Think about design for healthcare and the spotlight inevitably fall on the systems, spaces and services of the hospital environment. Hospitals are where the real action is found in patient care—and where design innovation can make the biggest difference in terms of patient safety, whether this is related to controlling infection or avoiding medical error.

Against this backdrop, it is all too easy to forget that more than a billion people around the globe now receive care in non-hospital settings according to the World Health Organisation in UK alone, around 2.6 million people receive care from district nurses each year. Indeed the design story in healthcare extends far beyond the confines of the hospital, even if it commands less attention outside its walls.

It is to David Swann’s credit that his pioneering exhibition, Mobilising Healthcare; part of the ROCOT programme at Huddersfield Art Gallery, makes a comprehensive and engaging job of redefining the balance—design for healthcare by showing how innovation also transforms homes and communities away from the large nursing wards, operating theatres and intensive treatment units of the modern hospital.

Swann, who leads Product Design and Interior Design at the University of Huddersfield, shines a light on some relatively neglected corners of our healthcare system—beyond the home visit by the district nurse to the emergency ambulance on our streets—and demonstrates how design can make a difference there too. His primary tactic is to use contemporary innovations in the field, including some he has designed himself, within a strong historical context projected mainly via large scale black-and-white photographs.

These evocative images depict at 150 years of healthcare in the community and the home. Indeed Mobilising Healthcare is effectively prefaced by Florence Nightingale’s assertion in 1861 that: “Everyone will agree with me that every sick man (or woman) is better at home, if he (or she) could have the same medical treatment and nursing there that he (or she) would have in hospital.”

Cleaning images from the Queen’s Nursing Institute set the standard for the district nurse of the 1930s who were more sharply tuned out than today’s nursing practitioners but as Swann very points out, were caring for less equipment. Historic instruments and artefacts such as Galvaniite bags, syringes, weighing scales and sterile jugs recall the improvisatory medical expertise of pre-World War Two and pre-NHS Britain. But these exhibits borrowed from recent museum collections, do little more than form an atmospheric backdrop to the contemporary projects, which form the main components of the exhibition and tell us something new and fresh about healthcare away from the hospital in the twenty-first century.

Pride of place among these new projects is a Swan’s own award-winning redesign of the traditional black nursing bag carried by community nurses, a case which has been largely unchanged for the past 100 years Swan’s total rethink, which formed the heart of his PhD research at the Royal College of Art, creates a portable product fit for a twenty-first century purpose in terms of modularity and materials.

The new design aims to enhance patient safety by making sure that hands are decontaminated and generally improving the productivity of the health visitor. It also looks the part, is discreet and efficient; indeed a key aspect of Swan’s thesis on healthcare is about projecting a professional image to build patient confidence outside the hospital.

The nursing bag innovation came about as part of a larger ESPRC-funded study at the RCA on designing the future of the ambulance. This research and a futuristic prototype interior that emerged from a subsequent collaboration between the RCA, the London Ambulance Service, Imperial College Healthcare Trust and other partners, also features in Mobilising Healthcare.

Developed by bringing together front line paramedics, clinicians, patients, academic researchers, engineers and designers in a co-design process, the prototype interior project began with the designer’s joining ambulance crews on calls outs during twelve hour shifts. Key insights were translated into sketch designs; a full-scale test rig was mocked up in cardboard and foam, resulting in a full-size task like, feels like mobile demonstrator.

The new ambulance refigures the layout of the patient treatment space. There is 360° access to the patient, which not only improves clinical efficiency but also enhances patient safety. The interior is designed to be easier to clean. Equipment packs containing specific treatment consumables aid clinical performance, infection control and stock control. A new digital diagnostics and communications system anticipates a time when electronic patient records can be called up inside any ambulance racing to the scene of an emergency.

The new ambulances project is in some ways the ‘polder box’ for Swan’s design vision for enhanced care outside the hospital.

David Swann
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In ergonomic and digital innovation points to a future in which ambulances do not simply scoop up patients and ferry them back to primary care hospital, but treat them on the spot, or at walk-in clinics, in the community, thus easing pressure on the system.

Politically, UK governments try to ration care into fewer specialist super hospitals and close some local hospitals, such changes debates are right on the money. Recent Department of Health Design Council demonstration projects to kick-start innovation in the NHS are also given an airing in the exhibition, such as the Design Bugs Out initiative, which aimed to sit alongside a deep clean of infection-ridden UK hospitals.

Design Bugs Out is represented in Middling Healthcare by Pearson Lloyd’s smart, simple and robust commode, which is made by NHS supplier Bristol Med. The alliance of a leading British design firm with a prominent British manufacturer under the auspices of a publicly funded initiative to improve UK health services, deserves commendation. But other parts of the world where people have far less access to hospital care, perhaps provide the most inspiring examples of what design thinking can achieve.

My favourite case study in Swan’s compendium is the ColaLife plot in Zambia, which takes spaces in refrigerated Coca-Cola crates to transport to pills containing essential drugs around the country. This is community-based healthcare innovation at its most basic and ingenious. Indeed, faced with the escalating demand of an aging and obese population there is new growing interest in the NHS in such frugal techniques and in reverse innovation by low-cost, high-impact ideas back into our increasingly expensive healthcare system.

Swan’s own ABC LifeSaver syringe, a brilliant innovation designed to deter non-sterile syringe reuse in the developing world, turns bright red sixty seconds after use, points the way to better more sustainable community healthcare. It addresses the estimated 1.33,000,000 early deaths caused by unsafe needles a year worldwide through the clever combination of a hydrogen oxidised nitrogen filled pack and a spindal ink that colours the barrel of the syringe when exposed to air.

By curating a show of his own and other design innovations of this kind, David Swan brings a novel and important angle to the critical debate about the future of healthcare in the UK, and around the world. We may want to provide more care outside the expensive hospital setting. However, we need to design better systems and services with the highest standards of patient safety to make it work. Reapplying the calm immediate reassurance of the Queen’s Nursing Institute isn’t going to be easy.

Notes