



Image © David Swann

## David Swann

### Mobilising Healthcare

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Reviewed by Jeremy Myerson

Think about design for healthcare and the spotlight inevitably falls 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 background, 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 2.6,000,000 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 ROTOF programme at Huddersfield Art Gallery, makes a comprehensive and engaging job of redressing the balance in design for healthcare by showing how innovation also flourishes in 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 – from 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 set 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 one 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!'

Gleaming images from the Queen's Nursing Institute set the standard for the district nurses of the 1950s who were more smartly turned out than today's nursing practitioners, but as Swann wryly points out, were carrying far less equipment. Historic instruments and artefacts such as Gladstone bags, syringes, weighing scales and sterilising kits recall the improvisatory medical expertise of pre-World War Two and

pre-NHS Britain. But these exhibits, borrowed from several museum collections, do little more than form an atmospheric backdrop to the contemporary projects, which form the main cornerstones 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 Swann's own award-winning redesign of the traditional black-nursing bag carried by community nurses on home visits – a case which has been largely unchanged for the past 100 years. Swann's total rethink, which formed the heart of his PhD research at the Royal College of Art, creates a portable product fit for 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, clinical and efficient; indeed a key aspect of Swann'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 EPSRC-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 frontline paramedics, clinicians, patients, academic researchers, engineers and designers in a co-design process, the prototype interior project began with the designers joining ambulance crews on callouts 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 'boks like, feels like' mobile demonstrator.

The new ambulance reconfigures 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 pads 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 ambulance project is in some ways the 'poster boy' for Swann's design vision for enhanced care outside the hospital.

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

Politically as UK governments try to rationalise care into fewer specialist super-hospitals and close some local hospitals, such design 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 this exhibition, such as the Design Bugs Out initiative, which aimed to sit alongside a 'deep clean' of infection-riddled UK hospitals.

Design Bugs Out is represented in Mobilising Healthcare by Pearson Lloyd's smart, simple and robust commode, which is made by NHS supplier Bristol Maid. 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 Swann's compendium is the CoalLife pilot in Zambia, which takes spaces in refrigerated Coca Cola crates to transport pods containing essential drugs around the country. This is community-based healthcare innovation at its most basic and ingenious. Indeed, faced with the accelerating demands of an ageing and obese population, there is now growing interest in the NHS in such frugal techniques and in 'reverse innovation' of low-cost, high-impact ideas back into our increasingly expensive healthcare system.

Swann's own ABC Lifesaver syringe, a brilliant innovation designed to deter non-sterile syringe re-use in the developing world by turning bright red sixty seconds after use, points the way to better, more sustainable community healthcare. It addresses the estimated 1.3,000,000 early deaths caused by unsafe needle injections worldwide through the clever combination of a nitrogen-filled pack and a special 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 Swann 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 the right systems and services with the highest standards of patient safety to make it work. Recapturing the calm, immaculate reassurance of the Queen's Nursing Institute isn't going to be easy.

## Notes

1. Nightingale, F. (1861), published letter to the chair of the Liverpool Training School for Nurses, in *Florence Nightingale and the Birth of Professional Nursing*, Vol. 4 (1999), ed. by Williamson, L. Thoemmes Press, pp. 25-26.



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