**Ethical Considerations Associated with “Humanitarian Drones”: A Scoping**

**Literature Review**

Wang, N., Christen, M. & Hunt, M. Ethical Considerations Associated with “Humanitarian

Drones”: A Scoping Literature Review. Sci Eng Ethics 27, 51 (2021).

<https://doi.org/10.1007/s11948-021-00327-4>

* Expanding Use of Humanitarian Drones: The article highlights the increasing use of drones in humanitarian contexts for various purposes, including disaster response, healthcare delivery in low-resource settings, and overcoming logistical barriers. It notes that this technology has gained momentum and has been applied to provide relief and support in disaster-stricken areas and health emergencies.
* Diverse Ethical Considerations: The review identifies a range of ethical considerations associated with humanitarian drone use. These considerations include minimizing harm, promoting justice, and respecting the autonomy of individuals and communities. There is also a focus on legal and regulatory concerns, as well as perceptions of humanitarian actors, including potential concerns about credibility and the impact of drone technology on relationships between providers and affected populations.
* Challenges and Limitations: The article acknowledges several limitations in the review process, such as challenges in defining the concept of "humanitarian use" and limitations in the search strategy. It also mentions the difficulty of comprehensively reviewing gray literature sources and the restriction to English language sources, which may have excluded relevant non-English literature. These limitations should be considered when interpreting the findings of the review.

The article introduces the concept of "humanitarian drones," emphasizing their use in various humanitarian contexts. It highlights their roles in disaster response, healthcare delivery, and overcoming logistical challenges in humanitarian operations. The article underscores the growing use of drones in humanitarian work and the need to critically assess their ethical implications. The objectives of the review are outlined, aiming to understand the ethical considerations associated with humanitarian drone use and provide insights for developing ethical guidelines in this field.

The article offers detailed contextual information about the types and timing of humanitarian drone use. It categorizes articles related to humanitarian drones into use cases, including imagery or mapping drones, payload or cargo drones, and combinations of both. The article discusses the shift in focus over time, with mapping drones being prevalent from 2014 to 2016, while cargo drones, especially in healthcare applications, gained prominence from 2017 onward. It also notes the emergence of articles discussing drones used in healthcare during epidemic or pandemic outbreaks. The location of drone use is examined, with most articles referring to unspecified or various locations. Specific regions where drone use has been documented are identified, such as Africa, the Americas, Europe, Asia, and Australia. The section discusses the connection between drone activities and geographic locations, revealing higher drone activity in Africa, while regions like Oceania, Europe, and the Americas have seen increased drone use more recently. The article also highlights key humanitarian organizations involved in drone operations, including FSD, Médecins Sans Frontières, ICRC, OCHA, UNICEF, USAID, WFP, WHO, and the World Bank.

The article acknowledges the limitations associated with the review process. It discusses the challenges of defining the concept of "humanitarian use" for drones and the operationalization of this concept in the search and selection process. The article also recognizes limitations in the search for "ethical considerations," as the search strategy used broad terms related to ethics and morality, potentially missing specific ethical issues if not indexed as such. The review's limitations also include the difficulty of comprehensively reviewing gray literature sources, as the humanitarian sector has extensive gray literature. Another limitation is the restriction to English language sources, which may have excluded relevant non-English literature. The conclusion reiterates the importance of understanding the diverse ethical considerations associated with humanitarian drones and how these considerations vary across different crisis settings and stakeholders. It emphasizes the relevance of this research within the broader context of humanitarian innovation and the development of context-specific and value-sensitive ethical guidelines for humanitarian drone operations.

In summary, the article provides a comprehensive exploration of the ethical considerations of using drones in humanitarian contexts, offering detailed contextual information and addressing the limitations of the review process. It underscores the need for nuanced ethical guidelines in humanitarian drone operations.