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 研究課題名(和文) Improving communication for an effective and safe patient handoff

研究課題名(英文) Improving communication for an effective and safe patient handoff

研究代表者  
 顧 秀珠 (Gu, Xiuzhu)

東京工業大学・工学院・助教

研究者番号：20632615

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研究成果の概要(和文)：本研究は患者移送の円滑な実施を阻害する要因であるコミュニケーション不足などの問題に焦点をあて、安全で効果的な組織文化およびプロトコルの構築を目指した。様々な研究方法をアプローチし(例えば、アンケート調査、インタビュー、エラー分類法によるインシデント報告の分析など)、主な研究成果は以下になる：(1) 病院内の部門間(診療科・病棟)、および看護師のシフト交代時の患者移送の組織文化、現状と問題点を明らかにした；(2) 移送元、移送先、患者間における効果的なコミュニケーションを可能とする標準的なプロトコルを構築した；(3) 患者移送の合理的な評価が出来るツールを設計し、構築したプロトコルの有効性を検証した。

#### 研究成果の学術的意義や社会的意義

Organizational climate surrounding patient handoff was explored and an handoff error taxonomy system was developed. More efficient and safer healthcare service will be achieved by reducing unnecessary treatments and medical errors, and higher healthcare provider and patient satisfaction is expected.

研究成果の概要(英文)：This research project focused on factors leading to patient handoff failures such as insufficient communication and immature handoff system, and aimed at establishing a safe and effective organizational culture and handoff protocol. Various methods were applied in this project, e.g., questionnaire survey, interviews to professionals, incident report analysis by using self-developed handoff error taxonomy system. And the main outputs are as follows: (1) Characteristics of organizational climate surrounding patient handoff was explored for inter-department handoff (between departments or wards) in the hospital as well as nursing shift handoff. The current conditions and problems in handoffs were also clarified; (2) a standardized protocol was developed enabling effective handoffs via sufficient communications between sender, receiver and patient; (3) the effectiveness of the constructed protocol was verified after implementation by a tool designed for handoff quality assessment.

研究分野：医療安全

キーワード：Patient handoff Patient safety Communication Taxonomy Efficiency

## 1 . 研究開始当初の背景

Patient handoff is a crucial process in health care. It can be defined as the transfer of professional responsibility and accountability for some or all aspects of care for a patient or groups of patients to another person or professional group on a temporary or permanent basis. If handoff is conducted improperly, e.g., wrong or inadequate information is received and responsibility becomes unclear, patients may suffer serious harm. Regardless of the handoff type, poor communication is a main factor which leads to an adverse event in handoffs. In addition to communication, a number of factors have been reported in handoffs, e.g., inadequate standardization, problems with equipment, busy wards, poor planning or use of time, complexity of cases or high caseloads, lack of training, interruptions, and fatigue. Handoff studies have been primarily conducted in North America and Europe. Patient handoff in Asian hospitals may be expected somewhat different from those in the Western countries. However, only a few studies have been carried out on this topic in Asia. With such awareness, a self-administered questionnaire was developed and applied to various hospitals to investigate quality and safety of handoffs in Japan [1]. However, there have been great changes and innovations not only in technologies but also management practices for patient handoffs in the last decade.

Heinrich's theory has been widely accepted as the "common cause" hypothesis, stating that causal pathways of near misses are similar to those of accidents. According to this perspective, we can obtain a rich amount of information from a great number of near misses and effect-free incidents (in addition to a small number of adverse events), not only to promote organizational learning but also to investigate latent causal factors of health care accidents. For these purposes, error taxonomy is of great help, and therefore a number of taxonomy systems have been developed in health care. In particular, a domain-specific taxonomy can be more effectively handled than a general-purposed one when an application target is determined. There has been no error taxonomy specifically targeting at patient handoff events to investigate their overall characteristics.

## 2 . 研究の目的

In this project, we seek to extract climate factors contributing to handoff quality and safety, and to capture their crucial characteristics in the current Japanese context. Changes in the climate surrounding patient handoffs for the last six years are also investigated and discussed.

We also develop an error taxonomy system for patient handoffs in hospital settings. We confirm the taxonomy's applicability and analysis capability through its application to approximately 600 handoff incident cases occurred in Japanese hospitals. We discuss the taxonomy's reliability by the use of inter-rater agreement, and offer some suggestions for safer patient handoffs.

In addition, we try to uncover characteristics of handoff practices in Chinese hospitals: to obtain factors contributing to patient handoff quality and to explore characteristics of the current inter-department patient handoff. Based on the survey results and interviews with healthcare professionals, we discuss critical issues in the current inter-department handoff in Chinese hospitals and propose strategies for improvement.

### 3 . 研究の方法

A questionnaire was developed about staff views of work procedures, practices, supporting aids, and management issues related to patient handoff between work units within the hospital (inter-department handoff) and nurse-to-nurse shift handoff. The questionnaire survey was conducted between October and December 2017. A total of 5,117 valid responses were collected from nursing staff in 31 general Japanese hospitals with a response rate of 69%. The sample collected in 2011, which had 1,462 responses, was also used for comparison with the current data.

An error taxonomy system was developed for a framework of analyzing patient handoff events. The taxonomy was composed of four sections: event outline, outcome severity, background factors and prevention mechanisms. Each section included one or more dimensions, each of which had multiple categories. The taxonomy was applied to 609 patient handoff incidents – 6.4% of all incident cases collected from five general hospitals in Japan.

By using a questionnaire adapted from the Japanese one, the Chinese survey was conducted from December 2016 to March 2017. In total, 490 valid responses were collected from staff located in 28 provinces/municipalities, including 279 physicians, 129 nurses, and 82 assistant nurses.

### 4 . 研究成果

We investigated organizational climate factors surrounding patient handoffs in Japanese hospitals, from the viewpoint of nursing staff perceptions through a questionnaire-based survey. Seven handoff factors were yielded from nursing staff responses to both unit and shift handoff items: (1) process and guidelines, (2) training and education; (3) information and responsibility continuity between units, (4) unit handoff competence, (5) communication between units, (6) unit handoff environment, and (7) shift handoff information and environment. Based on the elicited handoff factors, characteristics of nursing handoffs in Japanese hospitals are summarized as follows: (1) In general, nursing staff perceived patient safety priority highly positive, perceived overall adequacy of handoff moderately positive, and perceived the current handoff efficiency rather negatively. Significant differences were observed for all handoff factors between the seven work units, i.e., internal medicine ward, surgical ward, other inpatient wards, emergency department (ED), intensive care unit (ICU), operating room (OR) and outpatient department (OPD), and across hospitals. In general, inpatient ward nurses exhibited relatively positive views for all factors except for unit handoff environment and shift handoff information and environment. For these two factors, ICU and OR nurses perceived more positively than the other work units. There were significant hospital differences in nurse perceptions. In particular, the largest difference was obtained from views of handoff training and education. (2) In a six-year interval from 2011 to 2017, staff views became significantly more positive except for communication and shift handoff information. The largest improvement was extracted on handoff process, training and education. (3) Focusing on sufficient information transfer, nurses reported less frequently when receiving patients than when sending patients, especially when receiving patients from inpatient wards. Compared with other intra-hospital handoff cases, information was transferred more adequately in handoffs with the OR and ICU. (4) Differences of sufficient information transfer frequency

were also observed across hospitals. Large differences across hospitals were seen in handoff cases when receiving patients from other work units or organizations rather than sending patients or in shift handoffs. In addition, frequency of sufficient information transfer was significantly increased from 2011 to 2017 in all the handoff cases except for the cases receiving patients from non-inpatient ward work units in own hospitals. Based on the results, for safer and more effective nursing handoffs, it is suggested to improve the current handoff process by proper standardizations and to effectively use non-licensed assistive staff.

We developed an error taxonomy system for patient handoff events, aiming at its application to risk management in health care organizations. It may be useful for patient handoff event analysis to explore active failures and their immediate causes in any hospital setting. Applying this taxonomy to incident reports collected from five general hospitals in Japan, several important characteristics of patient handoff failures were identified: the failures most frequently occurred during inter-department and nurse-to-nurse shift handoffs; most of the failures were related to insufficient or inaccurate information transfer; the most important causal factors were staff human factors, followed by task factors and organizational factors. From the results, it is suggested that risk management for patient handoffs should pay special attention to adequacy of information transfer in inter-department and shift handoffs. Additional safety procedures and rules should be established under consideration of organization's current working situations and specific handoff types. Finally, according to background factors, staff training/education and working condition improvement should be conducted to improve safety performance of patient handoffs.

We also investigated factors contributing to inter-department handoff quality from the point of view of Chinese healthcare staff through a questionnaire-based survey. It yielded five handoff factors as discontinuity of responsibility transfer, discontinuity of information transfer, role understanding, mutual communication, and supporting system and environment. Based on the elicited handoff factors, characteristics of handoffs in Chinese hospitals are summarized as follows: (1) In general, healthcare staff highly acknowledged the overall handoff quality and patient safety, whereas efficiency still needed improvement. (2) Significant differences were observed for all the factors between the three professional groups. Except the first two discontinuity factors, nurses had the most positive views, followed by physicians and assistant nurses. However, they shared the same trend of views, i.e., they perceived a good understanding of own roles and adequate mutual communication during handoffs. In contrast, they observed that sometimes patient care responsibility and information were discontinued during handoffs. (3) From the point of view of healthcare staff, the overall handoff quality was mostly affected by mutual communication and handoff system and environment. (4) Focusing on insufficient information transfer, it was reported more frequently when receiving patients than when sending patients, especially when receiving patients from the ED or outpatient department. Compared with other handoff cases, information was transferred well in handoffs with the ICU. Based on the results, for safer and more effective inter-department handoffs, it is suggested to make a proper standardized process supporting by standardized IT system and formats, to use unlicensed staff effectively in nursing handoffs and foster a culture of error reporting and learning.

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〔図書〕(計 件)

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権利者：  
種類：  
番号：  
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〔その他〕  
ホームページ等

## 6. 研究組織

### (1) 研究分担者

研究分担者氏名：

ローマ字氏名：

所属研究機関名：

部局名：

職名：

研究者番号(8桁)：

### (2) 研究協力者

研究協力者氏名：伊藤謙治；Hu-Chen Liu

ローマ字氏名：Kenji Itoh；Hu-Chen Liu

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