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INNOVATIVE SCIENCE DRIVES ANTIBIOTIC LEADERSHIP

2018 Wedbush PacGrow Healthcare Conference
August 14, 2018
Nasdaq: AKAO

Forward Looking Statements

This presentation contains forward-looking statements. All statements other than statements of historical facts contained in this presentation, including statements regarding future operational and financial results and positions, business strategy, commercial availability and potential of ZEMDRI, growth in and potential demand for ZEMDRI, prospective products, commercial opportunity and market share, availability and potential sources of funding, clinical trial results, product approvals and regulatory pathways, research and development costs, timing (including but limited to timing of clinical timelines), strategies for completion and likelihood of success for our business activities, and plans for future operations, are forward-looking statements reflecting the current beliefs and expectations of management made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted and some of which are beyond our control, you should not rely on these forward-looking statements as predictions. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Such risks and uncertainties include, among others, those inherent in the preclinical and clinical development process; the risks and uncertainties of the regulatory approval process; commercialization and gaining market acceptance; manufacturing and supply development and conditions; conditions when bacteria will evolve resistance to ZEMDRI, C-Scape or other antibiotics; third party claims alleging infringement of patents and proprietary rights or seeking to invalidate Achaogen's patents or proprietary rights; efficacy, safety and tolerability of ZEMDRI and our product candidates; and the risk that Achaogen's proprietary rights may be insufficient to protect its product candidates. For a further description of the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to our business in general, see our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 filed with the Securities and Exchange Commission on February 27, 2018 and our Form 10-Q for the quarter ended June 30, 2018, filed with the Securities and Exchange Commission on August 6, 2018 and our future periodic Form 10-Ks or Form 10-Qs. Except as required by applicable law, we assume no obligation to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. This presentation concerns products which, other than ZEMDRI, have not been approved for commercialization. Such non-approved products are currently limited to research or investigational use.

Achaogen: Innovative Products for Serious Infections

Unique Antibacterial Company	• Committed to addressing threat of MDR bacterial infections • Recent restructuring to conserve capital • First commercial launch underway • Pipeline of innovative product candidates
Significant Commercial Opportunity	• Large and growing patient populations • Unmet need both in the hospital and for outpatient options • Strong physician interest; value-based pricing
ZEMDRI® ***Launched and commercially available for use in cUTI***	• Novel once-daily therapy in a differentiated class for cUTI infections • Appropriate for use in the inpatient and outpatient setting • Activity against CRE and ESBL- producing Enterobacteriaceae
Innovative Pipeline	• C-Scape: oral candidate for ESBL- producing cUTI infections • New aminoglycoside program: activity against Enterobacteriaceae, *P. aeruginosa, A. baumannii*

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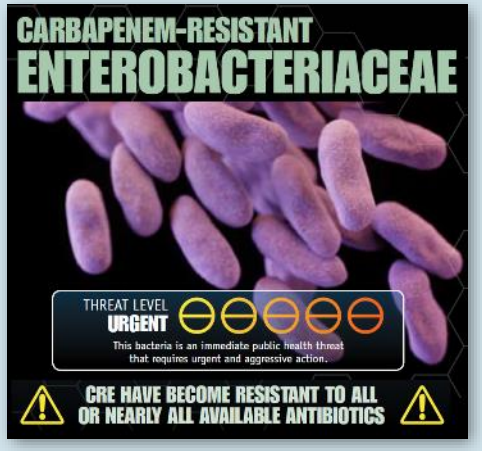
Multi-Drug Resistance Poses an Urgent and Growing Threat

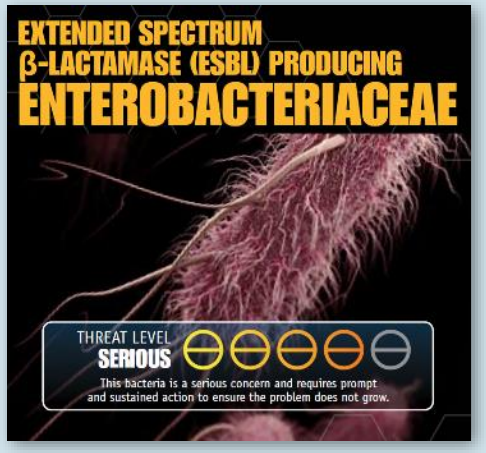
CDC Centers for Disease Control and Prevention

Priority Pathogens

World Health Organization



CDC Urgent[1]



CDC Serious[1]

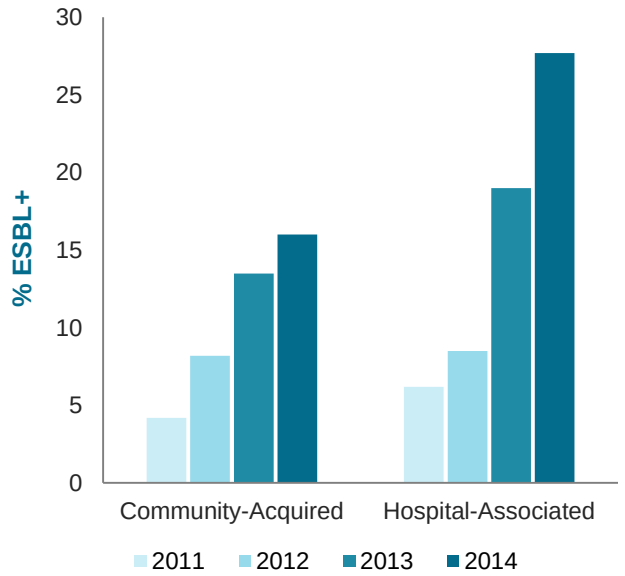
- **Resistance rising rapidly**[2]
- **High morbidity and mortality (up to 50% in BSI due to CRE)**[1,3]
- **Limited treatment options**[4]
- **Significant economic burden to healthcare system & society**[5]

[1] CDC Antibiotic Resistance Threats in the United States, 2013 http://www.cdc.gov/drugresistance/threat-report-2013/
[2] The Surveillance Network database: CDDEP.org Resistance Map; Braykov et. al., 2013
[3] Ben-David et al. Clin Microbiol Infect 2012;18(1):54–60.
[4] Daikos et al., Clin Microbiol Rev. 2012 Oct;25(4):682-707.
[5] Bartsch et al., Clin Microbiol Infect. 2016 Sep 15. pii: S1198-743X(16)30389-5. WHO published Feb. 27, 2017

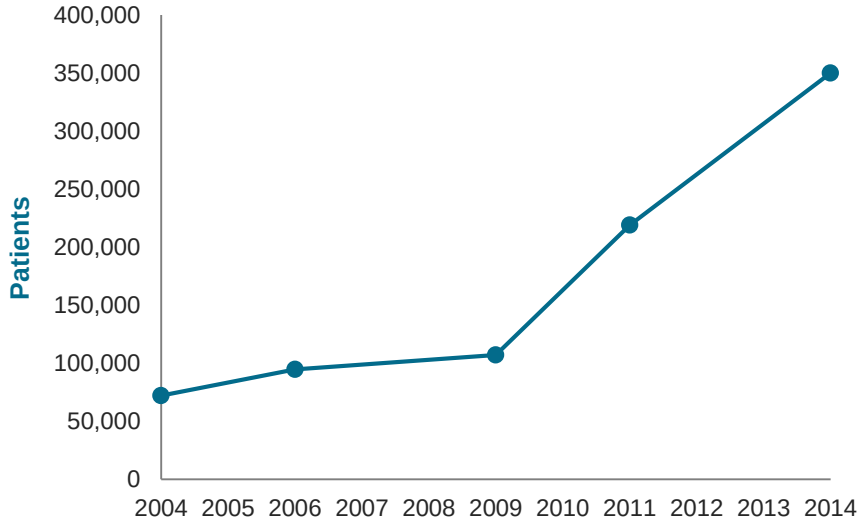
There is a Demand for New Therapies to Fight MDR Infections

Increase in ESBL Prevalence → Increasing Reliance on Carbapenem Therapy → Rise in Carbapenem Resistance

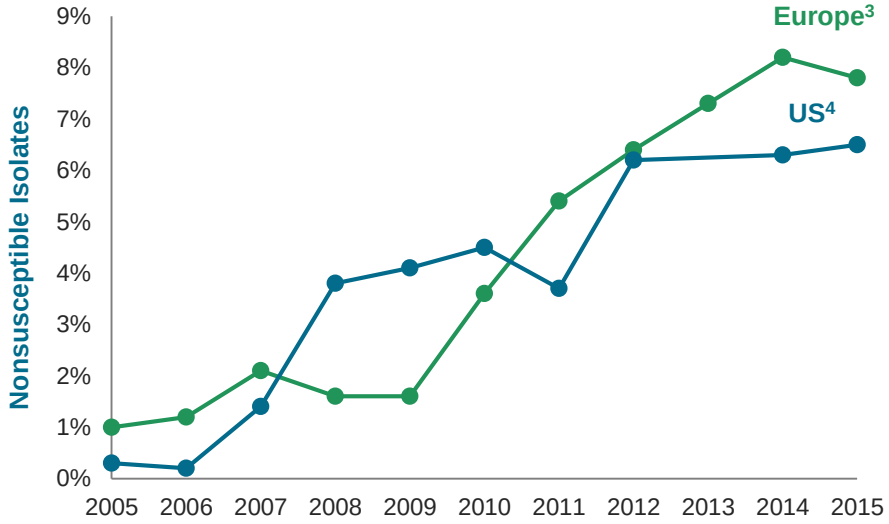
U.S. Prevalence of ESBL Production in *E.coli* from Urinary Sources[1]



UTI Inpatients Receiving a Carbapenem In-Hospital or Upon Discharge, U.S.[2]



Carbapenem Resistance in Klebsiella spp.



1 Diagn Microbiol Infect Dis 2016, http://dx.doi.org/10.1016/j.diagmicrobio.2016.04.022 E.coli is the causative pathogen in 79% of complicated UTI (incl. pyelonephritis): Lancet 2015;385:1949.

2. Source: *Decision Resources AMR Hospital Antibiotic Market Guide*; Data annualized from half-year datasets: 2004-H2, 2006-H2, 2009-H2, 2011-H1, 2014-H1. UTI diagnosis codes include UTI/cystitis/urosepsis and pyelonephritis/perinephric abscess.

3 Europe: Population-weighted average of 30 European countries, calculated from: Non-susceptibility: ECDC EARS-Net, http://ecdc.europa.eu/, 2016 (*Klebsiella pneumoniae*); Population: Eurostat, http://ec.europa.eu/eurostat/data/database/, 2016.

4 US: Curve extrapolated from multiple data sources: **2005-2010:** The Surveillance Network database–USA as published in Braykov et. al., 2013 (*Klebsiella pneumoniae*); **2011:** Antimicrob Agents Chemother. 2013 Apr;57(4):1982-8. (*Klebsiella* spp., non-susceptibility to meropenem; 2011 data point represents combined data from isolates collected in 2010 and 2011); **2012:** ICAAC 2013, poster C2-1630 (*Klebsiella pneumoniae*, non-susceptibility to meropenem); **2014-2015:** JMI Laboratories, surveillance conducted for Achaogen (*Klebsiella pneumoniae*, non-susceptibility to 1 or more carbapenems: meropenem, imipenem, doripenem).

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Achaogen Pipeline

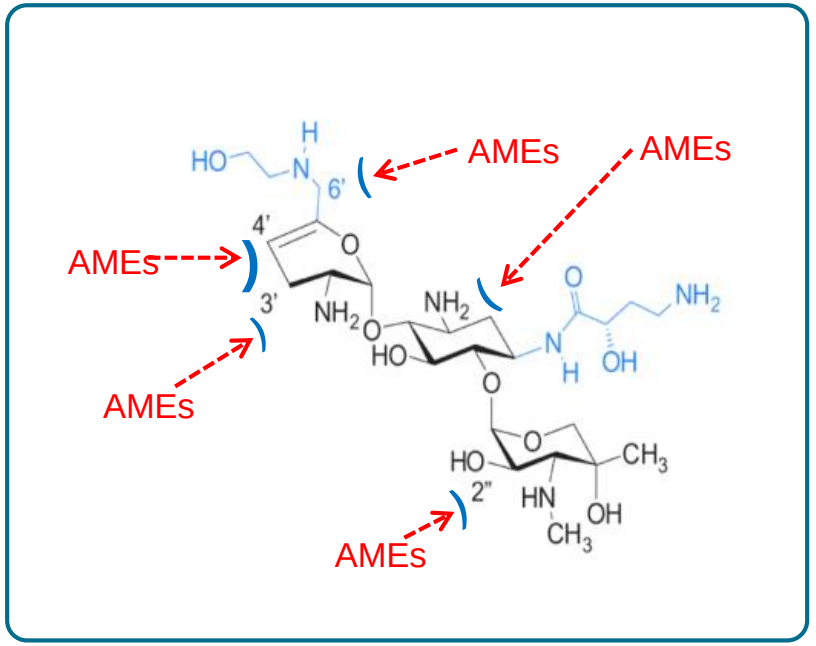
		Stage	Funding Partners
Strategic Focus	**ZEMDRI (plazomicin)** • For patients with cUTI, including pyelonephritis, due to certain Enterobacteriaceae	FDA Approved	BARDA
	C-Scape • ESBL- producing Enterobacteriaceae	Phase 1	BARDA
	Novel Aminoglycoside • Enterobacteriaceae, *P. aeruginosa, A. baumannii*	Preclinical	CARB-X
Deprioritized	**Therapeutic Antibody Discovery Program** • Infections due to MDR gram-negative pathogens • Other therapeutic antibodies against multiple novel targets (e.g., Nav 1.7 for non-opioid pain)	Preclinical	Bill & Melinda Gates foundation CDMRP Department of Defense

cUTI: complicated Urinary Tract Infection; **MDR:** multi-drug resistant; **ESBL:** expanded spectrum beta-lactamases

Only ZEMDRI® has been approved for commercial use. See full prescribing information. All other product candidates are investigational only, potential treatments, and have not been approved for commercial use.

Plazomicin: A Next Generation Aminoglycoside for the Treatment of MDR Enterobacteriaceae

- Discovered at Achaogen; U.S. patent protection currently estimated 2031-2032
- Uniquely engineered to overcome aminoglycoside-modifying enzymes (AME) that inactivate existing aminoglycosides
- AMEs co-travel with other resistance mechanisms, including β-lactamases and carbapenemases
- Rapidly bactericidal



Adapted from Aggen JB, et al. Antimicrob Agents Chemother. Figure 1.

Plazomicin has Potent *In-vitro* Activity Against MDR Enterobacteriaceae, Including ESBL-Producers, CRE Strains and AG-Resistant Isolates

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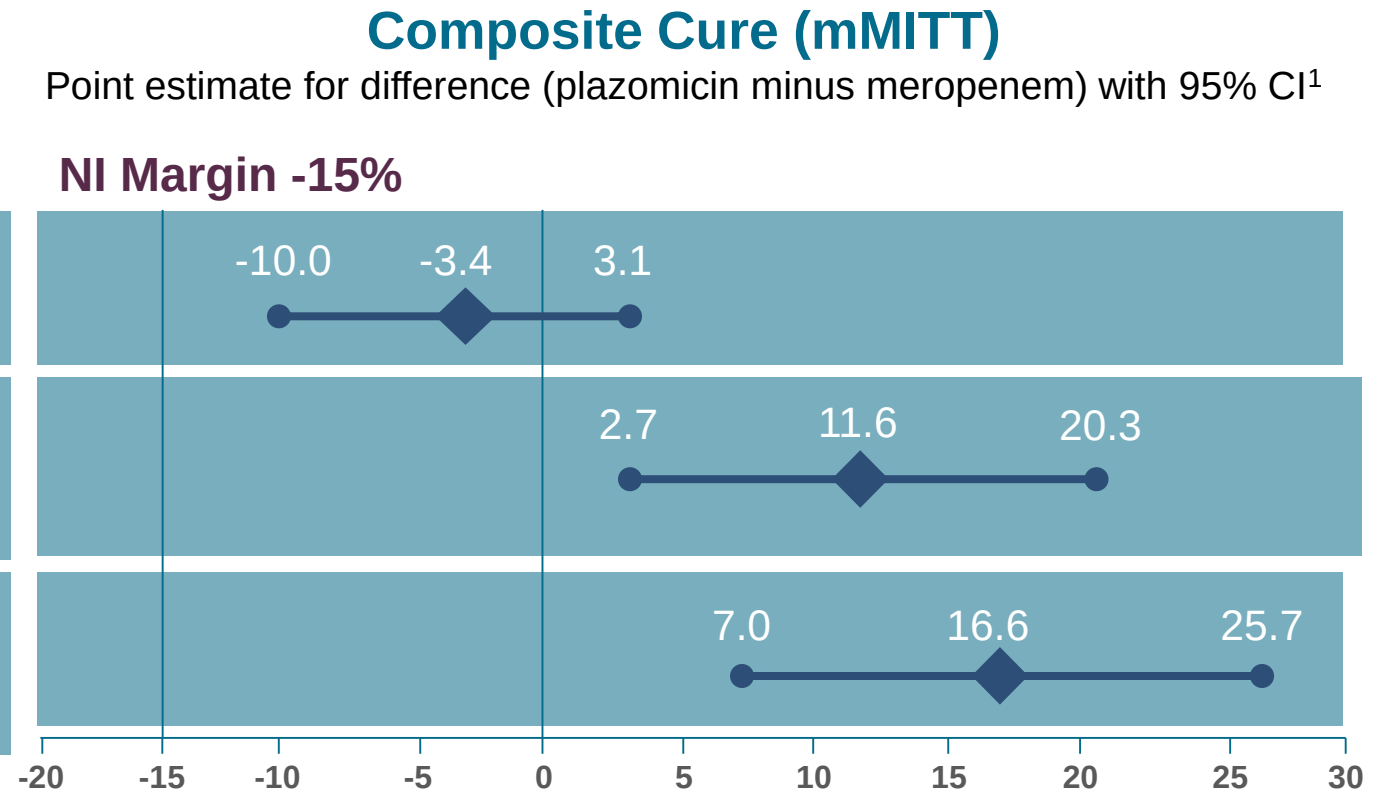
EPIC Clinical Trial Results

Plazomicin met FDA co-primary endpoints at Day 5 and Test of Cure

Composite Cure Rates in Phase 3 cUTI Trial (mMITT Population)

Analysis Visit	PLZ n/N (%)	Meropenem n/N (%)
Day 5	168/191 (88.0)	180/197 (91.4)
Test of Cure (TOC)	156/191 (81.7)	138/197 (70.1)
Late Follow-Up (LFU)	147/191 (77.0)	119/197 (60.4)



Lower clinical relapse at LFU (clinical relapse of 1.8% for plazomicin, 7.9% for meropenem for all clinical cures at TOC)

[1]Lower bound of the CI exceeds zero. Composite cure: Achieve both microbiological eradication (reduction in all baseline uropathogens to <104 CFU/mL in urine culture) and clinical cure (significant improvement [day 5] or complete resolution [TOC] in all signs and symptoms of the infection).

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EPIC Clinical Trial AE Summary and Renal Function Laboratory Parameters

Patients with Any of the Following: (Safety Population)	**Plazomicin** (N=303), n (%)	**Meropenem** (N=301), n (%)
TEAE	**59 (19.5)**	**65 (21.6)**
IV Study Drug Related	18 (5.9)	16 (5.3)
Led to Discontinuation of IV Study Drug	6 (2.0)	6 (2.0)
Related to Renal Function	11 (3.6)	4 (1.3)
SAE	**5 (1.7)**	**5 (1.7)**
IV Study Drug Related	1 (0.3)	1 (0.3)
Death	1 (0.3)	0 (0.0)

TEAE: Treatment Emergent Adverse Event; SAE: Serious Adverse Event

Serum Creatinine (Safety Population)	**Plazomicin n/N (%)**	**Meropenem n/N (%)**
≥0.5 mg/dL increase any time on study (including on and/or post IV therapy)	21/300 (7.0)	12/297 (4.0)
≥0.5 mg/dL increase while on IV therapy	11/300 (3.7)	9/297 (3.0)
Full recovery at last follow-up visit	9/11	9/9

Full recovery defined as serum creatinine value <0.5 mg/dL above the baseline value at the EOIV visit or last post-baseline measurement, respectively

Changes to renal function were limited and reversible

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FDA Actions Related to Plazomicin on June 25, 2018

EPIC Clinical Trial

- Supported approval in patients for treatment of cUTI, including pyelonephritis, who have limited or no alternative treatment options

CARE Clinical Trial

- Complete Response Letter (CRL) by the FDA for bloodstream infection
- We intend to meet with the FDA to determine whether there is a feasible resolution to address the CRL

ZEMDRI Label and Favorable Administration Supports Attractive Commercial Opportunity

Product Profile

- *In-vitro* activity against MDR Enterobacteriaceae, including ESBL- producing and CRE

- Only once daily aminoglycoside approved for cUTI
- Evidence in patients with concomitant bacteremia and with AMEs
- Lower clinical relapse rate at day 28 vs. meropenem

- Once daily dosing administered through a 30-minute IV infusion

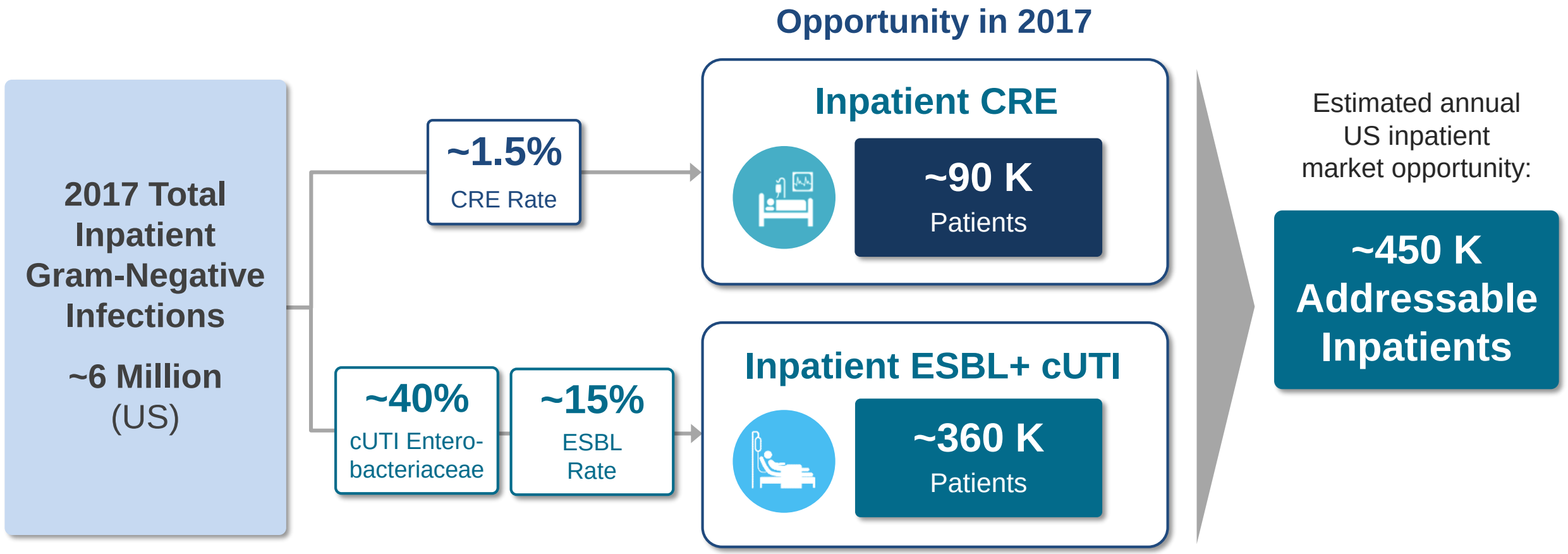
Opportunity

Growing MDR Threat
- Significant unmet need
- Large and growing patient population

Inpatient cUTI
- Focus on high risk population with recurrent cUTIs, patients with beta-lactam allergies
- Carbapenem-sparing opportunity

Outpatient
- Convenient dosing
- Hospital avoidance or earlier patient discharge

There is a Significant Growing Market in the U.S. for Treatment of CRE and ESBL Infections in the Inpatient Setting



Sources: Decision Resources 2017, Arlington Medical Resources, primary literature, CDC & ECDC, TSN Surveillance Network, TEST Surveillance Database, and company internal analysis

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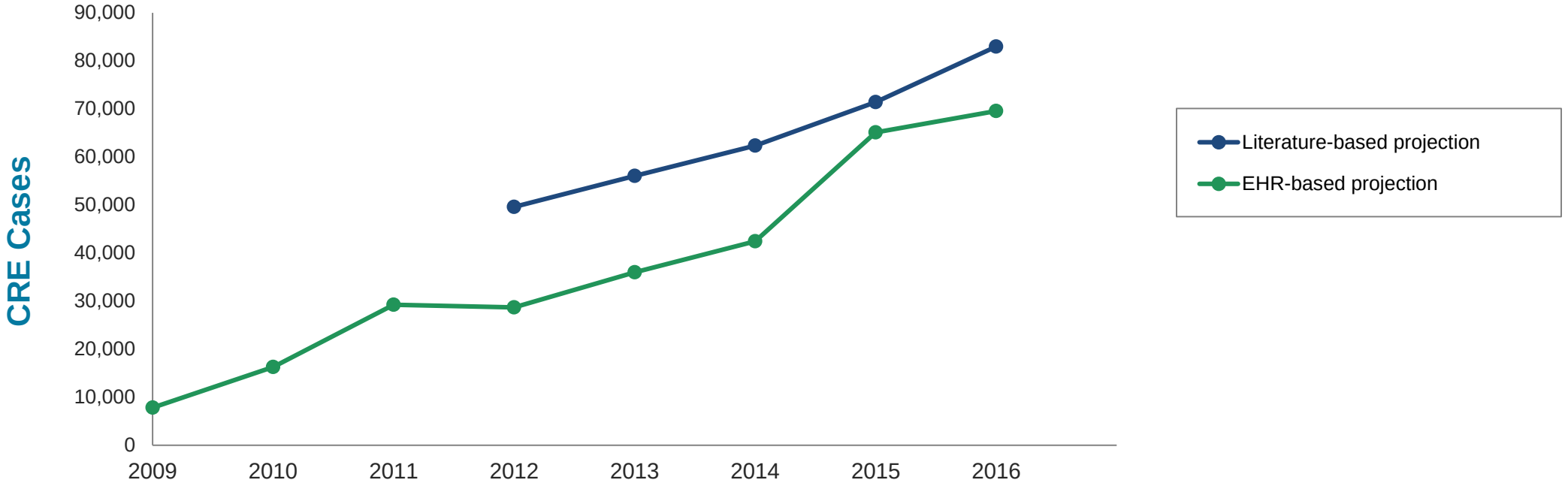
Significant Growth in Confirmed CRE Cases in the U.S.

U.S. National Projection of CRE Cases

Achaogen company analyses



CRE Population Projected to Double in Next 5 Years

Sources:

- **Literature-based projection:** Literature review combined with surveillance network data
- **EHR-based projection:** Analysis of Cerner Health Facts EHR database from ~200 hospitals with national projection by Boston Health Economics (BHE) using hospital census data by IMS (HCOS); Schneider, Patel, Zillberberg, Society for Healthcare Epidemiology in America (SHEA), March 2017

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US Launch is Off to a Strong Start and Momentum is Building

ZEMDRI™
(plazomicin) Injection

ZEMDRI (plazomicin), a Once-Daily Aminoglycoside for use in complicated Urinary Tract Infections (cUTI)

- FDA ***Approved*** on June 26th 2018
- ***Launched*** in the U.S. on July 20th 2018
- ***First Formulary approval*** on July 26th 2018
- ***Granted NTAP[1]*** designation on August 3, 2018

[1]New Technology Add-on Payment

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NTAP Granted to ZEMDRI on Day 14 of Launch

CMS granted New Technology Add-on Payment to ZEMDRI

- Supplementary payment to DRG reimbursement up to 50% of the cost of ZEMDRI for 2-3 years
- Maximum ZEMDRI payment of $2,722.50
- Important physician and patient access tool
- Important component of the ZEMDRI value proposition for inpatient setting

"Zemdri offers a substantial clinical improvement for patients who have limited or no alternative treatment options because it is a new antibiotic that offers a treatment option for a patient population unresponsive to current treatments" and that "Zemdri meets all the criterial for approval of a new technology add-on payments."

Final Rule of the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2019 Rates

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

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Versatile Use Across Care Settings Based on Severity of Resistant Gram-negative infections

ICU Patient

Ward Patient

Outpatient Setting

Inpatient Reimbursement

- MS-DRG bundled payment for drug, procedures etc.
- New Technology Add-on Payment (NTAP) for up to 50% of drug cost

Outpatient Reimbursement

- ASP + 6%/4.3% for drug cost
- Separate reimbursement for other costs

ZEMDRI Profile

- Non beta–lactam
- Demonstrated reduction in the risk of clinical relapse or disease recurrence at LFU
- Low rate and reversible nature of renal impairment seen in EPIC trial
- Once daily 30-minute IV infusion

OPAT Suitability

- Decreased burden on providers and patients
- Potential to reduce length of hospital stay
- 30-50% of ZEMDRI use may be in the outpatient setting based on other antibiotics (ertapenem, daptomycin)

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OPAT:Outpatient parenteral antibiotic therapy; LFU: Late Follow-up

Launch Accomplishments during the 1st Ten Days

Education: Telling the ZEMDRI Story	• Compelling totality of data, calls are being extended • Physicians are reacting positively and messages are resonating • Recurrent cUTI patient type is identifiable and present in target accounts
Rapidly Reaching Target Accounts	• 380+ accounts reached, transition of care an important topic • 75% of high priority targets reached in 10 days • 15% of calls in the outpatient setting • 1st formulary review complete within 5 days of launch

Building Infrastructure for ZEMDRI	• Educate and support accounts:
	  • Set up antibiotic susceptibility testing, 2 AST devices FDA-cleared at launch
	  • 20+ unique accounts ordering RUO AST testing materials
	  • Mayo TDM assay fully operational and samples being processed
	  • Reimbursement support services ready: hotline, billing/coding guides, NTAP

Stocking and Distribution	• Product available through specialty distributors / initial orders delivered • Confirmed orders in inpatient and outpatient settings • Over 130 physician-owned infusions centers (POICs) interested in outpatient use of ZEMDRI for cUTI patients

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Financial Snapshot

- $100.5 million in cash, cash equivalents, short-term investments at 6/30/18
- Funding partnerships
  - BARDA non-dilutive funding: $124.4 million (plazomicin)
  - BARDA non-dilutive funding: up to $18 million (C-Scape)
  - CARB-X non-dilutive funding: up to $12 million (novel aminoglycoside)
- $50 million loan agreement with Silicon Valley Bank

Key Priorities for the next 12-18 months

- Successful launch of ZEMDRI in the US
- Submission of the Marketing Authorization Application (MAA) for plazomicin in the EU
- Development of C-Scape through Phase 1 and obtain additional non-dilutive funding support
- Advancement of new aminoglycoside program and obtain non-dilutive funding support

2017 and 2018 Milestones

2017 Significant Progress Strong Execution

- Plazomicin NDA Submission ✓
- Plazomicin NDA Accepted with Priority Review ✓
- Plazomicin FDA Action ✓
- Plazomicin Advisory Committee ✓
- C-Scape Phase 1 Results ✓
- ZEMDRI Commercial Launch ✓
- New Technology Add-on Payment Granted for ZEMDRI ✓
- Plazomicin MAA Submission

2018 Milestones with Potential to Drive Value for Patients and Shareholders

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