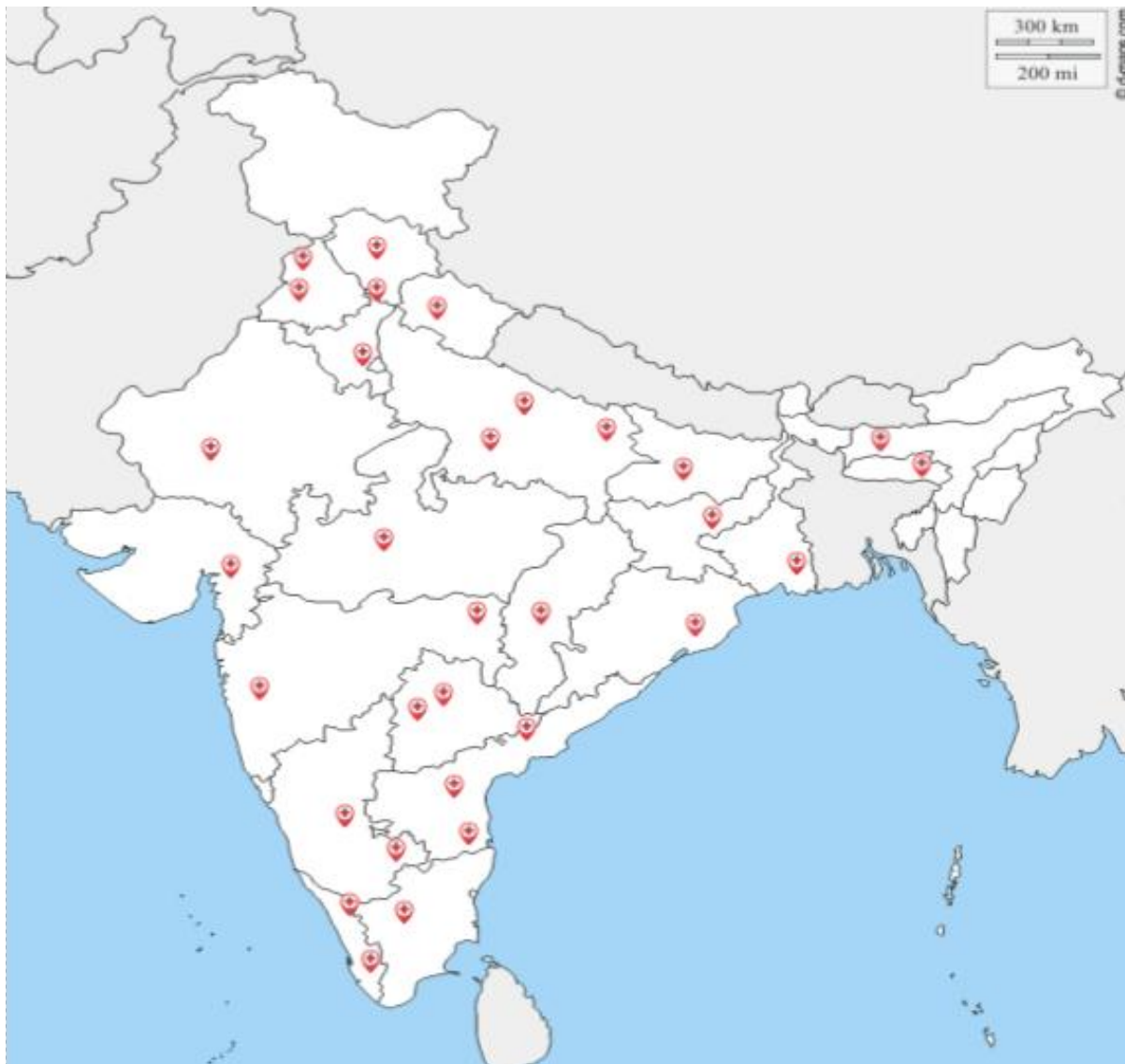# SOCIETY OF ANTIMICROBIAL STEWARDSHIP PRACTICES (SASPI) IN INDIA

Integrated Antimicrobial Stewardship (IAS) Practice Statements for Indian Hospitals

Considering the importance of **integrated antimicrobial stewardship (IAS) practices** by each hospital and each healthcare worker (HCW), it is vital to have a practice statement from SASPI based on available evidence from the literature and a recently completed Delphi study under SASPI.

This document is developed and finalized through a **Delphi model** where it was prepared by three Indian experts (An ID physician, A Pharmacologist and A Microbiologist) in the first phase, and shared with SASPI members with experts in the same field (at least one expert (HICC/AMSP member) from 31 tertiary care institutes/hospitals, Figure 1) for content validation and comments regarding the feasibility of their practices in the second phase, and lastly again verified by same three experts of the first phase and prepared the practice statements with consideration of all relevant comments by individual institute experts in third phase. These practice statements (**Box 1**) are the baseline Indian practice guidance towards IAS practices to curtail AMR in tertiary care hospitals. **Each Indian hospital is advocated to follow these practices**. With time, through multi-centric participation under the banner of SASPI, these practices will be monitored and updated towards higher goals.

Figure 1: *Indian map showing the participation of 31 institutes with pan-India representations.*

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Sr. No.	Box 1: Integrated Antimicrobial Stewardship (IAS) Practice statements for each tertiary care Indian hospitals
1.	The hospital administration should ensure an actively running IAS program, either in its totalitarian or fragmented form including diagnosis, infection prevention, and antimicrobial stewardships but with the intention of integration.
2.	The hospital should set accountability levels to educate, to advocate, to execute, and to monitor, for various defined updated IAS activities by these committees of HIC (or ISP), AMSP (or ASP), and DSP.
3.	All clinical departments should have defined accountability for rational antimicrobial use by having own antimicrobial policy and its utilization check points.
4.	Regular educational programs should be held for prescribers and other relevant staff including patients/public on IAS Practices with examples of hospital data for the same.
5.	The hospital should ensure a Compulsory Induction Program on diagnostic stewardship, good IPC & AMS practices for newly recruited Post Graduates, Interns, Junior Residents, Nurses, and other HCWs.
6.	The Clinical Microbiology Diagnostic Laboratory must be in the close vicinity or preferably in the same hospital premises to reduce Specimen transportation time.
7.	The hospital should have a fully functional 24x7 Clinical Microbiology Diagnostic Laboratory with competent manpower and signatory authority with Sunday and Holiday reporting.
8.	The hospital should have guidance procedures for the right investigation, right patient and right time and must ensure the right report interpretation, right antimicrobial and right time.
9.	All Clinical Diagnostic Laboratory should ensure that Critical Alerts have been displayed and a Notification is sent each time any critical result is observed.
10.	The Clinical Microbiology Laboratory should ensure that all proper protocols of Antimicrobial Susceptibility testing are being followed as per own, CLSI, and or EUCAST guideline.
11.	Clinical Microbiology Diagnostic Laboratory should ensure the AMR data digitalization on WHONET or MS Excel.
12.	The hospital should have documented SOP for Specimen Collection, Storage, Transportation and Processing Protocols and mandatory Culture Collection Protocol as the first specimen to be collected from the patient before the commencement of antimicrobials. These SOPs should be circulated to all the clinical departments involved in patient care time to time.
13.	The Hospital should ensure that at least Automated Culture, Identification, and Susceptibility equipment are present, which can provide MIC values, with Breakpoint to MIC Quotients whenever and wherever possible.
14.	The hospital should ensure proper supply chain management to avoid break in the Diagnostic Services.
15.	The Laboratory must have a documented policy to communicate Preliminary Grams stain findings and relevant critical alert reports and Test Interpretation must be communicated within specified turnaround time.
16.	The Laboratory must ensure that advisory footnotes, interpretation, and knowledge dissemination on Intrinsic resistance are communicated in the report.
17.	Wherever possible the Laboratory should ensure that Personalized AST Reporting including MIC values with breakpoints (R/I/S) is being performed especially in critically ill patients.
18.	The Clinical Microbiology Diagnostic Laboratory should employ rapid diagnostic tests, molecular or phenotypic, for detecting resistance mechanisms (like CRE, MRSA, ESBL, etc) so as to provide directed treatment.

19.	The hospital should have a functional HICC, with full-time appointed infection control officers and infection control nurses along with their roles and responsibilities.
20.	The hospital should adopt national guidelines and prepare a hospital-specific hospital infection control policy document.
21.	The hospital should conduct HICC meetings regularly (e.g. Monthly/quarterly).
22.	The hospital should conduct a hand hygiene audit on a monthly basis at least in all critical areas. The reports should be communicated to the respective departments.
23.	The hospital should conduct a biomedical waste segregation audit regularly.
24.	The hospital should conduct care bundle audits on a monthly basis at least in all critical areas.
25.	The hospital should conduct HAI surveillance on a monthly basis at least in all critical areas along with root cause analysis and CAPA.
26.	The hospital should have a needle-strict injury prevention and management program through NSI surveillance.
27.	The hospital should have a policy that specifies adhering to adult vaccinations by HCWs.
28.	The hospital should provide hepatitis B vaccine to all HCWs including the temporary staff and students and check anti-HB titers subsequently.
29.	The hospital should perform environmental disinfection according to standard CDC/NABH/Kayakalp/other guidelines regularly.
30.	The hospital should have an updated policy that specifies dealing with locally transmitted infections including MDRs.
31.	The hospital should set various methods of monitoring by the pharmacologist or pharmacist for ensuring rational antimicrobial use.
32.	The AMS Committee should perform antimicrobial prescription audit in all critical areas, whole hospitals preferably, and inform the report to clinicians regularly.
33.	Specific teams should perform prospective audits and feedbacks for specific antimicrobial agents regularly.
34.	Preauthorization of restricted antimicrobial agents for specific infections should be done.
35.	The hospital should have practicing documents on PK/PD of specific antimicrobial agents.
36.	The hospital should have updated facility-specific ID treatment recommendations, based on national guidelines and local antibiograms, preferably once a year.
37.	The hospital should have a policy that requires prescribers to document in the medical record or during order entry - dose (including loading dose), creatinine clearance, route, duration, stop date, and indication for all antimicrobial prescriptions.
38.	The hospital should have a policy that specifies IV to oral switch practices.
39.	The hospital should have a policy that specifies antimicrobials timeout practices.
40.	The hospital should have a policy that specifies antimicrobials ADR/SAE reporting' practices along with root cause analysis and CAPA.
41.	The hospital should have a policy that specifies OPAT practices.
42.	The hospital should track (record, review and report) on antimicrobial use on a regular basis, may be through DOT and AWaRe uses, and if required report to national or state authorities.

Note: IAS - Integrated Antimicrobial Stewardship, HCWs - Healthcare Workers, HIC - Hospital Infection Control, ISP - Infection Stewardship Program, AMSP - Antimicrobial Stewardship Program, ASP - Antimicrobial Stewardship Program, DSP - Diagnostic Stewardship Program, MIC - Minimum Inhibitory Concentration, CLSI - Clinical and Laboratory Standards Institute, EUCAST - European Committee on Antimicrobial Susceptibility Testing, AMR - Antimicrobial Resistance, WHONET - World Health Organization Network, SOP - Standard Operating Procedure, AST - Antimicrobial Susceptibility Testing, CRE - Carbapenem-Resistant Enterobacterales, MRSA - Methicillin-Resistant Staphylococcus aureus, ESBL - Extended-Spectrum Beta-Lactamase, HAI - Healthcare-Associated Infection, CAPA - Corrective And Preventive Measures, NSI - Needle Stick Injury, HB - Hepatitis B, CDC - Centers for Disease Control and Prevention, NABH - National Accreditation Board for Hospitals, MDRs - Multidrug-Resistant Organisms, PK/PD - Pharmacokinetics/Pharmacodynamics, ID - Infectious Diseases, IV – Intravenous, OPAT - Outpatient Parenteral Antimicrobial Therapy, ADR/SAE - Adverse Drug Reaction/Serious Adverse Event, DOT - Days of Therapy, AWaRe - Access, Watch, and Reserve (WHO classification of antibiotics).