Information Needs of Nurse Care Managers
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Abstract. Unmet information needs of physicians and patients are common, but those of nurse care managers – defined as collaborative care planners for with chronic conditions – are less well understood. We taped and transcribed daily activities and conducted semi-structured interviews of 7 care managers, and analyzed questions elicited through this work through a variety of frameworks.

Introduction. A key function of information systems is meeting the information and knowledge needs of clinicians and patients, but studies show that most information needs remain unmet even when advanced electronic systems are used. Most studies have focused on physicians, yet as primary care settings move towards collaborative systems of care management for patients with complex chronic illnesses from reactive, acute care visits, information needs will change. We posit an indicative team member for these needs is a highly trained nurse care manager (CM) responsible for education, motivation, and collaboration for at-risk patients. Thus, we collect and categorize questions generated by these key clinicians.

Methods. The setting was 7 primary care clinics at Intermountain Healthcare in Utah where nurse CMs were installed. Referral to CMs for any perceived need is freely available to any of the 50 physicians, and, once referred, the CM assesses patient needs and creates a collaborative care plan with the patient. CMs are trained in general education and motivational techniques and specific disease protocols (diabetes, depression, and others) Information system support is available via a general electronic health record (EHR) and specific CM IT. Data collection for this study consisted of 14.8 hours of taped observation of daily activities of nurse care managers; a template was used to collect and code questions. Analysis consisted of 2 independent reviewers coding questions into Ely's taxonomy, with agreement measured by κ.

Results. In all, the 7 CMs were female and between 29-62 years old. As shown in Figure 1, they raised 128 questions and pursued 91 (81%), successfully answered 73 (57%; 72% of pursued); questions arose at a rate of 8.7 per hour. Of the total, 88 (73%) were from the CM and the remaining were questions from patients. Two-thirds of questions were Foreground (82; 66%). Multiple answer sources were used: 36 (29%) in pamphlets and books, IT in 23 (19%), other persons (31; 34%). Questions were about Subject most frequently (57), then Logistics (41) and broad medical domain (34). Attempts to map into Ely’s typology were difficult, with only 50% agreement in an initial training set; in the test set, overall matching was higher (75%; weighted κ = .60, p < .01) but fully 50% of questions could not be categorized. For the remaining questions, 17% were about diagnosis, 26% about treatment, 30% management, 5% epidemiology, and 16% non-clinical education and administration. Treatment questions were least frequently pursued (35%) but had the lowest failure rate.

Conclusion. Nurse care managers addressing multiple conditions have a wide breadth and variety of information needs which do not fit into generic clinical question typologies. Rather, questions are more logistical and peers and pamphlets provide answers. Treatment questions may be underpursued. IT systems that keep resource lists to find frequently used materials and people may be beneficial in meeting specific management and logistical needs, while providing specific protocols for treatment considerations.

References available on request.