

Beyond Regulatory Requirements: Designing ACO Websites to Enhance Stakeholder Engagement

ESTHER HSIANG, BA; ANDREW T. ROGERS, BS; DANIEL J. DURAND, MD;
SCOTT ADAM BERKOWITZ, MD, MBA

ABSTRACT

Objectives: There is a dearth of literature on how accountable care organizations (ACOs) can utilize websites to promote stakeholder engagement. We describe best practices for Web design in the ACO space, as identified during a recent website revision process undertaken by the Johns Hopkins Medicine Alliance for Patients.

Study Design: A synthesis of quantitative assessments and qualitative observations from a market scan of ACO and non-ACO websites.

Methods: Medicare Shared Savings Program ACO websites were selected based on performance metrics, affiliation with academic medical centers, and internal knowledge of excellence. Non-ACO websites were selected according to annual revenue. We scanned 20 websites and assessed 9 of these, thought to be the highest performing, using 5-point Likert scales and a framework developed from user-centered design principles.

Results: Several strategies exist to address stakeholder-specific needs, such as providing educational materials, password-protected portals, and dynamic search tools. Content can be enhanced by providing information about selected and prioritized facets of the organization and tailoring reading levels to target audience literacy levels. Navigational architecture, page organization, and adaptation to mobile devices are critical for optimizing usability, and linkage to the ACO website on affiliated organization websites should be ensured to improve access. Dynamic banners, photographs, and distinct ACO logos are ways to enhance aesthetics.

Conclusions: ACO leaders should view websites as more than a regulatory requirement. By sharing highlights of identified best Web practices, we hope to aid other ACOs in enhancing online engagement with patients and providers by using websites as effective communication tools.

The American Journal of Accountable Care. 2016;4(4):46-50

Originating with the Affordable Care Act, the accountable care organization (ACO) model has grown to greater prominence in recent years.¹ Based on the belief that transparency may offer many benefits to both patients and ACOs,² the Centers for Medicare and Medicaid Services (CMS) requires each participating Medicare Shared Savings Program (MSSP) ACO to report organizational, quality, and financial information via a publicly accessible website.³ Although maintaining a website is therefore a requirement for MSSP participation, websites can be used to accomplish much more than public reporting. They have emerged as useful tools of stakeholder engagement both in healthcare⁴ and other industries,⁵ and ACOs should utilize these principles of engagement to their advantage.

First, digital media has been cited as a primary route to engage patients to learn information about their health, utilize healthcare more consciously, and adopt healthier behaviors.⁴ Given that nearly all payers offer consumers health education and other materials online,⁴ it stands to reason that ACOs—who also bear accountability for the health outcomes of their patients—should utilize websites to engage patients in a similar manner.

Second, an ACO website can also serve the needs of both participating and nonparticipating providers. For participating providers, websites can serve as a repository for organizational information and be further utilized for knowledge management. For nonparticipating provider groups, an ACO website can offer easy-to-access information about the unique benefits of joining that particular or-

ganization. Thus, an ACO can use its website not only to optimize interactions with current ACO participants, but also to grow the organization as a whole.

Although various Web-based education resources and interventions to coordinate patient health conditions have been reviewed,⁶⁻⁹ to our knowledge, there is a dearth of literature on how ACOs and other health organizations can use the Web to enhance stakeholder engagement. During a recent process that the Johns Hopkins Medicine Alliance for Patients (JMAP) ACO undertook to improve its website, we researched the content and capabilities of other ACO websites and leading health organizations. Here, we share a framework for ACO website assessment, highlight existing best practices for establishing and maintaining an ACO website, and present strategies to enhance website engagement following revision. Our aim was to aid other ACOs in improving their digital engagement with patients and providers through valuable and effective website tools.

METHODS

We performed a targeted scan of ACO and non-ACO websites to identify highly effective capabilities and content. We used 4 criteria, as described below, to select websites for assessment. First, using publicly available CMS data from 2014, we selected a handful of top-performing ACOs within the MSSP based on the amount of generated savings, performance on quality metrics, and number of beneficiaries.¹⁰ The number of beneficiaries was included as a performance criteria in order to select ACOs that were achieving success on a large scale and because website development and maintenance require resources (eg, Web content writers) that larger ACOs are more likely to have access to. ACOs appearing in the top 20 more than once across 3 dimensions (shared savings, quality performance, and numbers of beneficiaries) were selected for further study. Second, we chose several academic medical center (AMC) ACOs, given that JMAP is based at an AMC, and we wanted to determine how our website compared with those of peer organizations. Third, we chose a handful of ACOs based on general recognition of their websites' excellence. Finally, we also identified a number of websites for the highest-grossing health insurance organizations, under the belief that valuable design lessons could be learned from longstanding health organizations with more experience in consumer-facing Web design than ACOs. Through

this process, we scanned 20 ACO and non-ACO organizations in total, and narrowed our selection to 9 top-performing websites for deep-dive assessments.

We then developed a framework to systematically assess each website. Based on interviews with internal Web-design experts at Johns Hopkins, we followed the user-centered design principles of the Research-Based Web Design & Usability Guidelines, which were developed by HHS in partnership with the US General Services Administration¹¹; and we distilled these principles into a 5-point framework encompassing the concepts of content, usability, aesthetics, access, and stakeholder needs (Figure). We used a 5-point Likert scale to quantitatively assess each of the 9 websites along each of these 5 dimensions. Because no standardized ranking tools existed, we anchored the middle of the scale by assigning the quality of JMAP's website a 3 for each dimension, and then rated other websites inferior (1 or 2) or superior (4 or 5) to JMAP based on how well each website aligned with user-centered design principles relative to JMAP's site. We also qualitatively assessed how well each website utilized these principles and identified common features of websites that best aligned with the user-centered design guidelines, which we have considered highly effective features based on our assessment.

Highlights of Best Practices

The gaps assessment yielded numerous best practices along each of the 5 framework domains. In the Table, we summarize highly effective

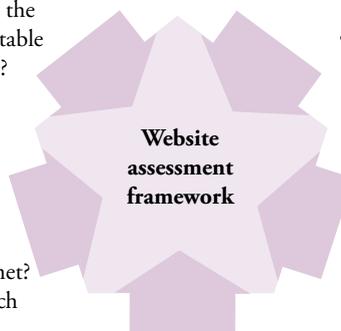
Figure. Assessment Framework Based on User-Centered Design Principles^a

Content

- Is the content on the page understandable to target audiences?
- Does the content reflect the user's needs and accountable care organization's goals?

Usability

- Is the navigation intuitive?
- How effective is the user interface and information architecture?
- Is the page usable across devices?



Off-site access

- How easily locatable is the website on the internet?
- Is it easy to find on search engines?
- Is the site accessible elsewhere?

Aesthetics

- What image and brand identity is evoked by the site design?
- Does the design fit the target audience?

Stakeholder needs addressed

- Does the website address current provider, potential provider, current patient, and potential patient needs?
- How does it accomplish this?

^aThese principles were based on the Research-Based Web Design & Usability Guidelines.¹¹

tive findings from example ACO websites that received the highest ratings for each framework domain, along with what JMAP learned and incorporated from those websites. Below, we discuss overall findings for each domain that would be of general use to ACOs.

In the realm of stakeholder needs, we found the strongest websites separately and clearly addressed the needs of beneficiaries and providers. Within these separate sections, sites would sometimes address the needs of current, versus future, participants with different content and messaging, although this division was usually less explicitly organized. Valuable material addressing the needs of current beneficiaries included health guides, health tools and calculators, patient-oriented blogs and e-letters, links to patient portals, and social media forums. Most effective examples of materials serving potential

patient needs included targeted messaging clearly explaining what an ACO is, the benefits of being treated by an ACO provider, direct instructions for how to be seen by an ACO provider, an easily searchable list of ACO-affiliated providers, and text and video testimonials. Features addressing the needs of current providers included physician portals serving as a central online resource and detailed explanations of how various services offered by the ACO could help address specific patient scenarios. Value-added materials addressing the needs of potential future providers included targeted messaging explaining the requirements of joining the ACO, the characteristics of qualifying organizations, the incentives from shared savings, opportunities for leadership roles within the ACO, and how ACO quality is measured by CMS.

Table. Select Highly Effective ACO Website Features and JMAP Learnings

	Content	Usability	Aesthetics	Off-Site Access	Stakeholder Needs
Example ACO With Effective Features^a	Delaware Valley ACO (dvaco.org)	Duke Connected Care (dukeconnected-care.org)	Delaware Valley ACO (dvaco.org)	UnityPoint Health Partners, LC (unitypoint.org/aco)	Palm Beach ACO (pbaco.org)
Effective Features	<ul style="list-style-type: none"> • Wide range of content, including: <ul style="list-style-type: none"> – ACO overview – Information for beneficiaries and providers – Contact and compliance lines – Question submission form – Multiple FAQs – News tab – Careers tab – Map 	<ul style="list-style-type: none"> • Simple, intuitive stakeholder-oriented menu with dropdowns • Contact info, patient portal, and links to participating practices in a static location across pages, making this information easy to locate • All features adapt to mobile devices well 	<ul style="list-style-type: none"> • Modern design aided by clean layouts, dynamic features, high-definition photographs, consistency of fonts, effective formatting (eg, bolding, size, color), ACO logo • Modern vertical scroll format 	<ul style="list-style-type: none"> • First search result on major search engines when searching ACO name • Among top search results when “[name of state] + ACO” is searched • Locatable through various links and search tool on the broader UnityPoint health system website 	<ul style="list-style-type: none"> • Current beneficiary needs served via FAQs, e-mail newsletter, patient blog, and health resources • Potential beneficiaries are targeted via a 3-step engagement pathway, including a “find a doctor” feature • Current providers have access to a physician portal • Potential providers are targeted via detailed pitch for joining
How JMAP Learned From Above Examples	<ul style="list-style-type: none"> • JMAP enhanced the organizational overview, added a news tab, and clarified contact information 	<ul style="list-style-type: none"> • JMAP reoriented the website navigation menu around stakeholders and ensured website content and usability translated well to other devices 	<ul style="list-style-type: none"> • JMAP added additional photographs to the website and altered the placement and style of existing website photographs • JMAP redesigned its homepage layout 	<ul style="list-style-type: none"> • JMAP worked with affiliated organizations to place links to JMAP’s website on their websites 	<ul style="list-style-type: none"> • JMAP increased the website’s utility to current and potential providers by adding detailed information about the ACO’s model of care and value-added services • JMAP clarified information targeted to patients and added patient testimonials

ACO indicates accountable care organization; JMAP, Johns Hopkins Medicine Alliance for Patients.
^aWebsites were selected based on receiving a “5” on the Likert scale for the given framework domain.

Websites receiving high ratings for content offered useful information pertaining to a variety of facets of the ACO and were written in a manner appropriately tailored to its target audience. Given studies demonstrating that patients from all literacy levels better understand simple written communication,¹² it was our impression that patient-oriented content was most effective when it was written using simple language and in a concise manner. To achieve this, ACOs can use tools, such as the Flesch-Kincaid readability test, to objectively assess the grade level of their website's text content. Other examples of valuable content elements included mission and vision statements, biographies of key ACO leaders, news pages, careers pages, and numbers of compliance hotlines for physicians. Some websites placed ACO contact information in a static location on each webpage, making it very easy to identify throughout the site. We found a dynamic map of ACO locations to be both useful and visually appealing.

Our assessment of usability identified several helpful approaches. First, we found navigation menus to be the most intuitive when organized by stakeholder, clearly separating patient and provider subpages. Some websites used layered navigation tabs, in which stakeholder-directed pages were aligned in one row, with more technical information like careers and legal information placed in a different row and in smaller font. Second, adequate adaptation of the site to mobile devices was a key differentiator for usability. Other effective practices included providing search boxes, providing a password retrieval function in instances where websites provided password-protected information, and providing language toggles.

With respect to off-site access, many—but not all—ACOs turned up as the top search result when keywords involving the ACO's name were used in search engines. ACOs should aspire to this goal using search engine optimization (SEO) principles. SEO includes a variety of technical tactics, such as creating easily understandable URLs and utilizing popular search keywords throughout the website. However, SEO also includes creating high-quality websites, which are more likely to be used and, thus, be ranked higher by search engines.¹³ In addition, ACOs with strong access also had links placed on the websites of affiliated practices and/or associated AMC websites. These ACOs were also searchable within the search tools of those websites.

Finally, we identified several elements that characterized websites with strong aesthetic appeal. As one example, a dedicated logo for the ACO incorporating stylized text or graphic symbols helped enhance the professional appearance of the website. When sized appropriately and placed in locations that did not crowd the page, photographs were an effective means to visually enhance webpages. Along these lines, dynamic home page banners stood out as a differentiating, modern aesthetic feature. Consistent templates, fonts, and font sizes across webpages were also fundamental features of aesthetically appealing websites. Well-coordinated color schemes, effective use of color blocking to enhance the visual organization of a page, and appropriate use of white space were other helpful principles.

Promoting and Tracking Website Utilization

Once an ACO's website has been redesigned and refined, the focus may shift to driving up user engagement with the website. Outreach strategies should target both patient and provider populations and be prioritized based on feasibility, impact, cost, and timeframe for implementation. With respect to patients, potential strategies include creating handouts and posters that would be distributed to ACO member practices, sending push notifications through online patient portals, sending physical mail to patients, and ensuring that affiliated practices would list the ACO's website on their respective websites. For physicians, strategies include making announcements at ACO operational meetings and through provider-targeted monthly newsletters. Additional communication strategies, such as announcements in affiliated health system news articles and social media (eg, Facebook, Twitter) posts, would reach both patients and providers.

In order to measure the success of website engagement and identify areas for further development, Web analytics should be used to track website utilization. As an example, a dashboard of Web analytics can be developed to quantify website traffic, reach, engagement, and audience characteristics. Similar analytics from comparable websites within affiliated health system Web domains may be able to serve as relative benchmarks for website activity.

CONCLUSIONS

ACO websites are required by CMS for public reporting purposes, but ACO leaders should expand the role of such websites to function as a stakeholder engagement tool. Many ACOs are already progressing in this direction, demonstrating a variety of strong Web content and capabilities that focus on both patients and providers. By sharing highlights of what we identified as best practices in ACO website design and potential strategies to drive up engagement following revision, we hope to aid other ACOs in maximizing their digital engagement with patients and providers.

Acknowledgments

Esther Hsiang, BA, and Andrew T. Rogers, BS, made equal contributions, and as such, are joint first authors.

Author Affiliations: Johns Hopkins Medicine (SAB), Baltimore, MD; Johns Hopkins School of Medicine (SAB, EH, ATR), Baltimore, MD; LifeBridge Health (DJD), Baltimore, MD.

Source of Funding: None.

Author Disclosures: Dr Berkowitz is the executive director of the Johns Hopkins Medicine Accountable Care Organization (JHM ACO), Johns Hopkins Medicine Alliance for Patients, LLC. Dr Durand served as the director of Accountable Care for JHM ACO, Johns Hopkins Medicine Alliance for Patients, LLC, from March 2015 through February 2016. Ms Hsiang and Mr Rogers are students at the Johns Hopkins School of Medicine. Dr Durand reports no relationship or financial interest with any entity that would pose

a conflict of interest with the subject matter of this article. The views expressed in this article are those of the authors and do not necessarily represent the views of Johns Hopkins.

Authorship Information: Concept and design (EH, ATR, DJD, SAB); acquisition of data (EH, ATR); analysis and interpretation of data (EH, ATR, DJD); drafting of the manuscript (EH, ATR, DJD); critical revision of the manuscript for important intellectual content (EH, ATR, SAB); administrative, technical, or logistic support (EH, ATR, DJD, SAB); and supervision (EH, ATR, DJD, SAB).

Send Correspondence to: Scott Adam Berkowitz, MD, MBA, 733 North Broadway – Miller Research Building (G-46), Baltimore, MD 21205. E-mail: sberkow3@jhmi.edu.

REFERENCES

1. Pham HH, Pilotte J, Rajkumar R, Richter E, Cavanaugh S, Conway PH. Medicare's vision for delivery-system reform—the role of ACOs. *N Engl J Med*. 2015;373(11):987-990. doi: 10.1056/NEJMp1507319.
2. Medicare Shared Savings Program: public reporting guidance—performance year 2015. CMS website. www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/Downloads/ACO-Public-Reporting-Guidance.pdf. Updated October 2016. Accessed March 20, 2016.
3. Electronic Code of Federal Regulations: part 425—Medicare Shared Savings Program. www.ecfr.gov/cgi-bin/retrieveECFR?g-p=1&SID=159de4b7fa23660bc939666e38e82477&ty=HTML&h=L&r=PART&n=42y3.0.1.1.12. Published 2016. Accessed March 20, 2016.
4. Dixon-Fyle S, Kowallik T. Engaging consumers to manage health care demand. McKinsey&Company website. www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/engaging-consumers-to-manage-health-care-demand. Published January 2010. Accessed March 20, 2016.
5. Brown B, Sikes J, Willmott P. Bullish on digital: McKinsey Global Survey results. McKinsey&Company website. www.mckinsey.com/business-functions/digital-mckinsey/our-insights/bullish-on-digital-mckinsey-global-survey-results. Published August 2013. Accessed March 20, 2016.
6. Eysenbach G, Powell J, Kuss O, Sa E-R. Empirical studies assessing the quality of health information for consumers on the World Wide Web: a systematic review. *JAMA*. 2002;287(20):2691-2700.
7. Sutherland L, Wildemuth B, Campbell M, Haines P. Unraveling the web: an evaluation of the content quality, usability, and readability of nutrition web sites. *J Nutr Educ Behav*. 2005;37(6):300-305.
8. Beatty L, Lambert S. A systematic review of Internet-based self-help therapeutic interventions to improve distress and disease-control among adults with chronic health conditions. *Clin Psychol Rev*. 2013;33(4):609-622.
9. Stiles-Shields C, Keefer L. Web-based interventions for ulcerative colitis and Crohn's disease: systematic review and future directions. *Clin Exp Gastroenterol*. 2015;8:149-157. doi: 10.2147/CEG.S56069.
10. Medicare Shared Savings Program accountable care organizations performance year 2014 results. CMS website. <https://data.cms.gov/ACO/Medicare-Shared-Savings-Program-Accountable-Care-Organization-Performance>. Accessed March 20, 2016.
11. US Department of Health and Human Services. *The Research-Based Web Design & Usability Guidelines, Enlarged/Expanded Edition*. Washington, DC: US Government Printing Office; 2006.
12. Hoffmann T, Worrall L. Designing effective written health education materials: considerations for health professionals. *Disabil Rehabil*. 2004;26(19):1166-1173.
13. Search engine optimization starter guide. Google website. <https://static.googleusercontent.com/media/www.google.com/en/webmasters/docs/search-engine-optimization-starter-guide.pdf>. Published 2010. Accessed March 20, 2016.