Analyzing the Process and Content of Video-Based Consultations Between Primary and Specialty Care Providers Using a Health Information Technology Portal

Christopher Koenig1,2, Matthew Wenger3, Glenn Graham3, Steven Asch4, Catherine Rongey1,2
1San Francisco Veterans Affairs Health Care System, 2University of California, San Francisco, 3Department of Veterans Affairs, 4Stanford University

Research Objective: Referrals, or consultations, are the traditional method of communication between generalist and specialist providers when caring for patients with complex chronic illness. Traditional consultations often miss important patient clinical and social histories that can adversely affect patient care. Health information technology using video conferencing can minimize these limitations. Our objective was to evaluate generalist-specialist communication conducted via video consultations as part of a national evaluation of the VHA's Specialty Care Access Network-Extension for Community Healthcare Outcomes (SCAN-ECHO) program for Hepatitis C (HCV).

Study Design: We used administrative data to identify two VAMC sites with high volumes of patient cases discussed during video consultations. We video recorded 32 sessions in two among 3 liver specialist and over 20 generalists. Data was collected across 6 months to directly observe the process and content of specialist-generalist communication during video consultations. Recordings were professionally transcribed and uploaded into qualitative data management software. Two authors reviewed each recording to identify the number of video consultations, including question(s) generalists asked when beginning a consultation. Questions were inductively classified using qualitative content analysis according to their clinical and social functions.

Results: We identified 112 consultations total (3.5 consults average per recording) and a 122 consultation questions (1.1 questions average per consultation). Examining the video, we found three types of consultations: 1) the full case in which generalists presented patient cases and discussed action plans; 2) the update in which generalists revisited previously discussed cases; and 3) summaries in which specialists presented and discussed cases. Full case consultations were the only consultation type in which generalists asked consultation questions, which we analyzed in-depth. Consultation questions most frequently addressed treatment issues, but generalists also asked about interpreting results, diagnoses, screening and prevention, coordinating care, and effective communication. While questions typically focused on clinical issues, the video conferencing platform enabled interactive conversation that helped to contextualize the relationship between patients' social and clinical contexts and facilitated knowledge exchange between generalist and specialist providers related to HCV care. Overall, video consultations holistically blended clinical, social, and educational content that improved generalist-specialist collaboration and communication around HCV specialty care.

Discussion: Process findings show that video enables increases collaboration among providers through diverse consultation types which minimize the limitations of traditional written consults and maximizes the ability for tailoring of consultations according to the clinical and social complexity patient cases. Content findings demonstrate that the range and frequency of topics generalists ask during consultations provides an opportunity to recognize clinical and non-clinical concerns that belie generalists’ consultation questions to effectively manage complex chronic illnesses in community-based settings. Finally, video consultations enhance specialty care knowledge translation by facilitating interaction between generalist and specialist providers through meaningful use of health information technology, which is essential for building and maintaining an patient-centered organization.

Implications for Practice: Video consultations create an interactive and collaborative space for generalist and specialist providers to exchange information that fosters an environment of continuous learning.