Medical Documentation in Humanitarian Emergencies: Building High-tech Castles in the Air?

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Abstract

Medical documentation poses many challenges in acute emergencies. Time and again, the reflection of those who manage healthcare during a 'disaster' involves some reference to poor, inadequate or even absent documentation. The reasons for this are manifold, some of which, it is often argued, would be negated by using technological solutions. Smartphones. Tablets. Laptops. Networks. Many models exist, and yet we have not reached a status quo whereby this single aspect of disaster response is fixed. Should we abandon technology in favour of a traditional paper solution? Perhaps not; however, it seems that the answer may lie somewhere in between. As simple as the problem might seem on the surface, its answer requires thought, investment and practice. And while it is being answered, it is essential to remain mindful of the hazards posed by gathering healthcare data: who owns it? Where will it be stored? How will it be shared? Academics and practitioners are equal guests at the table wherein this challenge is approached.

Keywords: technology, documentation, healthcare, records, data

Technology has advanced far beyond that which (and far more quickly than) humankind could have imagined – and far more quickly than it could have done. If resources were infinite, it is likely that innumerably more aspects of our existence would be enveloped in technological solutions. That said, when an extraordinary event occurs which challenges the day-to-day operations of any system, it is rare that technology can adapt to each and every aspect of the event. Humanitarian emergencies, crises and disasters are a good example of this. Even on a smaller scale, one has only to look to mass-casualty incidents in well-resourced settings. Much as plans and protocols may be in place, the need and requirement of the circumstance pushes the limits of capacity, and therefore it is necessary for healthcare (in needing to deliver the most for the most) to focus much more heavily and widely on the rudimentary stages of casualty management and triage. Certainly, the return to 'normal' in well-resourced settings is rapid; however, for that acute period, 'normal' is suspended.

One area which is illustrative of such acute stress on a healthcare system is documentation. In ordinary circumstances, whether paper or electronic health records are adopted, there is felt to be sufficient time to produce adequate documentation. In a crisis situation, the documentation drops in priority. First and most appropriate, this is because clinical care takes more attention. Second, however, it is often connected to either the ordinary documentation being unfit for purpose (too lengthy/complex for the speed requirements of the situation) or the designated 'disaster' documentation being unfamiliar to those using it. When it comes to paper versus electronic methods of documentation in this scenario, it does not take a leap of imagination to recognise that the humble paper and pen, for all its faults, is the simplest, most adaptable and least resource-intensive solution. Electronic solutions, for all their benefits, would need to be entirely familiar, functional (fully charged and fast), immediately available and linked either with immediately functional printing or central databases in order to compete with pen and paper. This is a mammoth task to deliver, especially for something which is used only in a disaster situation. One way to achieve this in mass-casualty settings would be to rely on a fully functional electronic system in 'normal' time, which could then be easily switched to 'crisis' mode so that a familiar interface becomes simpler, quicker and more suited to the situation. However, any experience of electronic systems in healthcare demonstrates that along

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with the exceptional broader benefits there are often minor hitches at the human-interface end, which can really slow things down, such as insufficient battery charge, printer malfunction and basic unfamiliarity with the system.

Let us now translate this narrative across to international humanitarian response wherein international teams deploy to provide healthcare during a disaster. In this situation, often the teams are constructed from staff who may have practised as a team previously but who are often unlikely to do so on a daily basis. Furthermore, the teams are unlikely to be working with the systems and protocols of the field hospital on a daily basis in advance of deployment. Therefore, all aspects of the field-hospital environment will take some familiarisation, and the documentation is no exception. There is a strong push from many corners of the humanitarian sphere to develop electronic documentation for this setting, and some teams have achieved this, at least in part. However we have to be very clear why we are doing this. If we are doing this simply because we can, that is not a good enough justification: electronic documentation is cost-heavy in terms of equipment and training and is also prone to failures which can impede speed and efficiency. Many teams simply will not have the resources and infrastructure to support such a system. Instead of a top-down approach to this, we need to look from the bottom up. What is the field hospital capable of doing? How does documentation fit in with patient flow? What is the essential information and what is superfluous information? Who needs access to which aspects of the patient documentation? Once we have established these aspects, we must start with the humble pen and paper and watch the process carefully, identifying points at which technology would be acceptable and beneficial to the process either of data collection or collation, and would not put the field hospital at risk of data loss for any number of reasons. When building solutions, we must be mindful of the cost at each stage and what is required to support any electronic system. If the benefits are outweighed by the burdens, the system will not be adopted: quite simply, healthcare professionals will adopt the approach which works best for them, and adoption would potentially be a wasted investment. By looking from the bottom up and keeping focused on the essential outcomes of patient documentation, there is potential to create more efficiency using technology in a way with which clinical staff embrace rather than battle.

Systems in themselves cannot serve to eradicate the pitfalls of human factors in medical documentation. Creating a more efficient method of data collection and collation, which possibly reduces the handwritten component, does not prevent the content of documentation being either poor or inaccurate. Therefore, at all times, there needs to be a careful eye on the documentation standards expected and the standards delivered during acute humanitarian disasters. In the longer term, records can be perused and interpreted; however, in the shorter term, when coordinating cells need fast daily data to help manage resources, immediately accessible accurate information is paramount. Maintaining this standard and enforcing it in a field hospital is one of many challenges for those in charge.

Finally, this topic cannot be touched upon without reminding ourselves of the elephant in the room when it comes to humanitarian data: security, ownership and sharing. These are heavy subjects, covered in depth in the literature, and yet the answer to managing all three remains slippery. International teams, working outside of their own country but to the standards of their home nation, handling patient data on the invitation of the host country in circumstances where patients may not even be nationals of that host country is fraught with difficulty. Paper records in this setting have their own challenges; however, electronic records and the ease with which data can be stored and transported is a whole other realm. To tread this path without robust safeguards and specialist input could lead a team and their data to be very vulnerable.

This piece does not seek to provide an answer to how best to handle medical documentation in disasters. It simply asks us to pause and think more deeply about how we prioritise it and how we decide to handle it. Shiny electronics may not be the panacea to all aspects of documentation; however, wise use of technology, when implemented in a considered, safe and evidence-based fashion, could provide be beneficial, as long as we remember that there is a reason why pen and paper is far from being extinct.