tion rate of (7 of 7 vs 31 of 35; $P = .81$). Asking for a preferred contact time (76% vs 85%; $P = .32$) and mailing reminder letters (78% vs 89%; $P = .31$) resulted in nonsignificant improvements in retention rates.

Discussion | The participation of a multidisciplinary stakeholder team provided unique perspectives that helped improve recruitment and retention rates in the RCT. Implementation of stakeholder recommendations on how to explain the purpose of the trial to eligible participants in the urgent emergency care setting significantly improved enrollment. The implementation of stakeholder recommendations for maximizing patient follow-up also significantly improved retention rates. We believe that our success in achieving these goals stems in part from involving stakeholders throughout the entirety of the project, building strong ongoing relationships, fostering open communication, and appreciating all opinions. This study demonstrates the potential value and effect of involving patients, families, and other health care stakeholders in the design and performance of surgical trials.

Peter C. Minneci, MD, MHSc
Kristine M. Nacion, MPH
Daniel L. Lodwick, MD, MS
Jennifer N. Cooper, MS, PhD
Katherine J. Deans, MD, MHSc

Author Affiliations: Center for Surgical Outcomes Research, The Research Institute at Nationwide Children's Hospital, Columbus, Ohio.

Corresponding Author: Peter C. Minneci, MD, MHSc, Center for Surgical Outcomes Research, The Research Institute at Nationwide Children's Hospital, 700 Children's Dr, J West–4th Floor, Columbus, OH 43205 (peter.minneci@nationwidechildrens.org).

Published Online: February 10, 2016. doi:10.1001/jamasurg.2015.4898.

Author Contributions: Drs Minneci and Deans had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.
Study concept and design: Minneci, Cooper, Deans.
Acquisition, analysis, or interpretation of data: Minneci. Nacion, Cooper.
Drafting of the manuscript: Minneci, Nacion, Cooper.
Critical revision of the manuscript for important intellectual content: Minneci, Lodwick, Cooper, Deans.
Statistical analysis: Minneci, Nacion, Cooper.
Obtained funding: Deans.
Administrative, technical, or material support: Nacion, Lodwick, Cooper.
Study supervision: Minneci, Deans.

Conflict of Interest Disclosures: None reported.

Funding/Support: This project was supported by award 943115 from the Patient Centered Outcomes Research Institute (Dr Deans) and grant UL1TR001070 from the National Center for Advancing Translational Sciences.

Role of the Funder/Sponsor: The funding sources had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; and preparation, review, or approval of the manuscript and decision to submit the manuscript for publication.

Disclaimer: The content of this article is solely the responsibility of the authors and does not necessarily represent the official views of the Patient Centered Outcomes Research Institute, National Center for Advancing Translational Sciences, or National Institutes of Health.

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Engaging Stakeholders in Surgical Research: The Design of a Pragmatic Clinical Trial to Study Management of Acute Appendicitis

Evidence from randomized clinical trials in Europe within the past 20 years suggests that antibiotics alone may be used to treat acute appendicitis as an alternative to appendectomy, the standard of care for more than 100 years.[1] Despite this, there are concerns about long-term outcomes, especially with regards to quality of life and safety.[2] To answer these questions, we designed a pragmatic clinical trial to be conducted

Figure. Subjective Information Obtained From Patient Stakeholder Engagement Through Crowdsourcing, Social Media, Blogs, and Surveys

Table. Engagement Activities Conducted for Study Development

Stakeholders	Type of Engagement	Purpose of Engagement	How Input Informed Planning
Patient			
Advisors (n = 830)[a]	Crowdsourcing, social media, blog, and surveys	Identify important outcomes, obtain feedback on patient informational materials, and provide information on generalizability of input from patient partners	Established a 47% willingness to randomize informing sample size calculations and selected format for informational materials
Partners (n = 4)[b]	In-person meetings and teleconferences	Discussion of proposed study, revision of informational materials, and determine feasibility of randomization	Confirmed roles of patient partners, discussed compensation for partnership, reviewed proposed research, added Decision Regret outcome, revised protocol for patient outreach, confirmed incentives for follow-up, discussed informed consent process, and revised patient information material
Clinician			
Advisors (n = 196)[c]	Association of Surgeons of Great Britain and Ireland Survey	Understand practice patterns of antibiotics-first in Europe	Provided evidence that clinicians in Europe are willing to apply the treatment strategy to patients
Partners (n = 15)[d]	Weekly teleconference	Discussion of proposed study, roles, and expectations for collaboration throughout study and feasibility for randomization from the surgeon perspective	Confirmed participation and willingness to randomize patients, established stopping criteria, confirmed important clinical outcomes and time for follow-up, and obtained support and attestation statements from 81 surgeons at participating sites

[a] Patient advisors were members of the broader community engaged via crowdsourcing, social media, and clinician outreach. An example can be seen at http://www.becertain.org/partner/patient_advisory_network/blog/archives/2014/12/02/tell_certain_would_you_participate_in_this_research_study.

[b] Patient partners were engaged via the Comparative Effectiveness Research Translation Network network and provided direct feedback to the research team via in-person meetings and telephone conferences.

[c] Clinician advisors were engaged via survey to members of the Association of Surgeons of Great Britain and Ireland.

[d] Clinician partners were clinicians at each practice site in Washington State designated as study champion.

in the United States. Engaging health care stakeholders provided an opportunity to assess feasibility of study conduct, identify barriers to implementation, and determine relevant outcomes to inform decision making and translation of evidence to practice. Very little has been written about stakeholder engagement in the context of surgical research,[3] especially in the setting of acute conditions. We describe our approach for the development of a stakeholder-informed research proposal to apprise the surgical community on how such a strategy can be used.

Methods | The Comparative Effectiveness Research Translation Network, based in Washington State, is aligned with the Surgical Care and Outcomes Assessment Program,[4,5] a quality improvement and benchmarking collaborative. We engaged patients and clinicians during the development and design of a large pragmatic clinical trial in response to the Patient-Centered Outcomes Research Institute call for proposals. The Comparative Effectiveness Research Translation Network patient stakeholders worked directly with the research team throughout the design phase, and a broader public network was approached to provide general feedback about the study through blogs, social media, crowdsourcing, and direct physician outreach. A survey of surgeons from the Association of Surgeons of Great Britain and Ireland informed how the use of antibiotics is changing because the evidence generated to date stems from European experience. Fifteen clinician advisors within the Surgical Care and Outcomes Assessment Program network engaged directly with the study team and conducted outreach at their respective hospitals to patients, clinicians, staff, and administrative personnel.

Results | We engaged 834 potential patients between November 2014 and December 2014 through the combination of approaches described. Nearly half (47%) indicated that they would participate in a future study and stated willingness to be randomized. Participants provided subjective information about their specific concerns with the study (**Figure**). This information helped determine sample size, develop patient educational materials, and establish meaningful outcomes for the study. One hundred ninety-six surgeons responded to the Association of Surgeons of Great Britain and Ireland survey; 20% stated that within the last year they had offered antibiotics to patients with appendicitis. Ten hospitals with 81 surgeons in the Comparative Effectiveness Research Translation Network network agreed to allow their patients to be approached for recruitment, to adhere to the study protocol, and to address barriers to the study. Feedback from 15 clinician advisors led to important changes to study exclusion criteria, study logistics, and criteria for failure of the antibiotics strategy. Patient and clinician partners advised study design outcomes which would help inform treatment decisions of future patients (**Table**).

Discussion | We described 1 strategy for stakeholder engagement using novel approaches for development of a research proposal. The next step is defining measures to judge the success of this work. Standards should address the success of par-

ticipant recruitment and enrollment; judge the appropriateness of the outcomes; and evaluate dissemination of results. A more immediate measure of success may be the award of funds to carry out the study because demonstration of meaningful engagement is a core aspect of funding. This work was part of a successful application for the Comparing Outcomes of Drugs and Appendectomy study, a pragmatic clinical trial funded by Patient Centered Outcomes Research Institute.[6] Patient engagement is increasingly important in surgical research, and we encourage others to share their strategies. Just as dissemination of clinical findings leads to improvements in outcomes, dissemination of engagement strategies may increase the success of future studies.

Anne P. Ehlers, MD
Giana H. Davidson, MD, MPH
Bonnie J. Bizzell, MBA, MEd
Mary K. Guiden
Elliott Skopin
David R. Flum, MD, MPH
Danielle C. Lavallee, PharmD, PhD

Author Affiliations: Department of Surgery, University of Washington, Seattle (Ehlers, Davidson, Flum, Lavallee); The Comparative Effectiveness Research Translation Network, Seattle, Washington (Bizzell, Guiden, Skopin).

Corresponding Author: Anne P. Ehlers, MD, Division of General Surgery, Department of Surgery, University of Washington, 1107 NE 45th St, PO Box 354808, Ste 502, Seattle, WA 98195 (apugel@uw.edu).

Published Online: February 24, 2016. doi:10.1001/jamasurg.2015.5531.

Author Contributions: Dr Ehlers had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Study concept and design: Ehlers, Bizzell, Guiden, Skopin, Lavallee.
Acquisition, analysis, or interpretation of data: Ehlers, Davidson, Bizzell, Skopin, Flum, Lavallee.
Drafting of the manuscript: Ehlers, Davidson, Skopin, Flum.
Critical revision of the manuscript for important intellectual content: All authors.
Statistical analysis: Ehlers, Flum.
Obtained funding: Flum.
Administrative, technical, or material support: Ehlers, Davidson, Guiden, Skopin, Flum.
Study supervision: Davidson, Lavallee.

Conflict of Interest Disclosures: None reported.

Funding/Support: Dr Ehlers was supported by a training grant from the National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health under award T32DK070555. This foundational research served as the basis for the Comparing Outcomes of Drugs and Appendectomy Trial, a contract recently awarded from Patient-Centered Outcomes Research Institute.

Role of the Funder/Sponsor: The National Institutes of Health did not participate in design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Disclaimer: The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Additional Contributions: We thank Kathleen O'Connor for serving as a patient partner during this work, as well as Rebekka Herr and Sarah Lawrence at the Comparative Effectiveness Research Translation Network for their work on the patient engagement campaign. Mss Herr and Lawrence were compensated for their work.

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US Surgeons' Perceptions of Racial/Ethnic Disparities in Health Care: A Cross-sectional Study

Across the field of surgery, racial/ethnic minorities present with higher incidence and prevalence of surgical disease and worse postoperative outcomes.[1-4] Even after adjusting for contributing factors, such as socioeconomic and insurance status, differences persist in the receipt and outcomes of care.[1-4] Research suggests that racial/ethnic disparities in surgical care stem from a complex interplay of patient, provider, and systematic factors.[1] As health care professionals, surgeons play a key role in patients' outcomes. Surgeons' lack of awareness of racial/ethnic disparities in surgical care may impede actions to alleviate gaps in care. The objective of this pilot study was to assess current US surgeons' awareness of racial/ethnic disparities in surgical outcomes and processes of surgical care.

Methods | A 21-question anonymous online survey was sent from July 1, 2013, to March 31, 2014, to a randomly selected sample of 536 practicing general surgeon members of the American College of Surgeons. The questionnaire, described in detail elsewhere,[5] was adapted from work conducted among cardiologists and cardiovascular surgeons in 2004 by Lurie et al[6] and Taylor et al.[7] The modified survey, designed to be completed in 10 to 15 minutes, was validated based on in-depth cognitive testing performed by 5 external surgeon reviewers. The Johns Hopkins University School of Medicine Institutional Review Board approved the study. Completion of the survey required provision of written informed consent.

Data analysis was conducted from April 1, 2014, to November 30, 2015. Analytical methods for the study have been previously described.[5] In brief, descriptive statistics were tabulated for each question using Pearson χ^2 tests, with 2-tailed $P < .05$ considered significant. Responses were weighted for nonresponse bias using demographic characteristics ascertained for both respondents and nonrespondents. To further account for potential confounding owing to sex, race/ethnicity, affiliation with an academic medical center, practice setting (rural, urban, or suburban), geographic location (West, Midwest, South, or Northeast), and year of graduation from medical school, multivariable logistic regressions weighted for nonresponse bias and adjusted for significant differences in demographic factors were performed.