Chapter 1
Clinical Pathways and the Human Factor:
Approaches to Control and Reduction of Human Error Risk

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ABSTRACT

A key approach to improving patient safety is to seek to modify both formal and informal behaviours in response to the extensive reporting of error causes in the literature. This response is primarily in two parts; a) actions to minimise the risk of error or b) actions to control against error. For a) very valuable work has also been undertaken in running human factors courses to demonstrate and try to change poor behaviour via best practice models. In the case of b) much work has been done on increasing control regimes such as checklists and also formal rules in formal procedures. However, these actions tend to be specific to specific health units, are often piecemeal and are not integrated to complement each other. Little work has been done to integrate these formal and informal/social behaviour into clinical pathways or health activities. This chapter reviews current thinking and develops a methodology and proposal for identification and control of human error in clinical pathways based on the research of the two authors.

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1. INTRODUCTION AND BACKGROUND

1.1 Patient Safety

Although large numbers of people continue to be successfully cared for and treated in the National Health Service, a significant number of errors and other forms of harm occur. It has been calculated that up to 10% of patients admitted to NHS hospitals are subject to a patient safety incident and that up to half of these incidents could have been prevented ((Osborn and Williams, 2004; Vincent et al., 2001). Surprisingly, up to half of the 10% of Iatrogenic or accidental errors could have been prevented (Michell et al, 2012). It was estimated by a Bristol Royal Infirmary Inquiry (Bristol HMSO, 2001) that around 25,000 preventable deaths occur in the NHS each year due to patient safety incidents. These incidents also generate a significant financial burden that includes avoidably prolonged care, additional treatment and litigation costs.

Avoidable unintended or accidental outcomes of medical care, medical errors are also a serious and challenging issue in many other countries including North America. The influential Institute of Medicine‘s (IOM‘s) report, To Err Is Human highlighted the extent of the problem and the need for remediation was documented in Building a Safer Health System (1999), where between 44,000 and 98,000 people die in hospitals each year as the result of medical errors. There is broad international agreement on the importance of achieving improvements to quality in this area (Milligan, 2007). The recorded event where an error is noticed ie a safety incident is defined by the National Patient Safety Agency (NPSA, 2004) as: any unintended or unexpected incident which could have or did lead to harm for one or more patients receiving NHS funded care‘‘. These types of incidents are also referred to in the literature as adverse events/incidents, medical error, clinical error, and include the concept of near miss. The latter is a situation in which an error or some other form of patient safety incident is averted, such as noticing and therefore avoiding giving the wrong drug to a patient.

In the UK, the terminology for self-inflicted errors by clinicians and health workers has evolved from serious untoward incident to ‘significant event’ or in extreme cases ‘never events’ with examples of over 1600 serious incidents occurring in one NHS region in one single year (Rosenorn-Lanng, 2014)

However, whatever the terminology these events are all dependent on the human in the room and in the loop, clearly driving the need to understand the human as a source of error. The study of the effect of the human condition on safety events and human errors is often termed ‘human factors’ and is clearly important in the understanding of safety problems since the care and intervention activities are primarily human driven.