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Designing out curative syringe reuse: maximising global acceptance and impact by design

Keywords: patient safety, infection prevention, unsafe injections practices, frugal design

Injections are the most common health care procedure performed in the world and the most deadly. Each year clinicians administer 16 billion iatrogenic injections using a pre-used syringe resulting in 1.3 million deaths, 26 million life years lost and 32% of all new Hepatitis B cases (Hutin & Chen, 1999). Following a global call by the World Health Organisation (WHO) in 1986 the auto-destruct syringe has since become a prerequisite device for all immunization programmes (95%). However cost has prevented its widespread adoption in a curative context (5%). Reaffirming absolute patient safety is illusory (Fischhof et al, 1981). Our presentation (and exhibit) describes a two-year process to develop an effective innovation and implementation strategy to contribute to a global reduction in curative syringe reuse violations through design. This undertaking involved precedent case studies, force-field analysis, and dialogues with global networks and specialists. Our acquired knowledge base captured the complexity of the challenge, sharpened the acuity of our strategic approach and identified essential team competencies: high-level advocacy, frugality, unilateral benefits (Howitt, 2012) and an acceptance for satisfice solutions (Simon, 1959). The outcome is not a new syringe but a transformative label that synthesizes theories of risk perception, chromism and visual design (Fig.1).

Figure 1: Transforming syringe label exhibit, Design4Health 2013

A patented intervention that adds intrinsic value to any production syringe thereby amplifying its impact to global patient safety: disposable, auto-destruct or pre-filled. Marc Koska OBE Founder of the SafePoint Trust recognised the significance of our condition-change feature, as a package sterility indicator while transiting the supply chain and as a visual alarm indicating prior use of medical devices to unsuspecting patients. Assisted by Marc Koska, a new draft mandate that aims to outline future performance requirements for WHO-certified injectable technologies now specifies our technological advance. Project execution is now our primary objective.

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