

Carbapenem-resistant Enterobacterales (CRE) Surveillance

is an active, laboratory and population-based surveillance system to monitor epidemiologic and microbiologic characteristics of antibiotic resistant gram negative bacilli within Bernalillo County, New Mexico. This report highlights 10 years of findings from 2014 to 2024 for CRE infections.

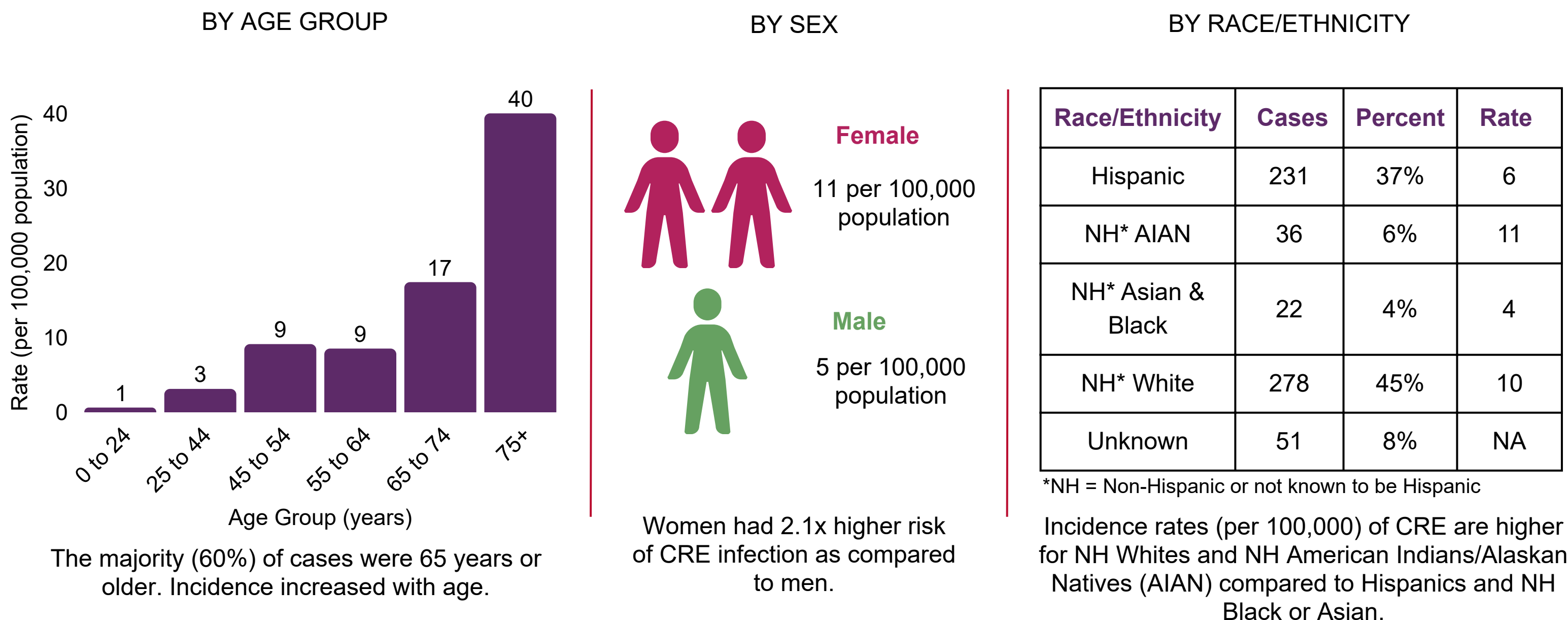
1 Methodology

New Mexico Healthcare-associated Infection Community Interface (HAIC) staff contact laboratories serving the Bernalillo County catchment area for antibiotic susceptibility reports on organisms of interest. NM HAIC staff complete standardized case report forms for patient demographics, risk factors, clinical factors, and outcomes. Isolates are routinely collected and shipped to Centers for Disease Control & Prevention (CDC) where they undergo additional characterization at CDC laboratories.

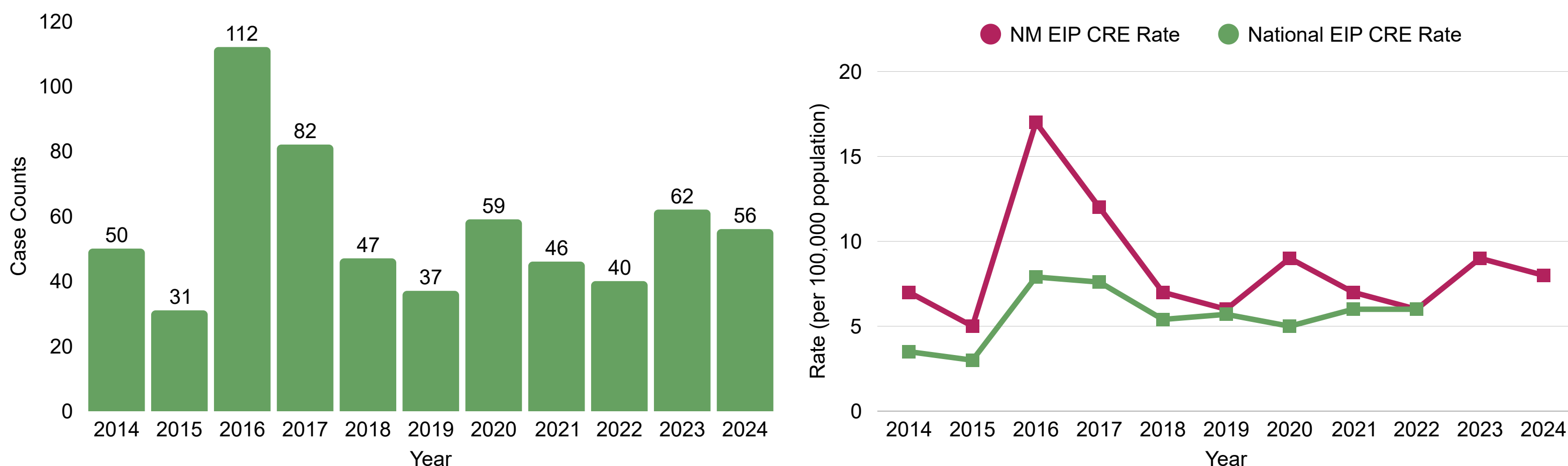
2 Case Definition

Carbapenem-resistant *E. coli*, Enterobacter cloacae complex species, and Klebsiella species isolated from normally sterile sites or urine and resistant to one or more carbapenems (doripenem, imipenem, meropenem, or ertapenem) in a resident of Bernalillo County.

3 Incidence Rates per 100,000 Population, 2014 to 2024



4 CRE Incidence in Bernalillo County EIP Catchment and EIP Nationally, 2014 to 2024



EMERGING INFECTIONS PROGRAM HEALTHCARE-ASSOCIATED INFECTIONS - COMMUNITY INTERFACE (HAIC)

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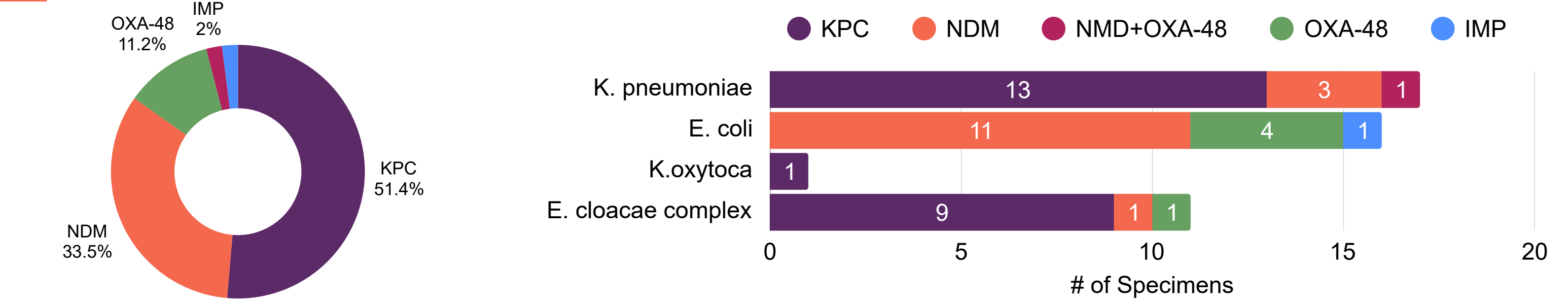
Carbapenem-Resistant Enterobacterales Infections in Bernalillo County

Carbapenemase Genes

An important mechanism of resistance to antibiotics by gram negative bacteria is the expression of carbapenemases, enzymes that inactivate β-lactam antibiotics, such as carbapenems. Bacteria expressing carbapenemases can spread easily, cause outbreaks, and may be more difficult to treat.

In a total of 200 CRE isolates tested for carbapenemases from 2017 to 2024, approximately 45 tested positive for carbapenemases. The carbapenemase genes and organisms are shown below in addition to patient and clinical factors associated with CRE isolates and carbapenemase status.

5 Carbapenemases Detected in Isolates Overall and by Organism, 2017 to 2024



6 Demographic & Clinical Factors of Carbapenemase-producing (CP) CRE and non-CP CRE

Description		All Cases N=200	Non-CP N=155	CP Gene N=45
Demographics				
Sex	Female	121 (61%)	102 (66%)	19 (42%)
	Male	79 (40%)	53 (34%)	26 (58%)
Ethnicity	Hispanic	73 (37%)	50 (32%)	23 (51%)
	Non-Hispanic	112 (56%)	91 (59%)	21 (47%)
	Unknown	15 (8%)	14 (9%)	1 (2%)
Race	White	155 (78%)	123 (78%)	32 (71%)
	Non-White Other	26 (13%)	15 (10%)	11 (24%)
	Unknown	19 (10%)	17 (11%)	2 (4%)
Age Group (years)	0 to 19	7 (4%)	5 (3%)	2 (4%)
	20 to 49	31 (16%)	24 (15%)	7 (16%)
	60 to 64	46 (23%)	31 (20%)	15 (33%)
	65 to 79	69 (35%)	53 (34%)	16 (36%)
	80+	47 (24%)	42 (27%)	5 (11%)
Isolates				
Specimen	Urine	180 (90%)	142 (92%)	38 (84%)
	Blood	17 (9%)	10 (6%)	7 (16%)
	Polymicrobial	33 (17%)	22 (14%)	11 (24%)

Description		All Cases N=200	Non-CP N=155	CP Gene N=45
Risk Factors				
Healthcare-related Factors	Any risk factor	156 (78%)	116 (75%)	40 (89%)
	Hospital-onset	27 (14%)	20 (13%)	7 (16%)
	Patient had the following healthcare in the year prior			
	Prior hospitalization	118 (59%)	86 (55%)	32 (71%)
	Prior LTCF stay	39 (20%)	26 (17%)	13 (29%)
	Prior LTACH stay	9 (5%)	3 (2%)	6 (13%)
	Prior surgery	48 (24%)	37 (24%)	11 (24%)
	Patient had a catheter in place 2 days prior			
	Central venous	23 (12%)	17 (11%)	6 (13%)
	Urinary catheter	57 (29%)	41 (26%)	16 (36%)
	Other indwelling	31 (16%)	24 (15%)	7 (16%)
	Outcomes			
	Hospitalized within 29 days of positive CRE	99 (50%)	71 (46%)	28 (62%)
	ICU admission 7 days before or 6 days after	13 (7%)	10 (6%)	3 (7%)

* Data shown are preliminary and are subject to change.

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