

# Understanding Caring Events through Narrative in Paper and Electronic Health Records

Tom Hope<sup>\*1</sup>

Kosuke Yamada<sup>\*2</sup>

Kentaro Watanabe<sup>\*3</sup>

<sup>\*1</sup>Tokyo Institute of Technology

<sup>\*2</sup>Saga University

<sup>\*3</sup>National Institute of Advanced Industrial Science and Technology

This paper explores the appropriateness of narratives as a way to understand nurses' use of Electronic Health Records via workshops with nurses.

## 1. Introduction

Healthcare in Japan is changing due to an impending crisis of a severely aging population, with an associated expected increase in people with chronic illnesses (notably the 'old-old'), along with a lack of specialized carers [Arai 2015]. ICTs and robotics are seen as one solution to this crisis. While the current Japanese government supports the digitization of medical and healthcare environments, aiming to accelerate ICT use in healthcare and create an integrated healthcare system [Cabinet Office 2013, MHLW 2015], actually digitization has to some extent been growing in Japanese healthcare for some time, with over 50% of large hospitals already using Electronic Medical Records [Yoshida 2013]. With technologies such as online or mobile applications for tracking one's own medical information a growing body of data will be available on patients and treatments in Japanese healthcare. The interactions between carers and patients and the creation of data comprise a series of 'events' that may be recorded, stored and used to improve services [Watanabe 2013].

This paper reports on a study of nurses' use of Electronic Health Records (EHRs) in a university hospital in Japan and reflects on the place of events and nurses in the service of healthcare provision with particular emphasis on 'narratives'. The paper ends with a discussion of event databases based on the study.

## 2. Narrative in healthcare

Narrative—telling stories—is part of making sense of the world and this is no less true in medical settings. Narratives form part of patient-practitioner consultations [Mønsted 2011]. Narrative strategies have also been shown to be in use by physicians to create and make sense of electronic patient records, particularly in the 'progress notes' sections of the documents [Schmidt 2013]. Patient records contain not only medical diagnoses but also other information related to their care, often entered by nurses. Particularly for patients who have multiple visits or lengthy stays in hospital, these records may heavily impact their sense of comfort and care. Studies have shown that narrative can be used in the education of professional staff who deal with the care of patients, forming part of a movement of 'narrative health care' [Engel 2008].

## 3. Study with hospital nurses

In 2015 two workshops were held with nurses at Saga University Hospital, as a part of a project that began in 2012. The



Figure 1. Collaboratively describing practice

purpose of these workshops was to understand how nurses currently use EHRs with a future aim of addressing any perceived problems and designing improved and integrated service systems. The current EHR system was created in consultation with the hospital and so two workshops were arranged: the first to understand the use of the (now unused) paper records by 5 senior nurses who had experience of this, and the second to understand their use of EHRs to uncover problems and compare with the paper records. The second workshop began with a new group of 4 newer nurses who had no experience of paper records but regularly use the EHRs, joined by the 5 senior nurses in the second half.

In the workshops the nurses were directed to talk through their use of the records from initial entry of a patient into the hospital or department until their discharge. Notes were taken on slips of paper that could be rearranged during discussion (figure 1). Encouragement was given to highlight problems or benefits during each stage of entry or use in the records. An aim of this research design was to uncover events in the processing and care of patients and their relation to the records and data. Workshops were recorded (audio and video), and observational notes were taken along with photographs of the final arranged colored slips. Atlas.ti qualitative data analysis software was used to analyze the recorded data.

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## 4. Results

Though the workshops were not explicitly designed to prompt narrative work, the workshop design lent itself to narratives in the instructions to discuss records in a ‘patient-in to patient-out’ way, effectively giving a linear structure with characters (patient, family members, nurses, and doctors etc.) and plot (the movement of the patient or data). In analyzing the data, two aspects of narrative work became clear, described below.

### 4.1 Record structure and data input

In constructing the record of a patient, unrelated to whether paper or EHR, the broad structure of the document most obviously defines the elements recorded of the patient. For example, the initial event of ‘admitting the patient’ is often prepared in advance of the nurses’ contact with them, by reception staff or nurses from other departments (if a patient is being transferred). Nurses then input information such as height and weight, explain informed consent and give an orientation session to the patient. Some departments encourage the use of ‘check lists’ to make sure all required information is entered, but while the overall processing of a patient follows a common structure, the check lists do not appear to force a particular order of entry of data in the sub-divisions of a record. Hand-written ‘memos’ on paper are frequently taken during or after interviews with patients, and then used to enter into the records later. In other words, while information is entered to meet the data requirements necessary for care—for example in the nursing diagnosis system in use by the hospital—there is some flexibility within the strictly defined larger ‘blocks’ of information gathering as to the order in which information is gathered and entered.

Within a record, nurses reported on different sections as affording different amounts of flexibility in what they could write. This is one of the major differences between paper and EHRs. Senior nurses, who had experience of paper records suggested the importance of this ability to write in their own way in particular sections, pointing to this as part of the ‘art’ of caring for patients. EHRs take away some of this ability, even providing pre-existing options that can be selected thereby reducing the ability to tell one’s own story about the patient.

### 4.2 Events as flexible resources

In the workshops the nurses negotiated amongst themselves about the order and content of entry into records. While a dominant narrative emerged, describing the movement of the patient and steps along the way from admission to discharge, the narrative changed with each member’s description. This was most obvious when interaction occurred between the newer nurses and senior ones in the second workshop. The narrative generated by the senior nurses was one of carefully interacting with patients and creatively constructing a record. The experience of using paper records with flexibility (of input, and of some editing) allowed them to tell a story using this as a point of comparison, a world of caring events which was in some ways better and in some ways worse than with EHRs. The junior nurses without experience of paper records told a similar narrative of conducting skilled caring work, but with some

emphasis on inputting the appropriate data and following appropriate procedure. Partly, perhaps, this was an acknowledgement in front of the senior nurses that they were still junior nurses, but this in a sense challenged the dominant narrative, using the same events in the procedure of patient record entry as resources to tell a different story.

## 5. Discussion

A previous paper by one of the authors [Hope 2015] explored some issues of defining meaningful events for an event database. The study reported above highlights another challenge to be addressed, that of the interpretive flexibility of events by different actors. As seen above, while a common narrative can be told of a patient’s journey through the system, it is not entirely stable, shifting according to nurse, with different emphases according to knowledge and experience. Indeed, what counts as an ‘event’ in healthcare can differ according to actor and in their telling of the event.

Brown et. al [Brown 2008] have argued that in order for teams to work together in organizations they need to have mutually reinforcing narratives of their actions. We can say that this group sensemaking in the workplace is an epistemological necessity, but in terms of a database of events it is an ontological presupposition: events must exist as measurable things that can be apparent to both the users and translated into workable information within a database. This suggests that it is important to study further how narrative ‘works’ in studies of nurses’ work with EHRs.

A second issue to arise from the study relates to ethical responsibility in the patient-nurse-technology configuration. Jones [Jones 2009] in a detailed analysis of interaction during patients’ admission interviews by nurses shows that nurses’ reading and writing in the record influences the order of topics in the interview. If, to deal with the crisis in care noted in the introduction to this paper, patients are to be encouraged to take ownership of their own health, work must be done to avoid taking control (or at least a sense of agency) away from them in healthcare environments. This paper confirms Jones’ suggestion that examination of nurses learning and use of technology in daily practice is important to avoid reducing patients’ participation in their own healthcare. It is also necessary to empower nurses in their work as carers, allowing the ‘art’ of caring to remain part of their job.

The workshops used in this study provide an opportunity to create and modify narrative understanding of events. This method could be combined with a reflexive interface to the information on events—the database to record data, turn into information and ontology of ‘caring’—and discussion workshops to allow collective making of meaningful narrative ‘units’ which can be put back into the database. Examining narrative work within technology interaction may increase opportunities for human agency and a sense of community to be maintained within a local healthcare information environment.

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