

Health care professionals' pain narratives in hospitalized children's medical records.

Part 2: Structure and content

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BACKGROUND: Although clinical narratives – described as free-text notations – have been noted to be a source of patient information, no studies have examined the composition of pain narratives in hospitalized children's medical records.

OBJECTIVES: To describe the structure and content of health care professionals' narratives related to hospitalized children's acute pain.

METHODS: All pain narratives documented during a 24 h period were collected from the medical records of 3822 children (0 to 18 years of age) hospitalized in 32 inpatient units in eight Canadian pediatric hospitals. A qualitative descriptive exploration using a content analysis approach was performed.

RESULTS: Three major structural elements with their respective categories and subcategories were identified: information sources, including clinician, patient, parent, dual and unknown; compositional archetypes, including baseline pain status, intermittent pain updates, single events, pain summation and pain management plan; and content, including pain declaration, pain assessment, pain intervention and multidimensional elements of care.

CONCLUSIONS: The present qualitative analysis revealed the multidimensionality of structure and content that was used to document hospitalized children's acute pain. The findings have the potential to inform debate on whether the multidimensionality of pain narratives' composition is a desirable feature of documentation and how narratives can be refined and improved. There is potential for further investigation into how health care professionals' pain narratives could have a role in generating guidelines for best pain documentation practice beyond numerical representations of pain intensity.

Key Words: *Children; Documentation; Free-text; Notation; Narratives; Pain*

Research investigating the assessment and management of children's acute pain has predominantly focused on determining the frequency of documented pain assessments and use of pain measurement tools to report pain intensity (1-8), as well as pain management strategies in hospitalized infants and children (2,3,5,7,9-11). Although clinical narratives have been noted to be a source of patient information (6), as noted in Part 1 of our study, published in the current issue of *Pain Research & Management* (pages e75-e83), research examining the composition of health care professionals' pediatric pain narratives – described as free-text notations – is limited. A review of the literature did not reveal any studies that examined the structure of pain narratives in hospitalized children's medical records. Stevens et al (6) found considerable variability in the measures and approaches used to document pain status in hospitalized children. A wide range of descriptive narratives were used more frequently than validated pain

L'exposé narratif de la douleur par les professionnels de la santé dans les dossiers médicaux des enfants hospitalisés. Partie 2 : la structure et le contenu

HISTORIQUE : Même si les exposés narratifs cliniques, décrits comme des annotations libres, constituent une source d'information au sujet des patients, aucune étude ne porte sur leur composition dans les dossiers médicaux des enfants hospitalisés.

OBJECTIFS : Décrire la structure et le contenu des exposés narratifs des professionnels de la santé liés à la douleur aiguë des enfants hospitalisés.

MÉTHODOLOGIE : Les chercheurs ont colligé les exposés narratifs sur la douleur consignés sur une période de 24 heures dans les dossiers médicaux de 3 822 enfants (de 0 à 18 ans) hospitalisés dans 32 unités de patients hospitalisés de huit hôpitaux pédiatriques canadiens. Ils ont procédé à une exploration descriptive qualitative par une approche d'analyse de contenu.

RÉSULTATS : Les chercheurs ont constaté trois grands éléments structurels comportant leurs catégories et sous-catégories respectives : sources d'information, y compris le clinicien, le patient, le parent, double et inconnue; archétypes de composition, y compris l'état de la douleur au départ, les mises à jour intermittentes sur la douleur, les événements uniques, le résumé de la douleur et le plan de prise en charge de la douleur; et le contenu, y compris la déclaration de la douleur, l'évaluation de la douleur, l'intervention relative à la douleur et les éléments multidimensionnels des soins.

CONCLUSIONS : La présente analyse qualitative de la douleur a révélé le caractère multidimensionnel de la structure et du contenu utilisés pour consigner la douleur aiguë des enfants hospitalisés. Les résultats pourraient enrichir la discussion sur la fonction souhaitable ou non du caractère multidimensionnel des exposés narratifs de consignation et sur la manière de peaufiner et d'améliorer les exposés narratifs. D'autres recherches pourraient être menées pour déterminer le rôle possible des exposés narratifs des professionnels de la santé dans la production de lignes directrices en vue de meilleures pratiques de consignation de la douleur, au-delà de la représentation numérique de l'intensité de la douleur.

intensity scores. Given that pain intensity is only one component of pain and other aspects of the pain experience need to be considered, the authors recommended further exploration of pain narratives. The findings reported here result from the qualitative analytical expansion beyond the quantitative examination of data embedded in a larger study (Stevens et al, The Canadian Institutes of Health Research [CIHR] Team in Children's Pain (CTP-79854), 2006–2011; www.childrenspainstudy.ca), in which a mixed-method research design was used, in part, to examine the nature and frequency of pain assessment and management practices. In Part 1, the analysis of the words recorded by health care professionals to describe the hospitalized children's acute pain as perceived by the care provider or described by the child as revealed in the narratives is reported. In the present article, Part 2, we describe the composition of the pain narratives; specifically, their structure and content.

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METHOD

A content analysis approach was used for the present qualitative descriptive exploration. Research ethics board approval for the study was granted at each participating hospital site and affiliated university.

Sample

A more detailed account of the sample and the method for pain narrative data extraction is provided in Part 1. Briefly, all pain narratives collected from 3840 children's hospital charts and entered into the centralized Internet-based Canadian Pediatric Pain Research (CPPR) database (10) comprised the dataset for the exploration. The database consisted of information retrieved regarding: all pain assessments conducted; the frequency of all painful procedures including skin-breaking procedures, such as heel lances and surgery, and non-skin-breaking procedures (ie, procedures rated as painful by clinicians such as suctioning and nasogastric tube insertion); and pain management interventions (ie, pharmacological, physical and psychological) over the preceding 24 h period. The charts of children between 0 and 18 years of age who were hospitalized for more than 24 h on one of four inpatient units (14 medical, eight surgical, 10 neonatal and pediatric critical care) at each of eight participating Canadian university-affiliated pediatric hospitals were included. The research nurse collected data from the charts of the first 30 consecutively admitted children (per unit) meeting the inclusion criteria during each data collection period over four consecutive four- to six- week periods between October 2007 and April 2008, for a total of 120 charts per unit (10).

Data collection

In addition to receiving all pain narratives from the CPPR database in a spreadsheet (Excel, Microsoft Corporation, USA) format as one entire dataset (n=5390, of which 5283 met the criteria for analysis), the narratives were also retrieved in five collated groups: professional designation (ie, registered nurse [RN], physician [MD] and nonspecified); age of child (ie, ≤12 months, one to three years, four to five years, six to 12 years and 13 to 18 years); type of clinical setting (ie, medical, surgical or critical care units); hospital site (de-identified); and use or nonuse of a validated pain assessment tool. A breakdown of the narratives per collated group is reported in Part 1.

Data analysis

The narrative text was analyzed using a conventional content analysis approach (12) guided by procedures described by Mayring (13) and Sandelowski (14), and is described in detail in Part 1. Briefly, the researchers first reviewed each narrative to become familiar with the data, generate overall impressions and formulate ideas for working with the data. Next, the narratives were deconstructed into semantic units – single-word or multiple-word strings – that described one action, purpose or idea. For example, each pain narrative was initially segmented into the following broad structural categories: provocation and palliation, quality and quantity, region and radiation, severity and scale, timing and type of onset, intervention and intervention outcomes. The data within each of these categories were then delineated into semantic concepts. For example, the word 'codeine' was classified as a pharmacological intervention, 'bundling' as a physical intervention and 'reassurance' as a psychological intervention. All data were examined for congruence within each category and subcategory. A constant comparison approach within and between the various categories and subcategories and within and between the five collated groups was conducted throughout all phases of the analysis. Eventually, the data were reorganized into and re-presented in a more meaningful typology that reflects the overarching elements of acute pain narratives in hospitalized children's medical records. Evaluation criteria described by Leininger (15) (credibility, transferability, meaning-in-context, saturation, recurrent patterning) were used to ensure the qualitative data were analyzed in a rigorous fashion; the strategies used are reported in Part 1.

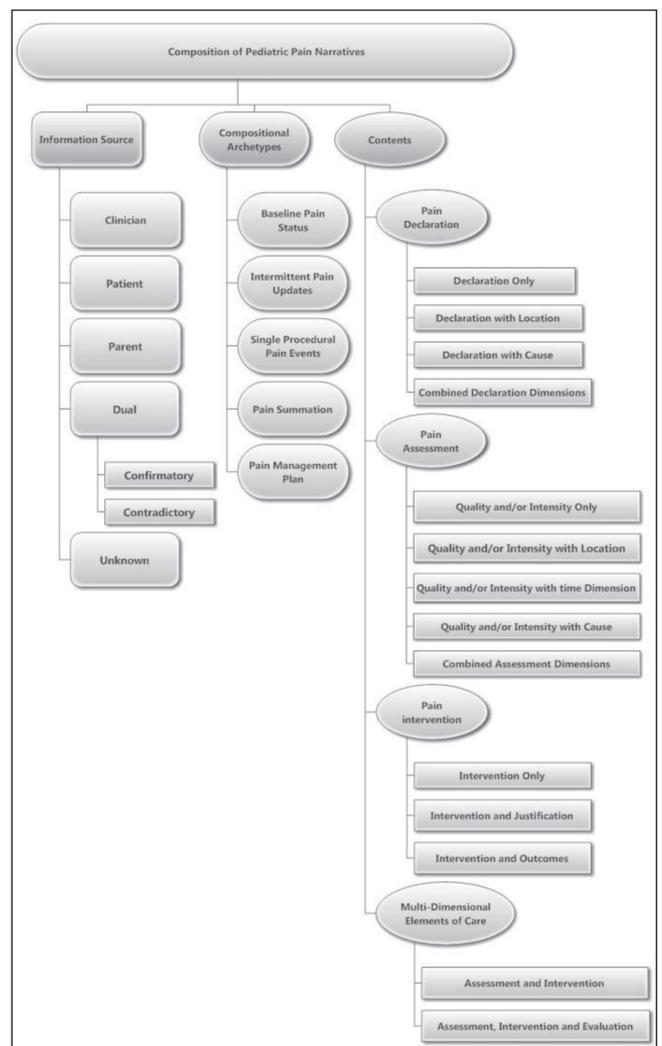


Figure 1) Composition of health care professionals' pediatric pain narratives

Findings

Overall, health care professionals used an economy of words when creating their pain narratives; in fact, narratives ranged in length from one word (eg, "irritable" [RN]) to 16 words (eg, "pt c/o pain L forearm, unable to describe or give # value. Tylenol given; good effect" [RN]). The narratives were written in a short telegraphic style (eg, "when stimulated, irritated" [RN]; "crying with exam" [MD]) and often did not include a verb (eg, "Tylenol x2" [RN]; "no pain" [MD]). The vocabulary was characterized by technical terms and many nonstandardized abbreviations or symbols such as 'h/a' for 'headache', 'd/t' for 'due to', 'C' for 'with', 'MS' for 'morphine sulphate', 'c/o' for 'complained of', and 'Ø' for 'no' (eg, Ø pain). Despite their brevity, narratives could have clarity (eg, "pt. c/o headache; Tylenol given; is now pain free" [RN]). However, many were nebulous unless the reader had knowledge of the particular patient's situation or unit context (eg, "denies pain – Tylenol PO given x1" [RN]). Only one narrative explicitly identified the child's name; in general, the terms 'patient' and 'babe' or 'baby' for the infant age group were used, if any reference to the child was made at all.

Each pain narrative consisted of three structural elements: information sources, compositional archetypes and content. The various categories and subcategories that emerged within each of these elements are outlined in Figure 1. There were no differences noted in the narratives' structural elements associated with clinical setting, hospital site or occurrence with the use of a validated pain assessment. Only a

few differences were found that were associated with the patients' age group or the clinicians' professional status, which are specifically noted within the presentation of the various elements. Because nonspecified professional narratives (ie, narratives for which the author's professional designation was unknown) were similar to those noted by nurses and physicians, narrative by RNs and MDs only are used as examples throughout the findings section.

Information sources

This structural element concerns the genesis of the information documented or inferred in every pain narrative. Five information sources were identified: clinician, patient, parent, dual and unknown.

Clinician source: In these narratives, the clinician recorded his/her own observations of behavioural, affective or physiological indicators of pain (eg, "babe crying and fussy" [RN]; "grimaces with exam" [MD]) and/or actions taken to manage pain (eg, "Morphine given $\times 2$ " [RN]; "appears to have good analgesia with epidural" [MD]). Most often the clinician source was implicit; the words 'appear' and 'looks' were two words commonly used to indicate that the information originated from a clinician source (eg, "abdomen appears tender on palpation" [RN]; "baby looks comfortable" [MD]). Rarely was the clinician source explicitly identified (eg, "upset with writer, pushing away during assessment" [RN]).

Patient source: In these narratives, the patient was identified as having vocalized his/her own pain status. An exponential increase in the number of narratives with patient as the source of information was evident with an increase in the child's age. Sometimes, the patient was explicitly stated as the information source (eg, "pt states he has a mild headache" [RN]; "pt describes more pain than yesterday, $\sim 7/10$ " [MD]). Other times, health care professionals used verbs such as 'complains', 'reports', 'states', 'says', 'describes' and 'denies' (or their derivatives) to implicitly identify that the child had given a self-report (eg, "denies pain; reports that legs are sore" [RN]; "complaining of pain around eye as well as abdo pain" [MD]). However, the use of these verbs did not always mean that the child's words were those reported in the narrative. For example, the following narrative was documented on a patient in the one- to three-year-old age group: "c/o right ear pain and dysuria, plan Tylenol for ear pain and watch". Some narratives revealed that the information provided by the patient was confusing or incongruent; other narratives revealed how difficult it could be for some children to express their pain status despite their age. The following are examples of narratives across the various age groups:

- "Pt states slight pain at times, but then denies pain" (Three to four years of age)
- "Pt pain 0/10 but c/o 'pressure' in abd" (Four to five years of age)
- "Pt states he has abdominal pain, hard to specify location & level of pain" (Six to 12 years of age)
- "Up to bathroom and reporting throat pain, unable to rate" (13 to 18 years of age)
- "States right leg is 'sort of spasming', but difficult to describe" (13 to 18 years of age)

Parent source: In these narratives, the parent was identified as having provided information about their child's pain status. Health care professionals specifically noted the mother or father as the source, along with verbs, such as 'reported', 'stated', 'thinks', 'feels' and 'concerned', and phrases such as 'according to' and 'as per' in their narratives. Sometimes, it was apparent the parent provided their child's self-report (eg, "Dad reports pt awoke from sleeping c/o stomach pain" [RN]; "pt reports to Mom some discomfort at incision site" [RN]). Sometimes, the narrative appeared to report the parent's perception of their child's pain (eg, "Mom thinks child appears comfortable" [RN]; "Dad feels pain is getting better, doesn't curl into fetal position when crying" [MD]). Other times, it was uncertain as to whose judgment the parents were reporting – their own or their child's – (eg, "Mother states child not in pain" [RN]). Parents were also sometimes identified in nurses' narratives as the source of information about pain management decisions (eg, "Dad requesting Tylenol stating pt appears irritable and not

settling well" [RN]) and cause for the pain (eg, "still cranky, Mom thinks pt has cold" [MD]; "pt crying, states his bum hurts, Dad thinks it's from abd cramps" [RN]). An exponential decrease in the number of narratives with a parent as the information source was evident with an increase in the child's age.

Dual source: Two sources of information were identified in some narratives: clinician and parental source, two clinician sources, or a clinician source with a patient self-report. The two pieces of information from the sources were either confirmatory or contradictory in nature. The confirmatory nature of narratives was evident when the information provided from two different sources was congruent in the description of the patient's pain status, and appeared to validate and strengthen the health care professional's own assessment (eg, "c/o abdominal pain and abdomen distended and tender to touch" [RN]; "pt. noted to be teary and complains of pain to stomach, back and ribs" [RN]; "states no flank pain, resting comfortably in bed and in no apparent distress" [MD]; "pt does not appear to be in pain and Mom states that she has no pain" [RN]). When subjective and objective indicators of pain were congruent, the narratives sometimes reflected a clear decision-making process (eg, "pt teary with turning, says it's really sore, morphine rate increased" [RN]; "irritable and crying, Mom stated she needs something for pain, Tylenol given" [RN]).

The contradictory nature of narratives was evident when the information provided demonstrated incongruence between the different sources of information be it related to the nature of the patient's pain status, existence or nonexistence of pain, severity of pain or causal factor, as the following narratives demonstrate:

- "Appears in pain, cries out when he coughs but patient denies when asked" (RN) (four to five years of age)
- "c/o stomach ache, doesn't feel like eating, but abdo soft, non-tender" (MD) (four to five years of age)
- "Pt taking H₂O, starts grunting & grimacing but will not say if his stomach hurts" (RN) (six to 12 years of age)
- "Patient denies pain, but frowning, guarding of abdomen" (MD) (six to 12 years of age)
- "c/o some pain in abd but up walking in halls and playing in room" (RN) (13 to 18 years of age)
- "Using PCA but says 8/10 – no obvious S&S of discomfort" (MD) (13 to 18 years of age)

Unknown source: In these narratives, the source of information was unclear and could not readily be determined. While it was possible that the clinician was reporting his or her own observations, it was equally feasible for the clinician to be paraphrasing a patient's self-report or information reported by another clinician or parent (eg, "foley and art line bothering patient" [RN]; "didn't need PRNs overnight" [MD]).

Compositional archetype

This structural element concerns the overarching style of the pain narrative, which appeared to be rooted in the purpose for the communication. Five purposes for communication were identified and were associated with: baseline pain status; intermittent pain updates; single procedural pain events; pain summation; and pain management plan.

Baseline pain status: This narrative style was used by clinicians to communicate their initial assessment of the patient's pain status when commencing patient care for a particular designated period of time, such as at the beginning of a shift, and was always initiated with the word 'received' (eg, "pt rec'd into care with ++ pain to shoulders and mid back" [RN]; "rec'd awake and crying, hurting all over" [RN]; "received lying comfortably with no distress" [MD]). Baseline pain status statements were used almost exclusively by nurses and appeared to be associated with specific unit contexts, ie, critical care settings (eg, "pt received into care sedated and intubated" [RN]), or with children receiving continuous analgesia, such as with epidural or patient-controlled analgesia (eg, "received pt awake, on morphine infusion" [RN]).

Intermittent pain updates: This narrative style appeared to be used by clinicians to communicate their assessment at a discrete moment in

time. The use of the present participle (ie, the addition of 'ing' to the infinitive) and words or phrases such as 'currently' and 'remains on' were often indicators of this particular style. Three forms were evident: assessment of current pain (eg, "crying and rolling around" [RN]); "sitting in bed smiling, interacting" [MD]; patient's treatment regimen (eg, "remains on morphine and Tylenol q4h" [MD]); and an evaluation of the current pain regimen (eg, "++ irritable/agitated on Fentanyl infusion" [RN]; "currently comfortable on morphine infusion" [MD]).

Single procedural pain events: This narrative style was used by clinicians to communicate information about a specific procedure or activity of care that caused, or had the potential to cause, pain (eg, "arterial line removed, pt. became quite agitated during procedure – resolved when finished" [RN]; "LP done; he tolerated procedure very well" [MD]). The specific details of a particular event were typically an abridged version of the event and thus vague (eg, "abd x-ray tolerated well by babe" [RN]), but at times included an assessment and intervention(s) performed to manage the pain-related moment (eg, "pt. irritable/screaming during CVL procedure, received multiple doses of Midazolam" [RN]).

Pain summation: This narrative style appeared to be used by clinicians to communicate the child's pain status over a period of hours or days either as a gestalt (eg, "babe content all day" [RN]; "rough night/day with regards to pain" [MD]), or an overall review (eg, "morphine weaned overnight, wakeful periods, but settled" [RN]; "overnight, pt. settled, good pain control, no morphine breakthrough required" [MD]). All summations contained an assessment component, while some made reference to a pain management practice. "No pain today" [MD] is an example of the former, while "c/o right ankle pain overnight; taking Tylenol for this" [MD] is an example of the latter. Indicators of this particular narrative style were the inclusion of nouns that reflected segments of a 24 h period, such as 'day', 'night', 'afternoon', 'evening', 'morning', 'AM' and 'PM' (eg, "pt. appeared comfortable all day" [RN]; "babe restless this afternoon" [RN]), as well as prepositions, adverbs and adjectives that described a duration of time, such as 'during', 'over', 'throughout' and 'since' (eg, "less c/o pain during last half of night" [RN]; "no discomfort over shift" [RN]; "off Morphine since yesterday; doing well" [MD]).

Pain management plan: This narrative style was used by clinicians, especially physicians, to communicate continuation of the current pain management practices (eg, "leave epidural on current setting" [MD]), the immediate implementation of a new plan of action (eg, "hold sedation/analgesia until more awake" [MD]) or projected plan of care (eg, "morphine withdrawal, plan to decrease morphine by 10% a day" [MD]). The imperative form of the verb was typically used to express the continuation or immediate implementation of the pain management practice, while a projected plan of care was identified by the presence of the future tense of the verb or the phrase plan to. Two forms of this style were evident for nurses' narratives: justification for future pain management practices (eg, "pain score 5/10 when resting, will administer regular analgesia"); and reiteration of other health care professionals' plan of care (eg, "plan to decrease morphine infusion after mobilizing" [RN]; "neurosurgeon to arrange APS [acute pain service] consult today" [RN]).

Content

This structural element concerns the substance of the narrative and reflects the information (ie, data, facts, feelings) that health care professionals deemed relevant to communicate about the child's pain status. There was a wide variation in the comprehensiveness of the content contained in a single narrative that appeared to reflect one or more aspects of the clinical care process (ie, assessment, plan, intervention/planned intervention and evaluation). Four major content categories were identified: pain declaration; pain assessment; pain intervention; and multidimensional elements of care. The depth of information that was provided within each category also varied and is reflected in the subcategories described henceforward.

Pain declaration: The content of these narratives was limited to the documentation of the presence or absence of pain. Other words for

pain were also used such as 'discomfort', 'ouchie' and 'bobo'. A more detailed account of synonyms for pain used by health care providers in the narratives is reported in Part 1. Four subcategories of pain declaration narratives were evident.

Declaration only: The content of these narratives was limited solely to the presence or absence of pain (eg, "no pain" [RN]; "having pain" [RN]; "no bobo" [RN]; "pain-free" [MD]). It was common for the content of these narratives to be derived from a patient source (eg, "states no pain" [RN]; "no c/o pain" [MD]); therefore, there was evidence of this type of content for all age groups except for children ≤ 12 months of age. Sometimes, there was evidence of a time dimension associated with this content. The use of words such as 'still', 'continues' and 'remains' (eg, "continues to c/o pain" [RN]; "still in pain" [MD]; "remains comfortable" [RN]) indicated the persistence of pain or freedom from pain over time; words such as 'now' and 'currently' (eg, "currently denies pain" [RN]; "pain-free now" [MD]) and the use of the present participle of the verb 'to have' (eg, "pt states he's having pain" [RN]) indicated the presence or absence of pain in a particular moment of time.

Declaration of pain with location: The content of these narratives was limited to the presence or absence of pain but with the added dimension of pain location (eg, "abdo pain" [RN]; "complaining of pain at Broviac insertion site" [RN]; "c/o pain to right arm from shoulder to fingers" [MD]; "continues to c/o epigastric pain" [MD]). A vast array of bodily parts (n=66) was identified in the content, including peripheral body parts (eg, 'eye', 'jaw', 'sternum', 'chest', 'arms', 'hands', 'back', 'buttocks', 'scrotum', 'leg', 'foor', 'toe') and internal body parts or regions (eg, 'throat', 'epigastric region', 'joint', 'muscle', 'Achilles tendon'). Greater specificity of location was enhanced with the use of: nouns, such as 'tip', 'remainder', 'front', 'back' and 'outside' (eg, 'tip of finger', 'back of hand', 'remainder of arm'); adjectives, such as 'upper', 'middle' and 'lower' (eg, 'LUQ') or 'right' and 'left' (eg, 'right knee'); and prepositions, such as 'over' and 'around' (eg, 'over R scapula'; 'around site of protruding wire'). Only one narrative contained content associated with pain radiation (ie, "pain is referring to groin – started in distal thigh" [MD]).

Declaration of pain with cause: The content of these narratives was limited to the presence or absence of pain but also incorporated the reason – either known or speculative – for the onset or continuation of pain (eg, "pain with IV start" [RN]; "c/o pain when RN opening patient's eyes" [RN]). A causal factor was sometimes identified by the use of such phrases as 'due to' and 'secondary to' (eg, "states pain due to cramping" [MD]; "pain due to edema" [RN]; "Mom thinks pain probably due to teething" [RN]). The phrasing of some of these narratives intimated that the patient was generally pain free with the exception of the specific event that elicited the pain; thus, if the trigger was removed or discontinued, the pain would be resolved. This particular type of narrative was identifiable with the use of the words 'except', 'only' and 'when' (eg, "pain only on movement" [RN]; "no pain except with nursing care" [RN]; "pt c/o pain when weight bearing" [MD]).

Combined declaration dimension: The content of these narratives remained limited to the presence or absence of pain but incorporated information on both location and cause of pain. The cause was not always explicitly identified but could now be implied from the identified location (eg, "pain in right arm where IV was" [RN]). Table 1 provides examples of deconstructed content within the combined pain declaration narratives.

Pain assessment: The content of these narratives focused only on the documentation of the quality and/or intensity of the child's pain with a description of the objective and/or subjective pain status information collected in the clinician's assessment. The quality and intensity of the child's pain was documented in the form of objective indicators of pain as evidenced by the behavioural cues (ie, vocal, motor, facial, and activity), affective cues (ie, general impression of child's mood or emotional state) and physiological cues (ie, neurological/neuromuscular, cardiovascular, respiratory, gastrointestinal, inflammatory and

TABLE 1
Narrative content deconstruction: Examples of combined declaration dimension

Narrative	Declaration	Location	Cause
C/o pain to left hip especially with movement and weight bearing (RN)	C/o pain	To left hip	Especially with movement and weight bearing
	Location	Declaration	Cause
Abdo pain likely secondary to lactulose and cramping (MD)	Abdo	Pain	Likely secondary to lactulose and cramping
		Location	Declaration
Denies abdo pain with bowel movement (MD)	Denies	Abdo	Pain
			Cause
			With bowel movement

Abdo Abdominal; C/o Complains of; MD Medical doctor; RN Registered nurse

TABLE 2
Narrative content deconstruction: Examples of combined pain assessment dimension

Narrative	Intensity	Indicator	Time dimension	Indicators (facial and motor cues)
Multiple episodes of painful spasms today; grimacing, arm stiffening, trunk flexion (RN)	Multiple episodes of painful	Spasms	Today	Grimacing, arm stiffening, trunk flexion
	Declaration of pain	Time dimension	Declaration of pain	Location
States pain not like yesterday, more like it was on Friday. Pain across back (RN)	States pain	Not like yesterday, more like it was on Friday	Pain	Across back
	Intensity	Declaration of pain	Time dimension	Location/cause (inferred)
Sharp discomfort at times at chest tube (MD)	Sharp	Discomfort	At times	At chest tube
	Location	Indicators	Cause	
Abd distended and ++ tender on minimal palpation (MD)	Abd	Distended and ++ tender	On minimal palpation	
	Declaration of pain	Location	Indicator	Cause
Patient c/o discomfort to her chest, states 'it hurts when I talk' (RN)	Patient c/o discomfort	To her chest	States it hurts	When I talk

Abd Abdomen; c/o Complains of; MD Medical doctor; RN Registered nurse

integumentary). Occasionally, a question mark was inserted at the beginning, middle or end of a sentence, which appeared to be an indication that the clinician was uncertain if the cues were accurately perceived (eg, "? mildly tender at erythematous surgical site" [RN]) or that the narratives were even indicators of pain (eg, "crying not wanting to settle ? pain in leg where immunization given" [RN]; "patient fussy, ? hungry or in pain?" [RN]). The quality of pain from a subjective perspective was documented in the form of child descriptors as self-reported. Health care providers also used word qualifiers – the adjectives and adverbs – to impart a sense of limitations, or lack thereof, to the intensity of the behaviours or the pain as reported in Part 1. Five subcategories of pain assessment narratives were evident.

Quality and/or intensity only: The content of these narratives was limited exclusively to pain indicators, pain intensity or both. The content provided could be derived from various sources such as the patient (eg, "rates pain at 3 on 10 but tolerable" [RN]; "states has a bit of cramping" [MD]), parent (eg, "mother states pt is ++ uncomfortable" [RN]), clinician (eg, "babe appears to be in discomfort, frantic looking with fingers clawing at mouth" [RN]; "generally ++ fussy" [MD]), or dual (eg, "rates pain 3/10 and looks well, happy" [RN]; "assessed 0-2 for pain using FLACC pain scale; cries" [RN]).

Quality and/or intensity with location: The content of these narratives conveyed information related to pain declarations inclusive of location with a reference to pain intensity (eg, "some pain in shoulder" [MD]), subjective or objective indicators of pain (eg, "achy legs" [RN]; "foot burning" [RN]) or both (eg, "pt described chest pain as an 'intense pain and cramp on the outside of the heart'" [RN]). The specificity of the detail was highly variable.

Quality and/or intensity with time dimension: The content of these narratives provided information about the child's pain intensity or indicators of pain over time. The use of comparator qualifiers explicitly or implicitly indicated that the child's pain had an attribute of more, less or the same manifestation of intensity than it did at a previous point in time. Examples included the use of intransient verbs (eg, "more settled now" [RN]; "calmed now" [RN]), present participles (eg, "has increasing agitation" [MD]) and adjectives, such as 'worse', 'better', 'more' and 'less'

(eg, "patient describes more pain than yesterday ~ 7/10" [RN]). The use of temporal qualifiers – defined as words used to qualify the pain in terms of duration, presence or absence in and through time, and rate of recurrence – also provided information about time. For example, adverbs such as 'always', 'consistently', 'same', 'unchanged' and 'still', as well as adjectives such as 'persistent' and 'constant' were used to convey the continual or unremitting presence of a particular pain indicator (eg, "persistent restlessness" [RN]; "irritation sensation constantly" [RN]) or pain intensity (eg, "consistently ranks pain 6 out of 10" [RN]). Similarly, adverbs such as 'intermittently' or 'briefly' and phrases such as 'at times' and 'waxes and wanes' were used to report the transitory or short-lived nature of the indicators of pain's presence or absence (eg, "intermittent moan" [RN]). Occasionally, the time dimension was described in terms of numbers of hours or a specific period of time (eg, "mom states baby has been ++ fussy & irritable for past few hours" [RN]; "pt c/o pain throughout the morning, 4-6/10 on numeric pain scale" [MD]).

Quality and/or intensity with cause: The content of these narratives provided information about the child's pain intensity or indicators of pain with an actual or potential associated rationale (eg, "pt. crying when turning onto left side" [RN]; "acute discomfort related to feeds" [MD]). The causal factors identified often related to clinical care activities, such as physical assessments, especially those that included palpation (eg, "tender on palpation" [MD]; "states sore to touch" [RN]), assessment of vital signs, positioning and feeding, patient's physical activities such as turning and mobilizing, and treatment interventions or any skin breaking or diagnostic procedures. The specificity of the detail was highly variable.

Combined pain assessment dimensions: The content of these narratives now incorporated information on two or more aspects of the quality and intensity of pain, ie, location, cause and time dimensions. Table 2 provides examples of deconstructed content within this subcategory.

Pain intervention: The content in these narratives – most commonly found in physicians' notations – was limited to the documentation of the actual pain management practices undertaken, interventions offered but not administered or a potential plan of action. Interventions noted were pharmacological (analgesic and/or adjuvant analgesics),

physical (eg, repositioning, heat or cold therapy, nonnutritive sucking, bundling) and psychological (eg, reassurance, teaching, cuddling) or a combination of the three. However, pharmacological methods of pain management appeared to dominate these narratives. Some narratives also included information about the discontinuation or withdrawal from pain management interventions, which were always pharmacological. On the whole, assigned responsibility for pain management in the health care providers' narratives appeared to be clinician-centric rather than patient- or parent-centric in orientation. For example, "encouraged PCA use" [RN] or "analgesia given" [RN] reflected the nurse's activities, while "using PCA" [RN] reflected the patient's activities and "mom breastfeeding babe for comfort" [RN] or "Dad providing emotional support" reflected the parents' activities. Three subcategories of pain intervention narratives were evident.

Intervention only: The content in these narratives was limited to pain management practices. These narratives were typically less than five words and predominantly focused on pharmacological measures (eg, "Tylenol #3 given" [RN]; "no sedation" [MD]; "on weaning morphine doses" [MD]). The content often included the name of the medication, although not always (eg, "analgesic x1" [RN]), and the route was rarely directly mentioned although was frequently implied. For example, the narrative "remains on PCA morphine" [MD] inferred the patient received pain medication via intravenous access. Sometimes, the content included the frequency of the intervention ("Morphine x2" [RN]; "remains on Morphine and Tylenol Q4H" [MD]); however, doses of medications were rarely explicated.

Intervention and justification: The content in these narratives consisted of pain management practices with the addition of information about the rationale for the intervention. Use of words such as 'for', 'because', 'thus' and 'therefore' conveyed this sense of justification. The degree of specificity was highly variable, from less than five words (eg, "Tylenol for comfort" [RN]; "morphine for pain" [MD]) to the provision of more detailed information related to the intervention and/or rationale. The content of the pain management justification information related to one of the following three reasons: pain prevention or anticipation of pain returning or worsening (eg, "Morphine and Tylenol given to prevent pain" [RN]; "awaiting IV restart, EMLA applied" [RN]; "morphine bolus given as physio will soon mobilize pt" [RN]); pain reduction or elimination (eg, "Tylenol for discomfort" [RN]; "hot water bottle to ease pain" [MD]); and communication of pain management plan (eg, "plan to d/c morphine overnight for extubation in a.m." [RN]; "off morphine after chest tubes out" [MD]).

Intervention and outcomes: The content in these narratives entailed pain management practices with the addition of information about the outcomes of the intervention. Specificity of detail was highly variable and reported both effective (eg, "settled with bundling" [RN]; "codeine x1, effective" [RN] "repositioned and is much better, pain now 1/10" [MD]) and noneffective outcomes (eg, "all sedation discontinued, morphine decreased, pt now moving around and arching off of bed" [RN]; "Ibuprofen given, no change in pain" [MD]). This type of narrative was frequently used by physicians in their summation notations (eg, "morphine discontinued this a.m. and still appears comfortable" [MD]; "off morphine since yesterday, doing well" [MD]). Outcome content was made explicit through the use of adjectives such as 'controlled', 'effective', 'improved', 'ineffective', 'managed' and 'relieved' (eg, "Tylenol for headache moderately effective" [RN]; "pain not optimally controlled" [MD]) and adjective qualifiers such as 'adequate', 'appropriate', 'excellent', 'good', 'little', 'more', 'less', 'no', 'slight', 'somewhat' and 'well' (eg, 'well controlled', 'good effect', 'no improvement').

Multidimensional elements of care: The content of these pain narratives was inclusive of two or more elements of the clinical care process (ie, assessment, planned intervention and evaluation). Similar to all other categories and subcategories previously described, the depth of information offered was highly variable. However, these narratives were more clearly written, used less jargon and did not require the same level of insider knowledge to understand the child's pain status.

Nonpharmacological pain management strategies were evident in the content of these narratives more than in any other category. Table 3 provides examples of deconstructed contents of narratives in this category.

Assessment and intervention: The content of these multidimensional pain narratives was limited to only two of the elements of the clinical care process, specifically assessment and intervention (eg, "c/o lots of pain in abdomen with movement. Encouragement and support given." [RN]) They were always lacking the evaluation or outcome statement of the action taken. These types of statements were more commonly used by nurses than physicians.

Assessment, intervention and evaluation: The content of these narratives, generally found less frequently than the other categories and written more by nurses than physician, contained all components of the clinical care process (ie, assessment, planned intervention, and evaluation in the form of a reassessment). On the rare occasion, the nurse's intent to perform an evaluation was documented as a plan (eg, "reports pain @ 2/10, morphine decreased, will re-assess for adequate pain control" [RN]; "continues to report back pain as 9/10, PRN morphine given, will monitor effects" [RN]). Overall, the content provided in these narratives tended to be richer and more descriptive, yet was still brief and concise.

DISCUSSION

Narratives have been identified as a common method of pain documentation in children's medical charts but little attention has been given to qualitatively analyzing their nature. Stevens et al (10) found that health care providers used narratives to communicate children's pain status and pain management practices whether they used a validated pain intensity measurement tool, communicated via electronic health care record (EHR), or used specific pain documentation flow-sheets. The findings from this qualitative exploration of pain narratives demonstrate that there were common ways of communicating information in a free-text format that were similar across all Canadian pediatric institutions and types of units, irrespective of patient age. All sources of information (ie, clinician, patient, parent and dual) were found documented in nurses', physicians' and other health care providers' pain narratives. Similarly, all compositional archetypes were used by the various health care professional groups, although some disciplines appeared to favour one archetype more than others in response to the nature of their work, training and workflow processes within their communities of practice. For example, physicians used the pain management plan archetype more commonly than nurses.

Pain narratives ranged from simple declarations of pain presence or absence to the presence of multidimensional statements that revealed the entire clinical care process (ie, assessment, plan, intervention/planned intervention and evaluation). There was also a continuum of the amount of information that was documented within each component of the clinical care process. For example, within the pain assessment category, content ranged from a single piece of information about the quality or intensity of pain to multiple pieces of information that included a pain measurement score, objective and subjective indicators of pain, a time dimension and a causal factor.

The use of abbreviations was common in all clinicians' pain narratives. While using abbreviations in the medical record is a convenient and efficient way for health care professionals to document because many terms are long, the use of abbreviations may be detrimental to patient safety (16) and continuity of care because they are context specific and dependent on insider understanding. Although this exploration does not refute this idea, there is also the possibility that there is more of a common understanding among health care professionals than initially projected, given that all these abbreviations were consistently used by all health care professionals across all units at all eight institutions.

Pharmacological methods of pain relief were more apparent in narratives that focused only on pain intervention content, while non-pharmacological methods, such as information giving, swaddling,

TABLE 3
Narrative content deconstruction: Examples of multidimensional elements of care

Narrative	Indicator (objective)	Cause	Intensity	Cause	Intervention	
Pt. awake and crying++, ?hungry and some pain d/t ++ kicking, codeine given (RN)	Pt. awake and crying++	?Hungry and	Some pain	D/t ++ kicking	Codeine given	
	Indicator (objective)	Intensity (subjective)	Location	Interventions		
Pt alone and crying, states ++ pain to back; pt repositioned and Tylenol given (RN)	Pt alone and crying	States ++ pain	To back	Pt repositioned and Tylenol given		
	Location	Time dimension	Intensity	Intervention		
C/o right ankle pain overnight, 4/10 on pain scale, taking Tylenol for this (MD)	C/o right ankle pain	Overnight	4/10 on pain scale	Taking Tylenol for this		
	Indicator (affective)	Cause	Evaluation	Intervention		
Pt. upset with IV pokes, but settled quickly with bottling (RN)	Pt upset	With IV pokes	But settled quickly	With bottling		
	Indicator (patient source)	Location	Evaluation	Intervention		
C/o cramping to L thigh; relieved with warm blanket (RN)	C/o cramping	To L thigh	Relieved	With warm blanket		
	Intensity	Declaration	Location	Intervention	Evaluation	
C/o some pain at OR site. Tylenol and Codeine given with good effect (RN)	C/o some	Pain	At OR site	Tylenol and Codeine given	With good effect	
	Indicator (patient source)	Intensity	Intervention	Evaluation	Intensity	Time
C/o headache, 5/10. Tylenol given x1 with good effect; pain dec, 2/10 1 hour post (RN)	C/o headache	5/10	Tylenol given x1	With good effect	Pain dec 2/10	1 hour post
	Indicator (affective)	Cause	Evaluation	Intervention		
Uncomfortable when moved, but relaxes when given soother with glucose water (MD)	Uncomfortable	When moved	But relaxes	When given soother with glucose water		
	Intensity	Intervention	Evaluation	Intervention	Evaluation	
Returned to ward in extreme pain. Tylenol given. No relief. Hot bath helped (RN)	Returned to ward in extreme pain	Tylenol given	No relief	Hot bath	Helped	

c/o Complains of; dec Decreased; d/t Due to; IV Intravenous; L Left; MD Medical doctor; OR Operation; Pt Patient; RN Registered nurse

distraction and heat/cold therapies, were more evident in the narratives within multidimensional elements of care content (although they were still infrequently reported). The distribution of pharmacological to nonpharmacological interventions found in Stevens et al's (10) quantitative analysis gives some credence to the impression that nonpharmacological interventions were less frequently documented in the narratives and provides further insight into when health care providers tend to provide this information. They reported that overall, 78% of children (n=2334 of 2987) who had a painful procedure had a pain management strategy documented in the preceding 24 h. Of these children, nearly 85% (n=1980 of 2334) had documentation of at least one pharmacological (analgesic and/or adjuvant analgesic) intervention, 26% (n=609 of 2334) physical, 25% (n=584 of 2334) psychological, and 32% (n=753 of 2334) received a combination of interventions. What is unknown, however, is why the nonpharmacological methods were noted more in a narrative with multidimensional elements of the clinical care process than in the narratives that addressed intervention content only. Is it possible that the content of these documents was a reflection of the different types of care that the clinicians practiced or was it simply coincidence? For example, did the clinicians who reported nonpharmacological methods of pain management execute more aspects of the clinical care process – which was subsequently captured in their documentation – than did the clinicians who documented only some aspects of the clinical care process? Research using qualitative methods, such as ethnography and think aloud, is warranted because meanings need to be revealed in light of the clinical decision-making process as well as workflow processes and documentation constraints of individual clinicians.

Most health care facilities have incorporated standards for pain documentation into their policies and procedures and have provided space for documentation of basic pain assessments in standard nursing or interdisciplinary care forms (either paper- or electronic-based), which are necessary for legal and accreditation purposes (17). In the current health care culture in which clinicians are encouraged to chart by exception and eliminate documentation redundancies, why then were pain narratives so prominent in the medical records when documentation was already apparent elsewhere in the patients' charts, such as in pain management flow sheets and medication administration records? What purpose does the narrative form of documentation serve?

Narratives have the advantage of familiarity, ease of use and freedom of expression for the clinician. But more than that, clinicians need a way to interpret raw data, synthesize the facts and weave them into a coherent narrative. Thus, one purpose of pain narratives may be to communicate the clinician's clinical reasoning regarding the child's pain status by centring primarily on one or more components of the child's situation through the steps of the clinical problem-solving process. Natural language provides many mechanisms that augment or enrich simple facts or numbers, helping to weave the facts together by conveying temporal, causal and reasoning relationships among the facts that are essential to contextualize, interpret and synthesize the information. This theoretical argument makes sense when considering those narratives containing the multidimensional form of content.

However, what about the vast array of narratives that were only associated with one dimension of the clinical care process? What purpose do they serve? One could argue that a simple declaration of pain

or absence of pain in a narrative is the most efficient way to communicate to other clinicians about either their need to let go of their concern, thus freeing clinicians to prioritize their focus on other children, or to alert them to that child's need for follow-up care in a more timely manner. Similarly, many pain narratives appear to be a summation of an impression of a clinical care situation (eg, 'chest x-ray tolerated well'). Is it possible then that some pain narratives serve to collate all the small details of an event that clutter the clinician's thinking, particularly when those details are all within normal or expected parameters relative to the situation, into one simple phrase that communicates 'it all' to those who work within the same community of practice and have a shared understanding of the texts' intended meaning? Do these types of narratives enable a calling of attention to the event but indicate that nothing more is necessary? Do these types of narratives then help the unusual, unexpected, or unintended to stand out?

Alternatively, is there a need to document in narrative form, in part, because narratives are a record of the clinician's involvement with the patient, of demonstrating a sense of connectedness in a way that tick boxes (for those using EHRs or pain flowsheets) or numeric entries simply cannot create? Does writing create a memory of bearing witness through the creation of a narrative even if it is only two or three words? Perhaps this is what Stillar (18) meant when he wrote that "the written text is the means through which we link ourselves to one another and the environment of which we are a part" (p. 11). For example, in their analysis of the nursing documentation of postoperative pain management in an adult patient population, Briggs and Dean (19) contended that the documentation reflected that total responsibility for reporting pain was left with the patient and the phrase "denies pains" implied no active involvement from the nurse. Is it possible that one reason for reporting information from both the patient's (or parent's) and clinician's perspective (dual information source) is that it reflected shared responsibility of pain identification and a sense of partnership within a patient/family-centred philosophy of care within the pediatric setting? Is it possible that identifying the patient source or parental source in the pain narrative reflected an appreciation of and support for the child's and parent's own understanding of the pain experience, of having heard and acknowledged the voice of the other?

Furthermore, it could be that clinicians may have used a pain narrative as one means of establishing and communicating knowledge about the uniqueness of that particular child's pain, something that documenting pain intensity scores failed to impart. Indeed, it is out of a free-form text format that hermeneutic interpretations can emerge as an informational modality (20). Some pain narratives demonstrated that pain intensity scores as a fifth vital sign were not straightforward to interpret. As von Baeyer (21) has so keenly articulated, "self-reports of pain intensity are an oversimplification of the complexity of the experience of pain" and should not represent the gold standard in pain measurement. For example, although narratives that cited two sources of indicators of pain often communicated congruence between them, they also demonstrated that there could be discordant information (ie, a patient who reported a high pain score but whose behaviours belied the score or, alternatively, reported a low score when other cues were seemingly contradictory). One interpretation of the narrative is to assume that the reporting of dual sources of information (eg, clinician and patient; clinician and parent) was a reflection of belief or disbelief in the child's self-report; another is to appreciate that, in some situations, pain management clinical decision making was made more difficult due to the complexity of the pain experience and its reflection in the form of pain indicators. The examination of these pain narratives has demonstrated that clinicians' use of pain indicators, particularly when they were augmented by word qualifiers, may have facilitated pain management decision-making when it was difficult to differentiate the clinical significance of a single point pain score.

Drawing on Ödman's (22) theoretical work in hermeneutics as translated by von Krogh and Näden (20), the provision of other sources of information (eg, parental sources) or two sources of information may

reflect two types of coherences in clinical reasoning that are needed in these complex situations: explanatory – when the patient's behaviour or utterances are meaningful when placed in a context (eg, "pt a bit restless overnight; refusing Keterolac due to prior N&V; minimal nausea on morph; continue with current pain management" [MD]) and translational – when the behaviour or utterances are given new meaning through the revelation of implicit notions the patient is unable to express or convey due to such factors as cognitive development, fear or shyness (eg, "still cranky, mom thinks pt has cold" [RN] for ≤ 12 months of age; "Mom states pt is grabbing at Mickey which she believes to indicate pt is in pain" [RN] for six to 12 years of age). Communicating this information through the use of text may help others understand that the clinician's reasoning for withholding or administering an intervention took into account all information afforded in the situation and assist others to understand the meaning of a numeric value or a word descriptor indicated by that particular child. In other words, these findings add to the argument that pain intensity scores cannot be the only and definitive source of information (21) and that the competency of pain practice calls the clinician to integrate data from multiple sources to know the patient and how to move care forward (23).

Despite their brevity, narratives could have remarkable clarity (eg, "pt. c/o headache; Tylenol given; is now pain free" [RN]). However, many were nebulous without knowledge of the particular patient's situation or unit context. For example, the narrative "denies pain – Tylenol PO given $\times 1$ " [RN] is confusing. Why did the nurse administer Tylenol if the patient denied pain? This narrative, embedded within a larger context of information, may have achieved clarity when viewed in the context of a medical order that indicated that the nurse was to routinely administer a maintenance dose of Tylenol as a strategy to prevent the occurrence of pain; in this case, the goal of the intervention had been achieved as noted in the narrative (ie, the child denied having pain). On the other hand, the time noted in the medication administration record may have indicated that Tylenol had been administered before the entry of this narrative and, therefore, the comment "denies pain" would have reflected the outcome of that intervention. Narratives are written under the assumption that the reader knows (or is about to know) the patient and will integrate information provided in other parts of the medical record. They are to be interpreted in light of the context of the patient situation, such as the diagnosis, procedures and treatment plan. Even the location of text within the medical record can become part of the context within which a pain narrative is interpreted. For example, in the traditional manually generated medical record, the reader may understand who the source of the narrative is simply by its placement in either the physicians' or nurses' progress notes or physiotherapists' consultation reports. Interpretation may become more difficult if these types of contextual cues become nonexistent, which can be the case in interdisciplinary EHRs.

'Text' – in this particular discussion, free-text notations written by health care professionals about their patients' pain status – is a socially recognized, meaningful unit. Stillar (18) wrote that "texts exhibit some kind of unity or texture that enables them to be socially recognizable as a whole". Texts are not isolated entities; they always exhibit connectivity. They operate in terms of contexts. In fact, the word 'context' describes the condition of texts as coherent entities. To cohere means to hold together as a mass of parts. The pure presence of the pain narrative entry, no matter its cryptic nature, indicates the need to review (or not) other entries in the child's medical chart, thus pulling together other essential parts of documentation situated there. Some narratives call the clinician to engage in further exploration. A narrative such as "more pain than before" is one such example, calling the clinician to know what the child's pain experience was previously (ie, what was the pain like before). Other narratives inform the clinician that no further review is necessary (eg, " \emptyset pain").

The explanations offered heretofore in the discussion for how and why pain narratives were constructed (in terms of structure and content) in multiple, dynamic ways as revealed in the present exploration

are only offered as theoretical possibilities. Only with further exploration using qualitative data collection techniques within qualitative research designs (eg, think aloud sessions, discourse analysis, ethnographic observations) will it be possible to understand in a more grounded way how and why pain narratives are written in the ways they are by health care professionals, how they are interpreted by others and how they impact pain management practices. Given the common occurrence of pain narratives and wide variety of structure and content, more research is warranted in this area.

Despite the development of standards of practice for pain assessment, pain management and reassessment (24-26), standards for documentation have not received the same attention. Documentation standards are often offered in the form of guidelines or recommendations and are customarily stated in generic terms such as those found in the Registered Nurses Association's Best Practice Guidelines on Pain (26):

- Recommendation 10: Document on a standardized form that captures the person's pain experience specific to the population and setting of care. Documentation tools will include: initial assessment, comprehensive assessment and reassessment. Monitoring tools that track efficacy of intervention (zero to 10 scale).
- Recommendation 11: Document pain assessment regularly and routinely on standardized forms that are accessible to all clinicians involved in care.

One such example of a standardized form is the pain management flow sheet, which is typically used for analgesic infusions in acute care. Pasero and McCaffery (17) offer one such example in their text, *Pain Assessment and Pharmacological Management*. This type of standardized form often contains such information as route of administration, location, comfort-function goal, drug information (eg, concentrations, basal rate, hour limit, intermittent doses), pain intensity score, adverse effects, vital signs, oxygen saturation and level of sedation. However, a cursory look at such 'standardized' forms across just five pediatric hospitals demonstrated that the mandatory documentation fields were not 'standard' across institutions nor did they necessarily focus on information related to pain assessment elements such as provoking factors, quality of pain, duration of pain or associated symptoms. Although electronic forms serve a similar function as standardized paper-based forms, they too are not standard across all systems in terms of degree and depth of detail regarding the patient's pain experience, and each institution must decide on their own enhancements. The option for clinicians to provide a pain narrative may or may not be available and the degree of difficulty for coherently viewing that information as a reader is variable. Many organizations are converting to EHRs. Therefore, a deeper understanding of how and why clinicians use the free-text format as it relates to pain assessment and management documentation is necessary before appropriate decisions can be made about the allocation of the number of characters or words for free-text space, the way in which pain narratives are made accessible to clinicians during retrieval and are linked to other information within the EHR, and how the information found within narratives is converted to a drop-down menu style of reporting. Given that neither paper- nor electronic-based forms required information related to information source(s) or the purpose of assessment, is it even important to ensure that this information is captured in pain documentation via a drop-down menu?

Finally, it has been argued (27,28) that subjective information (ie, text data) is regarded as low value compared with objective information (ie, numerical data in the form of pain intensity scores). However, the findings from the present study demonstrate that clinicians' feelings, reasoned associations, and explanatory and translational coherences are embedded in the content of pain narratives. This information is not only valuable to other clinicians for knowing the patient better, but is also used for additional purposes such as clinical decision support, education and patient outcomes research. For example, it may be helpful to connect pain narrative information to actual better pain care practices and to real-time teaching opportunities related to the comprehensiveness of charting about pain

experiences. Software developers need to better understand how pediatric pain narrative data are structured and vocabulary used so that retrieval codes are appropriately designed. The development of standards of documentation that are integrated with standards of pain assessment and pain management practices as well as patient safety requires further attention. While recognizing the value of standardized forms, we recommend that the role that pain narratives play in communication and clinical education (eg, as demonstration of microethical moments or critical thinking and clinical care process in action) be recognized and further developed, which includes, but is not necessarily limited to, the identification of information source(s), compositional archetypes and content construction. Given the common occurrence of pain narratives and the wide variety of structure and content, we recommend that further research be conducted in this area.

Limitations

The present study had a number of limitations. First, only narratives directly related to pain were collected and thus the full context of the patient situation was unknown. A judgment was made by the research nurses as to what to transcribe, which required interpretation of health care professionals' documentation and may have introduced a bias. Attempts were made to reduce this bias by providing extensive training, during which time the research coordinator audited the data selected as a pain narrative to reduce the risk of missing data. Furthermore, the predetermined list of variables housed within the subsections of the CPPR database form served to cue the research nurses to consider every free-text notation as a pain narrative if it contained any of the words found within these lists. Second, pain narratives were also rendered decontextualized to the patient's situation (eg, to time of notation, sequential charting entries and patient diagnosis). Therefore, it is unknown whether some narratives would have attained greater clarity and interpretability if other free-text notations had immediately preceded or followed the narrative being analyzed. Nonetheless, the variety of structures and content depicted within these isolated narratives resonated with the researchers' considerable experiential expertise in the clinical setting and were believed to be reflective of current documentation practices despite this decontextualization. Finally, it was not possible to ascertain the number of health care professionals generating the narratives; thus, some clinicians may have written more than one narrative on the same child, and many clinicians may have documented pain narratives on the same child, which then results in over-representation of certain health care professionals or patient diagnoses.

Concluding remarks

In the present qualitative exploration, narratives were analyzed to reveal the multidimensionality of structure and content used by health care professionals to document children's pain. This exploration of their narratives about hospitalized children's acute pain has revealed health care professionals' documentation practices that have not previously been revealed in the literature. Now that it has been rendered visible, debate can follow as to whether their structure and content are desirable features of documentation, perhaps by relating them to subsequent patient outcomes and, if so, how narratives can be refined and improved. There is broad scope for further investigation into the nature of health care professionals' pain narratives that would have potential for generating guidelines for best pain documentation practice beyond numerical representations of pain intensity.

SUMMARY

Few published studies have investigated the nature of health care professionals' pain narratives. In the present study, narratives were analyzed to reveal the multidimensionality of structure and content used to document hospitalized children's acute pain. The findings have the potential to open debate on whether the multidimensionality of pain narratives' composition is a desirable feature of documentation and how narratives can be refined and improved. There is potential for further investigation into how health care professionals'

pain narratives could have a role in generating guidelines for best pain documentation practice beyond numerical representations of pain intensity.

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