Original Research

Adopting SCAN-ECHO: The providers' experiences

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ABSTRACT

A qualitative descriptive analysis of providers' (primary care providers and specialists) experiences adopting SCAN-ECHO identifies perceived challenges, benefits, effects on patient care, and engagement factors.

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1. Background and objectives

In most models of healthcare delivery, primary care provides the bulk of healthcare services, and when necessary, requests input of specialists via a specialist/patient face-to-face visit. E-health interventions may increase access for patients who otherwise have limited access, such as those in rural communities, without decreasing quality of care or patient satisfaction.[1–5] However, uptake of e-health interventions has been slow.[6–8] Among the barriers has been difficulty gaining clinician acceptance.[9,10] Rogove, McArthur, Demaerschalk, and Vespa[11] identified specific factors pertaining to poor physician acceptance of telemedicine including perceptions of telemedicine as a threat or loss of control and lack of incentives for using telemedicine. However, no research has further addressed this, and a greater understanding of factors contributing to provider acceptance is needed.

In 2010 the Veterans Health Administration (VHA) initiated the Specialty Care Access Network-Extension for Community Healthcare Outcomes program (SCAN-ECHO), modeled on Project ECHO®,[12] a telemedicine program designed to deliver evidence-based care to patients with complex health conditions in their own communities. SCAN-ECHO uses video teleconferencing to provide specialty care training and consultation to primary care providers (PCPs) located at a distance from a medical center. Using specific cases referred by a PCP, specialist teams (a physician specialist and often a health psychologist, clinical pharmacist, and a nurse practitioner) make treatment recommendations and present related didactic material, thereby coaching PCPs to become local experts on a specific health condition.

Twelve VHA hub sites were selected to begin SCAN-ECHO teleconferencing sessions led by at least one local specialty care team. Specialties were chosen based upon interests at each site as well as patient panel needs. Hubs included between four and 10 specialty areas, including but not limited to, heart failure, diabetes, hepatitis C and liver disease, chronic pain, chronic kidney disease, and women's health. The purpose of this qualitative study is to explore providers' experiences with SCAN-ECHO. An inductive qualitative approach provides the means for an in-depth understanding of providers' experiences and the identification of previously unidentified factors pertaining to providers' acceptance of e-health interventions.

2. Methods

2.1. Study design and setting

Our qualitative approach involved inductive content analysis, with two waves of interviews. The SCAN-ECHO initiative began with 12 VHA medical centers. Sites were selected for variation on two measures of SCAN-ECHO implementation: 1) overall SCAN-ECHO consult implementation rates (the ratio of SCAN-ECHO to all consults for the specialties of interest); and 2) Community-Based Outpatient Center (CBOC) participation (the ratio of SCAN-ECHO

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consults for patients from CBOCs versus SCAN-ECHO for patients from primary care clinics located within the 151 medical centers). Two SCAN-ECHO sites were randomly selected from each of the four resulting categories (+overall/+CBOC, −overall/−CBOC, +overall/−CBOC, −overall/+CBOC).

2.2. Sample

To identify participants, we used a modified snowball sampling process in which local initiative leaders and Primary and Specialty Care Service directors were contacted first and identified providers with the goal of interviewing at least one PCP and one specialist per site. Participants were sampled across sub-disciplines, allowing for diverse perspectives to be shared. Due to turnover and changes in clinic roles, some follow-up interviews were conducted with different individuals than initial interviews.

2.3. Data collection

Interviews followed semi-structured interview guides (see Supplementry information) and included open-ended questions to elicit rich descriptions about SCAN-ECHO implementation including, but not limited to, patient needs, communication, leadership, resources, priorities, knowledge about the program, and unintended consequences. Follow-up interviews addressed perceived affects on quality care and the impact of SCAN-ECHO on Patient Aligned Care Teams (PACTs), the VHA primary care patient-centered medical home initiative.

Telephone interviews (40–60 minutes in length and digitally recorded) were conducted by one interviewer and one note-taker. Follow-up probes were used to elicit examples and ensure sufficiently rich data. Following interviews, the note-taker reviewed recordings and filled in details in the notes and the interview team debriefed and reviewed the augmented field notes and audio recordings.

2.4. Analyses

In this qualitative descriptive analysis,[13] interview data were analyzed using an iterative, inductive content analysis methodology.[14] Open-coding without predefined codes was conducted utilizing audio recordings and summary transcripts simultaneously to identify key concepts and preliminary categories. Categories were developed by identifying broad themes based on representative quotes then grouped under higher order headings describing distinct aspects of participants' experiences. Emergent codes were added throughout the analysis process to reflect quotations that did not adequately fit previously developed codes. We used Atlas.ti[15] qualitative data analysis software for the coding process. The research team reviewed findings to assess the categories for groundedness, thoroughness, and transferability.[12]

3. Results

Initial interviews were conducted with 42 participants at nine of the 12 initial sites from October through December 2012. Follow-up interviews were conducted with 32 participants (29 from initial participants and three new participants) from November 2013 through March 2014 < insert Table 1 of participants >. Timing of SCAN-ECHO implementation varied with most sites completing their first SCAN-ECHO between May and December 2011 and one site not completing a SCAN-ECHO until March 2012. Coding continued until thematic saturation was reached (the point at which subsequent data failed to produce new findings),[16] after analysis of 22 initial interviews (13 PCP and 9 specialist) and 20 follow-up interviews (10 PCP and 10 specialist).

Table 1
SCAN-ECHO (Specialty Care Access Network-Extension for Community Healthcare Outcomes) interview sites, participants, and roles.

Baseline			Follow-up		
VAMC site	Participants	Role	VAMC site	Participants	Role*
A	4	3 SP, 1 PCP	A	5	3 SP, 2 PCP
B	4	2 SP, 2 PCP	B	4	2 SP, 2 PCP
C	6	3 SP, 3 PCP	C	4	2 SP, 2 PCP
D	7	5 SP, 2 PCP	D	2	1 SP, 1 PCP
E	3	2 SP, 1 PCP	E	2	1 SP, 1 PCP
F	4	2 SP, 2 PCP	F	3	1 SP, 2 PCP
G	6	2 SP, 4 PCP	G	5	2 SP, 3 PCP
H	4	2 SP, 2 PCP	H	4	3 SP, 1 PCP
I	4	1 SP, 3 PCP	I	3	2 SP, 1 PCP
Total	42		Total	32	

Role = *SP = Specialist, PCP = Primary Care Provider.

Although participants described a variety of challenges and frustrations associated with implementing SCAN–ECHO, they described the overall program quite positively during initial interviews: *"It is a fantastic program. It helped the providers feel more confident. I wanted to gather that information on the surveys, and I gathered it informally. I place it very high. The lasting results and the reach of this is really good."*(Initial) PCP. This was echoed by one participant at follow-up: *"Obviously it's had some bumps in the roads; we continue to grow and learn and change things as they are needed. Overall, it's been fun and we think it's gone very well."* (Follow-up) PCP.

We identified six themes related to positive experiences of SCAN-ECHO (job satisfaction, greater confidence, communication and collaboration, creativity, integration, and perceived impact on patient care) and three themes pertaining to dissatisfaction with SCAN-ECHO (technical challenges, difficulty engaging PCPs, and lack of provider time).

3.1. Positive provider experiences of SCAN-ECHO

3.1.1. Increased job satisfaction
Many providers (specialists and PCPs) reported that participating in SCAN-ECHO increased their job satisfaction and none described decreased job satisfaction. Some described it as critical to avoiding burnout: … *"[SCAN-ECHO is] my lifeline. If I wouldn't have that and would have to wait I'd probably go crazy."* (Initial) PCP. *"I love it. It's the face of the future. I was getting burned out in PC (primary care), but this has given me new life in PC."* (Initial) PCP. *"What's most important [about SCAN-ECHO] is that providers feel more satisfied in their career, it keeps them here. The turnover of PCPs is a huge upheaval."* (Initial) PCP.

3.1.2. Greater confidence
PCPs expressed increased confidence and a sense of empowerment in dealing with complex cases that they previously referred to specialists: *"I feel empowered by the knowledge I learned at the SCAN-ECHO session. We receive detailed recommendations, and I can ask specialists anything. Sometimes during traditional consults we may not completely understand the reply. I think my quality of taking care of patients has improved dramatically."* (Follow-up) PCP.

Specialists' impressions reflected PCPs' sense of greater proficiency in handling patient care situations. After attending SCAN-ECHO sessions, a specialist noted: *"I think they [PCPs] have [greater confidence] because I hear case examples that they say, they already tried this. I think that is great. I used to get referrals for endocrine, but they are doing a lot of them now."* (Initial) Specialist. Another specialist added, *"So I think the PCPs within program are able to take*