NEW JERSEY HOSPITAL ASSOCIATION ANTIMICROBIAL STEWARDSHIP COLLABORATIVE

Collaborative Framework

Based on the National Quality Form's *Antibiotic Stewardship in Acute Care: A Practical Playbook*

Core Element #1: Leadership Commitment: Dedicating necessary human, financial and information resources				
Basic				
Implementation tasks	Issue a formal board-approved statement on the importance of the ASP and include in the annual report	Develop and distribute a newsletter column from the CEO and CMO and/or chief of the medical staff highlighting the ASP and their commitment to improving antibiotic use	Dedicate specific salary support for ASP leaders based on size and population of the hospital	Include specific time commitment (%FTE or hours/week, hours/month) in the job description of ASP leaders and articulate targets and goals
	Support funding for remote consultation or telemedicine with experts in antibiotic stewardship (e.g. infectious disease physicians and pharmacists) if local resources are not available	Communicate regularly the importance of improving antibiotic use and the hospital's commitment to antibiotic stewardship	Share stories, speakers and other resources that highlight how ASPs can improve patient outcomes	
Intermediate				
Implementation tasks	Designate or appoint a hospital executive to serve as a "champion" of the ASP	Include ASP outcome measures in the facility's strategic dashboard and update leadership regularly on meeting those goals	Integrate ASP activities into quality improvement and/or patient safety initiatives and reports to medical executives	Include antibiotic stewardship in ongoing provider education programs and annual competencies
Advanced				

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Implementation tasks	Ensure that ASP leaders have training in measuring and improving antibiotic use	Prioritize funding for information technology assistance to support ASP initiatives	Support access to and availability of microbiology data and laboratory resources for AS efforts	Develop and implement an antibiotic stewardship strategy and action plan that cascades from the C-suite through individual department policies to all leaders and prescribers
	Create financial incentives for units or departments to improve antibiotic use	Ensure necessary support from other disciplines (e.g., quality improvement staff, laboratory staff, IT and nurses) and specify their responsibilities to support the ASP. IT resources are often especially important and challenging and should be made available by leadership	Support efforts and policies to hold providers accountable for improving antibiotic use	Engage patients or patient advocates in order to include the broader community in establishing accountability

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Core Element #2: Accountability: Appointing a single leader responsible for program outcomes. Experience with successful programs show that a physician leader is effective				
Basic				
Implementation tasks	Medical staff and C-suite identify a physician and pharmacy leader with expertise in antibiotic use and training in stewardship responsible for leading the ASP. Physicians and pharmacists trained in infectious disease have been shown to be effective, especially in larger hospitals	Identify a nurse practitioner with expertise in antibiotic use if a physician and/or pharmacy leader is/are not available	Ensure a collaborative approach between physicians and pharmacists	
Intermediate				
Implementation tasks	Ensure the ASP leader has specific training in antibiotic stewardship (e.g. certification program or training course)	Hold the ASP leader accountable for specific stewardship outcome measures	Include documentation of the ASP outcome measures in performance evaluations	Ensure the ASP leader actively engages other groups on stewardship efforts (e.g. emergency departments, hospitalists, surgeons, intensivists and nurses)

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	Ensure the ASP leader actively engages in any antibiotic use related improvement efforts (e.g. peri-operative antibiotic use and early recognition and treatment of sepsis)			
Advanced				
Implementation tasks	Tie established metrics to performance reviews and/or incentive payments for key leaders (e.g. appropriate antibiotic use and antibiotic timing for surgical prophylaxis and sepsis)	Consider hospital quality measures, such as Standardized Antibiotic Administration Ratio (SAAR) and *C.difficile* infection (CDI) rates as part of performance measures for ASP		

Core Element #3: Drug Expertise: Appointing a single pharmacist leader responsible for working to improve antibiotic use			
Basic			
Implementation tasks	Ensure there is a documented pharmacy leader with expertise in antibiotic stewardship; pharmacists with postgraduate training in infectious disease have been shown to be effective, especially in larger hospitals		
Intermediate			
Implementation tasks	Provide training opportunities in antibiotic stewardship for a pharmacy leader (e.g. certificate programs)		
Advanced			
Implementation tasks	Ensure the pharmacy leader engages and trains other pharmacy staff in antibiotic use so that there is a broad pharmacy stewardship workforce (e.g. emergency departments, intensive care pharmacists and medical and surgical specialty pharmacists)		

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Core Element #4: Action: Implementing at least one recommended action, such as systemic evaluation of ongoing treatment need after a set period of initial treatment (i.e. "antibiotic time out" after 48 hours)				
Basic (System wide Interventions)				
Implementation tasks	Implement a policy for review of antibiotic orders for specified drugs by a physician or pharmacist based on local needs (also known as "prior approval)	Require documentation of diagnosis/indication, drug dose and duration for all antibiotic orders	Establish guidance for antibiotic allergy assessment (e.g. a penicillin allergy assessment protocol, including recommendations on which patients might benefit from skin testing)	Develop facility-specific treatment recommendations based on national guidelines and local susceptibility data
	Standardize order forms for common clinical syndromes based on facility guidelines			
Intermediate (Patient-Specific Interventions)				
Implementation tasks	Establish a process to review antibiotics prescribed after 48-72 hours ("antibiotic time-out" or "post-prescription review"). This might be done by the treating team and/or the ASP	Establish guidance on automatic changes from IV to oral dosing in identified situations	Establish guidance on dose adjustment for cases of organ dysfunction	Develop dose optimization recommendations, especially for organisms with reduced susceptibility
	Build in automatic alerts for potentially duplicative drug therapy	Implement time-sensitive automatic stop orders for specific antibiotics	Ensure that the stewardship program works with the ICU to develop optimized	Ensure discussions of patient care (e.g. rounds) include information on antibiotics

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		(e.g. use of agents for surgical prophylaxis or empiric therapy)	antibiotic treatment protocols for possible sepsis cases	
Advanced (Diagnosis- and Infection-Specific Interventions)				
Implementation tasks	Use real-time, rapid diagnostics such as rapid pathogen identification assays (e.g. influenza and MRSA) and biomarkers (e.g. procalcitonin) to improve appropriate antibiotic use	Assure timely and appropriate culture collection and transport	Realize importance evidence-based opportunities and methods to improve antibiotic use for several infections and/or situations, e.g.: • Community-acquired pneumonia • Urinary tract infections • Skin and soft tissue infections • Surgical prophylaxis • Surgical site infections • Empiric treatment of suspected MRSA infections • Critical evaluation of need for continued non-CDI antibiotic therapy in new cases on CDI • Culture-proven invasive infections (e.g. bloodstream) • Intra-abdominal infections • Sepsis • *S. aureus bacteremia* (including central line) • Inappropriate use of antibiotics with overlapping spectra • Inappropriate treatment of culture contaminants • Inappropriate treatment of colonization	

Core Element #5: Tracking: Monitoring antibiotic prescribing and resistance patterns				
Basic				
Implementation tasks	Adherence to documentation policies e.g. requirement to document indications for antibiotic use and requirements to document performance of time-outs	Tracking of diagnosis, drug, dose, duration and de-escalation with antibiotic time-out	Adherence to facility-specific treatment recommendations or guidelines	Adherence to specific interventions
	Accurate antibiotic allergy and adverse reaction histories			
Intermediate				
Implementation tasks	Sequential tracking of antibiotic resistance patterns (e.g. gram negative resistance)	Tracking of *C.difficile* infection rates	30-day readmission rates for pneumonia and *C.difficile*	
Advanced				
Implementation tasks	Number of antibiotics administered to patients per day (i.e., days of therapy or "DOT"). Hospitals can use the CDC National Healthcare Safety Network (NHSN) Antibiotic Use Option to track and benchmark days of therapy	Grams of antibiotics used (defined daily dose or "DDD") could be used if DOT not available	Standardized antibiotic administration ratio (SAAR), an NQF-endorsed quality benchmarking measure for antibiotic use, available to hospitals enrolled in the NHSN Antibiotic Use Option	Direct antibiotic expenditures (purchasing costs)

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Core Element #6: Reporting: Regular reporting information on antibiotic use and resistance to doctors, nurses and relevant staff				
Basic				
Implementation tasks	Prepare regular reports on the measures being tracked related to antibiotic use	Include ASP report as a standing report to key stakeholders within the facility e.g. pharmacy and therapeutics, patient safety/quality, medical staff committees and the hospital board	Report to medical staff committee and health system board	Hold quarterly staff meetings with physicians, with a permanent place on the agenda to share ASP data
	Post data on physician shared webpage and distribute through emails	Ensure ASP reports are available to leaders, staff and patients	Prepare unit-specific reports to disseminate to individual hospital locations	Consider reports that might be relevant to specific provider groups (e.g. surgical prophylaxis data for surgeons, treatment of community acquired pneumonia and urinary tract infections and skin infections for hospitalists)
	Report data to the C-suite at regular intervals, along with actionable items			
Intermediate				
Implementation tasks	Include updates on progress towards meeting all hospital goals for antibiotic stewardship and	Reports should include information on overall antibiotic use and trends, interventions accepted and actions	Include concrete recommendations for improvement in reports	Encourage early adoptions of reporting into NHSN AU Module to receive SAAR reports

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	recommendation for future improvement in reports	taken, and measures of appropriate use and outcomes measures such as *C.difficile* infection rates and resistance		
	Include antibiotic stewardship and use topics in newsletters	Present "what are we doing and why we need stewardship" to the governing board	Post unit-specific data in visible places to engage unit staff in stewardship	
Advanced				
Implementation tasks	Distribute provider-level information on antibiotic use and suggestions for improvement at the prescriber level, if possible	Implement a real-time facility-specific dashboard for ASP metrics available for all staff to view		

Core Element #7: Education: Education clinicians about resistance and optimal prescribing				
Basic				
Implementation tasks	Integrate regular (e.g. monthly or at least quarterly) updates on antibiotic stewardship and resistance into communications tools (e,g, blogs, website, intranet and employee newsletters)	Highlight system goals for antibiotic stewardship in educational programs and materials	Integrate patient stories and/or narratives from doctors who altered prescribing habits after a patient suffered an adverse event	
Intermediate				
Implementation tasks	Present antibiotic use resistance data in grand rounds	Provide targeted in-person or web-based education presentations to key provider groups at least annually (e.g. staff meetings for sections and surgical morbidity and mortality conferences)	Develop clear, concise educational messages that include concrete suggestions for actions to improve use	Establish a collaborative that has coaching goals for hospitals and expert webinar presentations
Advanced				
Implementation tasks	Participate in national stewardship efforts to raise awareness with employees and patients	Focus educational content on quality and safety, rather than cost savings	Include information on antibiotic stewardship and resistance in required annual provider education programs	Include information on antibiotics in patient education materials
	Establish antibiotic stewardship curriculum in medical education and training	Incorporate antibiotic stewardship elements into orientation for new medical staff		

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