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# Nurse-Caregiver Communication of Hospital-To-Home Transition Information at a Tertiary Pediatric Hospital in Western Australia: A Multi-Stage Qualitative Descriptive Study



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# ABSTRACT

*Purpose:* To observe and describe nurse-caregiver communication of hospital-to-home transition information at the time of discharge at a tertiary children's hospital of Western Australia.

*Design and methods:* A multi-stage qualitative descriptive design involved 31 direct clinical observations of hospital-to-home transition experiences, and semi-structured interviews with 20 caregivers and 12 nurses post-discharge. Eleven caregivers were re-interviewed 2–4 weeks post-discharge. Transcripts of audio recordings and field notes were analyzed using content analysis. Medical records were examined to determine patients' usage of hospital services within 30 days of discharge.

*Results:* Four themes emerged from the content analysis: structure of hospital-to-home transition information; transition information delivery; readiness for discharge; and recovery experience post-hospital discharge. Examination of medical records found seven patients presented to the Emergency Department within 2–19 days post-discharge, of which three were readmitted. Primary caregivers of three readmitted patients all had limited English proficiency.

*Conclusion:* The study affirmed the complexity of transitioning pediatric patients from hospital to home. Inconsistent content and delivery of information impacted caregivers' perception of readiness for discharge and the recovery experience.

*Practice implications:* Nurses need to assess readiness for discharge to identify individual needs using a validated tool. Inclusion of education on hospital-to-home transition information and discharge planning/process is required in the orientation program for junior and casual staff to ensure consistency of information delivery. Interpreter services should be arranged for caregivers with limited language proficiency throughout the hospital stay especially when transition information is being provided. Nurses should apply teach-back techniques to improve caregivers' comprehension of information.

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### Introduction

Transitioning patients within and across healthcare facilities, including hospital to home, is recognized as a complex process. Insufficient planning and lack of continuity of care for patients post-transition may result in adverse outcomes, such as unplanned Emergency Department (ED) presentations or hospital readmissions (Desai et al., 2015; Zhou et al., 2019). Children are at a greater risk as caregivers need to negotiate post-transition care (Glick et al., 2017; Lerret, 2009). Research evidence on effectiveness of transition communication and pediatric discharge experience is limited and inconsistent. Children experienced unproblematic or prolonged recovery periods post-hospital discharge with some requiring re-hospitalization (Ford et al., 2012). The impact of post-hospital discharge on caregivers includes not only physical strain of juggling the child, family and work commitments, but also psychological stress of monitoring the child's well-being (Ford et al., 2012; Pinto et al., 2015). Providing comprehensive postdischarge information is associated with a higher level of caregivers' readiness for discharge and lower unplanned hospital readmission rates (Lerret et al., 2015; Parikh et al., 2018). Poor communication of post-discharge information increases the risk of a patient experiencing an adverse outcome (Harlan et al., 2010). Readiness for discharge in this study refers to caregivers' perceptions of whether they feel ready

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to take their child home and understand fully the care required posthospital discharge.

Terminology to describe communication of discharge information is inconsistent varying from education sessions (Lerret et al., 2015; Weiss et al., 2017) to sharing information sessions (Elliott et al., 2014; Keatinge et al., 2009). The fundamental purpose of provider-caregiver discharge information is to facilitate continuity of care. In the context of this study, communication of discharge information is referred to as hospital-to-home transition information. Research evidence has mainly been collected via questionnaires and interviews with healthcare providers and parents. Direct observation of the delivery of transition information communication between nurses and caregivers at discharge is scarce.

Transition theory recognizes hospital discharge as a period of vulnerability for pediatric patients due to the requirements for ongoing medical care or close monitoring at home (Meleis et al., 2000; Meleis & Trangenstein, 1994). Transition theory consists of four significant components: nature of the transition, nursing therapeutics, transition conditions and patterns of response. Transition theory was used in this research to inform and facilitate conceptualization and selection of study methods. The nature of the transition is reflected by characteristics of admission, discharge and location; while the child, nurse and caregiver represent transition conditions. Nursing therapeutics refers to hospital-to-home transition information delivery to prepare caregivers in providing continued care for their child at home. Patterns of response include perceptions of nurse-caregiver communication of transition information, recovery experience and utilization of healthcare services. The linkages between the transition theory components, study focus and methods are outlined in Table 1.

Transition Theory framed our study purpose to observe and describe the experience of nurse-caregiver communication of hospital-to-home transition information on the day of discharge using three health conditions, which are associated with frequent unplanned hospital readmissions. Specific objectives included:

- To observe the hospital-to-home transition experience including communication of information between nurses and caregivers at discharge;
- (2) To examine content and delivery of transition information at discharge;
- (3) To explore caregivers' views of transition information, communication practice and the recovery experience post-discharge;
- (4) To explore nurses' views of transition information communication practice; and
- (5) To examine patients' usage of hospital services within 30 days of discharge.

# **Design and methods**

# Study design, setting, and sampling

A 3-stage qualitative descriptive research design was selected: direct clinical observations, semi-structured interviews, and medical records audit. Data collection spanned from October 2017 to February 2018. Purposive sampling was used to ensure a variety of health conditions, and inpatient care settings were explored. Children admitted for tonsillectomy and/or adenoidectomy, appendectomy, and bronchiolitis were selected. These diagnoses were previously identified as those most frequently associated with unplanned hospital readmissions (Zhou, Della, Roberts, Porter, & Dhaliwal, 2018). Three wards from a Western Australian tertiary pediatric hospital were selected as a short-stay surgical unit, general surgical and medical ward. Caregivers of children and

#### Table 1

Linkage between the transitions theory and study focus and methods.

Transitions theory	Nature of the transition	Transition conditions	Nursing therapeutics	Patterns of response
Application of Components	Descriptors of the type, pattern, and properties of a transition	Personal, Community or Society related conditions impact transition progress	Focuses on the transitions care at discharge from an acute hospital to home to ensure continuity of care post-discharge The nursing strategy is communicating with caregivers in regards the hospital-to-home transition information	Process indicators - Comprehension of hospital-to-home transition information Outcome indicators - Recovery experience and utilization of healthcare services post-discharge
Study focus	Characteristics of the admission: Principal diagnosis, Length of stay	Characteristics of child: Age, Gender	Hospital-to-home transition information communication between nurses and caregivers at discharge	Caregivers' views of transition information communication practice and experience immediately post-discharge
	Characteristics of the discharge: Date and time of discharge	Characteristics of caregivers: Age, Gender, employment status, highest educational qualification, Language spoken at home, primary caregiver at home if different from adult at discharge	Duration, content and delivery of transition information by nurses at discharge	Nurses' views of transition information communication practice post discharging the patient
	Characteristics of the inpatient ward and room: Number of beds in the room, Noise level, Source of noise	Characteristics of nurses: Job position, Specialty area, Age, Years of nursing experience, Years of current hospital working experience		Caregivers' views on usefulness of transition information and the recovery experience 2–4 weeks post-discharge Patients' usage of hospital services within 30 days of discharge Unplanned Emergence Department visit Unplanned hospital readmission
Study Methods	Examination of patient's medical records Direct observation using checklist	Hard copy survey questions following interview		Direct clinical observation of nurse-caregiver communication at discharge Semi-structured interview with (1) caregivers immediately & 2–4 weeks post-discharge (2) nurses post discharging patients Audit of patient's medical records

nurses who delivered transition information were invited to participate. Potential participants were given a written information sheet explaining the research and data collection methods. It is acknowledged that the caregiver at discharge who received transition information may not be the primary caregiver, who cared for the child at home.

#### Data collection procedures

Stage 1 involved direct clinical observations, including observation and transcription of the audio recordings of communication between caregivers and nurses at the time of discharge (Dyrstad et al., 2015). An observational checklist was developed based on the Calgary - Cambridge Guides Communication Process Skills. The Calgary checklist is an established and validated observational instrument to evaluate a practitioner's communication skills (Kurtz et al., 2005; Simmenroth-Nayda et al., 2014). The observation checklist was used to capture interactions between nurses and caregivers in the discharge context, noting rapport development, non-verbal behavior, language usage, engagement of patient and caregiver, and quality of discharge information delivery. Additional items were added to the checklist form to provide context to the discharge environment, including physical location of the patient, caregiver and nurse (Appendix). A panel of experts, including academics and nurses, reviewed the checklist, which was then approved by the hospital ethics committee. Thirty observations were planned (Bernard, 2000; Morse, 1994). If data saturation was not reached after the first 30, further observations would be carried out until three consecutive observations identified no new themes (Francis et al., 2010).

The first author completed all the direct clinical observations. Patients who might be discharged on the same or following day were identified at handover. Caregivers and nurses were approached by the researcher, who explained the research and inviting them to participate. To minimize the impact of the researcher's presence on participants' behavior, a discreet and appropriate distance was maintained, remaining sufficiently close to observe (Green et al., 2007). The discharge experience was observed once the decision for discharge had been agreed by the treating doctor and when the nurse, who provided direct care, was ready to communicate with caregiver/patient in regards to the discharge process. Each conversation between nurse and caregiver/s were digitally recorded. Field notes were taken to capture the flow of communication and to provide additional information (Phillippi & Lauderdale, 2017). Characteristics of all participants were obtained including age, gender, educational background and employment type. Each observed discharge experience was completed when the nurse concluded the conversation with caregiver/patient and advised the caregiver/patient they could be discharged.

In stage 2, semi-structured interviews were conducted and recorded with each nurse and caregiver on patient discharge. Caregivers were interviewed for their views of (1) discharge experience; (2) verbal and non-verbal communication practice of nurses; (3) recall and comprehension of transition information using teach-back techniques (Griffey et al., 2015; White et al., 2013); and (4) readiness for discharge. Nurses were then interviewed about their views on the discharge experience. Interviews were conducted in private and were audio-recorded. Two to four weeks following discharge, the same caregiver were re-interviewed and asked about the usefulness of care transition information they received and the child's recovery experience. Caregiver interviews were conducted via phone and digitally recorded.

The final stage of data collection examined patients' medical records to determine patient's utilization of hospital services within 30 days following discharge (unplanned ED presentation and hospital readmission).

# Data analysis

Audio recordings of direct clinical observations and interviews were transcribed verbatim (Graneheim & Lundman, 2004). All transcriptions

were read and re-read to allow for immersion of data (Green et al., 2007). Content analysis of the transcripts and field notes were undertaken by the first author using NVivo 11, a qualitative data analysis computer software package, and the second author using a manual coding process (Hsieh & Shannon, 2005). The first author assigned initial nodes/codes to segments of text based on similar meaning words. The nodes/codes were then organized as themes and subthemes (Graneheim & Lundman, 2004). Simultaneously, the second author independently coded transcripts manually using the inductive approach based on the categorization and classification of meaningful texts (Green et al., 2007). This lead to the emergence of themes and subthemes. The first and second authors discussed the themes and consulted with the third author until consensus was achieved (Graneheim & Lundman, 2004). Data were organized into the three principal procedures/diagnosis, and then each was compared with others. Differences and similarities across themes based on principal diagnosis/procedures were identified.

# Ethics

Ethical approval was obtained from the Human Research Ethics Committee of the Child and Adolescent Health Service (2015015EP) and the Curtin University (HR184/2015), Western Australia. Informed written consents were obtained from caregivers and nurses before commencing data collection. Participants were informed their participation in this study was voluntary, and they could withdraw at any time.

#### Results

The results are presented according to the three data collection stages used in the study.

# Stage 1 - clinical direct observations

Participant characteristics included the patients, nurses and caregivers. A total of 31 hospital-to-home transition experiences were observed. Patient characteristics were grouped based on the patients' principal diagnosis/procedure (Table 2). Thirteen patients had appendectomy procedures for an inflamed or perforated appendix. Ten patients had a tonsillectomy and/or adenoidectomy, and eight were admitted with bronchiolitis requiring oxygen therapy and/or nasogastric feeds. Seventeen were male and four female. Patient ages varied from 1 to 14 months (bronchiolitis), 2–9 years (tonsillectomy/ adenoidectomy), and 3–15 years (appendectomy). Length of hospital stay ranged from 2 to 25 days with an average stay of 4.3 days.

Primary caregivers were all females; however, seven were not present at their child's discharge (Table 3). Twenty-seven caregivers provided their age, which ranged from < than 30 years (n = 12), 31–40 years (n = 10), > than 41 years (n = 5). Nine caregivers had either Bachelor Degree or Master Degree, and 18 were employed. Five families spoke a language other than English at home, including Indian, Nepalese, Arabic, or Vietnamese.

Twenty-four nurses were involved in the delivery of transition information, 16 were registered nurses (Table 3). Length of employment ranged from less than a year to over 30 years, with the average seven years. Eight nurses were younger than 25 years and four older than 51 years.

Of the 31 observed hospital-to-home transition experiences, 22 nurses and caregivers gave permission to record their conversation. Seven caregivers and two nurses felt uncomfortable being recorded but allowed the researcher to observe and take field notes. All discharge encounters took place in the patient's room. Ten discharge encounters occurred with noise in the background; only one caregiver asked for a game volume to be turned down. Twenty-one patients were discharged on a weekday and 10 over weekends. Twenty-two patients were

#### Table 2

Characteristics of patients, discharge information delivery process, and healthcare services usage following discharge.a

Study ID	Age (year)	Gender	Ward	LOS (Day)	Day of discharge	Time of discharge (HH: MM)	Duration of nursing discharge (MM: SS)	Number of bed per room	Room noise level	Source of noise	Use of PMH services post discharge (day)		ices post
											Ward Contact	ED Visit	UHR/LOS
Tonsille	ectomy $\pm$	Adenoid	ectomy										
1	6	Male	Α	4	THU	10:45	11:45	2	Quiet			D-5	
3	6	Female	А	2	FRI	09:30	05:26	2	Quiet				
4	9	Female	А	2	FRI	10:30	07:46	2	Quiet				
5	6	Male	А	2	FRI	13:35	13:10	6	Mod-High	Other patient			
7	2	Female	А	2	SAT	09:20	04:39	6	Mod-High	Other patient			
8	7	Male	А	2	SAT	10:00	09:29	2	Quiet			D-9	
9	4	Female	В	3	SUN	11:50	09:02	1	Mod	TV/Games		D-2	
13	4	Male	В	2	SAT	10:30	06:53	3	Quiet				
14	6	Female	В	2	SAT	11:00	08:00	1	Low	TV/Games			
23	3	Male	В	2	FRI	09:45	05:45 <sup>a</sup>	3	Low	Other	D-5		
										parents			
Append	lectomy												
2	10	Female	A	2	THU	10:30	03:30	2	Quiet				
6	8	Male	А	2	FRI	13:00	06:26	6	Low -Mod	Other			
10	0	Mala		2	TUE	10.20	05.01	C	Louis Mod	parents			
10	δ	wale	A	3	TUE	10:30	05:01	0	LOW -IVIOU	Duner			
11	15	Male	А	2	THE	13.00	01·36ª	2	Quiet	parents			
12	6	Male	A	2	THE	18:35	02:56 <sup>a</sup>	2	Quiet				
15	7	Male	R	5	SAT	14.30	05:55	1	Quiet				
16	, 11	Male	B	4	MON	11.30	05:42	4	Low	Other natient			
19	10	Male	A	2	THU	12:00	01.12	2	Quiet	other patient			
20	5	Male	A	5	FRI	09:50	09.11	6	Low	Other	D-0		
20	5	maie		0		00100	00111	0	2011	parents	20		
24	11	Female	В	14	FRI	09:50	03:55 <sup>a</sup>	2	Quiet				
25	11	Male	В	8	SUN	11:00	03:05 <sup>a</sup>	1	Quiet				
30	3	Male	В	25	TUE	14:30	10:32	1	Low	TV/Games		D-2	
31	9	Female	В	7	MON	12:20	03:36	1	Quiet				
Bronch	iolitis												
17	7/12	Male	С	3	TUE	11:00	00:15	1	Quiet				
18	10/12	Female	С	4	THU	9:50	04:27	1	Quiet			D-19	D-19/1 day
21	1/12	Female	С	5	SUN	11:00	00:55 <sup>a</sup>	1	Quiet				
22	7/12	Male	С	3	MON	11:15	03:32 <sup>a</sup>	1	Quiet			D-9	D-12/7 days
									-			D-12	
26	13/12	Female	С	2	SAT	10:30	03:10	1	Quiet				
27	14/12	Female	С	4	WED	10:40	06:04	1	Quiet				
28	9/12	Female	С	2	WED	16:20	00:45 <sup>a</sup>	1	Quiet			D-17	D-17/2 days
29	8/12	Female	С	5	SUN	14:55	08:06	1	Quiet				

Abbreviations: LOS, Length of Stay; ED, Emergency Department; UHR, Unplanned Hospital Readmission.

<sup>a</sup> Duration of Discharge encounters were referred to field notes as consent not given for audio recording by either nurses or parents.

discharged before midday and nine patients in the afternoon or early evening.

All hospital-to-home transition experiences involved verbal communication of transition information regardless of whether written information was distributed. The discharge encounters lasted from 15 s to 13.2 min. Post-tonsillectomy/adenoidectomy the discharge encounter with caregivers averaged 8.2 min, appendectomy 5 min and for bronchiolitis 3 min. Three of the 31 caregivers were not offered written discharge information prior to discharg. All those three caregviers were with patients admitted with bronchiolitis. Written transition information was mostly distributed to caregivers just before discharge, and only two caregivers had the opportunity to read the sheet before discharge.

# Structure of verbally delivered hospital-to-home transition information

Analysis of all transcribed recordings and field notes resulted in the identification of six common components across the three diagnoses/ procedures. The components include information on diagnosis/procedure and treatments, expected symptoms, continuity of care from hospital to home, when and where to seek medical assistance, follow up requirements post-discharge, and confirmation of caregivers' understanding of information. The structure of transition information delivery varied depending on the three diagnoses/procedures. Table 4 presents

the coding coverage in percentage of common components of transition information. The coding coverage indicates how much of the text is coded as a percentage of the total transcript. The bolded percentages shown in Table 4 are the two highest components for each diagnosis highlighting the importance of transition information focus. Nurses concentrated on wound management, discharge medication (antibiotics), and unexpected symptoms for appendectomy patients. Information for post-tonsillectomy/adenoidectomy patients emphasized pain management and prevention of postoperative bleeding. The focus for patients with bronchiolitis was on respiratory symptoms and when and where to seek medical assistance.

# Delivery of verbal hospital-to-home transition information

Nurses predominantly led conversations with caregivers. In contrast, caregivers responded to information by stating '*Ok*' or repeating keywords. Some caregivers sought clarification on specific information; for example, when the patient was advised to '*Eat and drink as per normal*', a caregiver enquired '*How much should we be aiming for him to drink as a minimum...*?' The majority of nurses assessed caregivers' understanding after delivering each component of information by asking '*Do you understand that...* or '*... any questions*?'

Nurses' approach in delivering transition information varied depending on their years of experience and speciality area practice. Recent

#### Table 3

Characteristics of carer of patients and nurses who discharged patients.

Study	Carers of patients						Nurses who discharged patient							
ID	Primary caregivers	Languages spoken at home	Adult at discharge	Age of adult at discharge	Highest education of adult at discharge	Employment status of carer at discharge	ID	Age	Job position	Speciality area/ward	Years of Nursing (Year)	Years of nursing at PMH (year)		
Tonsille	ectomy $\pm$ A	denoidectomy												
1	Mother	No	Mother	21-25	Vocational training	Employed	N1	21–25	RN	А	2	2		
3	Mother	No	Mother	26-30	Secondary school	Homemaker	N3	51-55	RN	А	34	5/12		
4	Mother	Hindi	Mother	31-35	Secondary school	Homemaker	N3							
5	Mother	No	Father	31-35	Vocational training	Employed	N4	56>	RN	А	38	25		
7	Mother	No	Mother	26-30	Secondary school	Homemaker	N5	26-30	RN	Α	7	3		
8	Mother	No	Mother	31-35	Diploma	Employed	N6	21-25	RN	А	8/12	8/12		
9	Mother	No	Father	26-30	Vocational training	Employed	N7	36-40	CN	В	15	12		
13	Mother	No	Mother	31-35	Master Degree	Employed	N9	41-45	CN	В	17	17		
14	Mother	No	Father	46-50	Vocational training	Employed	N10	21–25	RN	В	2	1		
23	Mother	No	Mother	21-25	Diploma	Employed	N17	21-25	RN	В	10/12	10/12		
Appendectomy														
2	Mother	No	Mother	41-45	Master Degree	Employed	N2	21-25	EN	А	3	6/12		
6	Mother	No	Mother	41-45	Master Degree	Employed	N4					,		
10	Mother	No	Father	36-40	Secondary school	Employed	N8	36-40	RN	А	17	17		
11	Mother	No	Mother	41-45	Secondary school	a	N8							
12	Mother	No	Mother	26-30	Bachelor Degree	Employed	N6							
15	Mother	No	Mother	36-40	Vocational training	Self-Employed	N10							
16	Mother	No	Father	46-50	Bachelor Degree	Employed	N11	36-40	CN	В	19	14		
19	Mother	No	Mother	41-45	Bachelor Degree	Employed	N14	31-35	CN	Relieving to A	6	5		
20	Parents	Nepali	Father	36-40	Master's degree	Employed	N15	56>	RN	А	45	30		
24	Mother	No	Mother	a	a	a	N18	51-55	CN	В	35	30		
25	Mother	No	Mother	a	a	a	N19	26-30	RN	В	5	5		
30	G/Mother	No	G/Mother	a	a	a	N23	21-25	RN	В	10/12	10/12		
31	Mother	No	Father	26-30	Vocational training	Employed	N24	21–25	RN	В	4/12	4/12		
Bronch	iolitis				-									
17	Mother	No	Mother	26-31	a	a	N12	a	EN	С	a	a		
18	Mother	Germany	Father	26-32	Diploma	Homemaker	N13	21-25	RN	С	10/12	10/12		
21	Mother	No	Mother	36-41	a	Homemaker	N13							
22	Mother	Arabic	Father	26-30	Bachelor Degree	Employed	N16	41-45	RN	Casual Pool to C	20	6		
26	Mother	No	Mother	21-25	Secondary school	Employed	N20	36-40	RN	С	19	6/12		
27	Mother	No	Mother	36-40	Bachelor Degree	Homemaker	N21	26-30	RN	С	18/12	18/12		
28	Mother	Vietnamese	Mother	31-35	a	a	N21				- /			
29	Mother	No	Mother	21–25	Secondary school	Homemaker	N22	46-50	CN	С	5	5		

Abbreviations: RN, Registered Nurse; EN, Enrolled Nurse; CN, Clinical Nurse.

<sup>a</sup> Information was not provided by carers at time of discharge.

graduates with less than one year working experience closely followed written transition information, while more experienced nurses incorporated their experiences using simple language to convey the discharge information. The verbatim statements illustrate this: a junior nurse verbalized '... (have) lots of crunchy hard foods... that stops those scabs from

forming where the tonsils were...' (N1) While a senior nurse with more than 30 years' working experience in the clinical specialty created a vivid picture as '... so hard food, rough food, meat, vegetables, toast...the importance of that, it's a bit like when you have a broom, and you're sweeping up the floor, and it gets all the rubbish off the floor...when they're eating

#### Table 4

Coding coverage in percentage of the common components of hospital-to-home transition information as calculated by the NVivo-11.

DX	Diagnosis/treatment	Expected Symptoms	Continuity of care from hospital to home							Follow	Confirming
			Pain Assessment/Management	Discharge Medication	Hydration/Diet	Activities & Schooling	Wound management	Prevent Bleeding & 2-week Metro stay	where to seek medical assistance	up	understanding
A B	7% 17%	7% <b>23%</b>	12% N/A	<b>17%</b> N/A	2% 5%	10% 15%	<b>20%</b> N/A	N/A N/A	12% <b>28%</b>	9% 6%	4% 6%
T	2%	8%	5%	47%	4%	7%	N/A	14%	5%	4%	4%

Abbreviations: DX, Principal Diagnosis; A, Appendectomy; B, Bronchiolitis; T, Tonsillectomy/Adenoidectomy. The bolded percentages shown in Table are the two highest components for each diagnosis highlighting the importance of transition information focus.

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# rough food it scraps that residue off the back of their throat, and it just prevents them from getting infection building up under that area where their tonsils were...' (N4).

Even though written transition information was used to guide some of the verbal conversations, inconsistent information was, at times, provided to caregivers. Patients following tonsillectomy/adenoidectomy were advised by some nurses to take the medication regularly as '...Oxycodone ...that's your strong one, so give morning and night for the first couple of days...' (N17); while other nurses recommend caregivers to administrate Oxycodone only if child's pain is not managed by simple analgesia as '...Oxycodone...when her pain, not managed by Panadol, ... this is quite strong medicine, ...' (N7).

# Stage 2 - semi-structured interviews with caregivers and nurses

#### Interviews with caregivers immediately post-hospital discharge

Twenty-three caregivers initially consented to participate in the interview immediately post-discharge. Eight caregivers, who declined consent, indicated they had family commitments or felt uncomfortable to be interviewed. Three caregivers, who initially consented, had to leave the hospital immediately post-discharge due to transport. Therefore, a total of 20 caregiver interviews was conducted. The duration of interviews ranged from 10 to 47 min, with an average of 20.4 min.

Caregivers' overall perception on hospital-to-home transition information. An initial open-ended question sought information about the overall experience of the discharge process. The majority of caregivers described the process as 'straight forward', and they had 'a positive experience' with 'No issues at all'. They appraised the content of hospital-to-home transition information provided as 'good' and 'very informative'. Two caregivers described feeling overwhelmed with the amount and type of information as '...a bit bombarded and confused' and '...It's just different information than what we normally take' (Caregiver of P14). Some caregivers reported seeking clarification of information; for example, one caregiver enquired after observing how another nurse discharged patients with the same condition as 'We didn't get any discharge advice about school and sport ... Then (nurse) said 'Right, you need antibiotics, just make sure you have got five days' worth and follow-up in two weeks...' (Caregiver of P19).

*Caregivers' comprehension of hospital-to-home transition information.* Interviews immediately post-discharge revealed that caregivers understood and recalled the hospital-to-home transition information, especially details about when and where to seek medical attention after discharge. Caregivers were less accurate, remembering the exact medication name or dosage; however, they did know the type of medication and where to locate detailed information.

Caregivers' perceptions of verbal and non-verbal communication by nurses. Caregivers described the way nurses communicated information as 'in a tone and manner that was ok for the presence of a child' and 'everything was explained thoroughly' (Caregiver of P7). Caregivers felt staff were 'very approachable' as '...they would answer questions...'. Two caregivers commented on the speed of information provided by nurses as 'it's fairly quickly delivered ...the information comes quite quickly...so I didn't always remember the things they said...' (Caregiver of P1).

Caregivers commented about their perception of non-verbal communication. The majority described nurses as 'very warm' with 'great eye contact' and '...a gesture that didn't seem to distance'. While others observed differences among nurses in terms of 'personality and bedside manner', which impacted on caregivers' experience. For example '... (nurse) just didn't seem confident, and the movement is a bit hesitate... it's crucial that you feel confident the nurses and doctors know what they're doing.' (Caregiver of P31) *Caregivers' views on readiness for discharge.* Caregivers expressed differing views about whether they thought their child was ready for discharge and if they were ready to provide care at home. Some families were keen and ready to go '... *We have the information, totally ready!*', while others were uncertain or even anxious about discharge, lacking confidence and preparedness. For example 'I hope I am ok..., I have to trust them (giggle)...' (Caregiver of P18); 'I am a bit nervous, actually...'; or 'En...I wasn't that prepared for going home...' (Caregiver of P3)

Some felt their children were not ready to be discharged, commenting '...I find (patient) still got that phlegm and cough and that does, give me anxiety...' or '... don't think (patient) is ready to be discharged'. (Caregiver of P27) One mother indicated that her child was discharged too early due to late surgery '...come out from surgery 3 a.m... and then discharged, oh, that was like 5 h (post-surgery). I don't think that's appropriate; I think...if you are moving around and tolerating diet...tolerate pain with pain relief, then the child will be discharged' (Caregiver of P19).

#### Interviews with caregivers 2–4 weeks post-discharge

Caregivers who had agreed to participate in phone interviews were sent a reminder text message 2–4 weeks post-discharge. Eleven caregivers responded and accepted the request. Interviews ranged from 5 to 21 min with an average of 11.8 min and focused on recovery experience and usefulness of the hospital-to-home discharge information.

*Recovery experience.* Of the eleven interviewed caregivers, three described the recovery experience as uneventful as '*no problem at all*'. Eight caregivers reported their child having unexpected issues and delayed recovery. One caregiver described their experience as '...a bit of road, to say the least!' Others commented on the child's slow recovery as longer than expected '...Day 12 was pain-free day...' or '...in total, he had two weeks off (school)' (Caregiver of P6). As a result, children were not only physically 'exhausted' or 'warned out', but also felt 'stressed' or 'anxious'. Meanwhile, caregivers expressed feeling '... disappointed...' or 'very confused' as 'you didn't know what you are looking for ...'.

Caregivers of six children reported prolonged pain '*in his stomach* or *shoulder tip pain*', or '*ulcerated uvular*' caused by intubation. Other children experienced '*a high temperature (39.8)* ', '... *blood in saliva, tiny, strike...*' or '... *vomiting a lot of liquid...*'.

Of the eight children who experienced unexpected health issues, three children were taken to the ED. Each was examined and provided with advice on pain management or prescribed antibiotics. Of the remaining five, three caregivers monitored their children and administered analgesics according to the discharge information, and two contacted the ward.

The usefulness of hospital-to-home transition information. The majority of caregivers described the information as 'sufficient' and 'very helpful' as 'it covered everything' during the post-discharge phase; others felt '...the information...was a broad... don't believe it is specific enough' (Caregiver of P10). Apart from what to look out for, caregivers indicated they would like more information about what to expect in the recovery phase as reassurance. One caregiver stated 'The bit that was missing is what to expect...we still don't know what's normal ... she's still having pain (day 10)...? (Caregiver of P31).

Caregivers were asked to compare the usefulness of verbal hospitalto-home transition information provided at discharge to the written information sheet. The majority indicated they appreciated the verbal communication and written information was considered as a backup. Comments were '... haven't read it ... or '...I filed for future reference'. One caregiver commented about the timing of receiving the written information as 'given one or two hours before (discharge and I didn't have time to read it...' (Caregiver of P20). The caregiver recommended earlier distribution, '...the day before discharge' or 'when the child is stable after the surgery...' parents can then ask questions for clarifications (Caregiver of P23). The information should not be given at admission because '... *you are worried about your child and a lot of things happening.* Caregivers stated the post-discharge medication diary was useful as '...*it was really good; otherwise, I would forget ... I kept it updated*' (Caregiver of P9).

#### Interviews with nurses

Only 12 out of the 24 nurses were available within the week of the discharge to be interviewed, which were conducted in private lasting nine to 31 min, with a mean of 17.8 min.

Hospital-to-home transition information. Interviews commenced with a question about the delivered hospital-to-home transition discharge information. Nurses generally went through transition information with caregivers based on the specific written information sheet for surgical patients. Nurses who discharged patients with bronchiolitis indicated that physicians had already performed a comprehensive assessment and provided advice, and therefore they provided brief information.

Despite having written information, nurses recognized that '...the way you deliver information becomes very individual', and it is dependent on the area of speciality and experience. Seniors noted that junior or new staff to the ward '...would read every single word, even it didn't apply; whereas an experienced practitioner would '...rather than reading would have a conversation, from experience' (N22).

Nurses recommended commencing communication of transition information earlier than '*in the last 15 min*'. One nurse, following a complicated country discharge involving flights and medication arrangements, also suggested to break down the information into a couple of sessions.

Distribution of written hospital-to-home transition information. Nurses acknowledged that the content of written hospital-to-home transition information for tonsillectomy/adenoidectomy is regularly updated. The appendectomy and bronchiolitis information they felt required urgent updating. Some nurses suggested expanding written information to include a detailed description of signs and symptoms of deterioration, especially for bronchiolitis. Others commented some of the written advice warranted clarification, such as '...the guideline...is a bit, open to interpretation... an example...patient have to be eating and drinking (before discharge). Well, what's sufficient eating and drinking...there is no guidelines on specific quantity...' (N9).

Nurses recognized that written transition information was not regularly distributed to caregivers of patients with bronchiolitis. Insufficient time was identified as a reason for not providing the written information, as it is 'actually time-consuming' to locate and print the document. The majority of nurses suggested '...every ward should give the same information' guided by written information while talking to caregivers to ensure comprehensiveness and consistency.

Nurses were also of the view that written information should be given to caregivers earlier. Caregivers would then have the opportunity to read the information and seek clarification. The ideal time was a day before the estimated discharge date or when the patient is medically stable, but not at the time of admission.

Transition information communication practice. All participants verbalized their views on what characterised 'good' verbal and non-verbal communication practice when delivering hospital-to-home transition information. Effective verbal communication skills were identified as 'speak clearly', 'speak to the child first' and 'have a conversation' with caregivers rather than 'teaching session'. Nurses also said they spoke in 'simple terms' and 'keep all the jargon to the minimum' so the information was 'easy to be understood by parents'. Two commonly identified non-verbal communication skills were 'get down to their level' and engaging caregivers with 'eye contact'. Three nurses, however, admitted they 'talked too quickly sometimes' and they should 'slow down a little bit' and '... maybe pausing at each, kind of, paragraph...'.

Five junior nurses with less than one year working experience acknowledged the challenging nature of hospital-to-home transition information delivery and identified a lack of education and resources. Junior staff indicated they learned the discharge process 'only through asking and watching...' and 'you just don't know what you are doing!' (N23) Some nurses suggested the need to incorporate transition information contents and delivery methods in nursing tertiary curriculum 'Not much learnt from the university. Pretty much you figure out on the way ...' (N24); while others suggested the ward needed to arrange inservice sessions on admission and discharge requirements specifically related to diagnosis and procedures.

Preparation and assessment of readiness for discharge. When asked to reflect on preparation and assessment of readiness for discharge, three nurses were of the view there was insufficient discharge preparation mainly related to an unclear plan from the physician, organization of discharge medication and/or transport or incomplete documentation. An example was '...it can be, mostly quite messy...a lot of things aren't done in advance... the scripts...or...waiting for summaries, or the plan...' (N10).

Nurses commented that there is no formal assessment of readiness for discharge. For patients who undergo tonsillectomy/adenoidectomy nurses indicated they follow a set of discharge criteria embedded in the clinical care pathway. The criteria focuse on oral intake, pain management and observation of haemorrhage. For patients with bronchiolitis or post-appendectomy, nurses tend to rely on physicians' assessment and the decision whether the patient is medically fit to be discharged.

To facilitate the discharge process, nurses recommended implementing a discharge checklist, for hospital-to-home transition information, medication, follow up appointment, and transport/accommodation for country patients. This checklist could also be used by nurses to record when a particular activity is achieved, which relates to readiness for discharge.

# Stage 3 – examination of patients' medical records

Examination of 31 observed patients' medical records was undertaken 30 days after discharged. Seven patients (22.6%) had presented between Day-2 to Day-19 at the ED of the same hospital with concerns related to their initial admission (Table 1). Of the seven, one patient presented to the ED twice, on Day-9 and Day-12. Presenting issues included pain postoperatively or respiratory distress. Four patients were discharged from ED the same day with advice on pain management and/or antibiotics.

Three patients initially admitted with bronchiolitis were rehospitalized for one to seven days. Examination of clinical notes revealed that all three families were recent migrants to Western Australia. All three families spoke languages other than English at home, and the admission notes documented each mothers' English language as limited. For all three children, the mother was the primary caregiver but was not present when the hospital-to-home transition information was provided.

# Discussion

The Transition Theory was a useful framework for guiding the conceptualization of the study. Multiple sources of data were collected in this multi-stage qualitative descriptive study verifying the trustworthiness and enhancing the quality of the findings, allowing for an in-depth understanding of participant's perceptions on hospital-to-home information communication between nurse and caregiver.

Four key themes emerged from the analysis of the transition data: the structure of hospital-to-home information, information delivery, readiness for discharge, and discharge recovery experience. Examination of the structure of verbally delivered hospital-to-home transition information across all three diagnosis/procedures identified six common components despite information provided to caregivers varying for each of the three procedures/diagnoses. Information post-discharge, especially concerning pain management, wound management, and hydration/diet was the most consistently repeated components. This differs from previous studies that identified transition information as most centred around providing information about restrictions and warning signs for potential complications (Gutman et al., 2018; Holland et al., 2016; Unaka et al., 2017), knowing who to contact (Solan et al., 2015), and medication dosage (Gutman et al., 2018; Lerret et al., 2014).

In this study, delivery of transition information to caregivers varied in the time taken, source of information, consistency of delivery, and communication approach. Previous studies identified that the amount of time nurses spent communicating transition information varied significantly (Keatinge et al., 2009; Solan et al., 2015). An earlier literature review suggested avoiding providing discharge information when a child is undergoing a procedure (Keatinge et al., 2009). This study confirmed this finding with caregivers and nurses, indicating they would have preferred to commence the day before discharge rather than wait until the last minute. Caregivers in this study and a previous study preferred transition information to be broken down into sessions, so they are not overwhelmed with the amount of information (Solan et al., 2015).

Despite the majority of nurses in this study using written transition information to guide discharge communication, there was inconsistency in the content of verbally delivered information, supported by earlier studies (Harlan et al., 2010; Keatinge et al., 2009). The content was heavily dependent on nurses' years of working experience and speciality area of practice. Junior staff found providing transition information challenging due to their limited experience and lack of standardization of the information, as identified previously (Chidume & Pass-Ivy, 2019). Study findings confirmed those of earlier studies in that information provided at discharge was too generalized for some caregivers (Keatinge et al., 2009; Pinto et al., 2010, 2015). Caregivers in this study also identified unmet information needs, such as what signs and symptoms to expect and duration of recovery and this impacted caregivers' perceptions of whether they felt ready for discharge (Lerret et al., 2014, 2015; Solan et al., 2015; Weiss et al., 2017).

Nurses in this study did not formally assess patients' or caregivers' readiness for discharge. Some caregivers interviewed immediately post-discharge, expressed concerns that they felt their child's health condition was not fit for discharge as certain symptoms were still present. Others felt anxious about taking their child home and providing continued care, which is consistent with an earlier study (Aydon et al., 2018). Caregivers who perceive they are not ready for discharge are more likely to experience coping difficulties and have low adherence to medication administration (Lerret et al., 2015).

Readiness for discharge refers to caregivers understanding of transition information. Ensuring assessment of caregivers' comprehension and retention of information are essential before discharge (Keatinge et al., 2009). This study confirmed earlier research on how nurses assessed caregivers' understanding of transition information (Gutman et al., 2018). The use of close-end invitation questions (i.e., Do you have any questions?) or direct close-ended questions (i.e., Do you understand?) do not offer caregivers the opportunity to absorb and recall information. The "Teach-back" technique improves caregivers' understanding and application of health information (i.e., Can you tell me what you can do if your child has a fever?) (Hamline et al., 2018; Kornburger et al., 2013).

Children's recovery experiences in this study as well as previous studies were individualized and depended on the occurrence of unexpected health issues (Ford et al., 2012; Pinto et al., 2010, 2015). Caregiver interviews post-discharge and examination of medical records, a total of 11 of the 31 observed patients experienced delayed recovery due to unexpected health issues within 30 days post-hospital discharge. The most common problems were pain and respiratory distress, which is similar to previous studies (Ford et al., 2012; Pinto et al., 2015). As a result, seven children in this study had unplanned ED visits, which is

higher than an American study (Weiss et al., 2017). Nearly 1 in 10 children in this study experienced unplanned hospital readmission, compared to two earlier studies (3.9%; 6.7% respectively) (Parikh et al., 2018; Weiss et al., 2017).

Commonalities of the three unplanned hospital readmissions in this study related to primary caregivers with limited English language proficiency and not being present at discharge when transition information was provided. Language limitations and underuse of professional interpreter service have been found to result in loss of information or inaccurate translation of information from caregivers present at discharge to primary caregivers at home (Gallagher et al., 2013; Glick et al., 2017). This impact is confirmed by recent studies suggesting that professional interpretation services were not arranged for 31% of families with language limitation. Language limitations are associated with high risks of ED presentations and lower comprehension of transition information (Gutman et al., 2018; Samuels-Kalow et al., 2017).

# **Practice implications**

Inclusion of education on transition information and discharge planning/process is required for junior and casual staff to ensure consistency of information delivery. Nursing staff need to conduct readiness for discharge assessments. Future research is needed to determine the reliability and appropriateness of validated instruments, namely 'Readiness for hospital discharge scale', 'Quality of discharge teaching scale' and 'Postdischarge coping difficulty scale' in Western Australian (Lerret, 2009; Lerret et al., 2014, 2015; Lerret & Weiss, 2011; Weiss et al., 2017).

Importantly for primary caregivers, who speak a language other than English and with limited English proficiency, interpreter services should be arranged throughout the hospital stay and especially when transitions information occurs. It is essential to assess caregivers' comprehension of information using teach-back before discharging patients.

# Limitations

This study was conducted at a single center using a sample size of 31. This study did not observe the entire hospitalization period of each child to capture how the discharge plan was formulated. This means that there were probably several opportunities for preparation for discharge, including the delivery of transition information throughout the hospital stay that we did not observe. A further limitation is the lack of observations and interviews with other healthcare providers, especially social workers, who might have been involved in the discussion of the discharge plan, ongoing continuity of care and social support. Given the study limitations, cautions should be taken into consideration when applying results to other healthcare settings.

# Conclusion

This study is the first published research to objectively observe and examine content and delivery of hospital-to-home transition information in a Western Australian pediatric setting. This study provided valuable insights into nurse-caregiver communication of transition information on the day of discharge. The study affirmed the complexity of transitioning pediatric patients from hospital to home and the impact of inconsistent content and delivery of information has on caregivers' perception of readiness for discharge and their recovery discharge experience. Unplanned ED visits post-discharge may be avoidable with improvements in content, individualized information and greater consistency in the delivery of information.

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#### **Declaration of interests**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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### Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi. org/10.1016/j.pedn.2021.02.017.

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