Table 2. Dalbavancin Use

| Indication | n (%) |
|---|---|
| Bone and joint infection (non-vertebral) | 21 (40) |
| Vertebral osteomyelitis | 14 (26) |
| Skin and soft tissue infection | 12 (23) |
| Endocarditis | 4 (8) |
| Bacteremia | 7 (13) |
| **Organism** | |
| MRSA | 23 |
| MSSA | 10 |
| Coagulase-negative *Staphylococcus* | 3 |
| *Enterococcus faecalis* | 2 |
| *Corynebacterium spp* | 2 |
| *Propionibacterium acnes* | 2 |
| Polymicrobial | 7 |
| No culture | 1 |
| Negative cultures | 3 |
| **Dosing Regimens** | |
| 1500 mg x 1 | 25 (47) |
| 1500 mg x 2 | 16 (31) |
| 1500 mg x1, followed by 1000 mg x1 | 1 (2) |
| 1000 mg x 1 | 5 (9) |
| 1000 mg weekly | 1 (2) |
| 1000 mg x1, followed by 500 mg weekly | 5 (9) |
| **Treatment Setting** | **Number of doses infused** |
| Inpatient | 33 |
| Infusion Center | 38 |
| Home Infusion | 16 |
| Emergency Department | 1 |
| Correctional Facility | 2 |
| **Reason for Selection** *Dalbavancin was selected for one or more of the below reasons, all reasons given in medical record were noted so denominator is greater than 53* | |
| History of intravenous drug use leading to concerns of PICC safety | 36 |
| Lack of safe home environment in which to receive daily IV antibiotics | 13 |
| Prior non-adherence to outpatient antibiotics | 10 |
| Prior history of contaminated/manipulated PICC | 5 |
| Clinical contraindications to alternative antibiotic options | 4 |
| Substance use, not IV | 4 |
| Patient refused PICC or daily outpatient IV antibiotics | 4 |
| Discharging to a setting that could not accommodate daily IV antibiotics | 3 |
| Inability of patient to physically manage PICC | 3 |
| Lack of outpatient options due to funding or insurance issues | 2 |
| Prior treatment failure | 1 |
| Adverse reaction to initial outpatient antibiotic | 1 |

Footnote: PICC = peripherally inserted central catheter / IV = intravenous; Indication: Multiple indications existed for some patients, so total % of study population > 100

**Table 3. Clinical Endpoints**

| | n (%) |
|---|---|
| Lost to follow-up | 10 (19) |
| 30-day readmission for any reason | 7 (13) |
| 90-day readmission for any reason | 10 (19) |
| Readmission due to infection recurrence or dalbavancin adverse effects | 4 (8) |
| Recurrence or relapse of infection at 30 days | 3 (6) |
| Recurrence or relapse of infection between days 31-90 | 2 (4) |
| 30-day mortality | 0 |
| 90-day mortality | 1 (2) |
| Adverse reaction | 1 (2) |

Footnote: evidence of recurrence or relapse as noted in chart

***Conclusion:*** Dalbavancin was well tolerated and = a viable alternative for patients with SUD who often have social factors and preferences that make continuation of outpatient IV therapy high risk or impractical. Further data on clinical outcomes in complex infections is needed.

***Disclosures:*** **All Authors**: No reported disclosures

**123. Treatment Patterns and Prevalence of Inappropriate and Suboptimal Antibiotic Use Among Females with Uncomplicated Urinary Tract Infection in the US**

Yuexi Wang, M.Econ[1]; Fanny S. Mitrani-Gold, MPH[2]; Lin Xie, MS, MA[1]; Mamta Jaiswal, PhD[1]; Xiaoxi Sun, MA[1]; Ashish V. Joshi, PhD[2]; [1]STATinMED Research, Ann Arbor, MI, USA, Ann Arbor, Michigan; [2]GlaxoSmithKline plc, Collegeville, PA, USA, Chicago, Illinois

**Session:** O-24. Hot Issues in Clinical Practice

***Background:*** Urinary tract infections (UTIs) are the most common bacterial infection requiring medical care. Despite Infectious Diseases Society of America (IDSA) 2011 guidelines on antimicrobial agent selection and duration of therapy for uncomplicated UTI (uUTI), prescribing practices vary. Few studies have used real-world data (RWD) to evaluate inappropriate and suboptimal antibiotic use among patients treated for uUTI. We examined the prevalence of potentially inappropriate and suboptimal use of antibiotics among females with uUTI.

***Methods:*** This retrospective cohort study examined the first-line use of antibiotics in females (age ≥ 12 years) with diagnosed uUTI in the US, identified using RWD from IBM MarketScan (commercial and Medicare claims) Jan 1, 2013–Dec 31, 2017. Index date was the date of uUTI diagnosis. Patients were included based on criteria in Table 1 and assigned to one of two groups: appropriate *and* optimal; or inappropriate *or* suboptimal antibiotic use. As uUTI is often treated empirically, appropriate use was defined based on IDSA 2011 guidelines on drug class, dose and therapy duration; antibiotic use was considered suboptimal if there was evidence of treatment failure (Table 2).

Table 1. Key inclusion and exclusion criteria

| Key inclusion criteria | Key exclusion criteria |
|---|---|
| • Adult or adolescent female (≥12 years of age)<br>• Diagnosis of UTI in the outpatient or emergency room setting<br>• Received an oral antibiotic prescription within ±5 days of the index date with days' supply of >0 days<br>• Had ≥6 months continuous health plan enrollment with medical and pharmacy benefits prior to the index date and 1 year after the index date | • Acute or semi-acute infectious conditions within 6 months before or within 14 days after index date<br>• Evidence of complicated UTI, defined as:<br>○ Received IV antibiotics as initial therapy (before start of oral antibiotics therapy for uUTI within ±5 days of index date)<br>○ Selected chronic conditions within 6 months before or within 1 month after the index date<br>▪ Cancer (and/or chemo/radiotherapy)<br>▪ Congenital abnormality<br>▪ Cystic fibrosis<br>▪ Diabetes mellitus<br>▪ Inflammatory bowel disease<br>▪ Malignancy<br>▪ Multiple sclerosis<br>▪ Organ transplant<br>▪ Parkinson's disease<br>▪ Pressure ulcers<br>▪ Rheumatologic conditions<br>▪ Sarcoidosis<br>▪ Spinal injury<br>▪ Stroke<br>○ Underlying urologic abnormalities (within 6 months before index date) and associated medications or procedures (within 6 months before to 1 month after index date)<br>○ Autoimmune conditions or immunosuppressant medications<br>• An inpatient visit within 3 months before the index date or within 2 days after the index date<br>• Pregnancy during the baseline or follow-up period |

IV, intravenous; UTI, urinary tract infection; uUTI, uncomplicated UTI.

**Table 2.** Definitions applied during study

| Term | Definition |
|---|---|
| **Appropriate antibiotic use** | **Based on the IDSA clinical guidelines, taking into consideration:**<br>• **Drug class -** Antibiotic prescriptions were considered as the appropriate drug class if the claim was for a first-line therapy (fosfomycin, nitrofurantoin, and trimethoprim-sulfamethoxazole) alone. Patients who had two first-line treatments at the same time (i.e. contemporaneous use of first-line treatments) were not considered as appropriate (i.e. inappropriate).<br>• **Drug duration -** Appropriate prescription durations defined as 1 day for fosfomycin, 3 days for Fluoroquinolones and trimethoprim-sulfamethoxazole, and 5 days for nitrofurantoin |
| **Treatment failure** | **Evidence of treatment failure defined as:**<br>• receiving intravenous antibiotics or switch to a different first line or to a second-line treatment (occurrence of a different antibiotic other than the initial treatment within 28 days of the index date) *or*<br>• having a primary diagnosis of UTI in an acute care setting (emergency room or inpatient stay within 28 days after the date of the initial UTI diagnosis) |
| **Inappropriate antibiotic use** | **Patients without appropriate use of antibiotic (as defined above)** |
| **Suboptimal antibiotic use** | **Identified if there is evidence of treatment failure (as defined above)** |

IDSA, Infectious Diseases Society of America; UTI, urinary tract infection.

***Results:*** In total, 557,669 patients with uUTI were included in the study; see Table 3 for baseline characteristics. Overall, 88.7% had inappropriate or suboptimal antibiotic use (Table 4). Of these, 86.1% had inappropriate use only, 2.1% had suboptimal use only, and 11.9% had both. Inappropriate drug class assignment was observed in 53.4% of patients with inappropriate use, 83.7% of whom were administered fluoroquinolones (a second-line agent) as first-line therapy. Among patients with inappropriate therapy duration: most given trimethoprim/sulfamethoxazole received 5- (27.2%), 7- (42.1%) or 10- (27.8%) days' supply rather than the recommended 3 days; the majority given nitrofurantoin were provided a 7- (80.5%) or 10- (13.4%) day supply rather than the recommended 5 days; and 46.2% given fosfomycin received 3-days' supply instead of the recommended 1 day.

Table 3. Baseline characteristics

| | Females with uUTI (N=557,669) | |
|---|---|---|
| | **Appropriate and optimal antibiotic use (n=63,019)** | **Inappropriate or suboptimal antibiotic use (n=494,650)** |
| **Age, mean (SD), years** | 38.8 (15.6) | 42.9 (17.2) |
| **Age group, n (%)** | | |
| 12–34 years | 26,823 (42.6) | 164,986 (33.4) |
| 35–54 years | 24,753 (39.3) | 196,332 (39.7) |
| 55–64 years | 9,257 (14.7) | 94,948 (19.2) |
| ≥65 years | 2,186 (3.5) | 38,384 (7.8) |
| **US geographic region, n (%)** | | |
| North East | 12,802 (20.3) | 78,648 (15.9) |
| North Central | 15,166 (24.1) | 106,946 (21.6) |
| South | 21,930 (34.8) | 223,342 (45.2) |
| West | 12,822 (20.4) | 82,740 (16.7) |
| Other | 299 (0.5) | 2,974 (0.6) |
| **Charlson Comorbidity Index, mean (SD)** | 0.05 (0.2) | 0.07 (0.3) |
| **Charlson Comorbidity Index group, n (%)** | | |
| 0–1 | 62,846 (99.7) | 491,567 (99.4) |
| 2–3 | 164 (0.3) | 2,968 (0.6) |
| 4+ | 9 (<0.1) | 115 (<0.1) |

SD, standardized difference; US, United States; uUTI, uncomplicated urinary tract infection.

Table 4. Patient disposition

| | Females with uUTI (N=557,669) |
|---|---|
| **Appropriate and optimal antibiotic use, n** | 63,019 |
| **Inappropriate or suboptimal antibiotic use, n** | 494,650 (88.7) |
| Inappropriate only | 425,669 (86.1) |
| Suboptimal only | 10,162 (2.1) |
| Inappropriate and suboptimal | 58,819 (11.9) |
| **Inappropriate use, n** | 484,488 |
| Inappropriate due to drug class | 258,514 (53.4) |
| Inappropriate due to therapy duration | 225,974 (46.6) |
| **Inappropriate drug class, n** | 258,514 |
| Fluoroquinolones as first-line therapy | 216,453 (83.7) |
| β-lactam agents as first-line therapy | 8,127 (3.1) |
| Two treatments on one day | 463 (0.2) |
| Other inappropriate first-line therapy | 33,935 (13.1) |

uUTI, uncomplicated urinary tract infection. Data n (%) unless otherwise stated.

***Conclusion:*** In the treatment of uUTI, the prevalence of inappropriate and/or suboptimal antibiotic use is very high which may have subsequent implications for patient health outcomes.

***Disclosures:*** Yuexi Wang, M.Econ, GlaxoSmithKline plc. (Other Financial or Material Support, Funding)STATinMED Research (Employee) Fanny S. Mitrani-Gold, MPH, GlaxoSmithKline plc. (Employee, Shareholder) Lin Xie, MS, MA, GlaxoSmithKline plc. (Other Financial or Material Support, Funding)STATinMED Research (Employee) Mamta Jaiswal, PhD, GlaxoSmithKline plc. (Other Financial or Material Support, Funding)STATinMED Research (Employee) Xiaoxi Sun, MA, GlaxoSmithKline plc. (Other Financial or Material Support, Funding)STATinMED Research (Employee) Ashish V. Joshi, PhD, GlaxoSmithKline plc. (Employee, Shareholder)

## 124. Six-year Longitudinal Analysis of an Inpatient Infectious Diseases Telemedicine Service at a Community Hospital

Nupur Gupta, DO[1]; Adit B. Sanghvi, MISM[2]; John Mellors, MD[3]; Rima Abdel-Massih, MD[3]; [1]University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania; [2]UPMC Enterprises, Pittsburgh, Pennsylvania; [3]University of Pittsburgh, Pittsburgh, Pennsylvania

**Session:** O-24. Hot Issues in Clinical Practice

***Background:*** Telemedicine (TM) has emerged as a viable solution to extend infectious disease (ID) expertise to communities without access to this specialty.[1] TM allows clinicians in rural settings to connect with specialists at distant sites and provide the best care for their patients, often eliminating the need for hospital transfers. Here, we describe the experience from one of the longest standing inpatient Tele-ID consult services using live audio-video (AV) visits with the assistance of a telepresenter.

References:
1. Monkowski D, Rhodes LV, Templer S, et al. A Retrospective Cohort Study to Assess the Impact of an Inpatient Infectious Disease Telemedicine Consultation Service on Hospital and Patient Outcomes. *Clin Infect Dis*. 2020;70(5):763-770. doi:10.1093/cid/ciz293

***Methods:*** Longitudinal data were collected from a 126-bed rural hospital in Pennsylvania that had no access to ID consultation before 2014. Live AV consults during business hours began in 2014 and telephonic physician to physician consults were made available 24/7. All ID consult data were extracted from the hospital electronic health record between 2014 to 2019. Key outcomes assessed included the number of consult encounters, total hospital length of stay (LOS), discharges to home, transfer to tertiary care centers, and readmission rates at 30 days.

***Results:*** Most consulted patients were Caucasians, and females with an average age of 64.7 years (Table 1). The number of unique consult encounters increased annually from 111 in 2014 to 469 in 2019 (Table 1). The Charlson Comorbidity Score and Elixhauser Comorbidity Index also increased each year beginning in 2016 (Table 1). By contrast, LOS decreased each year as did the 30-day readmission rate (Table 2). Most patients were not transferred (average 89.4% over 6 years) to tertiary care centers and more than half were discharged to home each year (Table 2).

Table 1: Characteristics of Patients Consulted for ID Care (2014-2019)

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Total | Average |
|---|---|---|---|---|---|---|---|---|
| Total Encounters | 111 | 177 | 258 | 263 | 399 | 469 | 1677 | 280 |
| Caucasian (%) | NA | NA | 220 (85.2) | 225 (85.5) | 355 (88.9) | 398 (84.9) | 1198 | 85.6% |
| Female (%) | 55 (49.5) | 87 (49.2) | 141 (54.7) | 144 (54.8) | 212 (53.1) | 250 (53.3) | 889 | 53.0% |
| Age (Years) | 64.2 | 65.8 | 62.9 | 64 | 64.8 | 66.2 | * | 64.7 |
| BMI | NA | NA | 34.3 | 32.1 | 32.7 | 32.8 | * | 33.0 |
| Charlson Comorbidity Score | NA | NA | 4.9 | 5.8 | 6.5 | 7.0 | * | 6.1 |
| Elixhauser Comorbidity Index | NA | NA | 2.9 | 4.6 | 5.8 | 6.6 | * | 5.0 |

NA = Not Available
* = Not Applicable

Table 2: Primary Outcomes of Consulted Patients (2014-2019)

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|
| Total Encounters | 111 | 177 | 258 | 263 | 399 | 469 |
| Transferred (%) | 7 (6.3) | 18 (10.2) | 34 (13.1) | 29 (11.0) | 37 (9.2) | 63 (13.4) |
| Discharged to Home (%) | 60 (57.7) | 88 (55.3) | 150 (67.0) | 148 (63.2) | 214 (59.1) | 265 (65.3) |
| 30 Day Readmission (%) | 23 (22.1) | 21 (13.2) | 34 (15.2) | 33 (14.1) | 66 (18.2) | 61 (15.0) |
| LOS, Days | 10.2 | 9.9 | 8.5 | 8.3 | 8.3 | 8.2 |

***Conclusion:*** This longitudinal 6-year observation study of an inpatient TM ID service at a rural hospital showed remarkable annual growth in consult encounters (total growth >400%). Despite increasing patient acuity, overall hospital LOS decreased over time (10.2 to 8.2 days). Patient transfers to tertiary care centers remained low (average 10.5% over 6 years) as did 30-day readmissions (average 16.3% over 6 years).