**Supplementary Table 1.** Perceptions of the Denver Health antibiotic stewardship application and its effects on prescribing

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|  | **All respondents****N = 114** | **Attending physicians and advanced practice providers** **N = 68** | **Emergency medicine residents** **N= 46** |
|  | **Number of respondents**  |  | **Number of respondents**  |  | **Number of respondents**  |  |
| Usefulness as a clinical resource, mean (SD); Higher scores, more useful [Range 1-4] | 110 | 3.8 (0.54) | 66 | 3.7 (0.66) | 44 | 4.0 (0.21) |
| Effect on accuracy of antibiotic choice, mean (SD); Higher scores, greater effect [Range 1-5] | 110 | 4.5 (0.52) | 66 | 4.5 (0.53) | 44 | 4.6 (0.50) |
| Effect on accuracy of antibiotic dosing, mean (SD); Higher scores, greater effect [Range 1-5] | 110 | 4.4 (0.58) | 66 | 4.3 (0.62) | 44 | 4.6 (0.50) |
| Effect on consistency of antibiotic prescribing, mean (SD); Higher scores, greater effect [Range 1-5] | 110 | 4.4 (0.65) | 66 | 4.3 (0.67) | 44 | 4.5 (0.59) |
| Effect on time to prescribe an antibiotic, mean (SD); Higher scores, decreased time [Range 1-5] | 110 | 3.3 (0.99) | 66 | 3.0 (0.96) | 44 | 3.7 (0.87) |
| Effect on duration of therapy, mean (SD); Higher scores, decreased durations [Range 1-5] | 109 | 3.4 (0.68) | 66 | 3.4 (0.74) | 43 | 3.4 (0.59) |
| Effect on frequency of fluoroquinolone prescriptions, mean (SD); Higher scores, decreased frequency [Range 1-5] | 109 | 3.6 (0.71) | 66 | 3.6 (0.75) | 43 | 3.6 (0.67) |
| Overall satisfaction with application; Higher scores, more satisfied [Range 1-5] | 109 | 4.7 (0.75) | 65 | 4.6 (0.65) | 44 | 4.8 (0.69) |
| Confidence that you prescribe antibiotics optimally, mean (SD); Higher scores, more confident [Range 1-4] | 112 | 2.9 (0.41) | 67 | 3.0 (0.39) | 45 | 2.8 (0.40) |
| Case vignettes |  |  |  |  |  |  |
|  *Acute uncomplicated cystitis* |  |  |  |  |  |  |
|  First-line antibiotic selected | 111 | 110 (99) | 66 | 65 (98) | 45 | 45 (100) |
|  Correct duration | 111 | 86 (77) | 55 | 47 (71) | 45 | 39 (87) |
|  *Non-purulent cellulitis* |  |  |  |  |  |  |
|  First-line antibiotic selected | 110 | 104 (95) | 65 | 60 (92) | 45 | 44 (98) |
|  Correct duration | 109 | 68 (62) | 65 | 44 (68) | 44 | 24 (55) |
|  *Acute bronchitis* |  |  |  |  |  |  |
|  Avoidance of antibiotic prescription | 109 | 96 (88) | 64 | 59 (92) | 45 | 37 (82) |

**Supplementary Table 2.** General perceptions about antibiotic prescribing and antibiotic resistance a

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|  | **All respondents****N = 114** | **Attending physicians and advanced practice providers** **N = 68** | **Emergency medicine residents** **N= 46** |
|  | **Number of respondents**  |  | **Number of respondents**  |  | **Number of respondents**  |  |
| Antibiotics are overused in general, mean (SD); Higher scores, stronger agreement [Range 1-5] a | 111 | 4.2 (0.59) | 66 | 4.3 (0.51) | 45 | 4.1 (0.68) |
| Antibiotics are overused in the Denver Health hospital, mean (SD) | 111 | 3.4 (0.75) | 66 | 3.4 (0.76) | 45 | 3.4 (0.75) |
| Antibiotics are overused in the Denver Health emergency department, mean (SD) | 111 | 3.2 (0.78) | 66 | 3.2 (0.81) | 45 | 3.3 (0.73) |
| Antibiotics are overused in Denver Health urgent care centers, mean (SD) | 108 | 3.3 (0.84) | 66 | 3.4 (0.93) | 42 | 3.2 (0.67) |
| Patient demand contributes to antibiotic overuse in my area, mean (SD) | 111 | 3.1 (1.10) | 66 | 3.2 (1.10) | 45 | 2.9 (1.10) |
| I overprescribe antibiotics, mean (SD) | 112 | 2.6 (0.93) | 67 | 2.4 (0.91) | 45 | 2.9 (0.92) |
| Other providers in my clinical area at Denver Health overprescribe antibiotics, mean (SD) | 109 | 3.2 (0.82) | 66 | 3.1 (0.85) | 43 | 3.3 (0.77) |
| Antibiotic resistance is not a problem at Denver Health, mean (SD) | 112 | 1.8 (0.75) | 67 | 1.8 (0.80) | 45 | 1.8 (0.67) |
| I would like more feedback on my antibiotic prescribing, mean (SD) | 112 | 3.7 (0.91) | 67 | 3.7 (0.98) | 45 | 3.8 (0.79) |
| I would like more education regarding optimal antibiotic prescribing, mean (SD) | 110 | 3.7 (0.93) | 66 | 3.6 (0.93) | 44 | 3.8 (0.92) |
| I would like more training on how to improve communication with patients when antibiotics are not indicated, mean (SD) | 112 | 3.2 (0.97) | 67 | 3.4 (0.92) | 45 | 2.9 (0.97) |

a All questions in this table involved a 5-point Likert scale with responses of Strongly Agree (5 points), Agree (4 points), Neither Agree nor Disagree (3 points), Disagree (2 points), Strongly Disagree (1 point)