## Zemdri™ (plazomicin) – New drug approval

- On June 25, 2018, the FDA approved Achaogen's Zemdri (plazomicin), for the treatment of patients 18 years of age or older with complicated urinary tract infections (cUTI), including pyelonephritis caused by the following susceptible microorganism(s): *Escherichia coli*, *Klebsiella pneumoniae*, *Proteus mirabilis*, and *Enterobacter cloacae*.
    - As only limited clinical safety and efficacy data for Zemdri are currently available, reserve Zemdri for use in cUTI patients who have limited or no alternative treatment options.
- Zemdri is the first once-daily aminoglycoside antibiotic approved for cUTI treatment of various Enterobacteriaceae resistant organisms.
- The efficacy of Zemdri was demonstrated in a noninferiority trial enrolling 609 adult patients hospitalized with cUTI. Patients received Zemdri or meropenem. The co-primary efficacy endpoints were composite cure (clinical cure and microbiological eradication) at day 5 and at test-of-cure (TOC) visit (day 17 ± 2).
    - At day 5, composite cure was 88% in the Zemdri group vs. 91.4% in the meropenem group (treatment difference = -3.4 [95% CI: -10.0, 3.1]).
    - At TOC visit, composite cure was 81.7% in the Zemdri group vs. 70.1% in the meropenem group (treatment difference = 11.6 [95% CI: 2.7, 20.3]).
- Zemdri carries a boxed warning for nephrotoxicity, ototoxicity, neuromuscular blockade and fetal harm.
- Warnings and precautions of Zemdri include hypersensitivity reactions, *Clostridium difficile*-associated diarrhea, and development of drug-resistant bacteria.
- The most common adverse reactions (≥ 1%) with Zemdri use were decreased renal function, diarrhea, hypertension, headache, nausea, vomiting and hypotension.
- The recommended dosage of Zemdri is 15 mg/kg administered every 24 hours by intravenous (IV) infusion over 30 minutes for 4 – 7 days in patients ≥ 18 years of age with a creatinine clearance ≥ 90 mL/min.
    - An appropriate oral therapy may be considered after 4 - 7 days of Zemdri therapy to complete a total duration of 7 - 10 days (IV plus oral). The maximum duration of Zemdri for cUTI is 7 days.
    - Consult the Zemdri drug label for dosing in patients with renal impairment.
- Achaogen's launch plans for Zemdri are pending. Zemdri will be available as a 500 mg/10 mL injection in a single-dose vial.