

# EMBODYING COMPLEX MULTI-USER AGENDAS IN DYNAMIC VISUALISATIONS THROUGH QUALITATIVE PROCESSES

## INTRODUCTION and AIM

In healthcare service provision, the nature and type of relationships, e.g., between a clinical biomechanist, a physiotherapist and their patients, define the level of authority and decision-making, determining priorities and agendas and influencing outcomes. In complex interventions, approaches to prospective solutions developed solely by individual disciplines are much less successful in acknowledging the complexity and ‘multiple confounders’ than those processes embodying the collective experience, insights and expertise of all involved (i.e. developers, providers and consumers). This type of approach may compound problems through the introduction of solutions that are perhaps unworkable or ineffective due to a lack of acknowledgement or a poor understanding of complex interdependencies and relationships, and end-users’ real needs. [1] Consequently, there can be a lack of collective contribution to potential solutions from—and engagement with—all those who are developing, delivering and receiving services. The questions for physical rehabilitation, e.g., within stroke rehabilitation, are: who decides the agenda; how do the agendas of the clinical biomechanist, the therapist and the stroke survivor differ; and can these differences be reconciled? Recent pre-occupations in design practice and research have extended the understanding of design from a practice comprising activities which were once purely those of the ‘professional’ (e.g., industrial) designer supplying a ‘solution’ to a problem to the point where design is seen as a ‘distributed social accomplishment’ and where, e.g., ‘stakeholders are co-designers and designers are another kind of stakeholder’ [2]. The development and evaluation of dynamic visualisations of biomechanical data for use in stroke rehabilitation has provided an opportunity for enhanced mediation of communication and understanding between the stroke therapist and the stroke survivor, while simultaneously enabling the biomechanist’s contribution to be made much more accessible and understandable by the non-biomechanist. This paper describes how the complex multi-user agendas of those contributing to and using these dynamic visualisations in stroke rehabilitation have been embodied and reconciled through a qualitative participatory process, used commonly in the field of Design, which involved all main stakeholders.

## PATIENTS/MATERIALS and METHODS

The paper describes the achievements of the qualitative ‘participative’ method employed from the outset to engage the key stakeholders in the development of an innovative visual tool for use in stroke rehabilitation. The ‘participative’ process, employed to engage clinical biomechanists, therapists and patients in the process of development of the visual tools from the outset, came to embody the different agendas of each of these groups. This ensured that not only the biomechanists’ but also the therapists’ and survivors’ agendas and issues were prioritised and each considered just as important as the others. This approach ensured that everyone was ‘on the same page’, flattening traditional top-down agendas and decision-making, allowing input from everyone involved in the process of both delivering and benefiting from the rehabilitation process.

## RESULTS

The paper will present preliminary results of analysis of qualitative data emerging from a set of random controlled feasibility trials across three stroke trials, and highlight how each of the different agendas from the key stakeholders came to be embodied in the tool.

## DISCUSSION and CONCLUSIONS

The Design field has increasingly recognised the value in mobilising lay knowledge and experience in innovation. *"In the 21st century, the big gains will come from professionals mobilising a far larger body of lay knowledge among users. Organisations that can mobilise the intelligence, investment and imagination of their users will reap huge gains in cost, productivity, flexibility and innovation"*. [3] The paper discusses how Design has recognised that the quality of service results in quality of the patient experience and how user experience can be utilised to enhance service quality [4] and will discuss process used to achieve this. It will conclude with the implications of this approach for future rehabilitation research with reference to previous work in the field of Design.

## REFERENCES

- [1] Grint, K. (2008) *Wicked problems and clumsy solutions: the role of leadership*. Clinical Leader, I (2): pp. 54-68.
- [2] Kimbell, L. (2009) *Beyond design thinking: Design-as-practice and designs-in-practice*. Available at: [http://www.lucykimbell.com/stuff/CRESC\\_Kimbell\\_v3.pdf](http://www.lucykimbell.com/stuff/CRESC_Kimbell_v3.pdf) [accessed 25 May 2012].
- [3] Cottam, H. and Leadbeater, C: *RED Paper 01. Health: Co-creating Services*. Design Council 2004. London, Report.
- [4] Bate, S.P., and Robert, G. (2007) *Bringing user experience to health care improvement: the concepts, methods and practices of experience-based design*. Radcliffe Publishing.