# Maximizing the Impact of Your Work: Dissemination of Results

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### Disclosures

- JAMA Associate Editor (salary support)
- No other financial disclosures

### **Getting Started**

- Writing can be learned and gets easier with practice.
- Collect well written, well organized papers as models.
- Construct an outline.
- Identify mentors, colleagues for candid feedback.
- Form a "writing club" with colleagues who share your research interests with different skills and perspectives.

### Other Necessary Skills

- Besides writing skills, research techniques are critical. Know the literature surrounding your topic.
- Work with your librarian to learn search strategies (Pub Med, Medline, Google Scholar...other databases)
- Reference Manager (EndNote, RefWorks)
- All human subjects research requires IRB approval. Clinical trials should be registered (www.clinicaltrials.gov)
- Divide the work with colleagues to improve productivity.

### What Type of Article Should I Write?

- Different formats fit different research questions
- Type of Articles
  - "Major" Articles/"Original" Articles (Clinical Trials, Cohort Studies, Epidemiology, etc.)
  - Review Articles (Narrative vs. Systematic)
  - Meta Analysis
  - Opinion Pieces, Editorials/Commentaries
  - Case Reports/Case Series
  - Letter to the Editor/Research Letter

### Where Should I Send My Work?

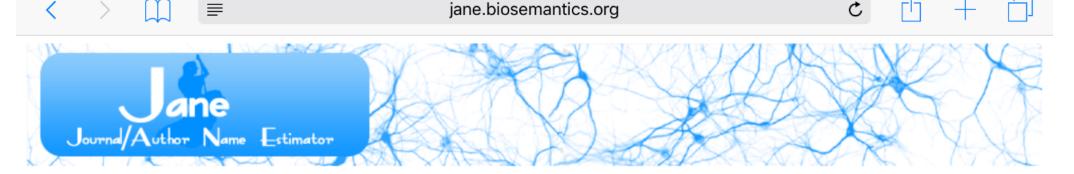
- Publishing priorities vary at different journals
- Selecting the right journal is very important
- Be familiar with scope/types of articles published
- Review the journals you are considering (look at TOC)
- Is it worth shooting high, but failing? May depend in part on whether results are time sensitive?
- Most journals can reject without review—generally a subjective decision

### Other General Suggestions

 Novelty of the work is important (vs. research that is confirmatory). More selective journals are interested in work that is novel and changes clinical practice.

 Work that can be translated to other settings can be very instructive—"How To" papers

• Do findings have generalizability in other similar settings? (or only locally applicable). Keep in mind resource limitations in other settings.



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	The Consultant pharmacist : the journal of the American Society of Consultant Pharmacists		Show articles
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<sup>&</sup>quot;Antimicrobial stewardship"



#### Antimicrobial Stewardship at a Large Tertiary Care Academic Medical Center: Cost Analysis Before, During, and After a 7-Year Program

Harold C. Standiford, MD;<sup>1,2</sup> Shannon Chan, PharmD;<sup>3</sup> Megan Tripoli, BA;<sup>1</sup> Elizabeth Weekes, PharmD;<sup>4</sup> Graeme N. Forrest, MBBS<sup>5</sup>

BACKGROUND. An antimicrobial stewardship program was fully implemented at the University of Maryland Medical Center in July 2001 (beginning of fiscal year [FY] 2002). Essential to the program was an antimicrobial monitoring team (AMT) consisting of an infectious diseases—trained clinical pharmacist and a part-time infectious diseases physician that provided real-time monitoring of antimicrobial orders and active intervention and education when necessary. The program continued for 7 years and was terminated in order to use the resources to increase infectious diseases consults throughout the medical center as an alternative mode of stewardship.

DESIGN. A descriptive cost analysis before, during, and after the program.

PATIENTS/SETTING. A large tertiary care teaching medical center.

METHODS. Monitoring the utilization (dispensing) costs of the antimicrobial agents quarterly for each FY.

RESULTS. The utilization costs decreased from \$44,181 per 1,000 patient-days at baseline prior to the full implementation of the program (FY 2001) to \$23,933 (a 45.8% decrease) by the end of the program (FY 2008). There was a reduction of approximately \$3 million within the first 3 years, much of which was the result of a decrease in the use of antifungal agents in the cancer center. After the program was discontinued at the end of FY 2008, antimicrobial costs increased from \$23,933 to \$31,653 per 1,000 patient-days, a 32.3% increase within 2 years that is equivalent to a \$2 million increase for the medical center, mostly in the antibacterial category.

CONCLUSIONS. The antimicrobial stewardship program, using an antimicrobial monitoring team, was extremely cost effective over this 7-year period.

# The Use of Cefepime for Treating AmpC β-Lactamase–Producing Enterobacteriaceae

Pranita D. Tamma, Sonya C. T. Girdwood, Ravindra Gopaul, Tsigereda Tekle, Ava A. Roberts, Anthony D. Harris, Sara E. Cosgrove, and Karen C. Carroll

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Background. AmpC  $\beta$ -lactamase–producing organisms are associated with significant morbidity and mortality. Induction of resistance to third-generation cephalosporins after exposure to these agents complicates treatment options and carbapenems are considered optimal therapy. The role of cefepime, however, remains unclear. Our objective was to compare clinical outcomes for patients receiving cefepime compared with meropenem for invasive infections caused by organisms expressing AmpC  $\beta$ -lactamases.

Methods. Hospitalized patients with blood, bronchoalveolar lavage, or intra-abdominal fluid cultures growing Enterobacter spp, Serratia spp, or Citrobacter spp were evaluated using the cefotetan-boronic acid disk test and the cefotetan-cloxacillin Etest to identify organisms with AmpC β-lactamase production from February 2010 to January 2011. In patients with organisms hyperproducing AmpC β-lactamases (positive by both methods), clinical outcomes for patients receiving cefepime or meropenem therapy were compared. To minimize the possibility of treatment selection bias, 1:1 nearest neighbor propensity score matching was performed prior to regression analysis.

Results. Of 399 patients meeting eligibility criteria, 96 (24%) had confirmed infections with AmpC β-lactamase–producing organisms. Propensity score matching of patients infected with AmpC β-lactamase–positive organisms treated with cefepime or meropenem yielded 32 well-balanced patient pairs with no difference in 30-day mortality (odds ratio, 0.63; 95% confidence interval [CI], .23–2.11; P = .36) or length of hospital stay after infection (relative risk, 0.96; 95% CI, .79–1.26; P = .56) between the 2 groups.

Conclusions. Cefepime may be a reasonable option for the treatment of invasive infections due to AmpC  $\beta$ -lactamase–producing organisms, particularly when adequate source control is achieved.

Keywords. AmpC β-lactamases; Enterobacter, gram-negative resistance; cefepime; boronic acid.

### Effect of an Outpatient Antimicrobial Stewardship Intervention on Broad-Spectrum Antibiotic Prescribing by Primary Care Pediatricians A Randomized Trial

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NTIBIOTICS ARE THE MOST COMmon prescription drugs given to children. Although hospitalized children frequently receive antibiotics, the vast majority of antibiotic use occurs in the outpatient setting, roughly 75% of which is for acute respiratory tract infections (ARTIS).

Unnecessary prescribing for viral AR-TIs is well documented<sup>3-8</sup> and has been declining.<sup>7-9</sup> However, inappropriate prescribing also occurs for bacterial ARTIs, particularly when broadspectrum antibiotics are used to treat infections for which narrow-spectrum antibiotics are indicated and recommended.<sup>1,3,6,8,9</sup> The American Academy of Pediatrics (AAP) recommends **Importance** Antimicrobial stewardship programs have been effective for inpatients, often through prescribing audit and feedback. However, most antimicrobial use occurs in outpatients with acute respiratory tract infections (ARTIs).

**Objective** To evaluate the effect of an antimicrobial stewardship intervention on antibiotic prescribing for pediatric outpatients.

**Design** Cluster randomized trial of outpatient antimicrobial stewardship comparing prescribing between intervention and control practices using a common electronic health record. After excluding children with chronic medical conditions, antibiotic allergies, and prior antibiotic use, we estimated prescribing rates for targeted ARTIs standardized for age, sex, race, and insurance from 20 months before the intervention to 12 months afterward (October 2008–June 2011).

**Setting and Participants** A network of 25 pediatric primary care practices in Pennsylvania and New Jersey; 18 practices (162 clinicians) participated.

**Interventions** One 1-hour on-site clinician education session (June 2010) followed by 1 year of personalized, quarterly audit and feedback of prescribing for bacterial and viral ARTIs or usual practice.

**Main Outcomes and Measures** Rates of broad-spectrum (off-guideline) antibiotic prescribing for bacterial ARTIs and antibiotics for viral ARTIs for 1 year after the intervention.

**Results** Broad-spectrum antibiotic prescribing decreased from 26.8% to 14.3% (absolute difference, 12.5%) among intervention practices vs from 28.4% to 22.6% (absolute difference, 5.8%) in controls (difference of differences [DOD], 6.7%; P=.01 for differences in trajectories). Off-guideline prescribing for children with pneumonia decreased from 15.7% to 4.2% among intervention practices compared with 17.1% to 16.3% in controls (DOD, 10.7%; P<.001) and for acute sinusitis from 38.9% to 18.8% in intervention practices and from 40.0% to 33.9% in controls (DOD, 14.0%; P=.12). Off-guideline prescribing was uncommon at baseline and changed little for streptococcal pharyngitis (intervention, from 4.4% to 3.4%; control, from 5.6% to 3.5%; DOD, -1.1%; P=.82) and for viral infections (intervention, from 7.9% to 7.7%; control, from 6.4% to 4.5%; DOD, -1.7%; P=.93).

### Antimicrobial Use Among Patients Receiving Palliative Care Consultation

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Erin Diviney Chun, MD, Phillip E. Rodgers, MD, Caroline A. Vitale, MD, 1,3,4 Curtis D. Collins, PharmD, and Preeti N. Malani, MD, MSJ, 1,3,4,6

#### **Abstract**

Background: We sought to characterize antimicrobial use among patients receiving palliative care consultation. Methods: Retrospective review of patients seen by the Palliative Care Service at the University of Michigan Health System from January 2008 to May 2008. Results: Of 131 patients seen in consultation, 70 received antimicrobials. We identified 92 infections among these 70 patients; therapy for 54 (58.7%) was empiric. Empiric therapy was most commonly prescribed for respiratory infection and urinary tract infection. Piperacillin/tazobactam (P/T) was the most frequently used agent, with 26 patients receiving P/T (37.1%); 22 of 26 received this agent empirically (84.6%, P = .005). Vancomycin was prescribed to 23 patients (32.9%). Sixteen patients (22.9%) died in hospital; another 31 were enrolled in hospice care. Conclusions: Our results suggest significant use of empiric, broad-spectrum antimicrobial therapy among hospitalized patients near the end of life. We advocate for careful assessment of potential benefits and treatment burdens of antimicrobial therapy, especially when palliation is the goal.

## Antimicrobial Use at the End of Life Among Hospitalized Patients With Advanced Cancer

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#### **Abstract**

Background: We sought to evaluate antimicrobial use among patients with advanced cancer. Methods: Retrospective review of patients experiencing cancer-related death while hospitalized. Results: Among 145 patients, 126 (86.9%) received antimicrobials for a mean of 12.5  $\pm$  12.9 days. 88 (69.8%) of 126 had clinical findings suggestive of infection. Sixty-one patients (48.4%) had positive cultures, the remaining were treated empirically. "Comfort care" was ultimately pursued in 99 (78.5%) of 126; 35 (35.4%) of 99 continued to receive antimicrobials after a transition to comfort care for an average of 1.6  $\pm$  1.1 days. On average, antimicrobials were discontinued <1 day prior to death. Conclusion: Antimicrobial use was common among patients with advanced cancer. Even after transition to comfort care, more than one third of patients remained on antimicrobials. The risks and burdens of antimicrobials should be carefully examined when comfort is the stated goal.

#### VIEWPOINT

#### Antimicrobials at the End of Life

### An Opportunity to Improve Palliative Care and Infection Management

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#### Preeti N. Malani, MD, MSJ

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Patients in the final stage of an advanced illness often face challenging decisions about the direction of their overall medical care and treatment of specific complications that occur as the end of life approaches. Infections and febrile episodes are among the most common acute complications experienced by terminally ill patients.

Close to 90% of hospitalized patients with advanced cancer receive antimicrobials during the week prior to death, <sup>1</sup> and 42% of nursing home residents with advanced dementia are prescribed antimicrobials during the last 2 weeks of life. <sup>2</sup> Approximately one-quarter of hospice recipients, for whom the intended goal of care is comfort, receive antimicrobials during the final weeks of life. <sup>3,4</sup> Research suggests that antimicrobials are commonly prescribed to dying patients in the absence of adequate clinical symptoms to support a bacterial infection. <sup>4,5</sup> How decisions for suspected infections are made in these patients warrants increased scrutiny by clinicians, patients, and family members.

#### Risks and Benefits

Although antimicrobial use may be viewed as relatively less burdensome than other potentially life-prolonging interventions (eg, intubation, dialysis), risks of this therapy are not trivial, especially among frail patients

minally ill patients. No randomized trials have been conducted examining these outcomes in this population. A systematic review<sup>8</sup> included 8 observational studies that had measured symptoms following antimicrobial therapy among patients receiving hospice and palliative care. None of these studies, which were published between 2002 and 2008, had comparison groups of untreated patients, and their methodological heterogeneity and contrasting findings further limited any conclusions about whether antimicrobials provide symptom relief for patients at the end of life.

A subsequent prospective study<sup>9</sup> reported greater comfort, albeit shorter survival, among patients with advanced dementia and suspected pneumonia who were not treated with antimicrobials compared with those who were treated. Another notable finding in this study was that the survival benefit associated with antimicrobial use (vs no treatment) was similar regardless of the route of administration, whereas the most aggressive treatment approaches (intravenous therapy or hospitalization) were associated with the greatest discomfort. To date, no rigorously conducted study has reported the survival outcomes of patients in the final stages of other terminal diseases who did and did not receive antimicrobials for suspected infections.

Clinical Infection

#### IDSA FE

XXVII. Should Antimicrobial Stewardship Programs Implement Interventions to Reduce Antibiotic Therapy in Terminally III Patients? Recommendation





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Tamar F. Barlam, Sa Yngve T. Falck-Ytter, Gregory J. Moran, 16 I

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Evidence-based gu for Healthcare Ep medicine, microbi recommendations

**Keywords.** ar

28. In terminally ill patients, we suggest ASPs provide support to clinical care providers in decisions related to antibiotic treatment (good practice recommendation).

#### Evidence Summary

End of life is defined as the final days or weeks of life in patients under hospice care where the primary goals are managing symptoms, improving comfort, and optimizing quality of life not prolonging survival. In contrast, palliative care is more general and can be pursued along with curative therapies.

Antibiotic use, frequently with multiple antibiotics, is common in patients with terminal cancer. Therapy is often contincluding long-term ued after transition to comfort care and discontinued less than 1 day prior to death [208]. Patients with advanced dementia also have high exposure to antibiotics, especially in the weeks prior

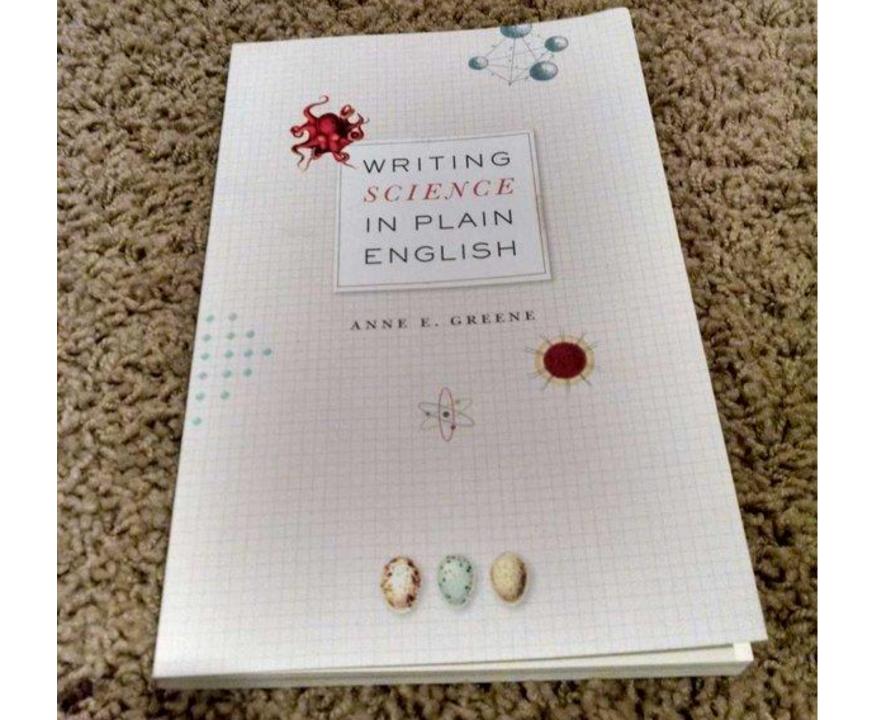
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### Suggestions for Clear Writing

- Avoid jargon, excessive abbreviations, too many pronouns
- Use active voice when possible (not always possible)
- Language should be clear, precise (no confusion about interpretation)
- Have a friend read the entire manuscript prior to submission. Make sure importance evident to a nonexpert—why this work is important?

### Common Mistakes (1)

- Circulating a draft before discussing authorship
- Rushing the abstract at the end (this should be <u>perfect</u>)
- Data in abstract that are not in the paper. Data in abstract are different from the paper.
- Numbers don't match (text/table/abstract)
- Emphasizing secondary rather than primary outcomes
- Spelling errors in text and references, too much first person. Poorly referenced paper—too many references, references out of date

### Common Mistakes (2)

- Inconsistencies in Results (Abstract/Text/Tables)
- Lack of clarity—language should be precise
- Too many messages and comparisons, exaggeration of findings
- Methodological/statistical clarity
- Relative vs absolute differences
- Misuse of trend, marginal significance, or P value
- Response letter is poorly organized, not responsive

### Some Final Thoughts

- A lot of what is done in clinical medicine is not based on high level evidence. Descriptive papers are important especially programmatic improvements.
- Well constructed, clinically based papers are vital to dayto-day decision making and policies. Small studies inform larger, prospective trials.
- Proper planning and study design is the best way to avoid problems during the writing phase.
- Novelty (and validity) most important for top tier journal

### Interacting with the Media

- Reporters are busy people. Time sensitive nature/deadlines
- Fewer dedicated health reports but many with impressive credentials, expertise.
   Know their niche interests.
- A good source is knowledge, helpful. Can explains complex concepts in simple, clear language.
- Sources that answer emails/calls promptly get asked to help again and again
- Press Releases: Pros/Cons of different formats; honoring embargos
- Journals, meetings, home institutions can help promote your work

#### JAMA | Original Investigation

# Effect of Cranberry Capsules on Bacteriuria Plus Pyuria Among Older Women in Nursing Homes A Randomized Clinical Trial

Manisha Juthani-Mehta, MD; Peter H. Van Ness, PhD, MPH; Luann Bianco, BA; Andrea Rink, RN; Sabina Rubeck, MPH; Sandra Ginter, BSN; Stephanie Argraves, MS; Peter Charpentier, MPH; Denise Acampora, MPH; Mark Trentalange, MD, MPH; Vincent Quagliarello, MD; Peter Peduzzi, PhD

### Effect of Cranberry Capsules on Bacteriuria Plus Pyuria Among Older Women in Nursing Homes: A Randomized Clinical Trial

Overview of attention for article published in JAMA: Journal of the American Medical Association, October 2016



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#### CONTRIBUTOR

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① 11/04/2016 12:03 pm ET | Updated 2 days ago















Cranberry Capsules



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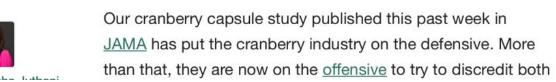
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Hillary S. Jalon and Anne-Marie J. Audet

March 24, 2016





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