Drivers of Optimal Antimicrobial Use

According to the Antibiotic Stewardship Driver Diagram and Change Package (Institute for Healthcare Improvement (IHI) and Centers for Disease Control and Prevention (CDC), 2012), the following drivers produce optimal, judicious antimicrobial use. This framework may be used to identify one or more interventions consistent with primary or secondary drivers. Over time, adding activities, interventions and actions addressing each of the drivers will make your ASP more robust and effective.

Primary Drivers	Secondary Drivers	Key Change Concepts
Leadership and Culture Change	Promote a culture of optimal antibiotic use within the facility	Engage administrative and clinical leadership to champion stewardship effort
Timely and Appropriate Initiation of Antibiotics	Promptly identify patients who require antibiotics	Develop a standardized process to identify patients who require antibiotics
	Obtain cultures prior to starting antibiotics	Create standardized protocols for ordering and obtaining cultures and other diagnostic tests prior to initiating antibiotics
	Do not give antibiotics with overlapping activity or combinations not supported by evidence or guidelines	Develop a way to inform clinicians about unnecessary combinations of antibiotics, including "double coverage"
	Determine and verify antibiotic allergies and tailor therapy accordingly	Choose antibiotic based on patient allergies
	Consider local antibiotic susceptibility patterns in selecting therapy	Develop a standardized process for antibiotic selection
	Start treatment promptly	Develop processes that support prompt treatment of patients requiring antibiotics Ensure antibiotics are readily available
	Specify expected duration of therapy based on evidence and national and hospital guidelines	Incorporate evidence-based guidelines for duration of antibiotics into standard protocols and/or computerized decision support

Primary Drivers	Secondary Drivers	Key Change Concepts
Appropriate Administration and De-escalation of Therapy	Make antibiotics and start dates visible at point of care and in electronic health records, as applicable	Ensure a clear history of patient antibiotic use is obtained and available
	Give antibiotics at the right dose and interval	Establish a process for delivery customized to the antibiotics and the patient
	Stop or de-escalate therapy promptly based on the culture and sensitivity results	Establish process for prompt notification of culture and antibiotic susceptibility results Stop or de-escalate antibiotic based on culture results
	Reconcile and adjust antibiotics, at all transitions and changes in patient's condition	Look for all opportunities to stop or change (de-escalate or broaden) antibiotic therapy when patient's condition changes and/or when changing levels of care
	Monitor for toxicity reliably and adjust agent and dose promptly	Ensure appropriate monitoring and adjustment of agent
Data Monitoring, Transparency, and Stewardship	Monitor, offer feedback, and make visible data regarding antibiotic utilization, antibiotic resistance, adverse drug events, *C. difficile,* cost, and adherence to the organization's recommended culturing and prescribing practices	Establish real-time monitoring and measurement systems
	Develop and make available expertise in antibiotic use	Cultivate local expertise among staff Develop a process for antibiotic formulary management
	Ensure expertise is available to clinicians at the point of care	Create processes to ensure availability of expertise

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