

**Results.** Prescribers agreed that RNs should play an important role in AS and described positive experiences when interacting with RNs who actively aimed to improve antibiotic use. While CDC/ANA recommendations were perceived to improve patient care, recommendation-specific challenges were noted to pose important barriers: (1) understanding that RNs are not exclusively responsible for antibiotic allergy histories; (2) possible prescriber pushback if the rationale for an IV to PO switch and the potential severity of the problem locally is not well understood; and (3) competing RN and prescriber schedules and a lack of clearly defined RN roles during antibiotic timeouts. To overcome barriers, prescribers recommended: (1) RNs initiate conversations with prescribers re: questionable drug allergies to facilitate accurate documentation and shared responsibility of drug allergy information; (2) prescriber education and the sharing of local data to address prescriber pushback; and (3) integration of antibiotic timeouts during interprofessional rounds and specified RN responsibilities to ensure meaningful conversation.

**Conclusion.** Prescribers were receptive to formal RN involvement in AS activities, but noted the successful adoption of CDC/ANA recommendations would require an interprofessional approach.

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#### 1894. Antimicrobial Stewardship in the Intensive Care Unit: Survey of Critical Care and Infectious Diseases Physicians

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**Session:** 223. Antimicrobial Stewardship: Qualitative Research  
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**Background.** One aim of antimicrobial stewardship programs is to combat climbing rates of antibiotic resistance. Typically coordinated by Infectious Diseases (ID) physicians, such programs have decreased costs, resistance rates and secondary infections. A point of contention is whether ID or Critical Care (CC) physicians should manage the antibiotics prescribed to critically ill patients in the Intensive Care Unit (ICU). We surveyed ID and CC physicians regarding their perspectives on ICU antimicrobial stewardship and collaborations.

**Methods.** In 2017, CC and ID fellows and attendings completed an online survey that included 17 Likert-scaled items (1 = strongly disagree to 5 = strongly agree) measuring views on ICU antibiotic stewardship. Principal components analysis (PCA) was used for data reduction. Multivariable linear regression models explored variables associated with outcomes measuring physicians' views on which specialty should guide antibiotic stewardship and the value of clinical collaborations in the ICU.

**Results.** Of 334 physicians, 71% were attendings (vs. fellows) and 61% were ID (vs. CC) specialists. From the PCA, 3 factors emerged measuring views about: (1) the specialty that should serve as ICU antibiotic stewards (Cronbach's  $\alpha = 0.71$ ; higher scores indicate ID physicians should be stewards); (2) ICU clinical collaborations ( $\alpha = 0.60$ ; higher scores indicate greater value of collaboration); and (3) ICU decision-making insecurity ( $\alpha = 0.45$ ; higher scores indicate greater insecurity). In the regression models ( $n = 309$ ), CC physicians and those placing lower value on ICU collaborations reported greater agreement that ID physicians should be the primary ICU stewards; women and physicians reporting greater ICU decision-making insecurity and less agreement that ID physicians should be ICU antibiotic stewards reported greater value of clinical collaborations.

**Conclusion.** CC physicians favor ID specialists to assume ICU antibiotic stewardship.

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#### 1895. The Anti-Parasitic Drug Atovaquone Inhibits Arbovirus Replication

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**Background.** Atovaquone, a hydroxynaphthoquinone, FDA Pregnancy category C, used for the treatment and prevention of pneumocystis jirovecii pneumonia (PCP), toxoplasmosis, babesiosis and malaria has *in vitro* activity against Zika virus (ZIKV). The mechanism of action against *Plasmodium* spp. and other parasites is based in the inhibition of mitochondrial cytochrome bc1 complex which further collapses parasite-mitochondrial membrane potential. But to date, antiviral activity of this drug has not been described.

**Methods.** Vero cells (monkey kidney epithelial cells) were seeded. At 24 hours of incubation, the cells were pretreated with ribavirin and brequinar (known antiviral drugs) and atovaquone at different concentrations for 1 hour and then infected with ZIKV Brazilian strain and Ugandan strain, and subsequently treated with drugs again. After incubation for 72 hours virus antigen *Env-protein* production was quantified by immunodetection. The concentration of atovaquone that decreased the level of *Env-protein* production by 50% was calculated by non-linear regression analysis

(CC50). Cell viability was measured using the CellTiter 96 aqueous one solution cell proliferation assay (Promega, Madison, WI), according to the manufacturers protocol. Viral infection was rescued adding uracil to Vero cells pre-treated with ribavirin, brequinar and atovaquone. Experiment was repeated with Chikungunya virus (CHIKV).

**Results.** We found that atovaquone inhibits ZIKV infection in Vero cells at smaller concentration (CC50 = 0.52  $\mu$ M) than those used for parasitic killing. The effect is more prominent in the Brazilian strain when compared with the Ugandan strain. No cytotoxic effect was found in Vero cells up to 15  $\mu$ M; above this concentration atovaquone formed crystals. Uracil rescues ZIKV infection after treatment with atovaquone. Atovaquone also inhibited CHIKV infection in Vero cells.

#### Atovaquone Inhibits Ugandan and Brazilian Strains of Zika

