Current perspectives on safety informatics: the patient safety challenges posed by emerging health information technologies (proposed title)

# Purpose and key messages of the paper

(consider as abstract to the paper, under the proposed title)

\*we present the need for theoretical and practical foundations in patient safety, introduce Safety Informatics and its relevance to healthcare delivery, and present our views on types of patient-safety challenges that might arise from the use of new and emerging health information technologies.

\*Academic rationale

\*The primary planned deliverable from the collaboration series was a set of publications that begin to define the field of Safety Informatics and serve as a platform for future research and development.

The Centres’ mission is to bring theory into practice for the benefit of patient safety. Members of the centre are aware that there is currently unified body for patient safety theory. As a results, the Centres have agreed to collaborate on a series of workshops to explore the gaps in evidence and theory, and how best to address it. To this end we have organised a series of workshops each of which will produce a paper to engage with the wider readership.

\*Intention = Summary of evidence, definition and S.I., and synthesis of perspectives | “The paper will report…”

---What are the implications and the recommendations we are likely to make?---

\*We will highlight the need for research in the synthetic domain of Safety Informatics, which connects safety science, health science and digital innovation.

# Target audience/journal

Our publication is intended for decision makers, developers and users of health information technology, along with patient safety researchers and practitioners who may be interested in the implications of recent developments in informatics for quality and safety in healthcare. In terms of publication, we are looking at field-leading informatics and quality/safety journals. We are therefore considering two principle publication strategies. The first is to frame the work for the patient-safety audience and target BMJ Qual Saf (probably as a 2,000-word Viewpoint article). The second is to frame the work for an informatics audience and target JMIR or JAMIA, potentially offering the editors the option of publishing a series of articles linked to each workshop theme. An article written for either of these journals would similarly fit the format of J Int Med Infor and Health Informatics Journal.

# Our collaborative process (ultimately for the method’s section of the paper)

\*What have we done so far?

From the first workshop, the collaborative produced a set of classes of patient-safety challenges likely to result from the use of new and emerging technologies.

\*What is the plan going forwards?

\*\*We will recommend a set of techniques, theories, approaches and frameworks that can help to address the patient-safety challenges identified by the collaborative. These include the use of safety cases for prospective evaluation of safety; developments in approaches to regulation and standards; dynamic and causal modelling; automated methods to evaluate data quality; and a Human-Factors approach for evaluating technologies.

A national, expert, consensus-building collaboration was begun in April 2020 to provide a robust academic appraisal of the evidence base and subject-matter expertise relating to novel patient-safety challenges of new and emerging health information technologies. The collaboration was the first in a series led by the National Institute for Health Research Patient Safety Translational Research Centres from both Yorkshire and Humber, and Greater Manchester, UK; the proposal for the workshop is available at <*link to GitHub source*>.

In the first workshop, a set of new and emerging health information technologies were collated by the main author following a scoping review of the academic, commercial and grey literature relating to health information technology. These technologies provided the substrate for breakout discussions about the patient-safety challenges that might arise from use of these technologies, alone and in conjunction with existing, new and emerging technologies. The suggested challenges were then sorted into classes of challenges for succinct presentation in this publication.