**Research Themes**

There are 4 research themes within CoSTAR-HS AMR Research Grant FY 2018:

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<th>Research Themes</th>
<th>Specific Aims</th>
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<tr>
<td>1 Novel diagnostics for the identification of Antimicrobial Resistant (AMR) determinants</td>
<td>▪ To build, validate and implement a rapid platform to determine clinically relevant AMR mechanism</td>
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<td>2 Novel infection control strategies assessment</td>
<td>▪ To evaluate the efficacy/cost-effectiveness of various environmental cleaning methods in the local clinical ward setting</td>
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| 3 Optimizing antimicrobial stewardship programmes (ASPs) in Singapore | ▪ To evaluate various combinations of antimicrobial stewardship strategies to determine the most cost-effective ASP model  
▪ Establish the optimal ASP practitioner-to-bed ratio required for effective antimicrobial stewardship in various levels of patient care |
| 4 Health systems and behavioral science (HSBS) research to address the drivers of AMR in hospitals | ▪ To systematically review the existing literature on all aspects within the health-system related to tackling AMR adopting a multidisciplinary approach  
▪ To review existing policies, programmes and structures in place that address AMR  
▪ To examine the motivations, social constructs, contextual drives and power relations of policy actors that influence behaviors and decision-making processes in developing policies for AMR, specifically in relation to the appropriate use of antimicrobials  
▪ To identify the gaps that currently exist in the areas of surveillance, access to, and stewardship of antimicrobials at all levels of the health system  
▪ To understand the role of hospital-based interventions in curbing AMR  
▪ To assess comprehensively the health systems barriers and facilitators (including but not limited to surveillance, stewardship and infection prevention and control) to address AMR in Singapore hospitals  
▪ To develop conceptual frameworks and tools for health systems that will enable international comparisons and establish solutions for AMR in Singapore  
▪ To develop strategies and tools for working with policy makers to effectively implement policies for the responsible use of antimicrobials |