an innovation in itself: innovators are not engaged in innovation 'for the sake of innovation' but for the sake of achieving broader aims."

Further ethical risks arise when humanitarian innovators, caught in the pursuit of newness, deprioritise representation and participation by failing "to consult or involve the people they are trying to help, which can lead to problems with acceptability and appropriateness, which leads to practical problems as well as ethical ones, deriving from unchecked neophilia" (Scott-Smith 2016). These ethical problems include the breakdown of trust between

the innovator and the primary beneficiaries, who are left "not aware of how technology is being used and its value" (Cornish 2017).

Zara Rahman, quoted in Cohen (2018), cautions against completely ignoring novel innovations, noting that it is "right to consider new technologies" but that "being slow, and thoughtful, and intentional is a key part of doing it right." This recommendation stands in stark contrast to the 'fail fast, fail often' mantra of silicon valley that has been widely criticised for failing to adequately consider the costs (and distribution of costs) of such rapid, successive failure on affected populations (Betts & Bloom 2014; Obrecht 2017; Sandvik 2017; Madianou 2019b). Closely linked to the fail-fast approach is the concept of disruptive (or 'radical') innovation (Obrecht 2017; Sandvik 2017). While disruption may be a key criterion of success in Silicon Valley, Madianou (2019a) believes this aim is ill-suited to the humanitarian context, where lives have already been disrupted, displaced, or destroyed in countless other ways. While we must be careful not to further 'disrupt' the lives of those effected by crisis, the intention of many disruptors is to challenge incumbents by disrupting markets, systems and ways of thinking rather than people. Even so, Madianou's point serves as a reminder of the unintended consequences of untested interventions in humanitarian settings.

Pilot

The Pilot phase encompasses the real-world testing of a potential solution to assess how it functions in context (Elrha 2018). From an ethics perspective, this phase is most often discussed in relation to experimentation, which can be described as a "defined, structured process to test and validate the effect and effectiveness of new

products or approaches" (Sandvik, Jacobsen & McDonald, 2017). The primary concerns here focus on the exposure of crisis-affected populations to further uncertainty and risks arising from this testing and validating of innovative products or approaches (Hunt 2018). These discussions often cite research ethics literature as the key sources of relevant ethical standards and guidance, with many identifying the Declaration of Helsinki of 1964 and the Nuremberg Code of 1947 (RIL 2020).

Sandvik and Raymond (2017), citing Sean McDonald (2016), write that "the chaos of humanitarian disaster often creates an implied social license for experimentation with new approaches, under the assumption of better outcomes." These new approaches may include "the acceleration or modification of the experimentation cycle" and "in turn, alter notions about acceptable levels of risk" (Sandvik, Jacobsen & McDonald, 2017). Wynsberghe and Comes (2019) share a similar critique of the level of risks taken under this implied social licence to experiment and how similar levels of risk would not be permitted in high-income countries, despite the fact that the benefits of this experimentation may eventually accrue to those high-income countries. As one participant, quoted in Madianou (2019a), dramatically states, "we do things that might get us a Nobel Prize in Africa – but which would get us arrested in Europe."

The discussion of risk and experimentation in the piloting of humanitarian innovations is for the most part divided into three general subcategories: acceptable risk, risk aversion, and risk transfer. The previous quote from Sandvik, Jacobsen and McDonald introduces 'acceptable risk', which has also been called 'intelligent risks' (Vogel 2017), or 'honourable risk' (Ramalingam, Scriven, & Foley 2009).
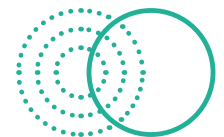
These terms all refer to the threshold of risk that humanitarian innovators are willing to take in the pursuit of improved outcomes. This threshold is often very high – "humanitarian donors and agencies have historically been risk-averse" (Betts & Bloom 2014) or have a "very low risk appetite" (Ramalingam 2015). However, as Obrecht (2016) notes, "the message that humanitarian agencies should be less risk-averse can overshadow the fact that increased risks are easily passed onto affected communities" – and that the thing 'at risk' is not just investment dollars; it is people's lives (Ramalingam, Scriven & Foley 2009; Betts & Bloom 2014; Blunt 2015). Rather than passing on the risk to affected communities, many scholars call for risk transfer upwards (to donors) through calling for more flexible innovation funding that allows for 'failure' (Betts & Bloom 2014) or outwards (to non-vulnerable populations) through finding 'safe spaces' for innovation (Ramalingam, Scriven & Foley 2009; World Humanitarian Summit 2015).

Innovation, by definition, has a high risk of failure (Ramalingam, Scriven & Foley 2009; PHAP 2015; Sheather 2016 et al.; Sandvik 2017; Obrecht 2016). There is little agreement on who bears the cost of failure or reaps the benefit of success, however (Sandvik 2017), and what 'good' or 'ethical' failure may entail (Obrecht 2016). The costs of failure are diverse in scope and severity – donors may lose their investments and, in turn, their access to taxpayer dollars; humanitarian agencies may lose their reputation, their access, or the safety of their workers; but most importantly, an innovation's failure may lead to the loss of life and/or quality of life of affected populations. Despite having the most to lose, the populations who endure the failures of humanitarian experimentation have few ways to hold those humanitarians and partners accountable (McDonald,

Sandvik & Jacobsen 2017). In response to these concerns of failure and accountability, some have argued that the humanitarian system as it stands is rife with failure and inefficiencies that would be unacceptable in other sectors, creating an ethical imperative to experiment and improve (Blunt 2015). Scholars at ALNAP have created a taxonomy of good and bad failures – as well as recognising the 'missing middle' wherein an innovation fails to be adopted, but through the honest and open reporting of learnings, the innovation process may be deemed 'successful' (Obrecht 2016). As Sheather et al. (2016) write, "given the time, energy, and resources that these projects require, rigorous evaluation and sharing of lessons is itself a moral obligation."

The final major ethical theme related to piloting and experimentation was the role of consent and coercion. The endeavour of humanitarian innovation has turned certain regions of the world into a laboratory for new products and approaches, where populations are in a perpetual state of trialling innovations (coined as 'pilot-itis' by McClure & Gray, 2014). In these contexts, informed consent is viewed as the bridge between the responsibility to protect affected populations and the imperative to innovate – but the possibility of true informed, voluntary consent from populations facing vulnerability has been called into question by many scholars. A striking example of such a compulsion is captured by Jacobsen (2015), who writes that "eligibility for UNHCR repatriation assistance required Afghan refugees to enrol in the iris scheme. Any refugee who refused to enrol was deemed ineligible for and undeserving of humanitarian assistance."

Scale

Scaling builds on a successful Pilot phase to extend the reach of the innovation to the wider social problem it aims to address (Elrha 2018). While the primary ethical features of the Scale stage reported in the collected literature are concerned with matters of cultural and contextual specificity, sustainability, and justice, several themes from the other innovation stages/activities are interconnected with scaling. The ethical tensions around risk and failure presented in the Invention and Pilot stages, in particular, are often presented in relation to the potential for scale. "The humanitarian innovation literature often talks about successful innovations as those that are adopted and those that manage to 'scale'" (Sandvik 2017), making scale a sort of moral metric against which investment in an innovation can only be justified if it can become "more widespread and enduring" than the original context it was developed for (Ramalingam, Scriven & Foley 2009). The latter clause of 'enduring' is widely supported in the reviewed texts, aligning with the concept of 'building for sustainability' (RIL 2020). In order for an innovation to be successful and endure, end-users and primary beneficiaries must be engaged in a meaningful (able to reject and able to feed back/influence) manner through the participatory or user-centred methods highlighted in the Recognition stage and carrying forward throughout the innovation process (Betts & Bloom 2014; Ims & Zsolsnai 2014; Nielsen, Sandvik & Jumbert 2016).

This pressure to scale has been criticised for introducing a more capitalist-aligned approach to humanitarian innovation (Madianous 2019a), where every innovation must be marketed as 'revolutionary' and "claim to change the world" (Scott-Smith 2016). Such proclamations ignore the fact that product and process innovations are "not morally neutral because their functions pertain to the objectives of human actions" (Cawthorne & Cenci 2019). If, as Ramalingam, Scriven and Foley (2009) write that "no two humanitarian crises and no two recipients of aid are exactly the same," the question becomes how context-specific, culturally appropriate innovations can be repurposed to entirely different contexts and cultures while retaining their fundamental qualities. As Scott-Smith (2017) writes in a reflection on the now-infamous IKEA shelter, "the whole product is deeply dependent on context. It is only 'better' in some times and places" and "what counts as 'just enough' depends on where you are, who you are, and what you are doing."

The final theme highlighted throughout discussions of scale was the importance of justice for the populations involved throughout the innovation process. Sheather et al. (2016) write that communities are wronged if "innovations produce commercial benefits that are not shared with the community." Commercial benefits may take the form of economic gain but could also include intellectual property and ownership – particularly when ideas are indigenously sourced (Betts & Bloom 2014; Schwittay 2014). As the Response Innovation Lab Ethical Standards & Principles state, "equity and fairness should underpin the distribution of benefits, costs, and risks resulting from innovation. Projects should take into consideration and address the distributive consequences of innovation" (RIL 2020). In doing so, innovation processes may shift away from "rituals of participation" (Johnson 2011) and resist "widening asymmetries of power undermining the dignity of individuals receiving assistance" (Hunt 2018).

Development

Development

The findings presented in the previous section, as well as some others that were not, lay bare many high-level articulations of guiding values for individuals who may be engaging in humanitarian innovation processes. However, the literature review did not reveal any resources that help innovators translate values into actionable ethical decision-making structures. Innovators in the humanitarian sector have clearly articulated a desire to engage in ethical deliberation, and this research confirmed the need for further practical resources.

Ethics for Humanitarian Innovation is a first attempt to create a set of resources that respond to this need. We have developed a toolkit containing five unique ethics tools and a set of case studies; all are grounded in the direct input and feedback we received from innovators, whose insights also informed the following principles for their development:

1. **User-friendliness:** The tools should be usable and understandable by all stakeholders involved in humanitarian innovation, and focused on producing actionable directions.

2. **User relevance:** They should be relevant for many different groups of individual innovators and organisations of many different sizes.

3. **Innovation relevance:** They should contain a reference to the activities involved in innovation.

4. **Building on what exists:** They should draw on successful tools in related domains such as Elrha's Research for Health in Humanitarian Crises (R2HC) ethics framework.

The following section describes the background and development of each tool and its purpose. It also provides guidance on how the tools might be applied but this guidance is not required to use the toolkit effectively: full instructions for each tool are included within the toolkit itself.
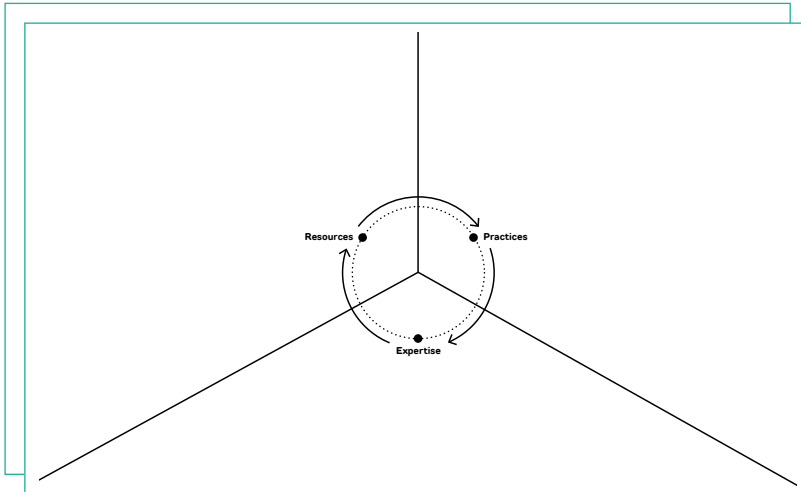
Virtuous Circle

Fostering an organisational climate and structure that supports ethical humanitarian innovation

Figure 1: The Virtuous Circle

Overview

Organisational climate and structures play an essential role in shaping an organisation's ethics. Organisations engaged in humanitarian innovation can do a great deal to create conditions that foster ethical innovation practices and support the people involved in innovation. The Virtuous Circle highlights three critical areas of organisational ethics that can influence an organisation's ethical climate:

1. **Ethical resources:** Training, evaluation or assessment instruments that help an organisation to assess its ethical conduct.

2. **Ethical practices:** Internal and external support procedures, performance measures and communications products and processes.

3. **Ethical expertise:** People or groups that are identified or purposefully convened to deliberate and/or advise on ethical issues.

These three areas create the foundations for the ethical positions an organisation and its members may take when confronted with ethical issues. Innovation processes can be undertaken on a solid ethical base by regularly reviewing the tool's open questions (implementation questions) and updating the three foundational areas.
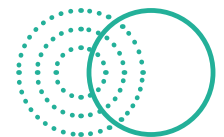
Open questions (implementation questions):

Resources	Practice	Expertise
What high-level policies do you have in place that might guide ethical decision-making?	**How** do you facilitate timely access to resources that support ethical innovation practices?	**Who** can you draw upon to support discussions and deliberations around ethical issues?
What other organisational documents might have ethical dimensions?	**How** do you document experiences and maintain institutional memory about ethical issues?	
	How do you learn from ethical challenges, and share what is learned with others?	

Background and development

The **Virtuous Circle** was the last resource to be developed, despite being rooted in one of the earliest iterations of the **Ethics for Activities** tool. This tool and its predecessors were designed to create environments where ethical deliberation can occur transparently and effectively.

Many organisations have vision and mission statements, but fewer use these articulations to inform and inspire the development of ethical structures that can serve as the foundation of organisational ethics. For the toolkit's other tools to be meaningfully integrated into an innovation team's work, it was important to consider how organisational structures and processes can contribute to a supportive environment and climate for ethical innovation.

We looked to the concept of a virtuous circle to help foster such an environment and identify existing mechanisms within an organisation. A virtuous circle in ethics occurs when ethical acts and ethics resources positively reinforce an organisation's ethical climate, so that further ethical actions are supported. The **Virtuous Circle**, in many ways, lays the foundation for the use of the other tools, which is why it is presented first.

The tool was presented in its final form through an open plenary session with experienced HIF grantee innovators, who reflected on the questions raised with reference to their own innovation teams. The participants highlighted the particular value of this tool for innovation teams with multiple organisational partners, who may have internal organisational ethics mechanisms but lacked clarity on the intersection of those structures when addressing ethical challenges as an innovation team.

The tool may assist such innovation teams by encouraging them to reflect on how they are expected to be accountable to their organisation's vision and expressly consider this vision in reference to their own work. Innovators should explicitly articulate their vision-aligned expectations with their collaborators to foster transparency and accountability.
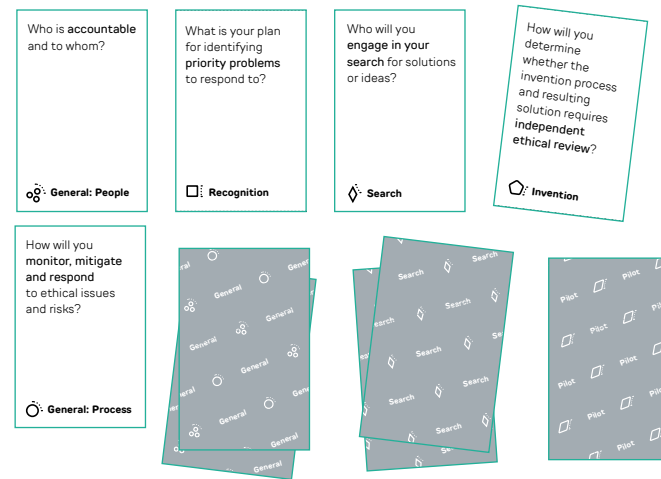
Ethics For Activities

Ensuring that ethical considerations are taken into account from the outset of the humanitarian innovation journey and that they inform every action within every stage/activity

Figure 2: Ethics For Activities

Overview

Ethical considerations arise throughout the innovation journey. They may be especially prominent in settings where the humanitarian innovator is not part of the affected population, giving rise to cultural and contextual differences between stakeholders. **Ethics For Activities** aims to help innovation teams:

1. identify relevant cross-cutting and foundational ethical questions that stakeholders should be attentive to throughout the innovation process.

2. consider relevant questions concerning different innovation activities to support robust planning and anticipation and mitigation of ethical challenges.

Introduction

Research methodology

Findings

Development

Discussion

Limitations

References

Anticipating ethical challenges that may arise is an essential part of prudent planning in humanitarian innovation. When considered at the appropriate moment in the innovation journey, the questions raised in this tool will help to identify and anticipate issues and support organisations to produce well-considered and ethically robust plans.

The questions and responses will help guide innovation teams and others while serving as a catalyst for discussion and revision when presented with new information and changing contexts. They should act as a prompt toward clarifying key issues related to engagement, communication, accountability, fair practices, and preparation for managing uncertainties.

Background and development

The first iteration of **Ethics For Activities**, which was initially called the 'Stages Tool', arose from the preliminary results of the literature review and key stakeholder interviews, in conjunction with a review of the HIF's Humanitarian Innovation Guide. It was derived from consideration of the different activities – or stages – involved in the innovation journey and how each activity could be viewed from a risk analysis perspective. It was also intended to be a means of integrating equity and inclusion to better distribute benefits.

Ethics For Activities was the first and most heavily iterated tool in the *Ethics for Humanitarian Innovation* resource. In the first version of the tool, the Humanitarian Innovation Guide stages were presented in a circle that centred around the phrase 'accountability to affected populations'. The concept of 'accountability' arose throughout the literature review, key stakeholder interviews, and as an overarching

theme in the critical interpretive review, meriting its placement at the core of ethical, humanitarian innovation.

There was much discussion among the team – and through feedback – regarding the directionality of accountability. Each stakeholder can be both accountable to, and held accountable by, a different set of actors – and those lines of accountability differ in various humanitarian contexts, with different funding structures and different risk distributions. The most common responsibility is to populations affected by crises – all stakeholders should seek to build mechanisms to ensure they can be held accountable to this group.

In all the different activities that make up the innovation journey, the representation of, engagement with, and accountability to affected populations was a key question to pose when considering the ethical dimensions of innovation. Each activity was then annotated with a series of ethical considerations that were drawn from common experiences described in the literature, as well as those shared by interview participants. Several questions were observed across different activities, which became 'overarching' or 'foundational' questions in later iterations of the tool. Some were deemed to be outside of the innovation journey, so these were pulled into a separate list of questions to be considered *before* an innovation journey began. This was tentatively called the 'fostering organisational culture document' and would be further developed into the **Virtuous Circle** tool.

This tool and the preliminary findings of the literature review and key stakeholder interviews were presented for feedback and iterative development at a series of workshops, including in breakout sessions at the Humanitarian Innovation Exchange conference in The Hague

(26–27 June 2019) and the R2HC Research Forum in London (9–12 September 2019). With each successive workshop, participants highlighted new gaps or needs, possible refinements or redundancies, and in many cases, proposed structures for the development of additional resources.

Initial feedback from the sessions at the Humanitarian Innovation Exchange and R2HC Research Forum centred around the density of the tool and the need to have something that was more accessible and interactive, and that could be expanded out based on users' specific needs. The centring of accountability to affected populations was also seen as too narrow in scope and left some ambiguity as to what 'accountability' meant and the directionality of the term.

We also heard that the 'fostering organisational culture document' presupposed that this tool would be used quite early on in the innovation journey and that using such language or pre-requisite work disincentivised the engagement of innovators who were further along in their innovation process. Many participants in workshop and presentation sessions suggested that disentangling the many users and priorities of ethical deliberation would lead to clearer, more actionable resources.

Values Clarification

Identifying and describing key values for prioritisation throughout the innovation journey

Figure 3: Values Clarification

Overview

Value-sensitive and values-based design have emerged within general innovation practice (Friedman, 2004) and are now also being applied by humanitarian innovators (Smith et al., forthcoming). These approaches seek to highlight how design decisions can help to align an innovation with ethical values, in addition to traditional functionality concerns such as usability, efficiency and reliability (Mander-Huitts, 2011).

It is perhaps apparent to some that to adopt a values-based approach, it is first necessary to clarify what values you wish to reflect. There are many articulations of values in the humanitarian sector, including, most centrally, the fundamental humanitarian principles of humanity, impartiality, neutrality and independence. Many organisations also have values statements to guide their operations and decision-making. Groups focused on humanitarian innovation have also begun to identify ethical values specific to their innovation activities or the humanitarian innovation movement more broadly.

The **Values Clarification** tool's primary purpose is to help teams articulate which values are especially important in their innovation and, critically, to describe how they plan to enact these values. This process is an important foundational step for a value-sensitive innovation approach. It will enrich the use of the **Ethics For Activities** tool and is a preliminary step to completing the **Foresighting** tool.

Background and development

A further study was conducted later in the research process to inform the development of the Values Clarification tool. This study aimed to identify and analyse normative statements of ethical values for humanitarian innovation published online or included in publicly available documents from organisations engaged in humanitarian innovation.

We applied a critical interpretive review methodology (McDougall, 2015) and combined strategies of searching electronic databases such as Google Scholar, Scopus, ProQuest and OpenGrey.

Additionally, we searched relevant websites, including but not limited to intergovernmental agencies, non-governmental organisations, interagency initiatives, funders, private organisations, research groups, and foundations, which we supplemented by hand-searching corresponding reference lists. To meet the inclusion criteria, statements needed to be general to humanitarian innovation rather than focusing on a specific technology or domain and include a clear discussion of values. Following these steps, eight sources were retained for the mapping exercise.

Using concept maps, a structure of six overarching values (Do No Harm, Autonomy, Justice, Accountability, Sustainability, and Inclusivity) was established from the literature, with 12 secondary values and a varying number of tertiary associated values. It is critical to note that this hierarchy represents the density of connections — overarching values being the most central and densely connected — rather than a ranking in order of importance for consideration. All values — overarching, secondary and tertiary — could have connections or significance to multiple others; they are not limited to one connection. The values identified through this critical interpretive review provided a foundation upon which innovators could be prompted to reflect on their values and guiding principles through specific ethics tools and resources.

This review revealed the considerable variability in the values that are identified, the challenge of distinguishing ethical values from other sorts of values, and inconsistencies in how terminology is employed across value statements. We adapted some of that work to develop the **Values Clarification** tool: a grid showing 16 humanitarian innovation values common to many ethical values statements, with space for those using the tool to add their own.

Following the development of **Ethics For Activities** and **Virtuous Circle** tools, and initial case studies, we began to see that there was a clear need for tools that could ask more foundational questions of innovation teams and organisations. Particularly in the case of grassroots organisations that were being established as legal entities around a singular innovation, we saw a lack of clearly articulated values and actionable strategies to implement those values through the innovation journey.

To address this gap, we first looked at our review of the literature and existing resources and identified a set of online tools oriented towards design professionals called *Ethics for Designers* (Gepsen, 2017). While this set of resources was not oriented to humanitarian contexts, the delineation of "moral sensitivity, moral creativity, and moral advocacy" and the 'Moral Value Map' did provide a valuable frame of reference for the type of tool that may serve a humanitarian innovation audience.

The first iteration of our tool took the form of two separate documents. The first was a Values Identification exercise that prompted innovators to select values or principles from a cloud of terms drawn from the synthesis exercise and/or to identify values or principles on their own and discuss what those values meant to their team and innovation. The second was a Values Mapping exercise that drew on the values identified in the first exercise and transposed them onto an innovation journey to see how activities did or did not align with the team's overall values.

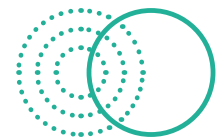This two-stage version of the tool was piloted with HIF innovators at the Center for Disaster Preparedness in Manila, Philippines, and received favourable feedback. Many innovators stated that they wished they had engaged in such reflections earlier in their innovation process. We then took these two exercises and combined them with a draft of **Ethics For Activities**, and replaced the word cloud in the Values Identification exercise with Venn diagrams of key values and principles – those identified through the critical interpretive review – which provided a clear link back to the literature and evidence base.

The Values Mapping exercise was iterated to include sections on identified values, activities, anticipated challenges, and a values-driven strategy. These four elements were distilled into exercises around Values Clarification, Foresighting, and Stages, which formed a 'toolkit' that could be printed and used in workshop settings.

The toolkit was piloted and iterated through various workshops, including the Humanitarian Grand Challenge during World Food Programme Innovation Accelerator Week 2019 in Munich (23 innovation teams) and Humanitarian Innovation Fund Kick-off Week 2020 in Amsterdam (12 innovation teams). The toolkit received positive feedback in these sessions, with the most common comment being the need for more time to work through the resources. The concatenation of the three tools – the **Values Clarification** tool

to identify and describe values in actionable terms, the **Ethics For Activities** to prompt anticipation of ethical challenges across innovation stages, and the **Foresighting** tool to create a values-driven strategy to anticipate and respond to ethical challenges – was effective, and neatly linked previously disjointed exercises in a way that enabled multi-session and/or multi-day workshop formats. It also clearly showed participants how the tools could be used in isolation but were most effective when used in conjunction with one another.

As we iterated these tools, we consistently heard requests for worked examples – when the tools were provided without an extensive briefing or facilitator support, many innovators felt the need for additional instructions beyond what was on the page. This feedback was taken into account, and clear, thorough guidance notes and step-by-step instructions were added to each tool for subsequent iterations of the toolkit.

Foresighting

Developing a values-based strategy to address anticipated ethical challenges along the humanitarian innovation journey

Figure 4: Foresighting

Overview

The theoretical roots of values-sensitive design lie at the intersection of computer science, ethics and psychology. It asks designers – initially technological, but the term has gained more widespread use – to consider the human values implicit in the products, algorithms and technologies they create (Friedman, 2004). The online resource *Ethics for Designers,* developed by Jet Gipsen (2017), builds on these ideas, stating "...what we design is not neutral...design is an inherently ethical activity."

Background and development

The **Foresighting** tool is a practical resource for humanitarian innovators in the field that – like all the tools in this toolkit – was developed through an iterative process, inspired by Ethics for Designers. It seeks to operationalise organisational or team values in a way that is directly linked to the anticipated activities and challenges of humanitarian innovation while also producing a structure of accountability that can be revisited when challenges arise.

The tool is a logical next step from the **Values Clarification** tool. Once teams have established a common language and understanding around their values, there is a need to translate that rhetoric into actionable strategies. This process of 'foresighting' is critical to mitigating ethical risks that innovation teams may face in the different stages and activities they pursue as part of their innovation journeys. By designing with ethics in mind, innovators will not only be able to avoid certain ethical pitfalls, but they will also build the critical skills necessary to respond to acute, unforeseen ethical challenges that may also arise.

The primary aim of foresighting is to provide a structure of accountability *before* significant decisions are made in an innovation. This structure should clearly link the identified values of the team with their approach to mitigating ethical challenges. This tool and values-based strategy can be revisited later in the innovation journey when an ethical challenge has arisen, and the strategy is successfully enacted. For example, suppose a decision made while facing an ethical challenge leads to a negative outcome. In that case, you can revisit the tool to assess why that outcome may have transpired and determine how the strategy can be adapted to mitigate future risks.
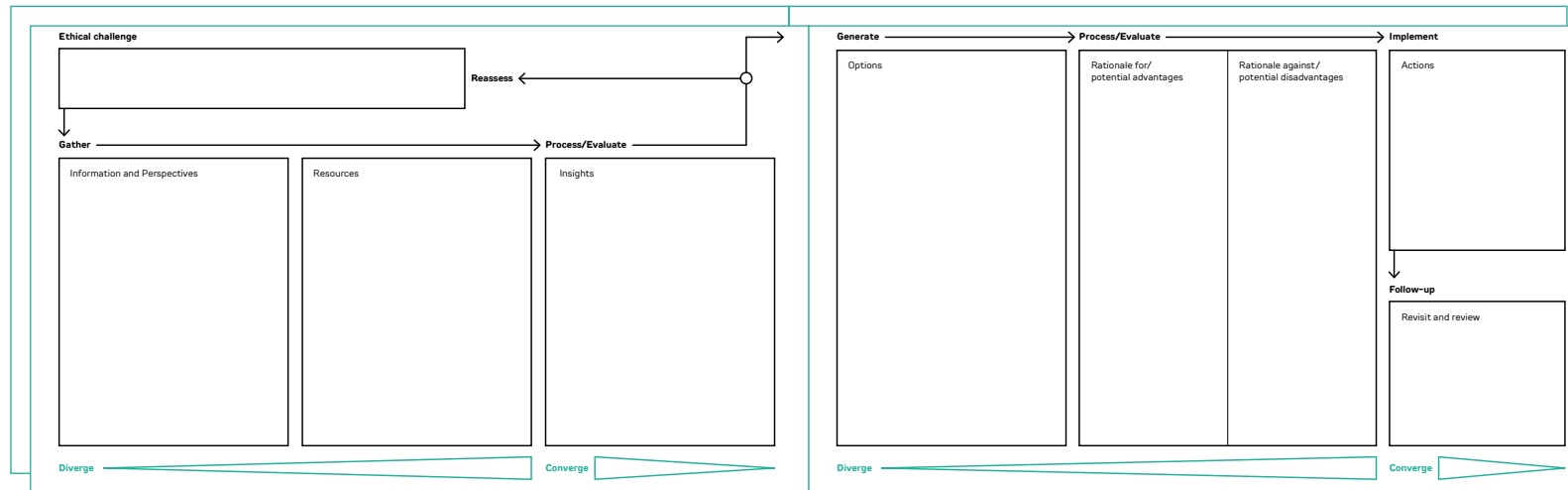
Responding to an Ethical Challenge (REACH)

*Responding to an ethically challenging situation that arises
from humanitarian innovation*

Figure 5: Responding to an Ethical Challenge (REACH)

Overview

Many of the tools in this resource are designed to support organisations and innovation teams to design ethically robust innovation journeys and carry out their activities in ways that minimise ethical risk. There will be occasions when teams are confronted with an ethically challenging situation that arises in the course of their work. Several examples of this sort of scenario exist within the case studies that have been developed for the project.

For our purposes, an ethically challenging situation is defined as:

A situation in which personal or institutional values are in tension or threatened, and

1. all options require sacrificing something of ethical significance;

2. there is uncertainty or disagreement about what the best course of action is, or

3. the ethically preferred option is clear but cannot be acted upon.

Some challenges you face will have been anticipated using the **Values Clarification** and **Foresighting** tools. In those cases, the innovation team will have already done some thinking about the issue and be better positioned to respond. On other occasions, the issue will be new and/or unexpected, and you will need to rapidly assess and strategise a way forward that is consistent with your project or organisational values and aims. In either case, when there is time for reflection or deliberation, having a shared process for working through an ethical issue can be very helpful.

When the answer to an ethical challenge is uncertain and hard to identify, having an equitable process can help. This means finding clarity, ensuring fair and inclusive processes, and allowing opportunities for review (Maiese, 2004; Daniels & Sabin, 2002). Ethics decision-making tools exist in many domains of practice (e.g. Thompson et al., 2006; Schaffer et al., 2000), including in humanitarian action (Clarinval & Biller-Adorno, 2014; Fraser et al., 2015). A key benefit is that such a tool helps people "get on the same page" (Fraser et al., 2015), and having a shared process for decision-making has been proposed as a key feature that helps teams respond effectively to ethically challenging situations (Thomasma, 1982). The premise of an ethical decision-making tool is not that it is a recipe for resolving a particular issue but that it provides a structured approach that helps ensure that the decision is made and is well-considered. It also helps to ensure that the process by which it was made was structured and thorough, and that clear justifications can be made for the selected decision.

Background and development

The Responding to an Ethical Challenge (REACH) tool outlines eight steps that can guide a process of individual reflection or, more likely, group deliberation around an ethically challenging situation.

Having established four tools that allowed for innovators to engage in the process of ethical deliberation and reflection across the various stages of the innovation cycle and to engage in the practice of ethical foresighting, there remained one major critique that was unanswered. All of these tools were most effective in situations where innovators have the opportunity to sit down *ex-situ* to do the planning, mapping and reflection exercises as a team. While this is important, the reality in the field is that most humanitarian professionals and innovators would search for or engage with ethical resources in one of two situations. First, requiring Research Ethics Board (REB) approval for a project that has been deemed 'research', or second, in the context of a more immediate ethical challenge for which they are seeking decision-making support. The second situation remained unanswered by first four tools, which led to drafting **REACH**.

In developing this tool, the HHE Research Group leaned on the advice of the Humanitarian Innovation Guide itself – adapting existing solutions rather than inventing entirely new and potentially redundant ones. In 2014, HHE developed a similar resource called the Humanitarian Health Ethics Analysis Tool (HHEAT) "in response to the ideas that:

1. an ethical analysis tool will enable humanitarian aid workers to better prepare for and process the ethical dilemmas they are likely to encounter, and
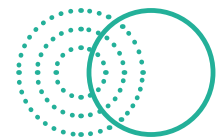
2. There is a range of features of care planning and delivery unique to humanitarian aid settings which require a tailored tool" (Fraser et al. 2014). The HHEAT received very similar input and feedback from its focus audience of humanitarian healthcare workers: "near-unanimous in their preference for a simplified version…using less text, including bullet points, and shortening the tool. Balancing the level of detail and substantive content with practical utility is one of the challenges facing all analysis tools" (Fraser et al. 2014).

We adapted the HHEAT into what would become the **REACH** tool by broadening the scope beyond healthcare and reorienting the language towards innovation rather than quotidian humanitarian practice and challenges. It was also formulated as a two-page worksheet to encourage step-by-step processing of the challenge, allowing innovators to go through each section, gather information, weigh options, and ultimately arrive at a decision with a strategy for evaluation and follow up. **REACH** was validated by a small group of high-level innovators (three teams with three individuals each), who used the tool against one of the case studies or an ethical challenge derived from their use of the **Ethics For Activities** tool.

The primary purpose of **REACH** is to help teams work through ethically challenging situations, align, and make a well-considered decision supported by clear ethical rationales. It is worth noting that the process can also be used in training activities to analyse a case study (see the case studies that accompany this toolkit or for a retrospective debriefing of a challenging situation). We recommend that teams document their process, the options and rationales considered and selected, and how the situation unfolded. This record can be useful for future reference as a chronicle of the process.
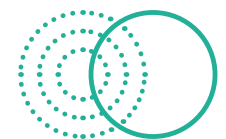
Discussion

Discussion

The HIF's *Ethics for Humanitarian Innovation* resource was developed through a unique consultancy and partnership that provided the HHE research group with direct access to a diverse network of innovators and innovation managers and a clear understanding of the primary end-user for the research and resources developed. The resources are primarily oriented towards HIF innovation managers, prospective and current HIF grantees, and technical reviewers of HIF applications. This arrangement promoted a blend of industry-oriented and academic approaches to the development of the toolkit, which took the form of three studies and a series of iterative, innovator-driven workshops. This series of workshops and presentations (more than ten in total) resulted in the development of four innovation case studies and five unique tools that respond to different needs and user priorities. The tools and case studies have all been tested and subjected to user feedback in at least one interactive session.

In engaging with a range of innovators through these workshops, we learned several things about how innovators engage with resources like these, their needs, and their reservations. First, we saw how heterogeneous cohorts of innovators engage with ethics resources in incredibly different ways. Some of the innovators we worked with had received hundreds of thousands of dollars in funding and had gone through many workshops focusing on design thinking, pitching and project development. Others had only just formed their organisations and were being exposed to such concepts for the first time. In developing this set of resources, we sought to strike a balance between these two groups' needs and their respective funders'

expectations – to ultimately create something that is accessible to the novice innovator but can be scaffolded out to adequately engage and challenge more experienced individuals. Some experienced innovators recognised the potential in the tools and used them as a launching pad into deeper discussions, while others saw them as too simplistic and did not engage much further. With such 'expert' innovators, close contact with facilitators seemed to improve their willingness to engage and their ability to see the value in the tools.

Second, we observed a tendency across all groups to link experience navigating research ethics boards (REBs) in academic/research settings with ethical reflection in innovation contexts. Innovators were often hyper-focused on determining if their innovation required REB approval, where to get it, how to navigate the process, and how to expedite such approvals, rather than actually wanting to engage in critical ethical reflection on their innovation. This represents a fairly bureaucratic conception of the role of ethics. In most cases, the REB requirement would be determined by the funding agency; the role of the resources we created was to prompt and facilitate reflection regardless of the need for formal approval, and to move beyond the notion that a one-off ethical approval at one moment in time is sufficient. Ultimately this will foster a more dynamic and sustained focus on ethics along the innovation journey. In these situations again, close contact with the groups who developed the tools, or with trained facilitators, helped innovators look beyond the REB.

The third thing we noted was an interesting dimension around workshop facilitation and engagement and the incentivisation to participate through access to funds. Some workshops took place in a curriculum that culminated in a 'pitch' event or submission of a grant request. In these workshops, participant feedback reflected a far greater interest in additional pitch skills that could translate into a financial return, rather than sessions on leadership or ethics which they felt they could perhaps get elsewhere. In one of these three workshops, we directly linked the grant request submission requirements to specific tools. While this garnered more interest, the feedback reflected more of a focus on simply fulfilling the section requirements rather than an appreciation of or interest in more profound reflection on the ethical dimensions of their proposed innovation. The remaining workshops were conducted with groups who had already been awarded funding and were expected to engage for development purposes. In these groups, participant engagement felt more subjectively dependent on the individual's interest in the topic.

In response to participant feedback, we sought to create resources that were accessible to non-academic audiences, could be used in isolation or in conjunction with its other components, and promoted ethics as a facilitating rather than inhibiting force to innovation in the humanitarian sector. Participants further requested that the tools be intentionally designed with space to work through problems in a discursive manner, rather than serving as a simple 'checklist' exercise. When used in conjunction with case studies, the tools can act as effective pedagogical resources to reflect on common experiences and ethical challenges faced when innovating in the humanitarian sector. In the final workshop sessions, we saw almost every participant able to find a tool or resource that they found useful, despite significant differences in their prior level of exposure to ethical analysis, their stage in the innovation process or technical domain of innovation.

Limitations

Limitations

The methods applied to develop the toolkit can be split into two categories: primary evidence gathering and generation; and the series of iterative, innovator-driven workshops that led to the development and refinement of the tools. Three concurrent studies were applied in the primary evidence gathering and generation phase, the scoping literature review, key stakeholder interviews, and critical interpretive review. While this approach was ultimately very fruitful and allowed us to establish a firm theoretical foundation for early iterations of the tools and to respond directly to gaps and needs identified through interviews, our initial timeline presented us with no other option. Our initial scoping search of the literature was expedited to create an evidence-informed interview guide, which left us with no other choice but to repeat the search to ensure methodological robustness by including multiple reviewers and an adequately broad search net for academic publication.

Similarly, a number of factors made it difficult to gather feedback using a standardised questionnaire: the resources were rescoped from an annotation of the HIF innovation journey – to become a standalone toolkit and case studies; as a consequence of this, the timeline expanded, from 12 months to 21; the adaptive workshop format that we adopted, based on the needs of funders and innovators was flexible and iterative; and the effect of COVID-19 and related restrictions.

The pandemic limited our access to certain populations, and meant we needed to alter both our timelines and our methods. We were unable to engage with people affected by crisis directly to pilot the most recent iteration of the toolkit. A plan was in place for a 2020 workshop in partnership with ALNAP in Nepal; however, this was postponed and ultimately cancelled due to the pandemic. We pivoted our workshop structure to be primarily online through the use of videoconferencing and virtual education software; however, the audience became limited to people within the existing networks of the HIF.

Our process of developing the toolkit was subject to some of the same challenges cited by the innovators – leading us to collect feedback more informally through post-workshop reflections on personal interactions or through surveys managed by the workshop organisers, either HIF or Grand Challenges Canada (GCC). While the lack of standardised feedback may have repercussions for the reproducibility and transparency of our process, it did allow us to be nimble and responsive to the needs of the HIF and the feedback provided by innovators.

It is also important to note that while some workshops were delivered to innovators who had already secured funding from the workshop organisers, others were delivered as part of week-long curriculums that culminated in the submission of a funding proposal to the workshop organisers. In the latter scenario, it is possible that innovators may have experienced a level of incentivisation to engage in the workshops – to ultimately produce a better submission and secure funding. In these situations, our facilitation team made all possible efforts to communicate that workshop participation was voluntary and that the provision of feedback on workshop tools was in no way connected to the funding application process.

Another limitation of this research methodology is that it remains unproven in a non-controlled environment. Everyone who has interacted with these tools has been given at least a short introductory webinar or briefing on using them and had a facilitator near at hand. While this will not serve as a barrier to the primary users – HIF and HIF-adjacent – we should observe how others engage with the tool without additional support as adoption grows.

One critical demographic lacking in all of our study and workshop cohorts was individuals who self-identified as neither innovators nor humanitarians, particularly local and indigenous actors. We are aware that many of the most impactful innovations in humanitarian contexts arise from affected populations in response to local challenges. These innovators lack access to larger INGOs' networks and resources through entities such as the HIF. We hope that by making these tools freely accessible and promoting resource sharing through key institutional partners, these communities of innovators will benefit from these resources.

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