Summer Project Showcase

23 November 2021

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Katie Waldo	The ethics of using satellite imagery in humanitarian settings and research: A literature review and qualitative analysis
Nicole Nazareth	Literature review of the health information systems used by coordination bodies in humanitarian outbreak responses: a focus on gaps, challenges, and interoperability
Nathalie Nidens	Violence experienced by students in a refugee camp
Alex Wade	Understanding how the roles and relationships of key actors impacted the DRC's 10th Ebola Epidemic Response
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Katie Waldo

Supervisor(s): Emilie Koum-Besson, Mervat Alhaffar and Francesco Checchi

Title: The Ethics of Using Satellite Imagery in Humanitarian Settings and Research: A Literature Review and Qualitative Analysis

Abstract:

Background: Satellite imagery has been used in humanitarian work for several decades and technological advancements paired with the COVID-19 pandemic have only expanded its use. While these technologies are powerful tools for improving humanitarian response, they also come with a growing list of ethical questions. This study seeks to contribute to the current body of research by identifying and discussing key ethical concerns around the use of satellite imagery in humanitarian settings and research.

Methods: A literature review of the current scientific evidence and grey literature was conducted using the LSHTM Discovery, Medline and Epistemonikos databases as well as Google. The results from this review were used to develop a topic guide for the qualitative analysis which involved ten semi-structured, key informant interviews conducted over zoom. The results from these interviews were analysed using thematic analysis in NVivo 12 software and using inductive and deductive coding.

Results: Five themes emerged from the literature review. They were current ethical frameworks for satellite imagery use, national and international documents governing satellite imagery use, importance and challenges of obtaining consent, safety and security concerns and data bias and inequality. Seven primary themes emerged from the semi-structured interviews. They were barriers to accessing Images, ethics not directly considered, challenges related to offering/securing consent, the effects of power dynamics on ethics, neglected ethical considerations, accountability, and potential solutions. The interview themes also included a total of 26 subthemes.

Conclusion: There are several important ethical considerations when utilising satellite imagery in humanitarian settings and a lack of related research and frameworks addressing these issues. There is a need for solutions that reduce inequalities and centre the needs of the sensed populations, especially as the use of these technologies becomes more widespread and markets for higher resolution images open.

Abstract:

Nicole Nazareth

Supervisor(s): Dr Catherine McGowan & Dr Ruby Siddiqui

Title: Literature review of the health information systems used by coordination bodies in humanitarian outbreak responses: a focus on gaps, challenges, and interoperability

Abstract:

Background: Surveillance and health information systems (HIS) are highly important in humanitarian outbreak responses. This review aims to understand which surveillance and HIS are used by coordination bodies during outbreak responses, to explore the functionality of these systems, and describe any lessons learned from their implementation in humanitarian settings.

Methods: A literature review was conducted using systematic methods and is reported against the 2020 PRISMA-ScR. Literature searches were designed to capture peer-reviewed and grey literature. Searches were carried out in MEDLINE, Global Health, EMBASE, DESASTRES, ReliefWeb and OpenGrey databases as well as select websites. Search results were screened against inclusion and exclusion criteria. Tabular data extracted from full text papers included: the type of source and the methodology used, and year of publication, the outbreak setting, and administrative level of focus, the type of surveillance, the HIS tool used or implemented, the input device used, if it had offline capabilities, if it used a physical or cloud-based server, if it integrated standard case definitions, and if it was open-source. A narrative synthesis approach with thematic analysis was used.

Results: The initial search after removal of duplicates resulted in 13,331 sources, of which 11 sources were included in the final synthesis. Seven sources focused on the 2014-2016 West Africa Ebola epidemic, 10 were at the local administrative level, and all 11 covered indicator-based surveillance. The most used HIS tools included paper, Microsoft Excel, Open Data Kit, OpenMRS, and Epi Info. System functionality and lessons learned were described through the themes of technical development; integration, interoperability, and customisation; technological environment; comparison to paper processes; human capital; cost; and preparedness.

Conclusion: Cross-cutting similarities exist regardless of the type of surveillance system used. Overall, strong systems are interoperable, adaptable, have well trained staff, and are built into pre-existing systems.

Nathalie Nidens

Supervisor(s): Camilla Fabbri

Title: Violence experienced by students in a refugee camp

Abstract:

Background: Violence against children is a global public health and human rights issue. Children with disabilities are thought to be at increased risk of violence, however, only limited evidence exists for this particularly vulnerable population. This study therefore aims to investigate violence from teachers among students with disabilities in Nyarugusu refugee camp, Tanzania.

Methods: We conducted a secondary analysis of baseline data obtained from the Preventing Violence Against Children in Schools study. 1493 students from all primary and secondary schools in the camp were included in the sample. Logistic regression models were fitted to analyse the association between disability and lifetime emotional, physical, and sexual violence from teachers as well as to identify other potential risk factors.

Results: Girls reported considerably higher levels of disability compared to boys (9.2% vs 4%, p<0.001). Physical violence was the most common type of violence with a prevalence of 75% for students with and 82% for students without disabilities. Overall, levels of violence from teachers were similarly high for disabled and non-disabled students. However, disabled boys reported lower levels of physical violence compared to non-disabled boys (67% vs 85%, p=0.022). No evidence was observed for an association between disability and violence after adjusting for confounders. Depression was associated with higher odds emotional (aOR 2.37, 95% CI 1.54, 3.64), physical (aOR 2.45, 95% CI 1.26, 4.76), and sexual violence (aOR 6.81, 95% CI 2.81, 16.48). Other factors associated with violence were age, sex and country of origin.

Conclusions: Violence from teachers against students is widespread in Nyarugusu refugee camp. However, uncertainty about the relationship between disability and violence remains. Students with depression seem to be particularly at risk. Further research on the epidemiology of violence against disabled and non-disabled children in humanitarian settings is needed to broaden the evidence base and develop preventative interventions.

Alex Wade

Supervisor(s): tbc

Title: Understanding how the roles and relationships of key actors impacted the DRC's 10th Ebola Epidemic Response

Abstract: tbc

Zahed Katurji

Supervisor(s): Natasha Howard

Title: Medical evacuation and negotiation during siege: lessons from Aleppo

Abstract:

Introduction

Siege civilian cities isn't a new war tactic. It has been used more frequently in recent conflicts. Evacuation of injured and sick is stated by the international humanitarian law and yet received little attention by literature. Literatures focus on the negotiation during siege or the evacuation process for military injured not civilians.

This study aimed to examine the negotiations and medical evacuation during the 2016 siege of East Aleppo to help inform future medical evacuation.

Methods

A multimethod case-study was conducted, consisting of semi-structured key informant interviews, literature and documents review, and unstructured observations. Twelve key informants included doctors, NGOs staff, and ICRC workers who all worked during the siege or participated in the negotiations. Interviews were conducted, recorded, and transcribed with written and verbal consent were obtained from participants. My unstructured observations were based on an ethnography approach; I lived, worked and participated in all negotiations in East Aleppo during the conflict and coordinated the medical evacuation. Data were analysed thematically, and ethics approval was obtained from Research Ethics Committee of the London School of Hygiene, Tropical Medicine and the Idleb Health Directorate.

Findings

There is no clear, documented story of how negotiations around medical evacuation took place. Several narratives, based on informant location (e.g., Turkey, East Aleppo, Damascus) existed. NGOs participants haven't mentioned the local health workers who were taking care of patients preparing them for the coordinated evacuation with the ICRC. This shows a huge lack in communication and coordination between the stakeholders.

Conclusion

Direct communication with staff on the ground must be conducted and their opinions considered in any negotiation or evacuation plan. During evacuation, no effective communication existed between stakeholders, each concerned about its own benefits. Participant self-evaluations indicate a lack of communication, knowledge, and awareness of responsibilities and other stakeholders.

Teresa Saraiva Afonso

Supervisor(s): Andrew Clark and Nada Abdelmagid

Title: Multisectoral approaches to epidemic responses in low-and-middle income humanitarian settings: a scoping review

Abstract:

Background: Epidemics in humanitarian settings in low- and middle-income countries (LMICs) pose serious public health threats. Multisectoral approaches (MSAs) are generally thought to improve epidemic responses in humanitarian settings, yet their scope and scale are still under-researched. This review aims to examine barriers and facilitators of MSAs in epidemic responses in LMICs humanitarian settings with recommendations to improve practice.

Methods: Three academic databases and grey literature platforms were searched for relevant publications issued between January 2010 and June 2021. Data was analysed by a single reviewer using a narrative meta-synthesis approach. Qualitative thematic analysis was applied to describe features of collaborations and factors influencing MSAs in response to epidemics in humanitarian settings. A best-fit adapted framework synthesised findings on the extent of integrated activities.

Results: 19 articles were included in this review of which, ten were peer-reviewed, reporting evidence from humanitarian settings in 12 LMICs. MSAs were mostly seen in collaborations between the Health and Water, Sanitation and Hygiene sectors, and between the national Ministry of Health and international organisations. The extent of activity integration varied across studies. This review shows that the most widespread barriers to MSAs are related to lack of resources, information sharing and infectious disease epidemic surveillance. Key facilitators included good governance, coordination mechanisms and previous collaborative experiences. Among the main recommendations: community engagement, the presence of multiple stakeholders and technological innovations are considered as central to strengthen trust, participation, and access in humanitarian contexts.

Conclusion: This review identified the need for humanitarian actors, especially the World Health Organisation, to produce operational guidance on MSAs including joint monitoring and evaluation tools for formal assessment of MSAs. Defining collaboration mechanisms and processes is essential, as are improvements in reporting, in order to build evidence and ultimately shape synergetic and context-relevant epidemic humanitarian responses.

Abstract: