

Original citation:

Cain, Rebecca, Bitterman, N., Ludden, G., MacKrill, James B., Ozcan, E., Petermans, A. and Escobar-Tello, C. (2016) Introduction : Design for health, wellbeing and happiness. In: DRS 2016 International Conference : Future-Focused Thinking 50th Anniversary International Conference, Brighton, UK, 27–30 Jun 2016. Published in: Proceedings of DRS 2016 International Conference: Future-Focused Thinking 50th Anniversary International Conference Brighton, UK, 27–30 June 2016, 4 pp. 1434-1441.

Permanent WRAP URL:

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Introduction: Design for Health, Wellbeing and Happiness

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DOI: 10.21606/drs.2016.625

1. Introduction to SIGWELL

SIGWELL is the Design Research Society's Special Interest Group which focuses on Design for Health, Wellbeing and Happiness. The SIGWELL community has an interest in advancing knowledge, and the development and application of design research in the broadest sense to improve the personal and societal health, wellbeing and happiness of people.

The remit of SIGWELL is wide-ranging; including the design of products, technologies, environments, services and experiences for health and wellbeing; developing understanding of how design impacts upon health, wellbeing and happiness (and other emotional states); and the development of new tools, methods and approaches for designing for health, wellbeing and happiness.

The SIGWELL themed sessions at DRS2016 are an important opportunity to showcase the latest thinking and research from the international design community on design for health, wellbeing and happiness. We see emerging trends in designing care and spaces for older people, designing for behavior change to tackle unhealthy eating behavior in children, and the design of new technologies in a medical context. The paradigm of moving care out of the hospital and into the home, and the role for design in this is also addressed.

Significantly, the body of work on subjective wellbeing - design for happiness, is increasing, and we see several examples of this – from the design of tools for designers, to designing



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happy experiences in the home, and even car interiors. Methods and approaches for design research in the area of health well-being and happiness featured in the SIGWELL sessions, are highly user-centric, participatory and sometimes critical and speculative. The distilling of this design knowledge into frameworks and tools for designers is a popular output of the research.

2. The relevance of design for health, wellbeing and happiness

People all over the world are living longer. There has been an unprecedented increase in average life expectancy during the last century, largely due to medical advances. But these extra years of life pose challenges – on the one hand they could mean longer to live independently in good health, or on the other hand, more years of living with chronic illnesses and being dependent upon others.

Maintaining good health plays a key role in a person's quality of life. The Constitution of the World Health Organisation (1946) defines good health as "a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity". It emphasises that people should enjoy the highest attainable standards of health, going on to say it is "one of the fundamental rights of every human being with distinction of race, religion, political belief, economic or social condition".

Wellbeing is harder to define. It is a broad term encompassing a number of concepts and can be defined in a multitude of ways. The Department for Environment, Food and Rural Affairs (HM Government 2009) in the UK for example, defines wellbeing as "a positive physical, social and mental state; it is not just the absence of pain, discomfort and incapacity". The term 'wellbeing' is increasingly being used together with 'health' to address what might formally have been known as 'public health'. This approach sees an interdependency between health and wellbeing, where crucially, prevention is as important as cure.

As one in four people are affected by mental health conditions, an important facet of wellbeing is subjective wellbeing – or happiness. It has become a multidisciplinary topic of interest for designers, psychologists, politicians and economists, and a movement also embraced by Western societies who are starting to place more importance on an experiential and goal-driven, rather than a material value-system. This change of focus from material to more personal and experiential opens up opportunities for design – where it is not only the design of physical products themselves which can bring happiness, rather it is the experiences that people can have from using the products which can bring happiness.

In light of this societal context, design for health, wellbeing and happiness goes beyond designing products or environments which directly aim to improve health or wellbeing (such as medical products or hospitals), but it is to be embraced as a broader concept where design can enable positive experiences, which contribute to happiness, wellbeing, and therefore, ultimately, health.

3. SIGWELL papers

For DRS2016, authors were asked to contribute papers towards the SIGWELL theme of *'Designing healthier and happier futures for all'*. It was interesting and enlightening to see that there are clusters of trends emerging from the selected papers, in terms of the research applications, but also the methods and approaches used. Interestingly, we also see the relevance of these papers to other DRS Special Interest Groups, such as Design for Sustainability and Design for Behaviour Change. Many of the methods used by the authors in this theme also relate to wider current discussions within design research, including participatory design, and critical or speculative design. This demonstrates the complex inter-relationships between health, wellbeing, happiness, sustainability and behaviour, and also the research methods by which to approach these areas.

In particular, the selected papers for the SIGWELL theme address design challenges within the following four areas:

- **People** - designing for vulnerable groups where design for health and wellbeing can have the most impact. Designing for older people and those with dementia, and also children.
- **Technology** – designing devices and emergent technologies, to be used in the home or hospital.
- **Spaces** – designing the built environment in which people live and where healthcare is delivered. This includes moving from hospital to home, and the growing importance of the home as a healthcare environment.
- **Positive design** – designing to create positive experiences. The framework for Positive Design: pleasure, significance and virtue to promote human flourishing, developed by Desmet and Pohlmeier (2013) has been used by several authors to underpin their research into design for wellbeing and happiness.

In addition, in terms of design methods and approaches, we see multiple uses of the following in the SIGWELL theme papers:

- **Frameworks and tools** - the use of frameworks as a way of capturing and packaging the outcomes of design research, in order for it to be of use by designers. Also the development of tools, such as card-sets.
- **Participatory design and co-design** – user-centric ways to involve users in design for health, wellbeing and happiness.
- **Speculative design and critical design** - the emergence of critical design applied to health contexts whereby artefacts are produced which represent a possible future and ask questions rather than provide solutions.

3.1 People

Design has the powerful potential to address some of the problems faced by the most vulnerable in our society, for example, our ageing population, including those suffering from

and caring for those with dementia. Two papers in the SIGWELL sessions have focused on this. Firstly, in an exploration of a new approach to participatory design, the paper by Treadaway et al (2016) presents the LAUGH project which develops playful artefacts which contribute non-pharmacological personalised approaches to caring for people living with late-stage dementia in residential care. From a starting standpoint of Positive Design, they use an inclusive, participatory methodology– designing for pleasure, virtue and personal significance

Continuing with the theme of using design to enhance the lives of older people, Ahmadpour and Keirnan (2016) visited the literature in their paper to clarify the factors which contributed to the wellbeing of older residents in Australian villages. Using field observation and in-depth interviews, they identified that identity, competence, relatedness and autonomy were the important factors which related to the older people’s wellbeing. They go on to link these factors to the built and social environment. Their resulting framework has value for designers responsible for creating these types of private housing for older people.

Other authors of papers in the SIGWELL sessions have seen the value in presenting the outcomes of their research as frameworks to help designers. Looking at the other end of the demographic spectrum, and another vulnerable population group - children, Ludden and de Ruijter (2016) look at how a behaviour change approach can alter the unhealthy snacking habits of children. Through offering an alternative approach to traditional health interventions (such as promotional campaigns), they propose a design for healthy behaviour framework which can support designers in proposing new, more effective healthy behaviour concepts to parents.

3.2 Technology

Moving on to consider the role of technology in terms of artefacts and devices, Page and Richardson (2016) and Chamberlain (2016) look at medical device design in their research. Page and Richardson take a discursive approach to look at the design of interactive medical devices. They explore the common discourse in phenomenological research in the fields of medicine, HCI and design fields and introduce a transdisciplinary foundation (which stops short of a framework, they claim). This is relevant to other researchers and designers working at the intersection of these fields. They go on to report on a co-creation design practice between the designer and the user, using speculative design probes.

Macdonald et al (2016) describe a participative approach to developing a prototype tablet-based digital training tool using dynamic visualisation-led techniques to raise awareness and understanding of Infection Prevention and Control and Healthcare-Associated Infections for hospital-based staff. An evidence-based and iterative visualisation prototyping process was used to engage staff and invite contributions from across a number of roles within the National Health Service in the UK. Findings suggest that the visualisation-led approach was helpful in articulating the behaviours of pathogens and staff and their interactions within the

complex setting and service ecology of the National Health Service, and in making infection prevention and control training materials clearer and more engaging.

3.3 Spaces

In response to a major new health paradigm, Chamberlain (2016) explores the implications in the shift of traditional care in the hospital, to that of care in the home. In particular, the paper probes what happens when the culture and practice of health interventions which have previously resided in the hospital, infiltrate the private space of the home. He observes the increasing migration of devices and emergent technologies into the home setting and the challenges that this poses. The author unpicks the complexities of how the hospital and domestic environment can become a hybrid space and highlight the importance of engaging users to both understand and collaboratively develop solutions. Applying a critical artefact methodology, they show the need for collaborative approaches between design and health to be critical to understanding these two disparate environments, and that careful consideration is needed when developing new paradigms of care.

This paradigm of the 'home' as the new environment for healthcare is evident in other papers within the SIGWELL sessions, showing particular importance the notion of 'happiness'. For instance, Doyle et al (2016) explore how design for happiness in the home can lead to future sustainable, more fulfilling and happier domestic life-styles. The authors used photo-elicitation and interviews with participants from home-owning families to locate happiness triggers in the home. From this, the needs and motivations for home life activities were conceptualised and connections were drawn to those of happy and sustainable societies. The work contributes to awareness on design for happiness, equipping designers with knowledge on the types of activities and behaviours in the home, which make people, ultimately, happier.

3.4 Positive design and design for happiness

Happiness and subjective wellbeing are growing in importance, and can be seen to have a growing influence in design research. Several authors have used this approach as a starting point for their research, including Treadaway et al (2016) discussed above. In a similar vein, Casais et al (2016) make a contribution to the growing field of positive design through making use of the symbolic meaning that design can have to bolster human happiness. The authors developed a card set for designers to inspire design for happiness and tested it with design professionals, educators and students.

Duste et al (2016) present a design case-study in which pleasure, personal significance and virtue can be understood in the context of design practice, and how to integrate these in a meaningful way. This work attempts to move on Desmet and Pohlmeier's (2013) existing design for wellbeing framework from that of analysing existing designs, to being of use in design projects. The reported case study developed a car interior for a car-sharing service and introduced the idea of experiences which evolve over time.

Finally, in a demonstration of the cross-cutting nature of design for wellbeing, and its relationship to other design domains such as design for sustainability, Boess and Pohlmeier (2016) draw together the interlinked themes of wellbeing and sustainability. Driven by an initial insight that design students thought that wellbeing and sustainability was an 'either or', they chose to focus on subjective wellbeing as an essential part of designing for sustainability, not as an alternative or as an optional extra. Using a post-hoc case-study approach, they looked at student projects from two studios – one working on sustainability and one working on wellbeing. They examined aspects of the studio work where design for sustainability promoted wellbeing, and vice-versa. Four themes were proposed, which act as approaches to bridge design for sustainability and design for wellbeing: open reflection, pathway activities, resource and material preservation as side effect, and broader insights.

4. Looking to the future

The papers contained within this SIGWELL theme demonstrate the progress that is being made towards developing new design research approaches for addressing the challenges facing the health and wellbeing of society – from ageing, diet, healthcare, infection, and sustainability. As ever, the difficulty is in translating this academic knowledge into practical and useful tools for practicing designers. If society is to see the benefit of designing a better quality of life, the design research community needs to ensure that practicing designers can access and learn from this growing body of academic knowledge to embed these principles into their work in the real-world.

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