Detecting Differences in Communication During Two Types of Patient Handovers: A Linguistic Construct Categorization Approach

Zachary Woods1, Brian Hilligoss2, Andrew Duchon3, Nicholas Beecroft4, Emily S. Patterson4, PhD
1Ohio State University, Department of Integrated Systems Engineering
2Ohio State University, College of Arts and Sciences
3Ohio State University, College of Public Health, Division of Health Services Management and Policy
4Ohio State University, College of Medicine, School of Health and Rehabilitation Sciences, Division of Health Information Management and Systems

Introduction

Handover communications are centrally important to providing safe, effective care. Numerous efforts to improve handover communications have been conducted to meet accreditation requirements by The Joint Commission and by the Accreditation Council for Graduate Medical Education (ACGME).

Methods

- Transcribed ED-hospital and ICU shift change handovers.
- Linguistic Inquiry and Word Count (LIWC) software grouped hand-picked words into construct categories.
- Constructs Content and Strategy were investigated.
- LIWC output scores, the words in a construct category divided by the total words in the document, were found.
- A two-tailed t-test was used to detect differences.

Hypothesis

- Hypothesis: ED-hospital more family and collaborative-checks, less prognosis

Results

- The hypothesized difference for prognosis was detected.
- Unexpected findings: ED-hospital less care plan discussion.

Discussion

- The findings of this study demonstrate that there are automatically detectable differences in content and strategy between different types of handovers.
- By making these differences in content and strategy explicit, standardized, and monitored during training, handover communications can improve, thus ultimately improving patient care and patient safety.

Acknowledgements

- 2011-2013 Hospira Research Grant of the National Patient Safety Foundation and by the Office of Naval Research’s (ONR) Command Decision Making program (N00014-11-1-0222).
- Health services research dissertation grant (number R36HS018758) from the Agency for Healthcare Research and Quality.