Risk & reward: Exploring design's role in measuring outcomes in health

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Citation:

Risk & Reward: Exploring Design's role in measuring outcomes in health

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Abstract:
Collaborations between the fields of Design and Healthcare often involve navigating epistemological differences in terms of what is considered robust 'evidence.' Whilst Design approaches are gaining traction in healthcare contexts, the scientific paradigm of evaluation remains in a privileged position. This creates a challenge for designers working in healthcare, but also an opportunity. This workshop aims to explore the role of Design in expanding understanding of impact of medical interventions, products or services beyond traditional (and dominant) quantitative methods, towards broader, experiential and contextualised outcome measures. By focussing on the context of child prosthetics as a particularly risk-laden area of investigation, participants can expect a fast-paced, interactive and collaborative session. By maintaining a focus on learning through making, participants will be invited to share their own experiences as well as imagine new ways of supporting young patients and family members in communicating the complex, real-world impacts of their medical devices.

Keywords: Healthcare, Evaluation, Values, Prosthetics

1. Context of Workshop

In recent years, the role of Design in the field of health and healthcare services has become a growing area of interest (Tsekleves & Cooper, 2016), particularly its ability to elicit rich understandings of patients' and professionals' lived experiences in the development of healthcare services or products. It is less established, however, in giving equal attention to the later, evaluation stages of projects in healthcare (Almqvist, 2017).

In contrast, the field of healthcare (following a more traditional scientific paradigm of research) is strongly focussed on measuring patient outcomes following medical interventions, predominantly using quantitative methods to promote generalisability of findings. The authors argue that whilst there is a place for such measures, their dominance creates a risk of failing to capture qualitative, experiential and context-specific understandings of the impact of healthcare interventions – data which may prove vital to addressing the complexities of healthcare challenges today.

The need for a broader definition of 'outcome measures' has been identified within the field of child prosthetics in particular, through The Starworks Network (see www.devicesfordignity.org.uk/starworks_cp). The network has highlighted several facets to consider, including social and emotional impacts of the prosthetic, the potentially limited communication skills of younger children and the impact of the prosthetic on the child's wider network of support (i.e. family and friends). In addition, inappropriate outcome measures are preventing input and innovation from academia and industry, or hindering the translation of innovation into healthcare practice.

With this in mind, Design methods may arguably be well-suited to helping children and families understand and communicate interdependent, context-specific, meaningful 'outcomes' of their prosthetic, with broader implications for related innovation within academia and industry.

2. Planned Activities and Expected Outcomes

The session will complement small group work (using a range of bespoke tools, personas, case studies and collaborative making activities) with whole-group reflection and discussion in each section. The insights and outcomes of activities will build upon each other as the session progresses, as follows:

Table 1: Summary of the 'Risk & Reward' workshop activities

Section	Activities	Insights and outcomes
Introductions (≈5 mins)	Housekeeping information plus a quick, fun activity to introduce the group to each other.	-
Sharing experiences (≈15 mins)	Small group activities to reflect on experiences and case studies of conducting design in healthcare contexts, to identify and share challenges of evaluation within.	A) Identifying and visualising challenges of 'robust' evaluation of design in healthcare contexts throughout all stages of a project.
Identifying opportunities (≈25 mins)	Following an introduction to child prosthetics and The Starworks Network, small groups will begin to explore how innovations in this area may impact on the multiple areas of a child's life, as well as that of their family.	B) Highlight challenges of evaluation when working with children C) Highlighting a range of factors in a child's life that may be impacted by a prosthetic. D) Identifying which of these factors may be important to consider across a range of prosthetic innovation areas.
Ideation (≈40 mins)	Considering the insights generated so far (A-D), small groups will ideate methods, systems or equipment to help measure 1 context-specific, meaningful 'outcome' or 'impact' of child prosthetics and/or innovations in this area.	Physical and/or visual models of broader 'outcome measures' of child prosthetics.
Wrap up (≈5 mins)	Summary of the session and opportunities to be involved in The Starworks Network.	Building a community in this research area after the session

In addition, participants will be invited to feedback on their experiences of the workshop either during the session, via telephone/email, or via an anonymous survey. Insights from this will be considered in any publications resulting from the workshop.

Ethical considerations will be taken at all stages. This includes (but is not limited to), ensuring all participants are able to participate in activities (regardless of previous

experience); ensuring case studies are anonymised where appropriate; and protection of attendee's data and/or intellectual property. Insights emerging from the session will be consolidated into a report and circulated amongst workshop attendees for approval before they are fed back into The Starworks Network (with permission). A concise (500 word) illustrated summary of this report will also be published on the EAD website.

3. Intended Audience

We welcome the input from anyone with an interest and/or previous experience of using design in healthcare contexts, particularly those willing to embrace 'risk' and push the boundaries of what Design can offer in these challenging contexts. We hope to include a range of disciplinary backgrounds and delegates at any stage of their research careers. We feel the session would suit a group of 15-20 people, but are flexible to demand.

Prior to the workshop, we will leverage our networks within Sheffield Hallam University, Devices for Dignity and the Design4Health conference network via social media and mailing lists. A brief summary of the session and the EAD conference will be provided, as well as a link to an Eventbrite page (created and maintained by the workshop organisers) to register for the workshop. This Eventbrite page will be used to manage attendance (creating a waiting list if necessary) and circulate more detailed information about the workshop, including Participant Information Sheets regarding photography and use of information.

4. Length of Workshop

The organisers feel that 90 minutes will be needed for a session such as this, where individual and group reflection will be complemented by collaborative ideation activities.

5. Space and Equipment Required

The organisers aim to encourage an informal, creative and collaborative atmosphere - as such a studio space with plenty of wall space and cabaret-style seating would be ideal. If we are able to display media on the walls (i.e. with Blu Tac or masking tape) then we will not need any computing or projection equipment. Flip chart stands and paper would be useful but not essential, all other equipment will be brought by the organisers.

6. Potential Outputs

- This workshop activity will contribute to a key aim of The Starworks Network, and as such may be written into reports to the funding body (the National Institute for Health Research) – increasing exposure and understanding of the EAD conference to a wider medical community.
- Participants will be contributing to knowledge in a live research area. As well as new approaches to 'outcome measures', this may also include identification of new research questions and/or establishing new research collaborations between workshop participants.

References

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About the Organisers:

Gemma Wheeler is a Design Researcher at Lab4Living. After training in Product Design, she conducted a PhD study exploring patient participation in spinal cord injury rehabilitation, and Design's role in helping patients, families and healthcare professionals work together through rehabilitation.

Joe Langley is Principal Research Fellow at Lab4Living. He is an NIHR Knowledge Mobilisation Research Fellow, a founding member of the TITCH (Technology and Innovation Transforming Child Health) network, and a named inventor on two patents for medical devices.

Nathaniel Mills project manages the paediatric theme within Devices for Dignity and the TITCH (Technology and Innovation Transforming Child Health) network. He is a trained nurse and was previously the lead nurse for the South Yorkshire Clinical Research Network.