**Supplementary online material**

**Perception of Treatment Success and Impact on Function with Antibiotics or Appendectomy for Appendicitis: A Randomized Clinical Trial with an Observational Cohort**

**The CODA Collaborative**

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***CODA Trial***

***Sites and Site Leads:***Bellevue Hospital Center New York University School of Medicine**:** Patricia Ayoung-Chee, MD, MPH, William Chiang, MD; Beth Israel Deaconess Medical Center**:** Charles Parsons, MD, Stephen R. Odom, MD, Nathan I. Shapiro, MD, MPH; Boston University Medical Center**:** Sabrina E. Sanchez, MD, MPH, F. Thurston Drake, MD, MPH; Columbia University Medical Center**:** Katherine Fischkoff, MD, Aleksandr Tichter, MD; Harbor-University of California Los Angeles Medical Center:Daniel A. DeUgarte, MD, Amy H. Kaji, MD, PhD; Harborview Medical Center**:** Heather Evans, MD, MS, Joseph Cuschieri, MD, Amber K. Sabbatini, MD, MPH; Henry Ford Health Hospital**:** Jeffrey Johnson, MD, Joe H. Patton, MD; Madigan Army Medical Center**:** Vance Sohn, MD, Karen McGrane, MD; Maine Medical Center**:** Damien W. Carter, MD; The Ohio State University Wexner Medical Center**:** Steven Steinberg, MD, David Evans, MD; Olive View-University of California Los Angeles Medical Center**:** Darin Saltzman MD, PhD, David A. Talan, MD, Gregory J. Moran, MD; Providence Regional Medical Center Everett**:** Careen S. Foster, MD, Brandon Tudor, MD; Rush University Medical Center**:** Thea P. Price, MD; Swedish Medical Center**:** Katherine A. Mandell, MD, MPH; Tisch Hospital New York University Langone Medical Center**:** Patricia Ayoung-Chee, MD, MPH, William Chiang, MD; UCHealth University of Colorado Hospital**:** Lisa Ferrigno, MD, MPH, Matthew Salzberg, MD, MBA; University of Iowa Hospitals and Clinics**:** Dionne A. Skeete, MD, Brett A. Faine, PharmD, MS; University of Michigan Medical Center**:** Pauline K. Park, MD, Hasan B. Alam, MD; University of Mississippi Medical Center:Matthew E. Kutcher, MD, MS, Alan Jones, MD; McGovern Medical School at The University of Texas Health Science Center at Houston (UTHealth)**:** Lillian S. Kao, MD, MS; University of Texas Lyndon B. Johnson General Hospital**:** Mike K. Liang, MD; University of Washington Medical Center**:** Giana H. Davidson, MD, MPH, Amber K. Sabbatini, MD, MPH; Vanderbilt University Medical Center**:** Callie M. Thompson, MD, Wesley H. Self, MD, MPH; Virginia Mason Medical Center**:** Abigail Wiebusch, MD, Juliana T. Yu, MD; Weill Cornell Medical Center**:** Robert J. Winchell, MD, Sunday Clark, ScD, MPH.

\**Site abbreviations*: BID = Beth Israel Deaconess Medical Center, BMC = Boston University Medical Center, COL = Columbia University Medical Center, HFH = Henry Ford Health System, HMC = Harborview Medical Center-UW Medicine, IOW = University of Iowa Hospitals & Clinics, LBJ = University of Texas Lyndon B. Johnson General Hospital, MAD = Madigan Army Medical Center (affiliated with University of Washington) MIS = University of Mississippi Medical Center, MMC = Maine Medical Center, NYB = Bellevue Hospital Center NYU School of Medicine, NYT = Tisch Hospital NYU Langone Medical Center, OSU = Ohio State University Medical Center, PRE = Providence Regional Medical Center Everett, RUSH = Rush University Medical Center, SWE = Swedish Medical Center, UCD = UCHealth University of Colorado Hospital, Denver, UCH = Harbor UCLA Medical Center, UCO = Olive View-UCLA Medical Center, UOM = University of Michigan Medical Center, UTH = McGovern Medical School at The University of Texas Health Science Center at Houston (UTHealth), UOW = University of Washington Medical Center-UW Medicine, VAN = Vanderbilt University Medical Center, VM = Virginia Mason Medical Center, WMC = Weill Cornell Medical Center

***Executive Committee***: Bonnie Bizzell, MBA, MEd (Chair, Patient Advisory Board); Bryan Comstock, MS (Operations Director, Data Coordinating Center); Giana Davidson, MD, MPH (Chair, Clinical Coordinating Center); Erin Fannon (Senior Project Manager); David R. Flum, MD, MPH (Co-Principal Investigator); Patrick J. Heagerty, PhD, MS (Director, Data Coordinating Center); Larry G. Kessler, ScD (Chair, Executive Committee); Anusha Krishnadasan, PhD (Project Manager, California); Danielle C. Lavallee, PharmD, PhD (Director, Stakeholder Coordinating Center); Sarah O. Lawrence (Director, Stakeholder Coordinating Center); Sarah E, Monsell, MS (Lead Biostatistician); Kelsey Pullar, MPH (Research Coordinator Lead); David A. Talan, MD (Co-Principal Investigator); Erika Wolff, PhD ([former] Executive Director, SORCE/UOW)

***Patient Advisory Board***: Meridith Weiss, Kimberly Deeney, Heather VanDusen, Elliott Skopin, Mary Guiden, Miriam Hernandez

***National Advisory Board***: Emily E. Anderson, PhD, MPH; Darrell A. Campbell, Jr., MD; Fergal Fleming, MD; David B. Hoyt, MD; J.J. Tepas III, MD (Deceased); Richard W. Whitten, MD; SreyRam Kuy, MD; Daniel S. Lessler, MD, MHA.

***Data Safety and Monitoring Board***: Karla Ballman, PhD; Thomas Diflo, MD; Bruce Wolfe, MD; Arden Morris, MD; Donald Yealy, MD. Patient Advisors: Kathleen O’Connor, EdD; Olga Owens, N-PC

**Appendix A.** Additional details about the MICE algorithm

In addition to outcomes and baseline factors, the cohort, assigned treatment, early appendectomy status, site, and other participant-reported and medical record-based variables were included in the imputation process (see list below). For variables that only apply to a subgroup of participants (appendectomy after beginning antibiotics and missing work), we imputed data for only relevant participants and did not allow that data to inform the imputation of other variables in order to respect the structural relationships between variables. Model coefficients and estimated variances were pooled across the 10 imputation sets using Rubin’s rules and are shown with corresponding 95% confidence intervals (Cis). To preserve randomization, MICE was performed separately for the RCT-only analyses and the pooled cohort analyses.

Variables included in the MICE algorithm, in addition to the four binary patient-reported outcomes (PROs), all baseline factors from the tables, and appendectomy:

Eligible to miss work, site, cohort (for the pooled cohort imputation), treatment arm, age (continuous), number of dependents (continuous), tenderness right lower quadrant (yes/no), rebound pain (yes/no), pain migration (yes/no), type of imaging test (CT only, ultrasound only, or >1 test), success optimism, safety optimism, Global Health questions 1-9 (each with a five-point scale rating, covering general health, quality of life, physical health, mental health, social activities/relationships, and everyday physical activities), GI QOL index at 30 days, EQ-5D questions at 30 days (separately), EQ-5D health state score at 30 days, symptom resolution at 30 days, any overnight hospitalization after index (up to 90 days).

**Supplemental Table 1. Demographic and clinical characteristics of participants, both overall and separated by cohort**

| **Baseline Factor** | | **Overall** | **RCT** | **Observational** |
| --- | --- | --- | --- | --- |
| n |  | 2062 | 1552 | 510 |
| Treatment arm (%) | Appendectomy | 1029 (49.9) | 776 (50.0) | 253 (49.6) |
|  | Antibiotics | 1033 (50.1) | 776 (50.0) | 257 (50.4) |
| Age over 50 years (%) | No | 1666 (80.8) | 1254 (80.8) | 412 (80.8) |
|  | Yes | 396 (19.2) | 298 (19.2) | 98 (19.2) |
| Sex (%) | Male | 1268 (61.5) | 976 (62.9) | 292 (57.3) |
|  | Female | 794 (38.5) | 576 (37.1) | 218 (42.7) |
| BMI (%) | Less than 25 | 545 (31.3) | 376 (28.5) | 169 (39.9) |
|  | [25,30) | 609 (35.0) | 466 (35.4) | 143 (33.7) |
|  | [30,35) | 341 (19.6) | 283 (21.5) | 58 (13.7) |
|  | 35 and above | 246 (14.1) | 192 (14.6) | 54 (12.7) |
| Preferred language (%) | English | 1508 (73.1) | 1076 (69.3) | 432 (84.7) |
|  | Spanish | 554 (26.9) | 476 (30.7) | 78 (15.3) |
| Health literacy help (%) | Never or rarely | 1609 (81.4) | 1207 (81.0) | 402 (82.9) |
|  | Sometimes or more | 367 (18.6) | 284 (19.0) | 83 (17.1) |
| Education (%) | Some beyond HS/GED | 1252 (61.8) | 897 (58.6) | 355 (71.7) |
|  | HS/GED or less | 773 (38.2) | 633 (41.4) | 140 (28.3) |
| Employment and activity (%) | Employed (inactive) | 768 (38.3) | 579 (38.4) | 189 (38.1) |
|  | Employed (active) | 661 (33.0) | 508 (33.7) | 153 (30.8) |
|  | Unemployed/student/other | 574 (28.7) | 420 (27.9) | 154 (31.0) |
| Worried about bills (%) | No | 638 (31.7) | 437 (28.8) | 201 (40.5) |
|  | Yes | 1377 (68.3) | 1082 (71.2) | 295 (59.5) |
| Below poverty or Medicaid/state program (%) | No | 883 (55.3) | 627 (52.5) | 256 (63.5) |
|  | Yes | 714 (44.7) | 567 (47.5) | 147 (36.5) |
| Sharing responsibilities (%) | Yes | 842 (42.7) | 647 (43.5) | 195 (40.3) |
|  | No | 375 (19.0) | 295 (19.8) | 80 (16.5) |
|  | No dependents | 754 (38.3) | 545 (36.7) | 209 (43.2) |
| Instrumental support score\* (mean [SD]) |  | 15.38 (4.57) | 15.42 (4.48) | 15.26 (4.84) |
| Race (%) | White | 1217 (59.8) | 910 (59.5) | 307 (60.8) |
|  | Black or African American | 170 ( 8.4) | 138 ( 9.0) | 32 ( 6.3) |
|  | American Indian or Alaska Native | 25 ( 1.2) | 22 ( 1.4) | 3 ( 0.6) |
|  | Asian | 144 ( 7.1) | 92 ( 6.0) | 52 (10.3) |
|  | Native Hawaiian or Other Pacific Islander | 7 ( 0.3) | 7 ( 0.5) | 0 ( 0.0) |
|  | Other | 396 (19.5) | 308 (20.1) | 88 (17.4) |
|  | Multiple | 76 ( 3.7) | 53 ( 3.5) | 23 ( 4.6) |
| Hispanic (%) | No | 1181 (57.3) | 824 (53.1) | 357 (70.1) |
|  | Yes | 880 (42.7) | 728 (46.9) | 152 (29.9) |
| Alvarado (mean [SD]) |  | 6.61 (1.67) | 6.63 (1.66) | 6.55 (1.71) |
| Appendiceal diameter (mean [SD]) |  | 11.36 (2.87) | 11.39 (2.86) | 11.27 (2.89) |
| Perforation/abscess/fat (%) | No | 1701 (87.1) | 1288 (86.9) | 413 (87.7) |
|  | Yes | 253 (12.9) | 195 (13.1) | 58 (12.3) |
| Appendicolith (%) | No | 1494 (72.5) | 1138 (73.3) | 356 (69.8) |
|  | Yes | 568 (27.5) | 414 (26.7) | 154 (30.2) |
| Any dependents (%) | No | 754 (37.8) | 545 (36.2) | 209 (42.8) |
|  | Yes | 1240 (62.2) | 961 (63.8) | 279 (57.2) |
| Smoking history (%) | No | 1500 (77.0) | 1121 (76.3) | 379 (79.5) |
|  | Yes | 447 (23.0) | 349 (23.7) | 98 (20.5) |
| Duration of symptoms\*\* (%) | Less than a day | 524 (25.4) | 383 (24.7) | 141 (27.7) |
|  | 1 or more days | 1535 (74.6) | 1167 (75.3) | 368 (72.3) |
| Average pain previous 7 days\*\*\* (mean [SD]) |  | 5.39 (3.00) | 5.46 (2.98) | 5.18 (3.04) |
| Discharge pain controlled\*\*\*\* (%) | Yes | 1571 (76.7) | 1192 (77.5) | 379 (74.3) |
|  | No | 191 ( 9.3) | 143 ( 9.3) | 48 ( 9.4) |
|  | No pain | 286 (14.0) | 203 (13.2) | 83 (16.3) |
| White blood cell count (thousand/microL) (mean [SD]) |  | 13.12 (4.09) | 13.06 (4.06) | 13.30 (4.18) |
| Fever (%) | No | 1568 (76.1) | 1172 (75.6) | 396 (77.6) |
|  | Yes | 493 (23.9) | 379 (24.4) | 114 (22.4) |
| Nausea/vomiting/anorexia\*\*\*\*\* (%) | No | 378 (18.4) | 292 (18.8) | 86 (16.9) |
|  | Yes | 1681 (81.6) | 1259 (81.2) | 422 (83.1) |
| Charlson above 0 (%) | No | 1633 (79.5) | 1232 (79.6) | 401 (79.1) |
|  | Yes | 421 (20.5) | 315 (20.4) | 106 (20.9) |

\*Instrumental support score: PROMIS instrumental support score was calculated based on answers to survey questions, and ranges between 4 (least possible support) and 20 (most possible support).

\*\*Duration of symptoms: number of days with symptoms at the time of enrollment, reported to the nearest half day and collapsed into two groups.

\*\*\*Average pain previous 7 days: average pain in the previous 7 days as reported by the participant at the time of enrollment, with scores ranging from 0 (“No pain”) to 10 (“Worst imaginable pain”).

\*\*\*\*Discharge pain controlled: whether abdominal pain was controlled with analgesics upon discharge from the index visit

\*\*\*\*\*Nausea/vomiting/anorexia: History of nausea, vomiting, or anorexia, captured from the participant’s chart.

Note: Mean and standard deviation (SD) is shown for continuous variables, count (n) and percent for categorical variables. The following measures were missing for more than 10% of participants in the overall (RCT [randomized clinical trial] and observational) cohort: BMI ([body mass index] 321 participants missing data), household income below the poverty line and/or Medicaid beneficiary (465 participants), and appendiceal diameter (295 participants). In addition, 86 participants were missing data on health literacy, 37 participants were missing data on education, 59 participants were missing data on employment and activity, 47 participants were missing data on being worried about bills, 91 participants were missing data on sharing responsibilities for dependents, 66 participants were missing data on instrumental support, 27 participants were missing data on race, 1 participant was missing data on Hispanic ethnicity, 92 participants were missing data on their Alvarado score, 108 participants were missing data on perf/abscess/fat, 68 participants were missing data on whether they had dependents, 115 participants were missing data on smoking history, 3 participants were missing data on duration of symptoms, 59 participants were missing data on the average pain in the previous seven days, 14 participants were missing data on whether pain was controlled at discharge, 6 participants were missing data on white blood cell count, 1 participant was missing data on fever, 3 participants were missing data on nausea/vomiting/anorexia, and 8 participants were missing data on their Charlson score.

HS=high school, GED=General Educational Development Test credential

**Supplemental Table 2. Outcomes for each cohort summarized overall, within each treatment arm, and by whether participants had an appendectomy within the first 30 days for the antibiotics arm**

**Supplemental Table 2A. Randomized clinical trial (RCT) cohort**

| **Outcome** | | **Overall RCT** | **RCT Appendectomy** | **RCT Antibiotics** | **RCT Antibiotics with 30 Day Appendectomy** | **RCT Antibiotics without 30 Day Appendectomy** |
| --- | --- | --- | --- | --- | --- | --- |
| n |  | 1552 | 776 | 776 | 154 | 581 |
| Regret score (mean [SD]) |  | 22.39 (20.33) | 17.81 (15.53) | 26.85 (23.26) | 42.07 (31.77) | 22.98 (18.80) |
| **Regret score (main outcome) (%)** | High regret (>50) | 101 ( 7.8) | 16 ( 2.5) | 85 (12.9) | 47 (35.6) | 38 ( 7.3) |
|  | Low regret (≤50) | 1198 (92.2) | 625 (97.5) | 573 (87.1) | 85 (64.4) | 481 (92.7) |
| Treatment satisfaction (%) | Very dissatisfied | 24 ( 1.8) | 8 ( 1.2) | 16 ( 2.4) | 7 ( 5.3) | 9 ( 1.7) |
|  | Somewhat dissatisfied | 50 ( 3.8) | 11 ( 1.7) | 39 ( 5.8) | 11 ( 8.3) | 28 ( 5.3) |
|  | Somewhat satisfied | 303 (22.9) | 129 (19.7) | 174 (26.0) | 43 (32.6) | 127 (23.9) |
|  | Very satisfied | 948 (71.5) | 507 (77.4) | 441 (65.8) | 71 (53.8) | 367 (69.1) |
| **Treatment satisfaction (main outcome) (%)** | Very/somewhat dissatisfied | 74 ( 5.6) | 19 ( 2.9) | 55 ( 8.2) | 18 (13.6) | 37 ( 7.0) |
|  | Somewhat/very satisfied | 1251 (94.4) | 636 (97.1) | 615 (91.8) | 114 (86.4) | 494 (93.0) |
| Usual activities (%) | No problems with performing usual activities | 1130 (83.5) | 548 (82.2) | 582 (84.8) | 96 (70.6) | 479 (88.4) |
|  | Some problems with performing usual activities | 204 (15.1) | 112 (16.8) | 92 (13.4) | 36 (26.5) | 55 (10.1) |
|  | Unable to perform usual activities | 19 ( 1.4) | 7 ( 1.0) | 12 ( 1.7) | 4 ( 2.9) | 8 ( 1.5) |
| **Usual activities (main outcome) (%)** | Some problems/unable | 223 (16.5) | 119 (17.8) | 104 (15.2) | 40 (29.4) | 63 (11.6) |
|  | No problems | 1130 (83.5) | 548 (82.2) | 582 (84.8) | 96 (70.6) | 479 (88.4) |
| Eligible to miss work (%) | Yes (employed) | 893 (57.5) | 434 (55.9) | 459 (59.1) | 86 (55.8) | 352 (60.6) |
|  | No (not employed) | 341 (22.0) | 180 (23.2) | 161 (20.7) | 42 (27.3) | 115 (19.8) |
|  | No (wrong survey wording)\* | 278 (17.9) | 139 (17.9) | 139 (17.9) | 23 (14.9) | 107 (18.4) |
|  | No (unknown employment status) | 40 ( 2.6) | 23 ( 3.0) | 17 ( 2.2) | 3 ( 1.9) | 7 ( 1.2) |
| Days of work missed\*\* (mean [SD]) |  | 6.78 (7.64) | 8.70 (8.77) | 4.99 (5.86) | 10.96 (8.26) | 3.66 (4.24) |
| **Days of work missed (main outcome) (%)** | More than 10 days | 166 (21.3) | 111 (29.4) | 55 (13.7) | 29 (41.4) | 25 ( 7.6) |
|  | 10 days or less | 613 (78.7) | 266 (70.6) | 347 (86.3) | 41 (58.6) | 303 (92.4) |

\*Because of a change in the wording of the work missed question, only responses submitted after August 17th, 2017 could be used for this analysis. \*\*To calculate the mean and SD (standard deviation) of days of work missed, responses were truncated at 30 days.

Note: Mean and SD is shown for continuous variables, count (n) and percent for categorical variables. Outcomes in bold were used in the primary analysis.

**Supplemental Table 2B. Observational cohort**

| **Outcome** | | **Overall Observational** | **Observational Appendectomy** | **Observational Antibiotics** | **Observational Antibiotics with 30 Day Appendectomy** | **Observational Antibiotics without 30 Day Appendectomy** |
| --- | --- | --- | --- | --- | --- | --- |
| n |  | 510 | 253 | 257 | 37 | 203 |
| Regret score (mean [SD]) |  | 16.44 (17.98) | 11.19 (13.12) | 21.55 (20.46) | 34.55 (27.08) | 19.63 (18.48) |
| **Regret score (main outcome) (%)** | High regret (>50) | 18 ( 4.3) | 0 ( 0.0) | 18 ( 8.6) | 7 (24.1) | 11 ( 6.1) |
|  | Low regret (≤50) | 396 (95.7) | 204 (100.0) | 192 (91.4) | 22 (75.9) | 168 (93.9) |
| Treatment satisfaction (%) | Very dissatisfied | 2 ( 0.5) | 0 ( 0.0) | 2 ( 0.9) | 0 ( 0.0) | 2 ( 1.1) |
|  | Somewhat dissatisfied | 16 ( 3.8) | 4 ( 2.0) | 12 ( 5.5) | 5 (17.2) | 7 ( 3.7) |
|  | Somewhat satisfied | 80 (19.0) | 28 ( 13.8) | 52 (23.9) | 8 (27.6) | 43 (23.0) |
|  | Very satisfied | 323 (76.7) | 171 ( 84.2) | 152 (69.7) | 16 (55.2) | 135 (72.2) |
| **Treatment satisfaction (main outcome) (%)** | Very/somewhat dissatisfied | 18 ( 4.3) | 4 ( 2.0) | 14 ( 6.4) | 5 (17.2) | 9 ( 4.8) |
|  | Somewhat/very satisfied | 403 (95.7) | 199 ( 98.0) | 204 (93.6) | 24 (82.8) | 178 (95.2) |
| Usual activities (%) | No problems with performing usual activities | 366 (84.3) | 173 ( 82.0) | 193 (86.5) | 19 (61.3) | 172 (90.5) |
|  | Some problems with performing usual activities | 63 (14.5) | 36 ( 17.1) | 27 (12.1) | 10 (32.3) | 17 ( 8.9) |
|  | Unable to perform usual activities | 5 ( 1.2) | 2 ( 0.9) | 3 ( 1.3) | 2 ( 6.5) | 1 ( 0.5) |
| **Usual activities (main outcome) (%)** | Some problems/unable | 68 (15.7) | 38 ( 18.0) | 30 (13.5) | 12 (38.7) | 18 ( 9.5) |
|  | No problems | 366 (84.3) | 173 ( 82.0) | 193 (86.5) | 19 (61.3) | 172 (90.5) |
| Eligible to miss work (%) | Yes (employed) | 230 (45.1) | 109 ( 43.1) | 121 (47.1) | 15 (40.5) | 106 (52.2) |
|  | No (not employed) | 81 (15.9) | 29 ( 11.5) | 52 (20.2) | 12 (32.4) | 36 (17.7) |
|  | No (wrong survey wording)\* | 179 (35.1) | 106 ( 41.9) | 73 (28.4) | 10 (27.0) | 60 (29.6) |
|  | No (unknown employment status) | 20 ( 3.9) | 9 ( 3.6) | 11 ( 4.3) | 0 ( 0.0) | 1 ( 0.5) |
| Days of work missed\*\* (mean [SD]) |  | 5.38 (6.10) | 7.37 (6.63) | 3.64 (5.03) | 7.42 (8.27) | 3.18 (4.31) |
| **Days of work missed (main outcome) (%)** | More than 10 days | 30 (14.7) | 24 ( 25.3) | 6 ( 5.5) | 3 (25.0) | 3 ( 3.1) |
|  | 10 days or less | 174 (85.3) | 71 ( 74.7) | 103 (94.5) | 9 (75.0) | 94 (96.9) |

\*Because of a change in the wording of the work missed question, only responses submitted after August 17th, 2017 could be used for this analysis. \*\*To calculate the mean and SD (standard deviation) of days of work missed, responses were truncated at 30 days.

Note: Mean and SD is shown for continuous variables, count (n) and percent for categorical variables. Outcomes in bold were used in the primary analysis.

**Supplemental Table 3A. Additional baseline factors for main Table 2A (antibiotics-assigned/selected)**

| **Baseline Factor** | **Comparison** | **Regret** | **Dissatisfaction** | **Problems with Activities** | **Prolonged Missed Work** |
| --- | --- | --- | --- | --- | --- |
| Worried about bills | Yes vs. no | 0.96 (0.62,1.50) | 1.00 (0.60,1.66) | 1.07 (0.73,1.57) | 1.57 (0.82,3.02) |
| Any dependents | Yes vs. no | 0.86 (0.60,1.23) | 0.79 (0.46,1.35) | 1.24 (0.89,1.74) | 1.66 (0.94,2.95) |
| Sharing responsibilities | No vs. yes | 0.78 (0.45,1.35) | 1.03 (0.56,1.89) | 1.30 (0.81,2.08) | 1.81 (0.97,3.36) |
|  | No dependents vs. yes | 1.08 (0.73,1.61) | 1.28 (0.72,2.27) | 0.88 (0.61,1.28) | 0.75 (0.40,1.42) |
| Instrumental support score | For increase of 1 point | 1.00 (0.96,1.04) | 0.96 (0.92,1.00) | 0.98 (0.94,1.01) | 0.99 (0.93,1.04) |
| Race | White vs. not | 0.90 (0.61,1.34) | 0.88 (0.56,1.39) | 0.86 (0.61,1.21) | 0.61 (0.36,1.03) |
|  | Black vs. not | 1.19 (0.63,2.24) | 1.39 (0.66,2.91) | 1.62 (0.95,2.76) | 1.17 (0.47,2.89) |
|  | American Indian vs. not | *2.18 (0.44,10.78)* | 1.63 (0.23,11.70) | 1.66 (0.43,6.38) | 1.10 (0.13,9.13) |
|  | Asian vs. not | 1.05 (0.52,2.12) | 0.95 (0.35,2.63) | 0.63 (0.27,1.46) | *0.42 (0.10,1.82)* |
|  | Islander vs. not | 1.87 (0.19,18.19) | *6.36 (0.62,65.71)* | *4.16 (0.49,35.14)* | n/a |
|  | Other vs. not | 0.82 (0.50,1.35) | 0.86 (0.46,1.61) | 0.90 (0.57,1.41) | **1.85 (1.02,3.36)** |
|  | Multiple vs. not | 1.44 (0.64,3.27) | 0.91 (0.23,3.54) | 1.53 (0.69,3.39) | *2.27 (0.76,6.85)* |
| Smoking history | Yes vs. no | 1.03 (0.66,1.61) | 1.11 (0.65,1.90) | 0.95 (0.61,1.48) | 1.19 (0.64,2.22) |
| Duration of symptoms | 1 or more days vs. less than a day | 1.05 (0.70,1.58) | 1.08 (0.61,1.89) | 1.37 (0.91,2.05) | ***2.01 (1.03,3.93)*** |
| Average pain previous 7 days | For increase of 1 point | 1.02 (0.96,1.09) | 1.07 (0.99,1.16) | **1.08 (1.02,1.15)** | **1.16 (1.05,1.29)** |
| Discharge pain controlled | No vs. yes | 1.01 (0.57,1.80) | 1.11 (0.54,2.25) | 0.92 (0.53,1.60) | 1.12 (0.45,2.81) |
|  | No pain vs. yes | 0.77 (0.44,1.36) | 0.82 (0.42,1.61) | 0.90 (0.57,1.44) | 1.81 (1.00,3.29) |
| White blood cell count | For increase of 1,000 per microL | 1.02 (0.97,1.06) | 1.00 (0.94,1.06) | 1.01 (0.97,1.05) | **1.10 (1.04,1.18)** |
| Fever | Yes vs. no | 1.08 (0.71,1.65) | 0.98 (0.60,1.62) | 1.09 (0.73,1.62) | 1.60 (0.93,2.76) |
| Nausea/vomiting/anorexia | Yes vs. no | 1.08 (0.65,1.79) | 1.10 (0.61,1.99) | 1.61 (0.98,2.65) | 1.55 (0.73,3.29) |
| Charlson | Above 0 vs. 0 | 1.39 (0.92,2.11) | 1.21 (0.74,1.97) | **1.85 (1.24,2.77)** | ***2.15 (1.21,3.84)*** |
| Alvarado | For increase of 1 point | 1.07 (0.96,1.20) | 1.04 (0.90,1.20) | 1.04 (0.94,1.16) | **1.30 (1.10,1.54)** |

Note: Odds ratios summarize association between baseline factors and odds of regret (decisional regret score over 50), dissatisfaction (somewhat or very dissatisfied with treatment for appendicitis), problems with activities (having problems performing usual activities, e.g., work, housework, leisure), and prolonged missed work (missed more than 10 days of work, among those who were employed) at 30 days; bold text indicates that the confidence interval excludes 1, italic text indicates that the odds ratio is large (>2) or small (<0.5), considering a 1-standard deviation increase for continuous baseline factors; missing data in both the baseline factors and outcomes was addressed via multiple imputation; n/a indicates that there were not enough participants or poor outcomes reported within a subgroup to calculate a confidence interval

**Supplemental Table 3B. Additional baseline factors for main Table 2B (appendectomy-assigned/selected)**

| **Baseline Factor** | **Comparison** | **Regret** | **Dissatisfaction** | **Problems with Activities** | **Prolonged Missed Work** |
| --- | --- | --- | --- | --- | --- |
| Worried about bills | Yes vs. no | 0.95 (0.51,1.74) | 1.02 (0.54,1.93) | 0.97 (0.68,1.39) | ***2.13 (1.35,3.39)*** |
| Any dependents | Yes vs. no | 1.02 (0.49,2.11) | 1.16 (0.58,2.33) | 1.24 (0.86,1.79) | **1.80 (1.15,2.80)** |
| Sharing responsibilities | No vs. yes | 0.54 (0.21,1.37) | *0.49 (0.18,1.37)* | 1.10 (0.71,1.70) | 1.28 (0.76,2.14) |
|  | No dependents vs. yes | 0.81 (0.37,1.78) | 0.70 (0.31,1.57) | 0.82 (0.56,1.19) | **0.60 (0.38,0.96)** |
| Instrumental support score | For increase of 1 point | 0.99 (0.92,1.06) | 0.96 (0.90,1.02) | 0.97 (0.94,1.01) | 0.99 (0.95,1.04) |
| Race | White vs. not | 0.65 (0.37,1.15) | 0.93 (0.49,1.77) | 0.81 (0.59,1.11) | **0.58 (0.38,0.88)** |
|  | Black vs. not | ***2.63 (1.08,6.41)*** | *2.37 (0.93,6.07)* | 1.31 (0.70,2.45) | 1.50 (0.68,3.34) |
|  | American Indian vs. not | n/a | n/a | 1.93 (0.42,8.87) | *3.15 (0.64,15.39)* |
|  | Asian vs. not | 0.87 (0.26,2.99) | 0.60 (0.10,3.52) | **1.90 (1.09,3.30)** | 0.72 (0.28,1.85) |
|  | Islander vs. not | *8.07 (0.72,90.82)* | n/a | n/a | n/a |
|  | Other vs. not | 0.87 (0.40,1.87) | 0.64 (0.24,1.71) | 0.88 (0.59,1.33) | **1.82 (1.13,2.92)** |
|  | Multiple vs. not | 1.99 (0.63,6.25) | 1.15 (0.17,7.62) | 0.84 (0.34,2.10) | 0.94 (0.27,3.31) |
| Smoking history | Yes vs. no | 1.52 (0.83,2.77) | 0.99 (0.43,2.27) | 1.39 (0.94,2.05) | 1.00 (0.62,1.60) |
| Duration of symptoms | 1 or more days vs. less than a day | 0.78 (0.41,1.48) | 0.99 (0.45,2.17) | 1.22 (0.82,1.82) | 1.06 (0.66,1.68) |
| Average pain previous 7 days | For increase of 1 point | 0.96 (0.88,1.06) | 1.00 (0.89,1.13) | **1.08 (1.02,1.14)** | **1.18 (1.09,1.27)** |
| Discharge pain controlled | No vs. yes | 1.25 (0.48,3.24) | 1.45 (0.50,4.18) | 1.13 (0.64,1.99) | **2.00 (1.03,3.87)** |
|  | No pain vs. yes | 0.94 (0.29,3.04) | 1.07 (0.31,3.70) | 0.78 (0.41,1.49) | 1.99 (1.00,3.95) |
| White blood cell count | For increase of 1,000 per microL | 1.00 (0.92,1.08) | 0.94 (0.86,1.03) | 1.04 (1.00,1.09) | 1.04 (0.99,1.09) |
| Fever | Yes vs. no | 0.98 (0.48,2.00) | 0.92 (0.42,2.03) | 1.25 (0.87,1.79) | 1.24 (0.78,1.95) |
| Nausea/vomiting/anorexia | Yes vs. no | 1.12 (0.52,2.41) | 1.21 (0.47,3.11) | 1.31 (0.86,1.98) | 1.33 (0.80,2.21) |
| Charlson | Above 0 vs. 0 | 0.65 (0.28,1.50) | 0.98 (0.44,2.20) | 1.19 (0.81,1.74) | 0.88 (0.52,1.51) |
| Alvarado | For increase of 1 point | 1.01 (0.85,1.20) | 1.09 (0.89,1.32) | 1.09 (0.98,1.20) | 1.04 (0.92,1.17) |

Note: Odds ratios summarize association between baseline factors and odds of regret (decisional regret score over 50), dissatisfaction (somewhat or very dissatisfied with treatment for appendicitis), problems with activities (having problems performing usual activities, e.g., work, housework, leisure), and prolonged missed work (missed more than 10 days of work, among those who were employed) at 30 days; bold text indicates that the confidence interval excludes 1, italic text indicates that the odds ratio is large (>2) or small (<0.5), considering a 1-standard deviation increase for continuous baseline factors; missing data in both the baseline factors and outcomes was addressed via multiple imputation; n/a indicates that there were not enough participants or poor outcomes reported within a subgroup to calculate a confidence interval

**Supplemental Table 4. Univariate odds ratios and 95% confidence intervals for association between cohort and worse outcomes in the antibiotics and appendectomy arms**

Note that the randomized clinical trial (RCT) and observational cohorts differed in many ways. In addition to some differences in measured baseline characteristics (see Supplemental Table 1), cohort recruitment opportunities differed by site and over time.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Baseline Factor** | **Comparison** | **Regret** | **Dissatisfaction** | **Problems with Activities** | **Prolonged Missed Work** |
| Cohort (within antibiotics arm) | Chose antibiotics (observational) vs. antibiotics-assigned (RCT) | 0.80 (0.50,1.27) | 0.94 (0.47,1.88) | 1.06 (0.71,1.56) | 0.55 (0.26,1.16) |
| Cohort (within appendectomy arm) | Chose appendectomy (observational) vs. appendectomy-assigned (RCT) | 0.79 (0.34,1.87) | 0.85 (0.33,2.18) | 1.11 (0.77,1.61) | 0.82 (0.49,1.37) |

Note: Odds ratios summarize association between cohort and odds of regret (decisional regret score over 50), dissatisfaction (somewhat or very dissatisfied with treatment for appendicitis), problems with activities (having problems performing usual activities, e.g., work, housework, leisure), and prolonged missed work (missed more than 10 days of work, among those who were employed) at 30 days; missing data in the outcomes was addressed via multiple imputation.