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Involving Antimicrobial Stewardship Programs in COVID-19 Response Efforts: All Hands on Deck

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To Whom It May Concern:

To our knowledge no formal recommendations exist for the inclusion of Antimicrobial Stewardship Programs (ASPs) in disaster planning or emergency response preparedness efforts ¹. A PubMed search utilizing the search terms “Antimicrobial Stewardship” and “Disaster Planning” was performed on March 4, 2020, and yielded no results. ASPs are now ubiquitous, often include pharmacists and physicians with advanced Infectious Diseases training, and are a valuable part of hospital safety and quality programs. In some hospitals, compartmentalization of stewardship and epidemiology functions have developed over time to meet distinct institutional needs. However, domains should coalesce for purposes of emergency preparedness. The current SARS-CoV-2/COVID-19 outbreak highlights numerous opportunities where ASPs can support emerging pathogen response and planning efforts.

An informal Twitter poll was initiated on March 1, 2020, asking the Infectious Diseases and Antimicrobial Stewardship communities whether ASPs at their health systems had been involved in SARS-CoV-2/COVID-19 outbreak response or preparation. This yielded 254 responses with 30% noting direct involvement, 28% indicating indirect involvement and 39% indicating no involvement in emergency response efforts or planning. While formalized study is needed, real-time insights from the community provided valuable information. Multiple potential areas where ASPs can support emergency response efforts were identified and are summarized in Figure 1.

ASPs that are integrated with hospital infection prevention programs have an advantage in response efforts to emerging pathogens in that they are likely to have pre-existing infection prevention skills and experience, be involved in response efforts early and will have access

and influence with key stakeholders. Since ASPs and infection prevention programs share similar technology infrastructure, data and metrics, there are many advantages to program integration ². Response efforts to novel respiratory viruses like SARS-CoV-2/COVID-19 represent an opportunity for programs to formally integrate, develop cross-coverage capabilities, and create shared leadership opportunities.

There are numerous ways ASPs can support SARS-CoV-2/COVID-19 response efforts within the context of their normal daily activities. A core component of Antimicrobial Stewardship includes post-prescriptive review with feedback to providers ³. In this way, an ASP skillset can theoretically assist with early identification of potential cases. This may be especially useful in situations where the definition of a person under investigation is fluid, as traditional epidemiologic efforts usually focus on identifying patients at the point of entry into health systems. ASPs often coordinate with microbiology laboratories for real-time interpretation and action involving upper respiratory PCR test results and can support SARS-CoV-2/COVID-19 evaluation efforts in this fashion, as well. Beyond this, novel respiratory virus outbreaks associated with secondary bacterial pneumonias and Acute Respiratory Distress Syndrome (ARDS), provide an opportunity for ASPs to monitor compliance with guideline-concordant therapy, as severe COVID-19 cases have been treated with broad spectrum antibiotics ⁴.

Additionally, ASPs can help in the development of local treatment protocols involving repurposed antivirals, monitor and manage drug shortages due to supply chain interruptions⁵ and assist frontline providers with expanded access investigational new drug

applications (eINDs) and local institutional review board procedures for investigational agents.

ASPs are now mandated in the United States and are often multidisciplinary. The Joint Commission accreditation standard for ASPs includes, when available, an ID physician, pharmacist, infection preventionist, and other practitioners⁶. ASP physician and pharmacy leaders often have specialized Infectious Diseases training³; leveraging these resources for planning and response efforts for emerging pathogens is critical and can strengthen and sustain collaborative relationships.

We suggest that hospital epidemiology programs strongly consider integrating their ASP colleagues into disaster preparedness plans as well as identify a more formal role for stewards in their operations beyond the current COVID-19 outbreak.

Figure 1. Opportunities for Antimicrobial Stewardship Programs to Assist COVID-19

Response Preparation & Planning Efforts

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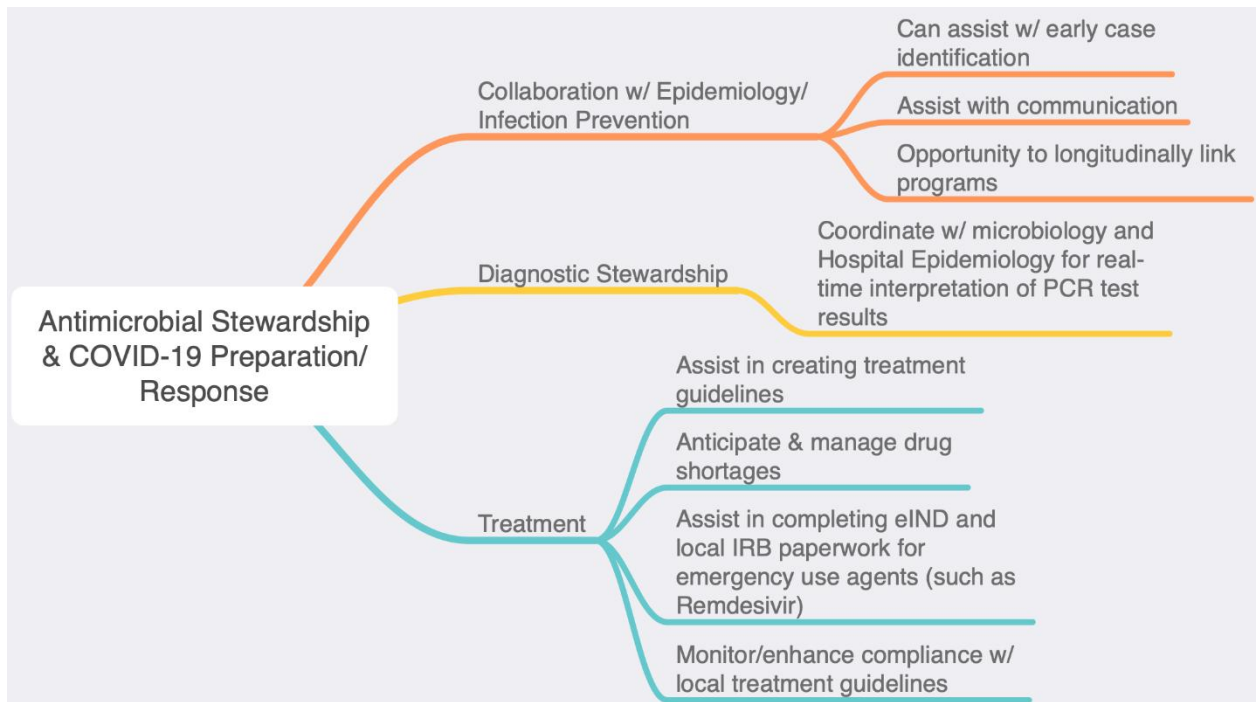


Figure 1. Opportunities for Antimicrobial Stewardship Programs to Assist COVID-19 Response Preparation & Planning Efforts