sequence typing analysis revealed that the isolate belonged to sequence type 410 (ST410) and carried several resistant genes including \( \text{bla}_{\text{NDM-5}} \) and \( \text{bla}_{\text{CTX-M-15}} \) (Table 2). To further investigate the genetic sub-lineage, phylogenetic analysis using a recently described platform compared the isolate from our patient to representative global E. coli ST410 strains (Figure).

This patient returned from overseas travel and presented to a military hospital with cUTI due to E. coli ST410, a multi-drug resistant strain found in humans, animals, and the natural environment that is shown to be spreading globally.10 It is likely the infection occurred in Dubai, where the patient received broad spectrum antibiotics, had placement of a urinary catheter, and was initiated on hemodialysis, placing him at increased risk for nosocomial infection. At TAMC the ID team, Microbiology laboratory, and Infection Prevention and Control team collaborated closely to ensure that the patient received appropriate treatment and infection control measures, resulting in successful treatment and prevention of transmission to other patients or hospital staff. TAMC notified the Hawai’i Department of Health (HDOH), and subsequent surveillance efforts demonstrated no spread of this strain to other patients.

Hospital outbreaks due to the ST410 clones carrying the NDM genes have been reported in Europe,10 China,1 the Republic of Korea,12 and Rwanda.13 Epidemiological studies have shown that European and Northern American ST410 clones differ from Southeast Asian clones, the latter demonstrating multiple introductions and independent circulation.14 Based on phylogenetic analysis, this isolate clustered more closely with European isolates. This result was unexpected, given the proximity of Dubai to India compared to Europe, and the fact bacteria carrying the NDM gene are endemic in India.15 There are no reports, however, of ST410 strains carrying an NDM gene in India,15 nor in the United Arab Emirates.16

The World Health Organization has declared AMR one of the 10 leading global public health threats facing humanity, with significant cost to the world economy.1 The National Action Plan for Combating Antibiotic-Resistant Bacteria presents coordinated, strategic actions of the U.S. Government to improve the health and well-being of all Americans by changing the course of antibiotic resistance.17 In the U.S. more than 2.8 million AMR infections occur each year, resulting in more than 35,000 deaths, at an additional direct health care cost of US $20 billion.2 Without proper countermeasures, AMR may render most current antibiotics ineffective. Adequate infection prevention and control measures are critical in the fight against AMR, requiring appropriate and adequate practices to ensure prompt identification of infections caused by AMR pathogens. These practices not only ensure patients are properly isolated, and that measures limit environmental contamination which may lead to establishing endemicity of AMR pathogens in hospitals or communities, but also ensure patients are treated adequately with effective antibiotics or other measure such as phage therapy.

From January 2021 until September 2022, the HDOH reported 16 NDM-producing Enterobacterales, including 6 E. coli isolates (Garret Hino Jr., PharmD, Public Health Pharmacist, HDOH, email communication, March 6, 2023). Due to its proximity to areas of greater AMR incidence, coupled with its high rates of tourism and the movement of military personnel, Hawai’i is at significant risk of AMR exposure. It is important that Hawai’i hospitals