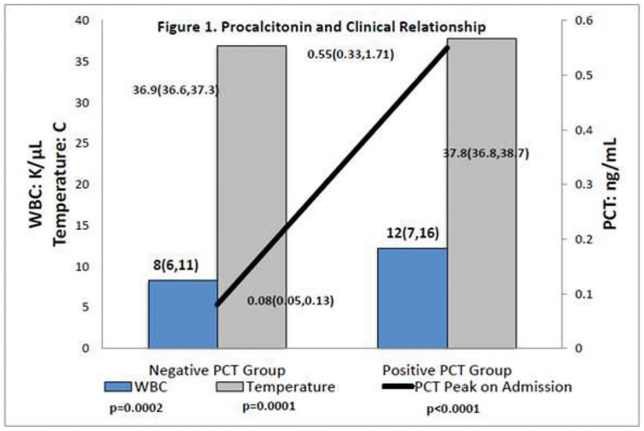
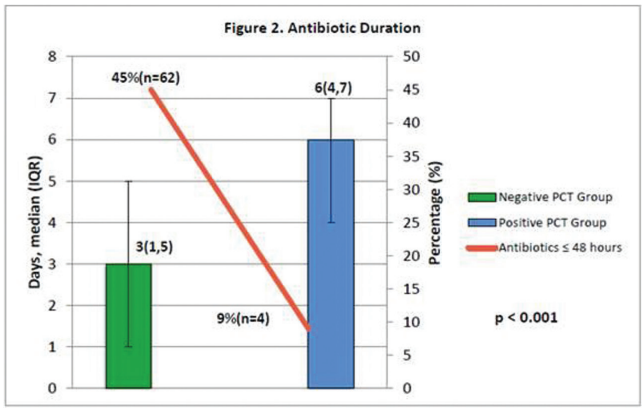
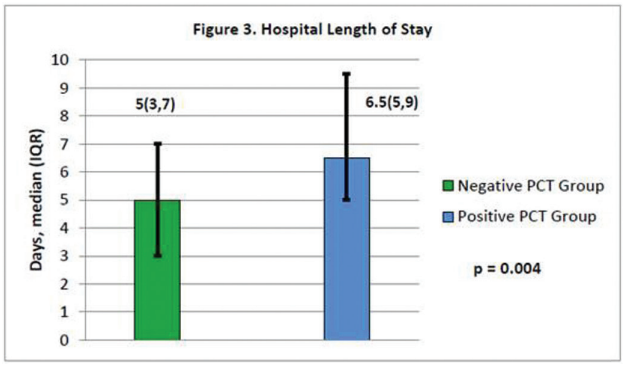
Conclusion. Implementation of a PCT algorithm through ASP is a novel and efficacious addition to improving diagnostic yield, targeting appropriate therapy, and reducing length of stay. The impact on antibiotic resistance remains to be determined.







Disclosures. **All authors:** No reported disclosures.

959. Communicating Microbiology *Results*. It's Not Just What You Say, But How You Say It

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Background. Gaps in microbiology communication can lead to suboptimal antibiotic prescribing. In May 2016, our laboratory modified reporting of respiratory cultures growing commensal flora only to specify "no methicillin-resistant *Staphylococcus aureus*/MRSA or *Pseudomonas aeruginosa*" (PA). The purpose of this study was to compare MRSA and PA antibiotic therapy utilization before and after the change.

Methods. IRB approved, quasi-experiment at four hospitals with an antimicrobial stewardship program. Dates: August 1, 2015–January 31, 2016 and August 1, 2016–January 31, 2017. Included: ≥18 years, commensal flora only respiratory culture, empiric MRSA and PA antibiotic for treatment of lower respiratory infection. Excluded: non-respiratory infection. Primary outcome: MRSA or PA therapy de-escalated. Secondary outcomes: time to culture result, MRSA and PA antibiotic days of therapy, length of stay. Safety outcomes: acute kidney injury (AKI), *C. difficile* (CDI), subsequent multi-drug-resistant organism (MDRO), in-hospital all-cause mortality.

Results. Two hundred and ten patients included, 105 per group. Median age 64 and 61 years, male sex 52% and 56% in pre- and post-group, respectively. Empiric antibiotics, pre vs. post: vancomycin 94% vs. 95%; cefepime 66% vs. 36%; piperacillin–tazobactam 10% vs. 46%. MRSA or PA antibiotics de-escalated: 39% pre and 73% post ($P < 0.001$). See Table 1 for variables associated with antibiotic de-escalation. Days of therapy: 7 vs. 5 days ($P < 0.001$). AKI 31% vs. 14% ($P = 0.003$). Eight subsequent MDRO in pre and one in post ($P = 0.035$). No differences: time to culture result, length of stay, mortality, CDI.

Conclusion. Improved microbiology communication to assist prescriber interpretation of commensal respiratory flora was associated with a reduction in the proportion of patients that received antibiotics targeting MRSA and PA.

Table 1.

	Antibiotic de-escalation	No antibiotic de-escalation	Unadjusted OR [CI]	Adjusted OR [CI]
No MRSA, no PA comment	77 (65%)	28 (30%)	5.0 [2.5–10.0]	5.7 [2.9–11.0]
Charlson Comorbidity Index < 3	42 (36%)	60 (65%)	3.4 [1.9–6.0]	3.0 [1.6–5.7]
APACHE II ≤15	45 (39%)	56 (61%)	2.5 [1.4–4.4]	2.7 [1.4–5.3]
Long-term care	14 (12%)	9 (10%)	0.8 [0.3–2.0]	0.4 [0.1–1.0]
≥2 SIRS criteria	52 (44%)	53 (58%)	1.7 [1.0–3.0]	–
Previous antibiotics	57 (48%)	40 (44%)	0.8 [0.5–1.4]	–
Hospitalization >48 hours	51 (43%)	39 (42%)	1.0 [0.6–1.7]	–

Disclosures. **S. Davis**, Merck: Received grant through college that I'm faculty for, Grant recipient; Allergan: Speaker's Bureau, Consulting fee; Allergan: Consultant and Scientific Advisor, Consulting fee; Medicines Company: Consultant and Scientific Advisor, Consulting fee; Zavante: Consultant and Scientific Advisor, Consulting fee.2

960. Can antibiotic De-escalation Be Measured Without Chart Review? A Proposed Electronic Definition

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Background. Antimicrobial stewardship programs promote de-escalation: moving from broad to narrow spectrum agents and/or stopping antibiotics as more clinical data return. A standard definition of de-escalation objectively applied to electronic data could provide a means to assess stewardship improvement opportunities.

Methods. We performed a retrospective cohort study of de-escalation events among five hospitals from the Duke Health System and the Duke Antimicrobial Stewardship Outreach Network using 2016 electronic medication administration record data. Antibiotics were ranked into four categories: narrow spectrum (e.g., cefazolin), broad spectrum, extended spectrum, and agents typically targeted for protection (e.g., meropenem). Included patients were cared for on inpatient units, had antibiotic therapy for at least 2 days, and had at least 3 days of hospitalization after starting antibiotics. De-escalation was defined as reduction in either the number of antibiotics or rank measured at two time points: day 1 of initiation of antibiotic therapy and day 5 (or day of discharge if occurring on day 3 or 4). Escalation was an increase in either number or rank of agents. Unchanged was either no change or discordant directions of change in number and rank. For all categories, the outcome was percent among qualifying admissions. Descriptive statistics were used to describe de-escalation among hospitals, unit type, and ICD-10 diagnoses.

Results. Among 39,226 included admissions, de-escalation occurred in 14,138 (36%), escalation in 5,129 (13%), and antibiotics were unchanged in 19,959 (51%) (Figure). Percent de-escalation was significantly different among hospitals (median 37%, range 31–39%, $P < .001$). Infectious diagnoses with lower rates of de-escalation included intra-abdominal infection (23%), skin and soft-tissue infection (28%), and ENT/upper respiratory tract infection (19%). Intensive care units had higher rates of both de-escalation and escalation (43% and 16%) when compared with non-ICU wards (35% and 13%, $P < .001$).

Conclusion. We provided an objective, electronic definition of de-escalation and demonstrated variation among hospitals, units, and diagnoses. This metric may be useful for assessing stewardship opportunities.