
Empathy and Medical Error Research

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Abstract

This paper discusses empathy when researching errors with interactive medical devices. Medical professionals who have made errors when using these devices can be seen as 'second victims' who are working within a culture that is quick to assign blame. We suggest a number of strategies for employing empathy when researching medical error, devices, and their design

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within the HCI context.

Author Keywords

Empathy; HCI design; interactive medical devices; medical errors

Introduction

A balance between blame, learning and accountability is needed not only within the healthcare context where errors occur but also among researchers in this field. We assert that researchers' empathy should be extended towards those healthcare professionals who have been saddled with blame when medical device errors have occurred. We suggest that there are a number of ways for HCI researchers to engage empathetically with those who have made errors with interactive medical devices, even when we might not have direct contact with frontline workers. These strategies can be broadly conceived as falling under two major themes: (a) ensuring that our work does not cause any further harm to those who have been blamed and (b) advocating for a change in the 'blame culture' where medical professionals are fearful of making errors and where institutions are quick to sanction staff following errors.

The Culture and Effects of Medical Errors

Although everyone makes mistakes, errors in healthcare may be critical and lead to patient harm, including death. As well as making better-designed

devices that are safer and easier to use, it is crucial to also understand the culture where these errors take place.

Blame Discourses and Medical Errors

Waring describes a 'culture of blame' in which healthcare professionals are fearful to make errors [10]. Lester and Tritter explain it as one where individuals are 'named, blamed, and shamed' when they make errors [4]. The healthcare blame culture puts the focus on individuals rather than viewing errors as systemic. The culture is entrenched; healthcare professionals fear punishment and retribution for errors, which leads to the failure to recognise some mistakes and the under-reporting of others [6]. Even when incident reports have been filed, the culture prevents deep analysis of the multi-faceted nature of errors [8].

The 'Second Victim' of Medical Errors

The 'second victim' of medical errors refers to the idea that those who make medical errors often struggle themselves [9,12]. Delbanco and Bell address the guilt clinicians feel post-error and assert that parallels can be drawn between their experiences and those of patient families [2]. Up to 90% of physicians believe that hospitals and healthcare organisations fail to adequately support them in coping with the stress of medical errors, while 82% report being somewhat or very interested in counseling after a serious error but note significant barriers (e.g., work schedule, fear that the content of sessions would not be kept confidential if sued, uncertainty that it would help, concern that it would affect malpractice insurance costs, worry that their colleagues would negatively judge them) [11]. In addition to these concerns, there is also the risk of job

loss, notoriety, and widespread media coverage. The combination of the lack of post-incident support, emotional effects of error, and the culture (both within healthcare and more broadly) make many who have who have made errors vulnerable.

Discussion

There is evidence that contact with people from 'outgroups', or those different from ourselves (whomever 'we' might be), affects our attitudes towards them, and that even short-term media-based contact can alter behavioural intentions, such as voting intentions on civil rights issues [1]. If attitudes and beliefs can change through media contact alone, it fits that indirect contact with those who have made medical errors may lead to changes in how we perceive medical error's 'second victims'. Even when we do not work directly with medical professionals who have made errors, our work is linked to them. Researching medical devices and their use can have an impact on those who have made errors. For example, we may refer to examples of well-known incidents or to errors (or those who have made them) in a general manner, and in doing so it is imperative to ensure that the 'second victims' of medical errors are treated with empathy.

Strategies

We propose two major themes to promote empathy in HCI research on medical error. The first of these deals with ensuring our work leads to no further harm and the second promotes a change from a culture of blame that creates fear, damages those who have made errors, and leads to under-reporting of medical errors to one that balances individual responsibility with a learning culture that recognizes system factors.

Reducing Harm

One way to reduce any additional harm that our research might inadvertently cause to those who have made medical errors, and especially when referring to actual incidents, whether in the public domain (e.g., media) or in anonymous incident reports, is to consider the individuals involved as a 'vulnerable population' and the topic itself as 'sensitive'. Sensitive research may include topics pertaining to deviance, deeply personal experiences, and the sacred [5]. What this diverse set of areas has in common is that they are sequestered or private topics that raise moral issues [3]. Medical errors fit within this, particularly when patients have experienced harm, including serious injury or death. Those who have personal experience of sensitive research topics should be regarded as potentially vulnerable by the researchers, and this includes healthcare professionals who have made medical errors, whether or not we have direct contact with them.

We can engage empathetically to ensure that those who may be vulnerable are not harmed by our work. For example, when referring to well-known public cases, we urge researchers to make the decision not to use the names of the healthcare professionals who have been blamed (even if the cases have received widespread media coverage, and even if the research, like some of our own, concerns media reporting of these incidents). Research about media coverage of medical errors shows that that when individuals have been blamed, rather than hospitals acknowledging system-wide factors, the coverage is likely to be sustained over a longer period of time, and those who have been named may be framed in a way that

supports blame discourses and prevents meaningful dialogue about medical errors [7].

Additionally, we can be sensitive in our use of language and our approach. More specifically, any subjective statements and ideas about whether or not we believe devices were used 'properly' may lie outside of our remit as researchers. For example, there may be a reason why an alarm was turned off: context of use is important. It is possible to approach device use and errors similarly to how sociolinguists approach language varieties and use: to avoid prescriptivism (e.g., judging some language varieties as 'good' or 'bad') and instead focus on descriptivism in order to better understand actual practices and their complexities. Doing so avoids adding further blame onto those who may already be vulnerable post-error.

Cultural Change

Recognising the existence of a culture of blame and the effects of medical errors is one way to help promote cultural change when developing safer medical devices. It is also necessary to communicate the need for safer and easier to use devices, stressing that often users are not at fault; rather, device design and situated factors in the environment where they are used can help or hinder patient safety. Those working on incident reporting mechanisms may also aid in culture transformation by developing methods for reporting, investigating, and closing incidents that take into account the dynamic system in which devices, users, patients co-exist.

Conclusion

Researching medical devices, design, and error in a way that does not cause additional harm to those who

have made medical errors involves HCI researchers approaching our work with empathy and taking into consideration the 'second victims' of medical errors regardless of whether or not we work directly with them. Through empathetic engagement in our research we are better able to understand interactive medical

devices and their use (including the situating context), finding better design solutions.

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