Antimicrobial resistance (AMR) is growing at alarming rates worldwide and is a grave threat to the practice of modern medicine. In the US, AMR is estimated to cause US$20 billion in additional hospital costs and cause US$35 billion in productivity loss each year [1]. In Europe, unless rising AMR is addressed, resistance to second-line antibiotics will be 72% higher in 2030 than it was in 2005 and AMR to last-line treatments will more than double [2]. The emergence of AMR threatens advancements in medicine such as the development of complicated surgeries and the use of chemotherapy in cancer patients which rely on antimicrobials for successful treatment. Increasing AMR will also have broader societal costs in the form of lost labor, changes in health seeking behavior, animal health and welfare, rising cost of animal products, and lower consumer confidence in the safety of these foods [3].

Purpose
The World Health Organization identified AMR as a top ten priority health threat in 2019 [4]. There is a clear, imperative need to address, monitor, and slow the emergence of AMR around the world. In the face of rising resistance, policymakers seeking to address the issue have often called for more data to best mitigate and prepare for the rise in resistant infections [5]. Multiple networks for surveillance of both AMR and antimicrobial consumption (AMC) already exist, however, consensus has not yet been reached on the best approach to monitor AMR. Multiple gaps in data collection and monitoring AMR, and provide a case promoting a more integrated and collaborative approach to monitor AMR.

Summary
Strong, coordinated, and purposeful surveillance has been shown to greatly reduce the evolution and incidence of resistant infections around the world. In order to create effective surveillance systems to inform physicians and providers in how to best treat their patients, policymakers on how to best allocate resources, and activists and researchers to pressure government, we must follow a One Health approach developed by the World Health Organization. This approach will require the combination and combined analysis of microbiology resistance data, clinical data, demographic data, antimicrobial consumption data, and data from the agricultural sector on agricultural antimicrobial consumption along with the consideration of different cultural factors. Continued apathy towards one of this century’s great medical problems will not only affect the health of humans globally but will fundamentally alter the way we practice medicine.