

# Re-engineering of Prescribing Process in Computerized Physician Ordering System

Ryoma Seto<sup>a</sup>, Susumu Wakabayashi<sup>b</sup>, Kumiko Ishigami<sup>c</sup>, Sayuri Yamashita<sup>d</sup>, Akiyoshi Watanabe<sup>e</sup>

<sup>a</sup> Division of Health Informatics, Faculty of Healthcare, Tokyo Healthcare University, Tokyo, Japan

<sup>b</sup> Department of Pharmacy, Kyorin University Hospital, Tokyo, Japan

<sup>c</sup> Prevental Health Examination Center, Sanno Hospital, Tokyo, Japan

<sup>d</sup> Department of Medical Safety Management, Kyorin University Hospital, Tokyo, Japan

<sup>e</sup> Division of Finance and Accountant, St. Luke International Hospital, Tokyo, Japan

## Abstract and Objective

*In 2007, the director general of the Health Policy Bureau of Japan issued a government notice to promote role-sharing by healthcare providers. The notice recommended that co-medicals such as nurses, and clerks should expand their roles to enable sharing of roles between them and physicians. For example, nurses would be authorized to “adjust amount of medication” and clerks to “write prescriptions” under physician’s guidance. We aimed to discuss how to redesign the business process, especially the prescribing process, rather than how to share physicians’ work with co-medicals. However, arguments in this topic are rarely based on business process reengineering. The purpose of this study is to clarify and analyze the current prescribing process and suggest a solution that will promote sharing of roles.*

### Keywords:

Medical order entry systems, Electronic prescribing, Medical secretaries

## Methods

The study consisted of two questionnaire surveys and one interview survey. In the baseline questionnaire survey, 404 directors of pharmacy of acute hospitals throughout Japan were surveyed using a mailing method. Using an additional questionnaire in one region where “sharing the order entries” with co-medicals and clerks is common, 131 nurse managers were surveyed using a placement method. In the interview survey, nurse managers and chief clerks who were positively committed to sharing of roles were interviewed.

## Results

Results of the baseline questionnaire survey showed that co-medicals and clerks in 144 (35.4%) of 404 responding hospitals shared prescribing process.

An additional questionnaire survey showed that more nurses than pharmacists or clerks provided input or wrote prescribing orders. Target drugs in orders put in or written by nurses in-

cluded those ordered by physicians, whether orally or in written form, as well as those used for medical procedures without a physician’s order. For example, when a physician prescribed the same drugs as in a previous prescription order, 42 of 131 (32.1%) respondents said that nurses provided input or wrote the prescribing orders; corresponding figures were 12 (9.2%) for pharmacists and 12 (9.2%) for clerks. Nurse managers reacted in a positive way to nurses or pharmacists sharing prescribing roles, but negatively to clerks doing the same. For instance, 42 (32.1%) of them indicated that their nurses provided input or wrote prescribing orders for medical procedures without the physician’s order, and 21 (16.0%) did so for preparing for examination. Furthermore, 51 (38.9%) of 131 respondents agreed with the way nurses provide input or wrote prescribing orders that physicians had ordered orally; corresponding figures were 33 (25.2%) for pharmacists and 1 (0.6%) for clerks.

The interview survey showed that both co-medicals and clerks had the ability to provide input and write prescribing orders. Furthermore, clerks were required to be trained by others to perform this work.

## Discussion

These surveys showed that only a few clerks provided input and wrote prescribing orders but many co-medicals, especially nurses, did so extensively. This leads to a situation in which clerks are undertrained and nurse managers prefer nurses to clerks for this work.

## Conclusion

We clarified in the Japanese current medical setting that many nurses provided input or wrote prescribing orders and few clerks did so against the government notice.

From the standpoint of reasonable sharing of roles, this work should be relegated to clerks. For this purpose, clerks should be trained to improve their skills.