Healthcare Learning From Near Misses in Aviation Safety

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Abstract : Background: For years, healthcare across the world has recognised that patients are coming to harm from the very processes meant to help them. In response, healthcare tells itself that it needs to 'be more like aviation.' Aviation safety is highly regarded by those in healthcare and is seen as an exemplar. Specifically, healthcare is keen to learn from how aviation uses near misses to make their industry safer. Healthcare is rife with near misses; however, there has been little progress addressing them, with most research having focused on reporting. Addressing the factors that contribute to near misses will potentially help reduce the number of significant, harm patientsafety incidents. While the healthcare literature states the need to learn from aviation's use of near misses, there is nothing that describes how best to do this. The authors, as part of a larger study of near-miss management in healthcare, sought to learn from aviation to develop principles for how healthcare can identify, report, and learn from near misses to improve patient safety. Methods: A Grounded Theory (GT) methodology, augmented by a scoping review, was used. Data collection included interviews, field notes, and the literature. The review protocol is accessible online. The GT aimed to develop theories about how aviation, amongst other safety-critical industries, manages near misses. Results: Twelve aviation interviews contributed to the GT across passenger airlines, air traffic control, and bodies involved in policy, regulation, and investigation. The scoping review identified 83 articles across a range of safety-critical industries, but only seven focused on aviation. The GT identified that aviation interprets the term 'near miss' in different ways, commonly using it to specifically refer to near-miss air collisions, also known as Airproxes. Other types of near misses exist, such as health and safety, but the reporting of these and the safety climate associated with them is not as mature. Safety culture in aviation was regularly discussed, with evidence that culture varies depending on which part of the industry is being considered (e.g., civil vs. business aviation). Near misses are seen as just one part of an extensive safety management system, but processes to support their reporting and their analysis are not consistent. Their value alone is also questionable, with the challenge to long-held beliefs originating from the 'common cause hypothesis.' Conclusions: There is learning that healthcare can take from how parts of aviation manage and learn from near misses. For example, healthcare would benefit from a formal safety management system that currently does not exist. However, it may not be as simple as 'healthcare should learn from aviation' due to variation in safety maturity across the industry. Healthcare needs to clarify how to incorporate near misses into learning and whether allocating resources to them is of value; it was heard that catastrophes have led to greater improvements in safety in aviation.

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