

# Disseminating Innovations in Teaching Value-Based Care Through an Online Learning Network

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## ABSTRACT

**Background** A national imperative to provide value-based care requires new strategies to teach clinicians about high-value care.

**Objective** We developed a virtual online learning network aimed at disseminating emerging strategies in teaching value-based care.

**Methods** The online Teaching Value in Health Care Learning Network includes monthly webinars that feature selected innovators, online discussion forums, and a repository for sharing tools. The learning network comprises clinician-educators and health system leaders across North America. We conducted a cross-sectional online survey of all webinar presenters and the active members of the network, and we assessed program feasibility.

**Results** Six months after the program launched, there were 277 learning community members in 22 US states. Of the 74 active members, 50 (68%) completed the evaluation. Active members represented independently practicing physicians and trainees in 7 specialties, nurses, educators, and health system leaders. Nearly all speakers reported that the learning network provided them with a unique opportunity to connect with a different audience and achieve greater recognition for their work. Of the members who were active in the learning network, most reported that strategies gleaned from the network were helpful, and some adopted or adapted these innovations at their home institutions. One year after the program launched, the learning network had grown to 364 total members.

**Conclusions** The learning network helped participants share and implement innovations to promote high-value care. The model can help disseminate innovations in emerging areas of health care transformation, and is sustainable without ongoing support after a period of start-up funding.

## Introduction

With recent sweeping payment reforms and the rising cost of health care, the pressure on delivery systems to train providers to provide better care at lower costs has never been higher.<sup>1-6</sup> Engaging clinicians in delivery system transformation, teaching value-based skills, and silos between delivery systems and training programs are challenging interventions whose failure will threaten this goal.<sup>7</sup> While innovations in these areas exist, spreading such innovations is challenging.<sup>8</sup>

Learning collaboratives, like those sponsored by the Institute for Healthcare Improvement, can promote dissemination of health care innovations.<sup>9</sup> We developed the Teaching Value in Health Care Learning Network, an online Google+ Community (Google Inc, Mountain View, CA), to create a free platform to disseminate innovations that promote high-value care to educators and system leaders. This

article aims to evaluate the acceptability, implementation, and feasibility of this network.

## Methods

We launched the Teaching Value in Health Care Learning Network in March 2015. While open to the public, members were also recruited from North America through e-mail solicitation from professional societies affiliated with the American Board of Internal Medicine (ABIM) Foundation Choosing Wisely campaign and the Costs of Care list host, including innovators who participated in Teaching Value Choosing Wisely Challenges, cosponsored by Costs of Care Inc and the ABIM Foundation.<sup>10</sup> The network was also promoted on several social media networks such as Twitter and Facebook.

The learning network has 3 components: (1) 20- to 30-minute interactive webinar discussion(s) with diverse on-the-ground and national leaders; (2) an online discussion forum to facilitate sharing ideas; and (3) an online repository for disseminating materials related to value innovations. The learning network employed a private Google+ Community, an

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*Editor's Note: The online version of this article contains the schedule of topics and speakers in year 1 of the learning network webinars.*

online social network platform that offers collaborative communication and storage, and utilized Google Hangouts.<sup>11–13</sup> Google Hangouts on Air enables real-time YouTube broadcasting to a public audience from a “live” video chat session; it also enables remote learners to view an online panel of speakers in separate locations and post questions that can be moderated in real time. Sessions are automatically archived on YouTube, enabling asynchronous viewing.<sup>13,14</sup>

Ethical approval was waived by the University of California, Los Angeles Institutional Review Board.

In September 2015, we conducted a cross-sectional online survey via Qualtrics 2015 (Qualtrics, Provo, UT) of all speakers during the first 6 months of the program. To assess member experiences, we surveyed a subset of “active” learning network participants in March 2016. We defined active members as those who participated in at least 1 of the 3 learning network components in the first year. Both surveys were developed by 2 community participants and 2 content experts based on reviews of the literature to evaluate collaboratives and cognitive interviewing. We assessed participant comprehension, interpretation, readability, and perception of ambiguity of each item in the draft survey. We also measured feasibility by evaluating required personnel, online resources, webinar consistency, and viewing rates over time.

## Results

In the first year, 12 webinars on value-based care were recorded and disseminated. A total of 4 clinical leads took turns moderating the learning network each month to update content and lead the monthly webinars with consistency in structure and quality. Over the first year, video webinars were each viewed an average of 77 times (range, 46–151; 0.3 average views per member; TABLE 1). The learning network discussion board included 268 posts in the first year; 108 (40%) shared resources and events, and 165 (62%) shared questions and comments. Members uploaded PowerPoint presentations that addressed training, project descriptions, implementation guides, and relevant publications to the “Tools for Educators and System Leaders” section.

Initial implementation required 5 hours by a clinical lead to develop program content and 20 hours by 2 administrators to develop the website and recruit participants. Thereafter, the network required minimal resources to maintain (1 hour monthly by a clinical lead and 5 hours monthly by 2 administrators to edit webinar recordings). While the value-based care learning network development and

### What was known and gap

Engaging clinicians in value-based care is a challenging undertaking critical to ensuring sustainability of the nation's health care system.

### What is new

A virtual online learning network aimed at disseminating emerging strategies for teaching value-based care.

### Limitations

Small sample size, survey instrument lacks validity evidence, lack of data on actual impact of costs of care.

### Bottom line

The learning network helped participants share and implement innovations to promote high-value care and is sustainable without ongoing support after start-up funding.

implementation was supported by a \$10,000 grant from the ABIM Foundation, it has been sustained for over 1 year without grant funding.

Six months after program launch, there were 277 learning community members, of which 74 (27%) were deemed active with at least 1 interaction (ie, these members either posted, commented, and/or watched a webinar). Of these active members, 50 (68%) completed an evaluation (TABLE 2). After 1 year, the value-based care learning network consisted of 364 members, of which 153 (42%) were deemed active; 74 (20%) members had watched at least 1 live webinar.

## Experiences of Webinar Presenters

All 6 webinar speakers (100%) reported that the learning network provided an opportunity to share parts of their work (ie, implementation) that they often did not have the opportunity to share. Five speakers (83%) reported that webinar discussions helped them to consider how to discuss their innovation in the future. All speakers reported that by participating, their innovation(s) achieved greater external recognition; overall, they felt that the webinar was a valuable experience.

## Experiences of Learning Network Participants

Many respondents reported learning about new developments in the field of high-value care (35 of 50, 70%); networking and collaborating (19, 38%); gaining resources (7, 14%); and disseminating their work (3, 6%). Nearly two-thirds of respondents (31, 62%) reported that finding strategies shared on the learning network was helpful in meeting their individual goals, and roughly half (28, 56%) felt that content would be of interest to learners at their home institutions. Nearly one-third of respondents reported that as a result of the learning network, they implemented an innovation at their home institution.

TABLE 1

Sample Topics and Speakers in First Year of Learning Network Webinars

Webinar Topic	Description	Source
<i>January:</i> Interactive Cost-Awareness Resident Exercise (I-CARE)	I-CARE follows a traditional, morning report–style teaching session run by a chief resident. Gamification is used as teams compete to conduct a safe diagnostic evaluation of a patient to obtain the correct diagnosis at the lowest expense.	<a href="http://www.tandfonline.com/doi/full/10.1080/10401334.2013.857338">http://www.tandfonline.com/doi/full/10.1080/10401334.2013.857338</a>
<i>February:</i> American College of Physicians (ACP) High-Value Care Curriculum	The ACP has engaged in collaborative projects with the Alliance for Academic Internal Medicine and MedU to create free materials to teach (through training modules) the practice of high-value care to medical students, internal medicine residents, and practicing clinicians.	<a href="https://hvc.acponline.org/curriculum.html">https://hvc.acponline.org/curriculum.html</a> <a href="https://hvc.acponline.org/physres_cases.html">https://hvc.acponline.org/physres_cases.html</a> <a href="https://www.med-u.org/hvc">https://www.med-u.org/hvc</a>
<i>March:</i> Using the Electronic Medical Record (EMR) to Increase Value in Health Care Delivery	Setting EMR defaults can have a significant impact on provider ordering behavior. This intervention increased generic medication prescribing rates in several clinics, which spread to health system–wide adoption of the EMR defaults.	<a href="http://archinte.jamanetwork.com/article.aspx?articleid=2520677">http://archinte.jamanetwork.com/article.aspx?articleid=2520677</a>
<i>April:</i> SOAP-V	SOAP-V is a modification of the traditional <i>subjective-objective-assessment-plan</i> clinical presentation, which includes <i>v</i> for value. The model prompts trainees to consider if ordering a test would change management of the patient and if the patient's values have been incorporated into the care plan, and to assess the potential cost of the intervention.	<a href="http://onlinelibrary.wiley.com/enhanced/doi/10.1002/jhm.2489">http://onlinelibrary.wiley.com/enhanced/doi/10.1002/jhm.2489</a>
<i>May:</i> OR-Surgical Cost Reduction Project (OR-SCORE)	Providing surgeons feedback on the costs of their surgical cases can reduce unnecessary waste. OR-SCORE provides price transparency of surgical preparation time, surgical time, and supply costs in snapshots to all surgeons in neurological surgery, orthopedic surgery, and otolaryngology head and neck surgery on a monthly basis. Follow-up discussions help to coach providers practicing at higher cost.	<a href="http://jamanetwork.com/journals/jamasurgery/article-abstract/2589764">http://jamanetwork.com/journals/jamasurgery/article-abstract/2589764</a>

Note: Webinars discussed educational efforts using clinical vignettes, didactic and experiential learning, and gamification (ie, the process of adding gamelike elements so as to encourage participation). Webinars also provided system improvements including increasing access to cost data, audit/feedback/coaching on resource utilization, and the efficient use of health information technology, with examples from internal medicine, pediatrics, surgery, and radiology. Webinar speakers included 9 local innovators (ie, someone who developed a promising strategy to promote value in his or her home institution) and 3 national leaders in the field representing education and systems delivery across all regions of the country in both academic and nonacademic practice settings (see online supplemental material for a full list of webinar topics and speakers).

A total of 25 (50%) surveyed participants gained a sense of how to sustain high-value care innovations through the network.

## Discussion

Over 1 year, the value-based care learning network brought together a diverse community and expanded membership by nearly 32%. Active members found content useful and implemented innovations from the network at their home institutions. We built capacity in value-based care training and delivery through consistent and sustained participation of community members in the learning network.

Compared with other large scale online learning communities (such as Academic Life in Emergency Medicine), the Teaching Value in Health Care Learning Network had similar numbers of webinar views and listening rates to podcasts per member and similar membership growth in a year.<sup>13,15</sup> We found Google Hangouts to be a powerful tool to facilitate discussion and collaboration, bringing together a diverse group interested in health care–delivery improvement.<sup>13</sup>

Limitations include a small sample size, especially for trainee participants. We did not assess trainee knowledge or behaviors during or after residency, nor the actual impact on cost-effective care. Formal

**TABLE 2**  
 Characteristics of Active Learning Network Members in First Year

Active Members (N = 50)	n (%)
Training level	
Trainee	11 (22)
Practicing clinician	35 (70)
Other (administrator, researcher)	4 (8)
Specialty or discipline	
Emergency medicine	2 (4)
Family medicine	7 (14)
Internal medicine	22 (44)
Internal medicine subspecialty	1 (2)
Obstetrics and gynecology	2 (4)
Orthopedic surgery	1 (2)
Pediatrics	7 (14)
Other disciplines	8 (16)
Role	
Educator (program director, associate program director, clerkship or curriculum director, dean or graduate medical education director, chief resident)	19 (38)
System delivery managers (value or quality officer, department chair, administrator)	12 (24)
Other recipient (practicing practitioner/attending, trainee)	12 (24)
None stated	7 (14)
Region	
Northeast	20 (40)
Midwest	10 (20)
Southeast	5 (10)
Southwest	1 (2)
West	10 (20)
International (Canada, United Kingdom)	4 (8)
Level of awareness of other high-value care initiatives around the nation prior to joining the Teaching Value in Health Care Learning Network	
Very low/low	7 (14)
Moderate	17 (34)
Very high/high	26 (52)

survey validation was not undertaken. Next steps could include a follow-up evaluation among a larger sample. Technical limitations included requirements for having camera-enabled devices and stable Internet connectivity, and the Google Hangout platform lacked survey functionality on new member enrollment. Participants reported challenges in viewing live webinars due to clinical schedules and different time zones, but asynchronous viewing enabled high viewing rates. Similar to other online communities,

members requested shorter sessions,<sup>13</sup> so video webinars<sup>16</sup> and 15-minute podcasts are now offered.<sup>17</sup> We are actively increasing participation from other professional organizations and are engaging a community of delivery system leaders to join our network.

## Conclusion

The Teaching Value in Health Care Learning Network attracted a group of diverse health professionals. Speakers and members reported satisfaction with the format and usefulness of innovations shared. While the initial cost was supported by a grant, sustaining this network without ongoing dedicated resources appears feasible.

## References

- Centers for Medicare and Medicaid Services. MACRA: delivery system reform, Medicare payment reform. <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-MIPS-and-APMs.html>. Accessed May 26, 2017.
- Thibault GE. The importance of an environment conducive to education. *J Grad Med Educ*. 2016;8(2):134–135.
- Accreditation Council for Graduate Medical Education. CLER pathways to excellence. [https://www.acgme.org/Portals/0/PDFs/CLER/CLER\\_Brochure.pdf](https://www.acgme.org/Portals/0/PDFs/CLER/CLER_Brochure.pdf). 2014. Accessed May 26, 2017.
- Patel MS, Reed DA, Loertscher L, et al. Teaching residents to provide cost-conscious care: a national survey of residency program directors. *JAMA Intern Med*. 2014;174(3):470–472.
- Olsen LA, Aisner D, McGinnis JM, eds. *The Learning Healthcare System*. Washington, DC: National Academies Press; 2007. <https://www.ncbi.nlm.nih.gov/books/NBK53494/>. Accessed May 26, 2017.
- Committee on the Learning Health Care System in America, Institute of Medicine. Best care at lower cost: the path to continuously learning health care in America. <http://www.nationalacademies.org/hmd/Reports/2012/Best-Care-at-Lower-Cost-The-Path-to-Continuously-Learning-Health-Care-in-America.aspx>. Published September 6, 2012. Accessed May 26, 2017.
- Gupta R, Arora VM. Merging the health system and education silos to better educate future physicians. *JAMA*. 2015;314(22):2349–2350.
- Hackbarth G, Boccuti C. Transforming graduate medical education to improve health care value. *N Engl J Med*. 2011;364(8):693–695.
- Institute for Healthcare Improvement. The breakthrough series: IHI's collaborative model for

- achieving breakthrough improvement. Boston, MA: Institute for Healthcare Improvement; 2003. IHI Innovation Series white paper. <http://www.ihl.org/resources/Pages/IHIWhitePapers/TheBreakthroughSeriesIHICollaborativeModelForAchievingBreakthroughImprovement.aspx>. Accessed May 26, 2017.
10. Shah N, Levy AE, Moriates C, et al. Wisdom of the crowd: bright ideas and innovations from the teaching value and choosing wisely challenge. *Acad Med*. 2015;90(5):624–628.
  11. Roseth C, Akcaoglu M, Zellner A. Blending synchronous face-to-face and computer-supported cooperative learning in a hybrid doctoral seminar. *Tech Trends*. 2013;57(3):54–59.
  12. Chan T, Sennick S, Zaki A, et al. Studying with the cloud: the use of online Web-based resources to augment a traditional study group format. *CJEM*. 2015;17(2):192–195.
  13. Chan T, Joshi N, Lin M, et al. Using Google Hangouts on Air for medical education: a disruptive way to leverage and facilitate remote communication and collaboration. *J Grad Med Educ*. 2015;7(2):171–173.
  14. Brigham TJ. Taking advantage of Google's Web-based applications and services. *Med Ref Serv Q*. 2014;33(2):202–210.
  15. Chan T, Joshi N, Kobner S. ALiEM annual report 2016. <https://drive.google.com/file/d/0B96hLIM4rbvuRHktWlIVbXZyUIU/view>. Accessed May 26, 2017.
  16. Teaching Value. Teaching Value webinar playlist. <https://www.youtube.com/playlist?list=PLY4idV4eg7bdnfwfEkzT2wllbdaT-vnsm>. Accessed May 26, 2017.
  17. Teaching Value. SoundCloud playlist. <https://soundcloud.com/teaching-value-in-health-care>. Accessed May 26, 2017.
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