

Needs of Children Questionnaire



Dr Mandie Foster¹, Professor Lisa Whitehead^{1,2}, Associate Professor Diana Arabiat^{1,3}
Edith Cowan University, School of Nursing and Midwifery, Perth, Western Australia¹
University of Otago, New Zealand², University of Jordan, Amman³

Child Centered Care

Child is central, forefront and co-constructor of care delivery

Principles

Trust, respect, negotiation, information and patience

Tools completed by parents or health care professionals as proxies

Increased development in new child self-report measures

Modification of existing tools to include the child's and parents' perspective

Demography

A child's experience could influence health outcome more than demography

The Needs of Children Questionnaire

A questionnaire to evaluate if the quality of care received by children in hospital is in line with what children self-report as important and required is needed to maximise positive healthcare experiences and inform healthcare delivery, policy, research and theory development

Child's Perspective



Aim

Develop and test the Needs of Children
Questionnaire

Design

An instrument development study based on
(Hinkin, Tracey & Enz, 1997)

Included: item generation; content adequacy
assessment; questionnaire administration; factor
analysis; internal consistency assessment and
construct validity (AMOS).

Needs of Parents' Questionnaire
(Kristjansdottir, 1995)

Best Interests of the Child Model
(Kalverboer & Zijlstra, 2006)

Systematic Literature Review
Inductive Thematic Approach
(Thomas, 2006)

Child, Parent, Staff Involvement
Pilot Studies
(Hinkin, Tracey & Enz, 1997)

February 2013 to April 2017

Signed parent and child consent/assent

Hospital admission > than 24 hours

Child between 5 to 16 years of age

Good understanding of English language

Australia and New Zealand

Paediatric High Dependency Unit

Surgical and Medical Wards

175 school-aged children

Demography and Scores

Variable	Study One	Study Two	Study Three	
Country Setting Sample	New Zealand PHDU (1) N=18	New Zealand PHDU (1) N=69	New Zealand Medical/Surgical (2) N=59	Australia Medical/Surgical (1) N=47
Total Mean Score Importance Range Fulfilment Range	122.4 (SD 13.12) 97-160	136.43 (SD 14.17) 98-161	134.52 (SD 12.66) 107-164 121.37 (SD 15.88) 64-162	125.00 (SD 16.75) 95-160 122.00 (SD 15.58) 88-155
Cronbachs Alpha		.890	.910	.944
Length of Stay 1-2 days 3-4 days 5-7 days > 7 days	N=10, 56% N=5, 28% N =1, 6% N= 2, 11%	N=48, 71% N=11, 16% N =2, 3% N= 7, 10%	N=40, 68% N=11, 19% N =4, 7% N= 4, 6%	N=30, 64% N=15, 32% N =2, 4% N= 0, 0%
Age 5-7 years 8-10 years 11-15 years	N=6, 33% N=4, 22% N=8, 44%	N=18, 26% N=22, 32% N=29, 42%	N=11, 19% N=16, 27% N=32, 54%	N=10, 22% N=7, 15% N=30, 63%
Ethnicity European Māori, Aboriginal	N=11, 65% N=2, 12% (M)	N=46, 67% N=14, 20% (M)	N=36, 61% N=13, 22% (M)	N=36, 77% N=3, 6% (A)

Phase 1: Item Generation

First draft of the NCQ developed by the study team following meta-synthesis of literature on children's needs in hospital from 1998 – 2014 generated **75 core statements** further reduced to **65 statements** during 2013; Flesch-Kincaid Score < 3; Flesch-Kincaid Reading Ease Score 82-117; Needs of Parents' Questionnaire theoretical framework; **5 domains:** trust, to be trusted, information, support, resources; one subscale of importance: very important, important, not important; 6 open ended questions, 4 demographic questions, 3 ease of using tool questions

Number of items / number of total items being 75 then 65

Trust	To be Trusted	Information	Support	Resources
3/75	6/75	10/75	27/75	29/75
2/65	5/65	7/65	24/65	27/65

Phase 2: Item Review

First item review: Content validity and ease of using the tool reviewed by **15 experts and 10 healthy school aged children** during 2013; 10 items removed, 6 items modified, free text responses added to 4 items, domain trust removed, domain resources split into physical resources and personal resources.

Number of items / number of total items being 55

To be trusted 7/55	Information 7/55	Support 13/55	Physical Resources 14/55	Personal Resources 14/55
-----------------------	---------------------	------------------	-----------------------------	-----------------------------

Second item review by **7 experts and 5 children** from review one: Visual cue of a thumb up, neutral or down inserted to indicate level of importance

Phase 3: Pilot Study One

1. 18 school-aged children in the PHDU (NZ) completed the NCQ during 2014; item revision based on missing item analyses, extreme high or low endorsement, Cronbach Alpha .89.

23 items modified, 1 item inserted, inclusion of multiple answers for 9 items, open end text responses added, 56 items reduced to 38 statements

Number of items / number of total items being 56

To be trusted 7/56	Information 7/56	Support 13/56	Physical Resources 15/56	Personal Resources 14/56
-----------------------	---------------------	------------------	-----------------------------	-----------------------------

Phase 3: Pilot Study Two

2. 69 school-aged children in the PHDU (NZ) completed the NCQ during 2015; item revision based on missing item analyses, extreme high or low endorsement; qualitative analyses, Cronbach Alpha .91.

Fulfilment subscale inserted: happened all the time, happened sometimes, never happened; visual cue card updated to include fulfilment subscale, no items deleted, 9 statements modified to include multiple answers, open end text responses added to 6 statements (9 items) that had the highest importance score, domain to be trusted, support, physical resources and personal resources changed to caring, relationships, activities and resources to reflect findings of thematic analyses.

Number of items / number of total items being 56

Caring	Information	Relationships	Activities	Resources
7/56	7/56	13/56	14/56	15/56

Phase 3: Pilot Study Three

3. 106 school-aged children in medical/surgical wards (NZ and Australia) completed the NCQ during 2016-2017; item revision based on missing item analyses, extreme high or low endorsement, Cronbach Alpha .94, psychometric analyses.

Psychometric analyses (AMOS) of the 38 statement 56 item NCQ reduced to an 18 item, 5 category, 2 subscale tool, AIC 320.841, CFI .849, IFI, KMO .676, RMSEA .056, TLI .781

AIC Akaike's information criterion, CFI comparative fit index, IFI incremental fit index, NCQ needs of children's questionnaire, RMSEA root mean square error of approximation, TLI Tucker-Lewis index

Number of items / number of total items being 18

Caring	Information	Relationships	Activities	Resources
4/18	5/18	3/18	4/18	5/18

Analysis of a Moment Structures (AMOS)

Items cross-loaded > 2 factors removed

Two items for each factor

Factors loading > 0.30

Uniqueness < 0.80

Information: That staff tell me the medicines I'm having (0.704)

Activities: To have special treats after a test (presents) (0.715)

Resources: To have places my parents or family can go to have a shower (0.790)

Caring: To feel the staff care about me (0.634)

Relationships: That staff listen to me (0.682)

Conclusion

18-item valid child self-report measure
School-aged children's needs in hospital
Child Centered Care

Indicates good usability and utility
Informs healthcare delivery, policy, research
and theory

Honours the United Nations Convention on
the Rights of the Child

The best interests of the child

Child Centered Care

(Coyne et al., 2016; Hallstoom, 2004; UNCRC, 1989; WHO, 1986; Ford et al., 2014)

Child and Family Centered Care Principles

(Carter et al., 2014; Coyne et al., 2016; Foster, 2015)

Tools completed by parents

(Dickenson et al., 2014; Rasmussen et al., 2017)

Increased development of new tools

(Holder, 2012; Ronan et al., 2014; Deighton et al., 2014; Ong et al., 2016)

Modified tools to include child perspective

(Berman et al., 2016; Orcesi et al., 2014; Rieffe et al., 2016)

Demography as an influential health outcome indicator

(Christian, 2012; Foster et al., 2013; Foster et al., 2016; Shields, 2015, 2016)

The need for a new child self-report tool

(Livesley & Long, 2013; Toomey et al., 2015; Wilson et al., 2010, Foster et al, 2017)

Questions

