

<b>Institution:</b> University of Sheffield
<b>Unit of Assessment:</b> 22 - Social Work and Social Policy
<b>Title of case study:</b> Making children's hospital design more child-centred
<p><b>1. Summary of the impact</b></p> <p>In response to a new NHS policy initiative to create child-friendly hospitals, an ESRC funded research project (<i>Space to Care</i>, 2004-7) explored children's own perceptions and experiences of hospital space by seeking out the views of children aged 4-16 who were hospital patients. Through revealing the importance of age as a key differentiating factor in children and young people's views about hospital space, the result of adopting this child-centred approach was to demonstrate that the government's concept of a 'child-friendly hospital' was failing to address the different needs of all children up to the age of 16. The findings from the study were therefore used to develop a set of key design principles and evaluation toolkits for healthcare professionals, architects and healthcare planners to help make hospitals more child-centred. These have: (1) informed the health-care design practices of architects, nationally and internationally; and (2) assisted health-care professionals in the UK and Australia to improve their existing facilities.</p>
<p><b>2. Underpinning research</b></p> <p><b>Context</b></p> <p>Improving the built environment in which healthcare is delivered through innovative planning and design is a central tenet of contemporary NHS service planning in England and Wales. The ESRC funded <i>Space to Care</i> study (2004-7) explored the implications of this for children's hospitals where the stated aim is to provide child-friendly hospitals that meet the differing needs of children of all ages. [see (2004) <i>Health Building Note 23. Hospital accommodation for children and young people</i>; (2003) <i>Improving the patient experience - Friendly healthcare environments for children and young people</i>]. However, in these policy documents there was little evidence to substantiate what the concept of 'child-friendly' means in the hospital context and no focused consultations had been carried out, by policymakers, to ascertain children's and young people's own understandings or experiences of hospital space. Adult preferences about hospital space had been transplanted uncritically into the policy documents shaping hospital environments for children. This study of children's perceptions of hospital space was therefore the first of its kind.</p> <p>Based at Sheffield University, the research team comprised Professor Allison James from Sociological Studies and other colleagues - Professor Penny Curtis and Dr Jo Birch - from the Centre for the Study of Childhood and Youth, Sheffield University. Together they brought the theoretical and methodological insights of childhood studies to address this substantive policy issue.</p> <p><b>The study</b></p> <p>The original research explored children's perceptions and experiences of both inpatient and outpatient hospital facilities within three different types of hospital: an established children's hospital, a newly built specialist facility and a children's ward in a general hospital. Fieldwork and interviews with 255 children aged between 4 and 16 were conducted using a range of child-centred methods, including a specially developed photo-elicitation and spatial mapping tool. Children of different ages were asked to comment on the physical and social characteristics of the spaces provided for them in hospital: the space around their beds, treatment rooms, corridors, canteens, bathrooms and play rooms. These research methods enabled children to voice their own views and understandings of different hospital spaces and also revealed what it feels like to be a child or young person within such an institutionalised setting (R2, R3).</p> <p>Across all the different settings, both children and young people said that hospital environments seemed to be designed with only babies and infants in mind. Even children as young as 7 experienced hospital spaces, such as play rooms, as rather babyish in terms of their décor and recreational facilities (R1). Age was shown therefore to be a key, differentiating factor for children</p>

**Impact case study (REF3b)**

and young people, especially in relation to social and quiet spaces, recreational facilities, the personalisation of bed spaces and the need for privacy (R4). Children and young people also commented on the quality and sense of hospital space: they disliked places that appeared dull, dirty or messy, preferring instead those which looked colourful, bright, clean, tidy and comfortable, with age appropriate art on the walls (R1). Treatment areas were appreciated where the clinical aspects were disguised. These consultations with children and young people revealed, therefore, that the hospital environment is important to them in ways that are not currently being addressed in adult assumptions about what constitutes a child-friendly environment.

The project's findings were reported in the ESRC end of the award report and academic publications. They were also used to develop a series of toolkits for architects, health-care planners and professionals to evaluate the 'child-friendliness' of existing hospital environments. A dissemination conference was also held, in 2007, which was attended by 50+ healthcare architects, health-care professionals and policy makers.

The original research led directly to a knowledge transfer project, carried out at the request of Leeds General Infirmary in 2011, which explored the problems experienced by parents and children in negotiating their way around the hospital and also underpins a new project currently being undertaken on behalf of Sheffield Children's Hospital (2013-4) to examine how design and spatial issues might influence children's, parents' and nurses' views of family-centred care.

**3. References to the research**

The research was funded by the ESRC **RES-000-23-0765**, *Space to Care: Children's Perceptions of Spatial Aspects of Hospitals* (2005-2007) £122,099.64

R1. Birch, J. James, A. and Curtis, P. (2007) 'In search of the child-friendly hospital' *Built Environment* 33 (4): 405- 416. doi: [10.2148/benv.33.4.405](https://doi.org/10.2148/benv.33.4.405)

R2. James, A, Curtis, P, and Birch, J. (2008) Care and control in the construction of children's citizenship. In J.Williams and A. Invernizzi eds. *Children and Citizenship*. London: Sage.

R3. James, A. (2011) 'To be (come) or not to be (come): understanding children's citizenship' *Annals of American Academy of Political and Social Science*, 633 (1.): 167-179. doi: [10.1177/0002716210383642](https://doi.org/10.1177/0002716210383642)

R4. James, A. and Curtis, P. (2012) Constructing the sick child: the cultural politics of children's hospitals, *The Sociological Review*, 60 (4):754-773, doi: [10.1111/j.1467-954X.2012.02132.x](https://doi.org/10.1111/j.1467-954X.2012.02132.x)

End of Award report (<http://tinyurl.com/ou7z52e>).

**4. Details of the impact**

The impact of this research has been to inform adult understandings of the needs that children of different ages have in relation to social and physical space whilst they are in hospital. The research has (1) shaped the health-care design practices of architects, nationally and internationally; and (2) assisted health-care professionals in the UK and Australia to make their existing facilities more child-friendly. Indeed, writing in the professional journal, *Paediatric Health*, McKenzie et al (2010) commend this research for 'illuminating the actual experience of children and adolescents of the physical environment of the hospital' and for outlining a 'methodology for involving young people in designing hospital environments'. [S1]

**Informing professional architectural practice with more 'child-friendly' design of children's hospitals**

Following the 2007 dissemination event, Avanti architects (London) wrote to underscore the significance of the research for informing their own practice: *I was really challenged about my 'knowledge' of what children and young people want from hospital environments. I am sure your research will be very helpful in keeping the 'fluffy bunny approach' at bay and trying to design something more stimulating and appropriate.* BDP architects (Sheffield) also attended the

dissemination event and afterwards wrote to say that they found the research ‘*very interesting and relevant to [their] on-going work, particularly some of the slightly more counter-intuitive findings about children’s lack of anxiety about hospital attendance and limited interest in way-finding issues*’.

Following the posting of the dissemination materials on the website, James and Curtis were invited by John Laing Construction to visit the construction site of the Great North Children’s Hospital being re-built at Newcastle. They were asked to assess the extent to which the building would be able to meet the child-friendly criteria identified by the research and write a report. An email from Laing states that the report ‘*was well received by the Trust in Newcastle who will consider the points you raise when developing their plans for commissioning the hospital*’ post-construction.

In 2010, James and Curtis were contacted by Balfour Beatty who had been short-listed as contractors for building the new Alderhey children’s hospital in Liverpool, that had an estimated build cost of circa £288m. This time James and Curtis were asked to act as consultants to the bid team, as the architectural plans were being developed and refined. This included: running workshops for the bid team - artists and architects through to structural engineers and accountants - about the concept of child-friendliness; assessing the child-friendliness of their initial architectural plans in relation to the placement of playrooms, parent facilities and types of decor; and commenting on the draft bid narrative to highlight its child-friendly focus. A senior manager for Balfour Beatty writes:

*“The input we received from Dr Penny Curtis and Professor Allison James was instrumental in helping our team to appreciate the fundamentals of designing child focused spaces within a hospital environment. The workshops and design reviews led by Penny and Allison challenged our thinking in designing for children. They particularly helped us with the design of spaces for families, the importance of personalisation and the creation of spaces that can be used by a broad range of children and young people”.* [S2]

In 2013 James and Curtis were again approached by Balfour Beatty to assist with their bid plans for the redesign of the Edinburgh Sick Children hospital (estimated build cost £150m) by: (1) outlining key design principles for a child-centred hospital; (2) reviewing and critiquing designs with respect to layout, way-finding and decor; and (3) conducting simulation exercises to test designs from a child- and family-user perspective.

The global reach of the original research is made clear in Johnathan Wilson’s feature article in the trade publication *Hospital Build*, 4. Principal and healthcare leader for Anshen + Allen (architectural partners in the global design group Stantec who are specialists in healthcare architecture), Wilson endorses wholeheartedly the project’s recommendations ‘*to improve and enhance the experience of being a child in hospital, social relationships and getting around the hospital*’, describing the findings in relation to hospital waiting areas and the need for separate adolescent spaces as being particularly ‘*compelling*’ [S3].

### ***Making existing hospital facilities more ‘child friendly’***

In 2007 the evaluation toolkits and key design principles were put on the Department of Health Knowledge and Information Portal website, thereby making them available for use by health professionals and NHS estates. Evidence of their adoption include their adaptation by the Royal Hallamshire Hospital to create a ‘*child-friendly audit system*’ to inform the work of their Stereotactic Radiosurgery Department and make it more child friendly [S4]. International impact followed this in 2010 when James and Curtis were contacted by Queensland Children’s Hospital who also requested access to the project’s materials and findings. Subsequently, Curtis visited Australia in October 2011 to discuss these with senior managers at Royal Brisbane Children’s Hospital who implemented them by: including distraction art in treatment spaces, making space for young people to personalise their bedrooms and restricting “babyish” images to babies wards [S5].

In 2011 James and Curtis were contacted by planners at the Leeds General Infirmary for advice about the problems children and parents were experiencing with way-finding. A KT project was

**Impact case study (REF3b)**

developed in order to identify the key problem areas and a set of recommendations for improvement was made. These were taken forward by the Trust and included: making signs consistent and easier to follow, using the more familiar term “children’s” rather than “paediatrics” on signs, installing interactive way-finding kiosks, revising the maps available for families on the Internet and putting up child friendly wall art on the corridors [S6].

Sheffield Children’s Hospital (SCH) has also drawn extensively on the project’s findings and recommendations. According to a senior manager, the hospital “*fundamentally reviewed [its] accommodation*”, and no longer sees it simply in relation “*to demand, capacity and the needs of clinicians*”. Instead, they now view it from the “*perspective of [their] families*”. According to him, the project’s findings were “*central to the principles in [the] design specification for the new Children’s Hospital Wing and also informed the design and specifications for the teenage psychiatry wards at Becton, completed in 2011*” [S7]. Building on the research findings about young people’s needs, this facility now offers bedrooms that allow for personalisation and is equipped with gyms, soft rooms, games areas and outdoor recreational games areas. Other parts of the main hospital have also been changed in line with the children’s recommendations from the research: for example, age appropriate art has been installed, way-finding has been simplified, with plain English and icons now being used on signs. Designated adolescent areas are now provided in the Outpatient, Day Care and In Patient areas. These are off limits to young children, reflecting children’s views about the need for age appropriate space. The Ryegate therapy and hydrotherapy pool have been rebuilt to provide a less cluttered and brighter kind of space. This was also identified by the research as a major concern for children and young people.

The significance of the hospital’s change in approach was further demonstrated in 2013 by their decision to fund a new piece of research by James and Curtis. The findings from this will inform the design of a contract for the delivery of family centred care in the new single occupancy cubicle facility currently being built and due to be completed in 2015. As a senior manager writes: “*The Space to Care project has fundamentally changed the priorities of the hospital and trust*” [S7].

**5. Sources to corroborate the impact**

- S1. McKenzie, S., Norrish, S. and Parker, L (2010) ‘ Consulting with young people about health care’ *Pediatric Health* 4 (2): 157-166
- S2. Extract from email from Bid Manager, Balfour Beatty Investments who can corroborate the consultancy work undertaken and the impact it had on the bid design process.
- S3. Wilson, J. (2011): *Through the Eyes of a Child. Why hospitals designed for children need to be special places.* (<http://content.yudu.com/A1uwiy/ISSUE4/resources/32.htm>)
- S4. Email request from Royal Hallamshire Hospital to adapt the ‘tool kit’ questionnaires.
- S5. An email from the Project Manager, Children’s Health Services, Queensland Children’s Hospital Brisbane corroborates the changes they made by drawing on the research findings.
- S6. An email from The Director, Corporate Planning Department, St James’s University Hospital, Leeds summarises the changes that were made as a result of the KT project.
- S7. Extracts and summary content taken from one email and a letter sent by the Director of Nursing who confirms the changes made to various parts of Sheffield Children’s Hospital as a direct result of the research.