Background
Serious infections with carbapenem-resistant Enterobacteriaceae (CRE) are an urgent public health threat and have become a staple in the management of Healthcare Associated Infections (HAI). Acinetobacter spp. (5%) and Proteus mirabilis (35%) are the most common CRE causing infection. Serious infections with CRE, but also Klebsiella spp. (6%) and Morganella morgani (7%) are clinically relevant because prevalence of these pathogens is likely higher than CRE resistance among Enterobacteriaceae.

Methods
A cross-sectional, voluntary survey of microbiology directors at hospitals in California. We set an a priori response threshold of 60% to ensure representative data. Non-respondents were contacted by phone to improve response rates. Microbiology standards were based on current CLSI breakpoints.

Results
Susceptibility testing for new drugs could be accessed by 168 scientists (n=97). Susceptibility testing methods included VITEK2 (n=170), MicroScan (n=63) BD Phoenix (n=19) and Sensititre (n=2). Prevalence of CRE was likely higher than 1%..

Conclusions
Microbiology Labs need to update practices to use current CLSI/FDA breakpoints and consider supplemental testing to identify carbapenemase producing CRE.

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Device Manufacturers should make concerted efforts to comply with FDA breakpoints for antimicrobial susceptibility testing and notifying carbapenem resistance.

Epidemiologists should be aware of variability in laboratory practices may influence regional prevalence estimates and affect the design of intervention protocols.

Public Health can characterize regional microbiology practices, conduct outreach to increase awareness and promote additional education for laboratory directors and managers.

Clinicians must be aware of local microbiology laboratory practices and that some isolates may be misidentified.

Device Manufacturers should make concerted efforts to comply with FDA breakpoints for automated susceptibility testing systems.