All India Institute of Medical Sciences (AIIMS) Rishikesh

World Health Organization

SASPI
Society of Antimicrobial Stewardship Practices in India

"World AMR Awareness Week" Celebration

18 – 24 November 2023

Events (All days)
Integrated Antimicrobial Stewardship (IAS) Practice Addendums

Theme
Preventing Antimicrobial Resistance Together

Patron
Prof. Meenu Singh, Executive Director & CEO

Co-Patron
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Organizing team members
HCWs of Dept of Medicine, Nursing College, Microbiology, Pharmacology, CFM, HICC, Pharmacovigilance team, and Hospital Nursing professionals

Experts
Along with chairpersons and secretaries and joint-secretaries, Prof SatyaShree, Prof Girish, Prof Bhanu, Dr Minakshi, Dr Pai, Dr Monika, Dr Smita, Dr Bisht, Dr Mukesh, Dr Prakhar, Dr Ashutosh, Dr Rohit, Dr Naveen, Dr Vikas, Dr Chikara, Dr Manna, Dr Yoesh, Dr Yogendra, Dr Sandeep, Mrs. Ruchika, Mrs. Rupinder, Mrs. Malar, Mrs. Xavier, Mrs. Prasunna, Dr. Rarajeshwari, Dr Rakesh, Dr Rajesh, Dept stewardship faculties, SRs, JRs, DNSs, ANSs, SNOs, and all ICNs

Venue: Virtual, AIIMS Rishikesh, and Community area

Organizer: AMSP Committee (+ MS office and Dept - Med, Micro, Pharm, CFM, Nursing, all clinical dept)

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Program Schedules

Theme
Preventing Antimicrobial Resistance Together

18.11.2023	Inauguration Workshop on IAS Practices for HCWs including Adult vaccination	LT-3
19.11.2023	Walkathon for Public awareness regarding antimicrobial resistance Community awareness activity with local Pharmacy Shops	Astha Path & local shops
20.11.2023	Role Plays Panel discussion on antimicrobial resistance and stewardship practices at arts college or senior secondary school, Rishikesh. State action plan for AMR	Various hospital OPD, wards and ICUs Local intermediate college State authorities
21.11.2023	Role Plays Ice breaking session with HCW'. & IAS Champion ward. Foundation IAS course for Residents & faculties.	Various hospital OPD, wards and ICUs LT-3
22.11.2023	Role Plays Ice breaking session with HCW'. & IAS Champion ward. Foundation IAS course for Residents & faculties.	LT-3
23.11.2023	Quiz/Poster competition for nurses and students (Medical, Nursing & Paramedical) Foundation IAS course for Residents & faculties	LT-3
24.11.2023	Round table meeting with pharmacist and CHO's Valedictory ceremony	LT-3

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Resolutions

Theme
Preventing Antimicrobial Resistance Together

Committed HCW	10 Targets to achieve by next year
Clinician	1. To have 'Disease specific updated Dept guidelines as per antibiogram including sepsis and OPAT guideline' 2. To have 'Pre-authorization to Reserve antimicrobials by departments'
Microbiologist	3. To report MDR list to concerned faculty on daily basis through digitalization for 'MDR isolation and control' 4. 'Pathogen/non-pathogen Comments in daily reporting' after receiving proper filled SRF
Pharmacist/pharmacologist	5. To Remind each Depts on used 'Reserve group of antimicrobials' Quarterly 6. To aware each HCWs on 'Antimicrobial ADR/SAE reporting'
Nurse	7. To document 'indication of antimicrobials' while indenting in e-pharmacy till e-prescriptions start 8. Reminding on 'Daily IV antimicrobials to oral switch' and 'Antimicrobials timeout after each 5days of therapy' to residents and documenting in handover nurse notes
Public/ Community	9. To aware Community Health Officers and Pharmacists about 'Integrated Antimicrobial Stewardship awareness' involving 10. To aware each HCWs on 'Adult vaccination schedule' and their compliances

Venue: Virtual, AIIMS Rishikesh, and Community area

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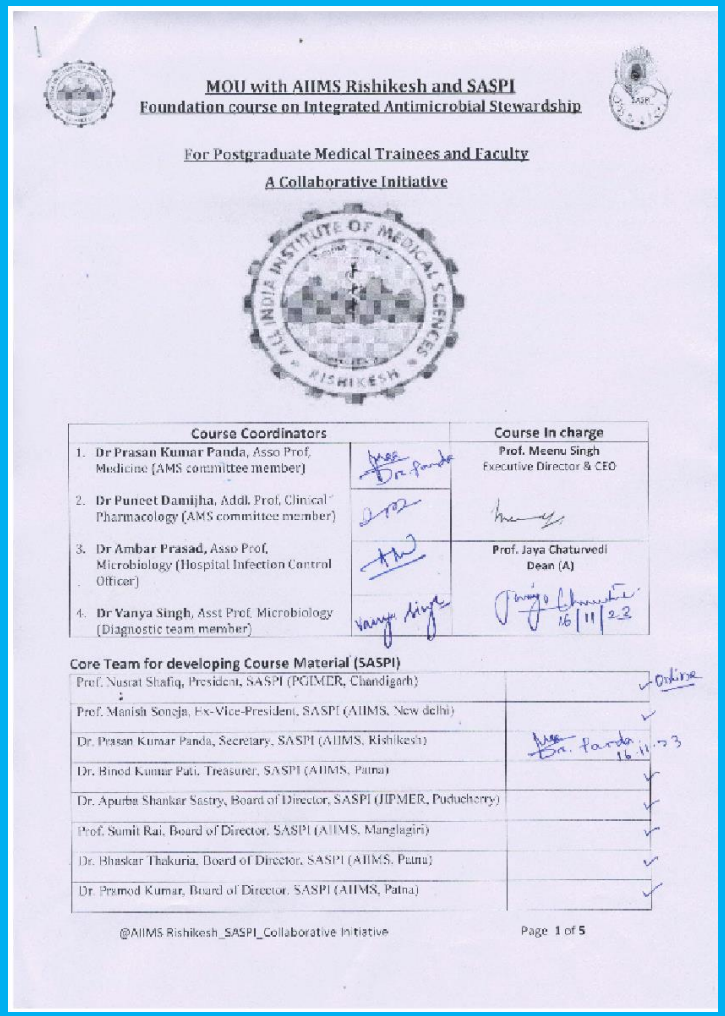
MOU with AIIMS Rishikesh and SASPI Foundation course on Integrated Antimicrobial Stewardship

For Postgraduate Medical Trainees and Faculty

A Collaborative Initiative



MOU with AIIMS Rishikesh and SASPI
Foundation course on Integrated Antimicrobial Stewardship

For Postgraduate Medical Trainees and Faculty

A Collaborative Initiative

Course Coordinators		Course In charge
1. Dr Prasan Kumar Panda, Asso Prof, Medicine (AMS committee member)		Prof. Meenu Singh, Executive Director & CEO
2. Dr Puneet Damijha, Addl. Prof, Clinical Pharmacology (AMS committee member)		
3. Dr Ambar Prasad, Asso Prof, Microbiology (Hospital Infection Control Officer)		Prof. Jaya Chaturvedi, Dean (A)
4. Dr Vanya Singh, Asst Prof, Microbiology (Diagnostic team member)		16/11/22

Core Team for developing Course Material (SASPI)

Prof. Nusrat Shafiq, President, SASPI (PGIMER, Chandigarh)	Online
Prof. Manish Soneja, Ex-Vice-President, SASPI (AIIMS, New delhi)	✓
Dr. Prasan Kumar Panda, Secretary, SASPI (AIIMS, Rishikesh)	16.11.22
Dr. Binod Kumar Pati, Treasurer, SASPI (AIIMS, Patna)	✓
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Core concept of integrated antimicrobial stewardship

(21.11.23)

PK Panda, MD

Asso. Professor

Department of Medicine

(ID Division)

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HCW's core competencies to become bedside IAS steward

C1: Understands the patient and HCW, practices standard precaution, and makes right decision

C2: Understands the execution options and chooses right choice

C3: Liaisons with other healthcare professionals to execute right practices

C4: Monitors and reviews the patient's response to treatment

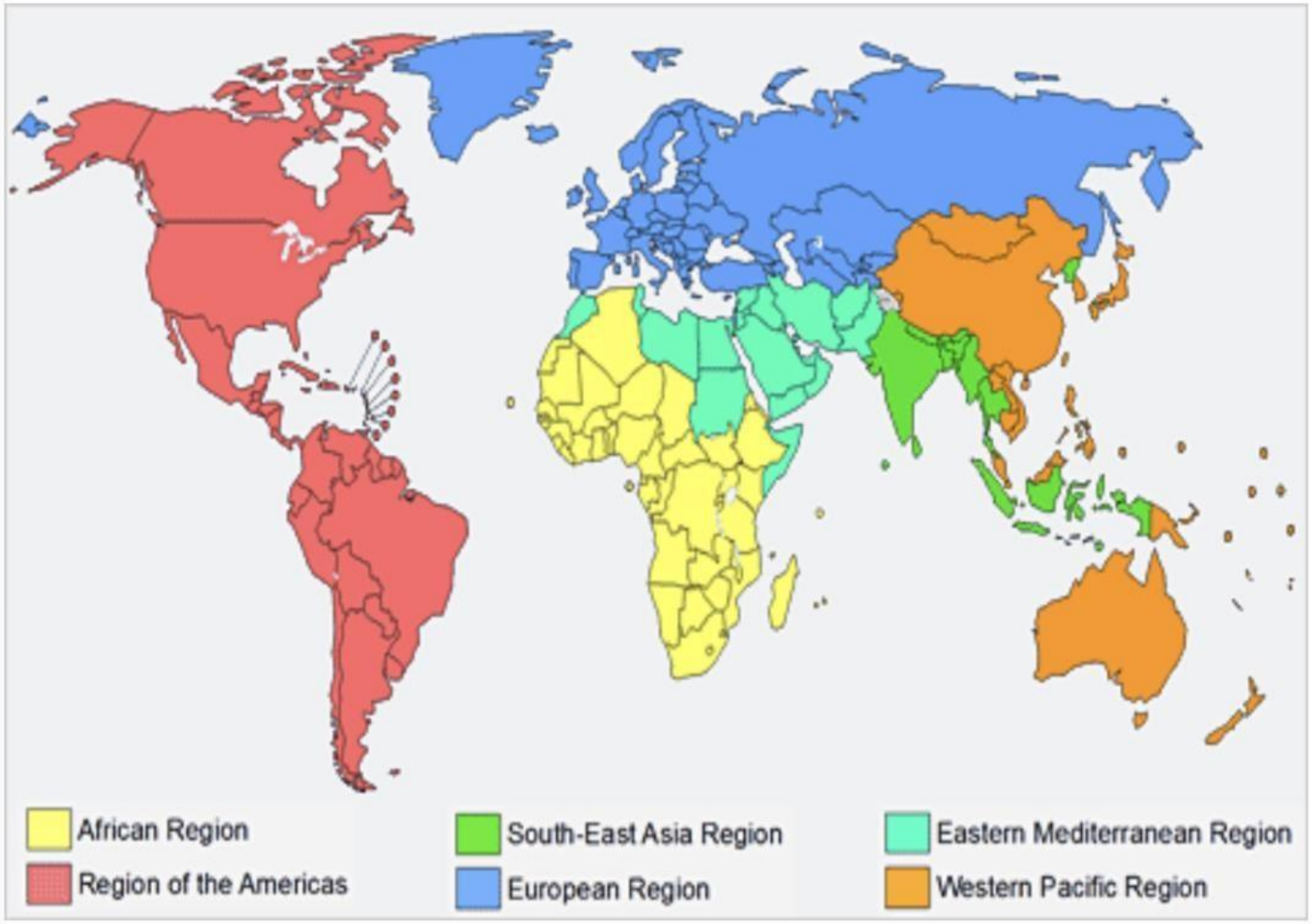
C5: Ensures infection prevention & control practices

C6: Communicates the diagnosis, treatment, and prevention plan and its rationale clearly to the patient and other healthcare professionals

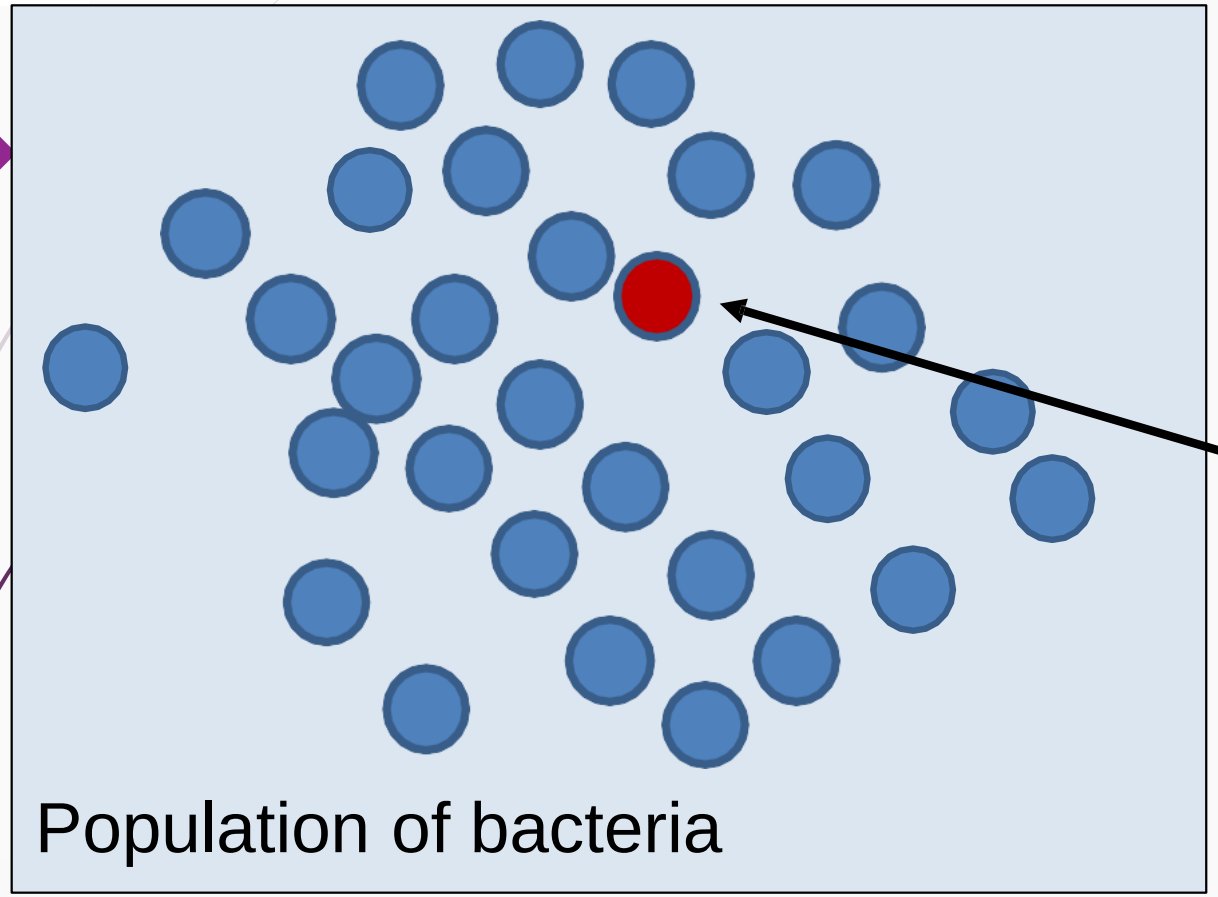
C7: Documents in detail and analyse precisely in infectious disease meets

C8: Does research and makes the society healthier

Antimicrobial resistance requires a global solution

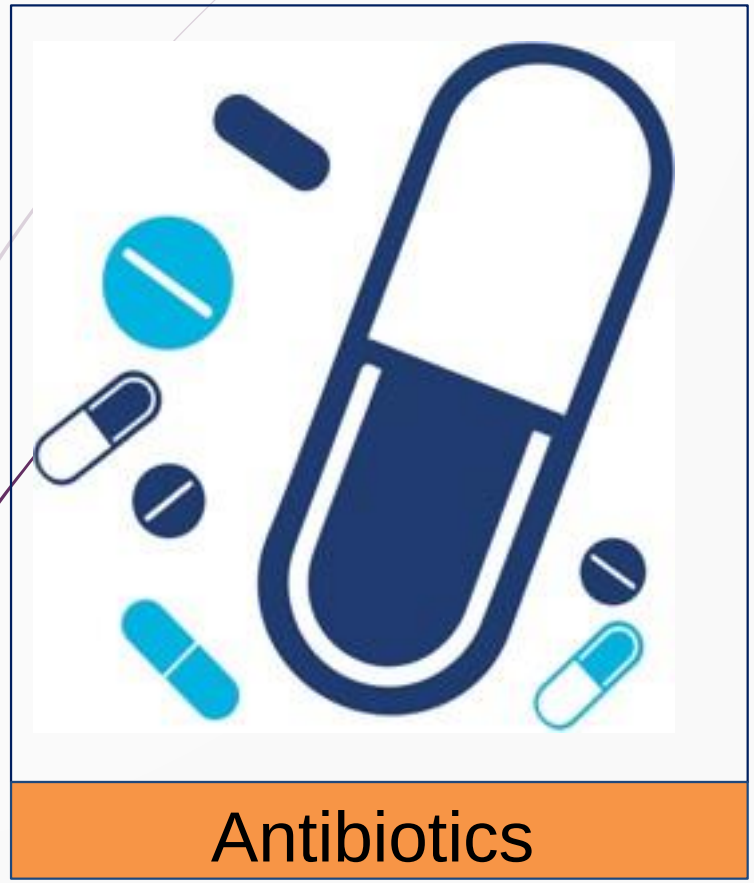


Genetic variability

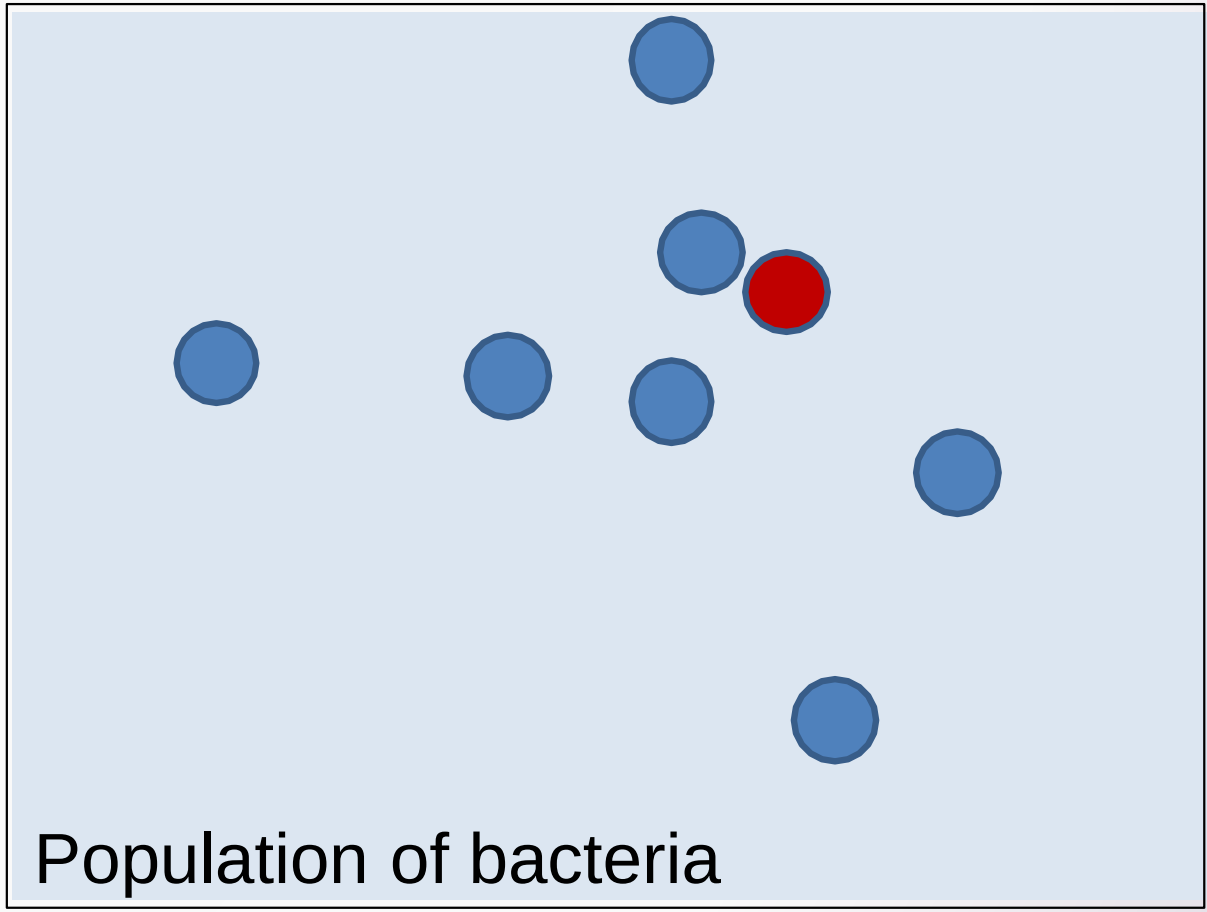


Bacterial clone harboring antimicrobial resistance

Selective pressure

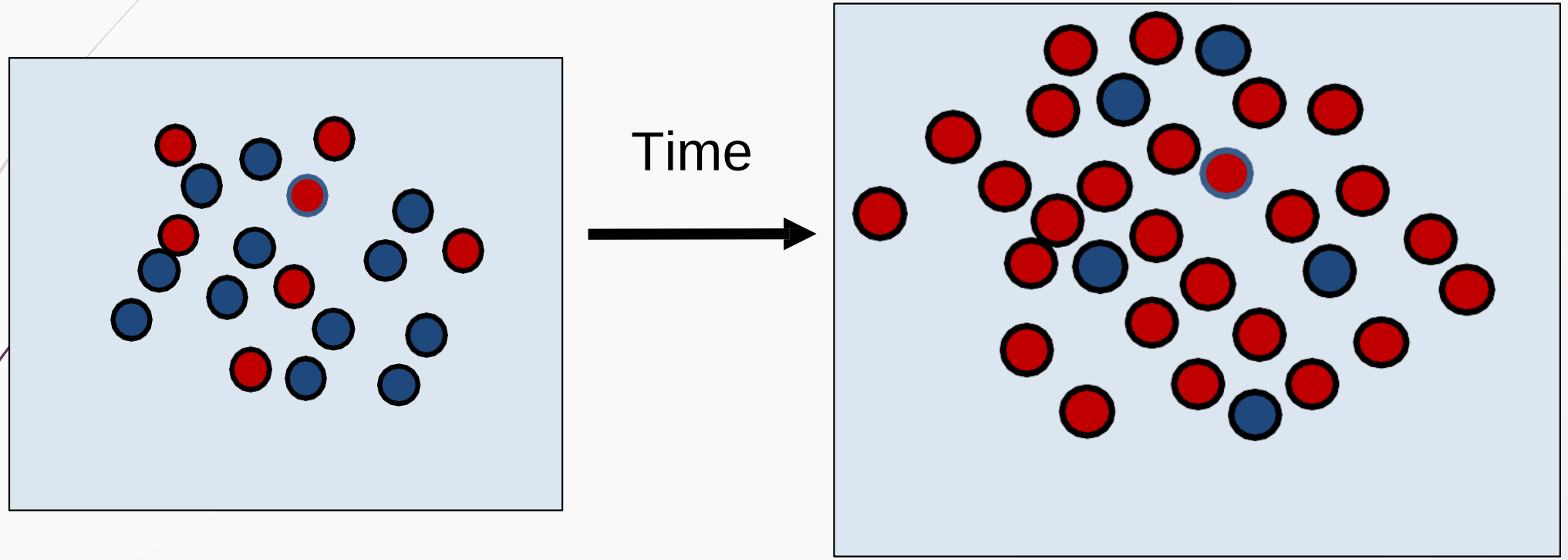


Antibiotics



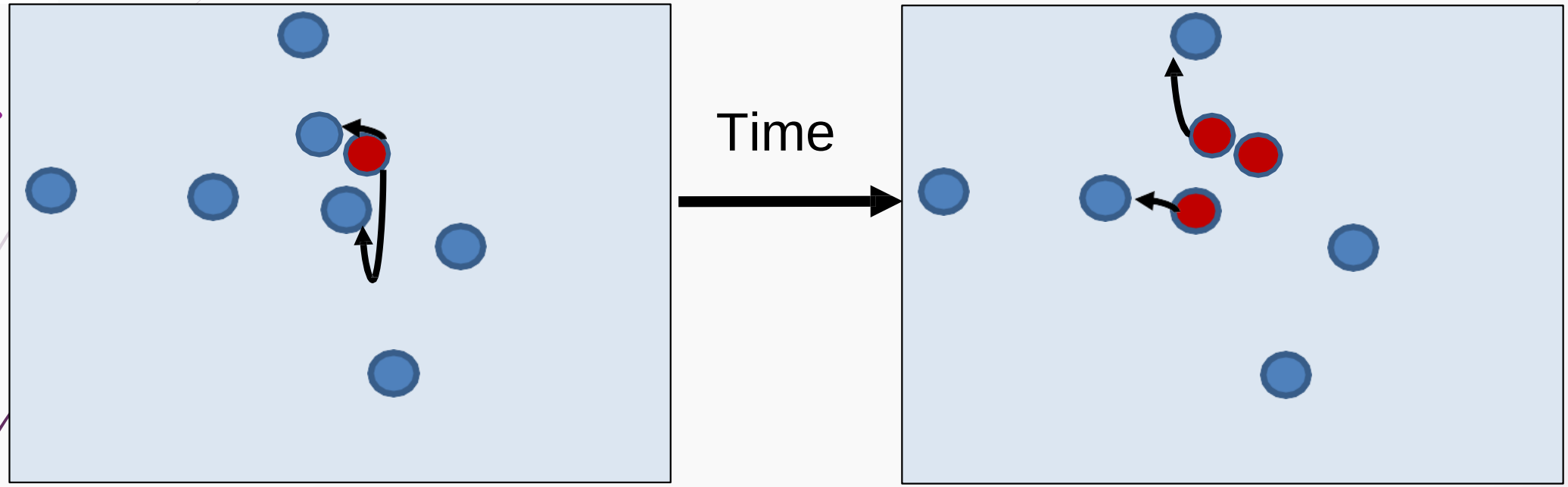
Population of bacteria

Vertical transmission



Growing population of resistant bacteria

Horizontal transmission



Growing population of resistant bacteria

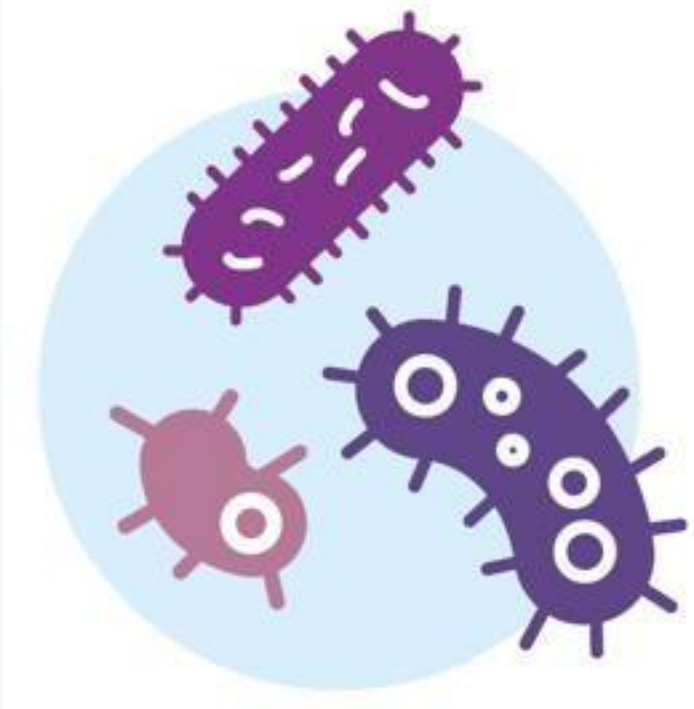
Foreign DNA can be packaged in:

- Plasmids
- Bacteriophages
- Other mobile genetic elements

Major mechanisms of resistance

Decreased uptake

Target modification



Antibiotic inactivation

Increased efflux

GLOBAL ACTION PLAN ON ANTIMICROBIAL RESISTANCE

1) Improve **awareness and understanding** of AMR through effective communication, education and training

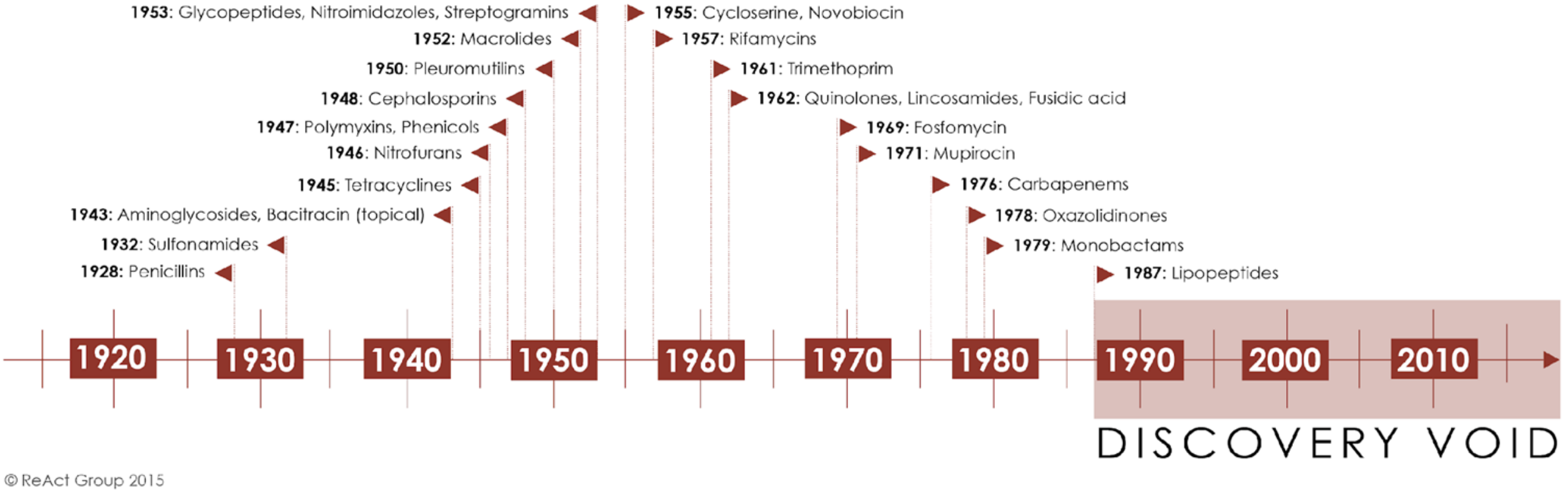
2) Strengthen **knowledge** through surveillance and research

3) **Reduce** the incidence of infection

4) **Optimize** the use of antimicrobial medicines in human and animal health

5) Develop the economic case for **sustainable** investment (in AMR)

Is discovery of new antibiotic is a solution?



Dept. wise antimicrobial utility data (May 23)

	MICU	TICU (431)	CCU 266	Neurosurgery ICU	PICU	Medical-Gastro	Pulmonary Medicine	Med-onco & Hemat	ED 312	Burn & Plastic	ENT	General Sx	Ped Sx	Ped.ED	Geriatric ward	Medicine wards (1&2)
Incharge	Dr.Mukesh Bairwa	Dr.M Q.Azam	Dr.Ankit A	Dr.Rajnesh Kumar	Dr.Lokesh	Dr. Rohit Gupta	Dr. Girish Sindhwani	Dr. Uttam Nath	Dr.Nidhi	Dr.Vishal Mango	Dr. Manu Malhotra	Dr. Somprakas Basu	Dr. Satyashree B	Dr.N.K.Bhatt	Dr.Minakshi Dhar	Dr Ravikant
Total number of patients (N)	15	11	11	12	13	22	13	13	17	14	14	46	18	11	14	42
Total Patients on antibiotic (N1)	15	11	11	12	13	12	13	13	16	13	13	38	15	9	11	34
N1/N %	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	94%	93%	93%	82%	84%	82%	78%	**81%**

No Antimicrobial (0%)	***Dermatology***	***Opthalmology***	***Psychiatry***	***Radiotherapy***

Solution?

Principles of policy (Integrated Stewardship)

ASP-Antimicrobial stewardship
DSP-Diagnostic stewardship
ISP-Infection prevention stewardship

Core elements of ASP

- Leadership Commitment
- Accountability
- Drug and organism expertise
- Actions/Interventions
- Tracking
- Reporting
- Education

Core elements of DSP

Goal	Key question	Key elements
Right test	Is the test appropriate for the clinical setting?	• Sensitivity /specificity • Predictive values • Volumes • Diagnostic yield • Laboratory feasibility • Cost • Clinical impact
Right patient	Will the clinical care of the patient be affected by the test result?	• Appropriate use criteria • Indication selection • Benchmarking Specimen rejection
Right time	Will the result be available in time to optimally affect care?	• Time to specimen receipt • Centralized vs point-of-care testing • On-demand vs batched testing • Specimen preparation time • Run time • Result reporting time

Core elements of ISP

- Hand Hygiene
- Standard Precautions
- Bundle Care (CLABSI, Bladder care, VAP, Bed sore, and SSI prevention)
- Transmission based Precautions
- Biomedical Waste Management
- Needle Stick Injury management
- Vaccination

IAS Targets…

Broad:

1. Improving optimal utilization of antimicrobials by dept specific **antibiogram** and culture guided
2. **Decreasing turn around time** for all microbiological diagnosis
3. **Zero tolerance to hospital acquired infections**
4. Achieving 100% vaccination to all health care workers

Narrow:

- Reducing empiric antibiotic prescriptions without cultures performed prior to initiation to <1% within 60 weeks
- Reducing unnecessary use of antibiotics > 7 days to <1% of courses within 60 weeks
- Reducing unnecessary use of antibiotics > 14 days to <1% of courses within 60 weeks
- Reducing concurrent use of ≥ 4 antibiotics to <1% within 60 weeks
- Reducing "double" or redundant antibiotic cover to <1% within 60 weeks
- Attaining 0% of hospital acquired infections within 60 weeks

Role of each team members

Role of Administration or leader

1. Defining role for each member (**accountability**)
2. Supporting team requirements at each level
3. **Releasing SOP** for institute
4. Maintaining pre-prescription authorization policy
5. **Community level interventions**
   a. Education on syndromic approach
   b. Education about over the counter treatments
   c. Incorporation of private hospitals and primary health care facilities
   d. Optimal use of antibiotics in animals/plants

Role of each team members

Role of Clinician

1. Understands the patients' problems and make right diagnosis
2. Rapid diagnosis by **point of care investigations**
3. Chooses right treatment and communicates with the patient
4. Ensuring **liaison with** Nursing staffs, Microbiologist, and Pharmacologist
5. **Review** the diagnosis, clinical response, and culture reports as available
6. Ensuring hospital **infection control practices**
7. Educating fellows, other staffs, and patient population
8. Data to be collected and reviewed during **ID meet regularly**

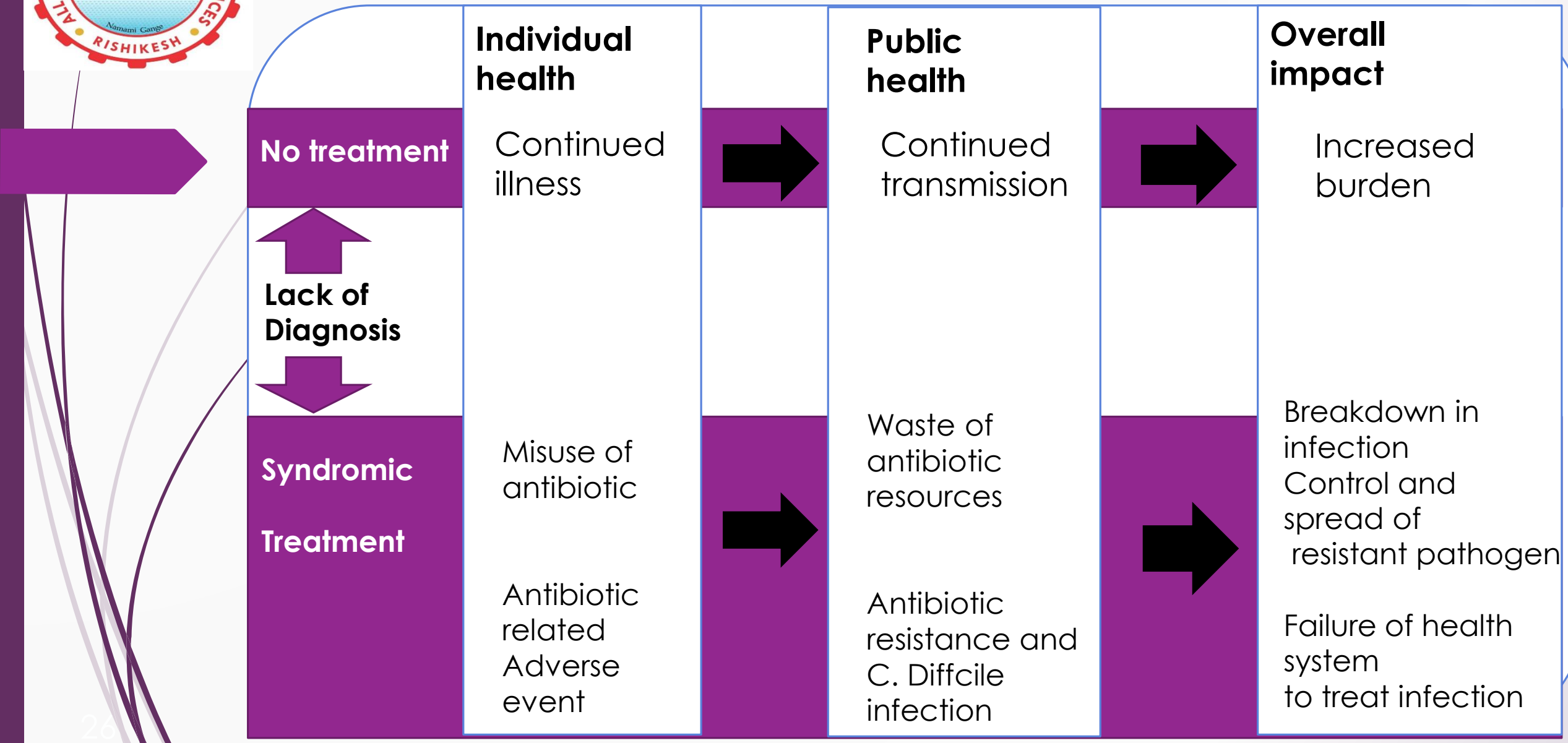
Role of each team members

Role of Microbiologist (Laboratory stewardship)	1. Improving laboratory **turnaround time (TAT)** 2. Aggressive reporting of blood culture reports 3. **Guiding the clinicians/staffs** regarding proper way of collecting and transporting samples 4. Preventing contamination 5. **Computerized culture register** 6. Coordination with hospital infection committee
Role of Pharmacologist	1. Prescription **audit and timely feedback** 2. Active prescription surveillance 3. Convincing practitioners about findings 4. Coordinate meetings, participate in ID meets 5. **Training beyond department** and institute including private and public 6. Consumption monitoring, pre-authorization, warnings of antimicrobials **by pharmacist**

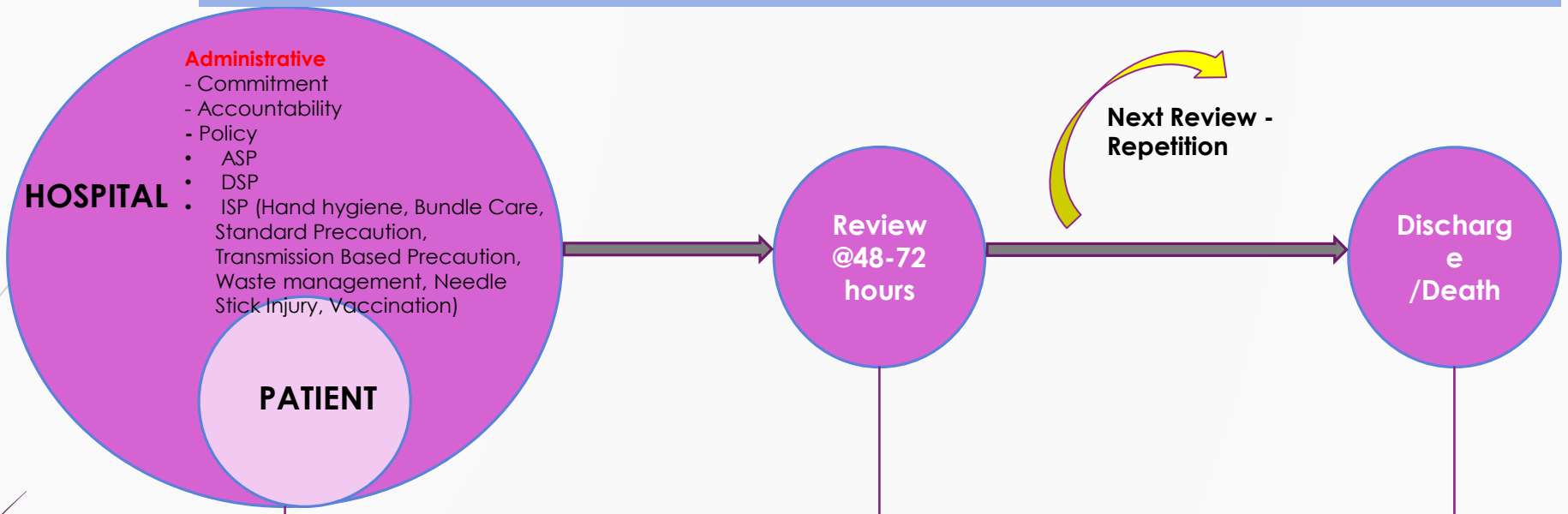
Role of each team members

Role of Nursing staff	1. Being checkpoint for drug administration, maintaining **own antimicrobial proforma** 2. Document – start date, stop date, change of route, de-escalation, dose adjustments, queries **3. Timely reminder** for all above 4. Ensure right delivery **5. Monitor and report adverse events**
Role of Public	1. Always seek the advice of a qualified health care professional when taking antibiotics 2. Not demanding antibiotics if your health worker says you don't need them 3. Not sharing antibiotics with others 4. Not using leftover antibiotics 5. Not to take antibiotics in viral infections, like colds and flu 6. Effective waste treatment can protect the environment and reduce antibiotic resistance 7. Hand Hygiene is the single most important means of preventing the spread of infection 8. Spreading awareness on antimicrobial resistance

Why Antimicrobial Policy required



Work flow of Integrated Antimicrobial Stewardship



A.
- ❖ Right Diagnosis / Syndrome Management
  - i. Guidelines/CDS
  - ii. WhatsApp Use
- ❖ ASP form

B.
- ✓ Right dose/delivery/duration - PK/PD
- ✓ ASP form

C.
- Antibiogram- Right Drug
- Sample Collection/Transport/Processing
- ISP

A.
Clinician response- Bedside right decision, Check form for compliance

B.
- ❖ Prospective A & F - PK/PD
- ❖ IV-Oral Switch/Stop order/Redundancy Alert/Other low-Hanging Fruits

C.
Microbiological Review
- i. Use App/Reporting/DSP
- ii. Stratified/Cumulative Antibiogram

A.
- ❖ Education to patient
- ❖ Assessment
- ❖ ID Meet

B.
- ✓ ID Meet
- ✓ Assessment – DOT/DDT/Cost analysis/ SAR

C.
- WHONET/others
- ID Meet
- Assessment

A.-Clinician
B.-Pharmacologist
C.-Microbiologist

ASP-Antimicrobial stewardship
DSP-Diagnostic stewardship
ISP-Infection prevention stewardship

2020

ANTIBIOTIC POLICY

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, RISHIKESH
2020

ID Practice Document:
Right Diagnosis and Treatment

(Version 2.0, An integrated antimicrobial stewardship practice)

Preventing Antimicrobial Resistance Together

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CONTENTS

Principles of Antimicrobial Prescribing

Microbiology guides therapy wherever possible

Indications should be evidence based

Narrowest spectrum required

Dosage appropriate to the site and type of infection

Minimise duration of therapy

Ensure monotherapy in most cases

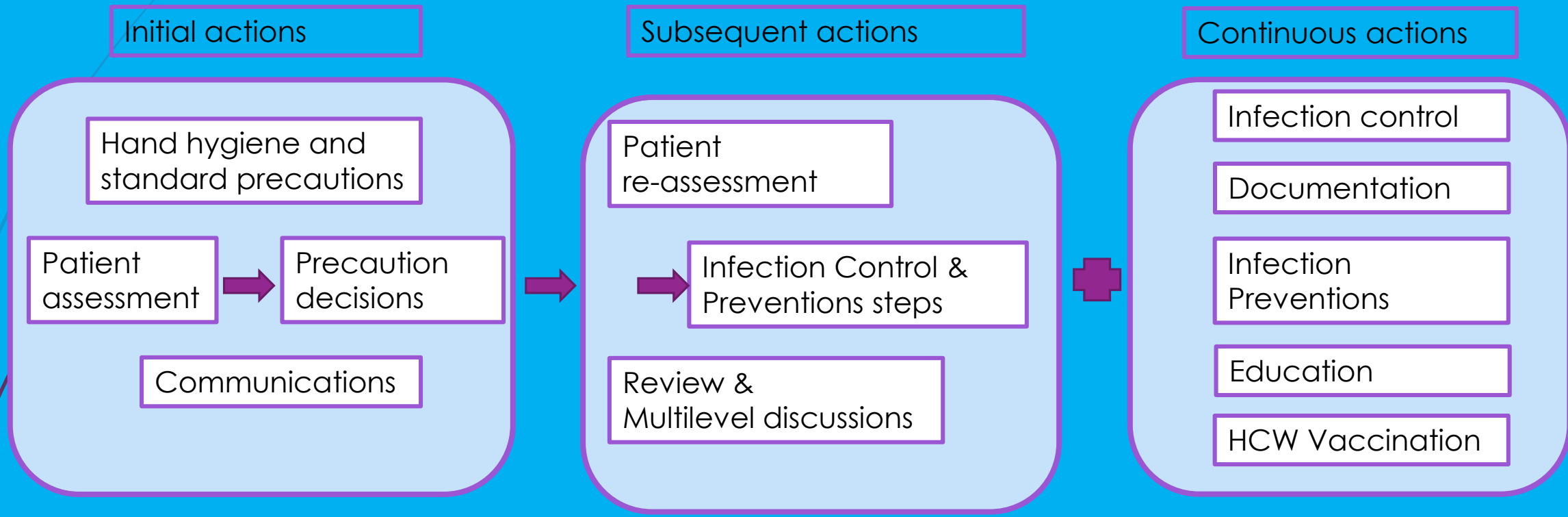
Questions for front-line HCW

Are antimicrobials indicated?

If yes, what drug is the best choice?

How can I limit the societal impact of this antimicrobial use?

To be steward is to have skills in continuum



Open Discussions…

- What are the advantages of the described system?
- What are its limitations?
- What would be obstacles to the implementation of the system in your setting?
- How do you think the system could be improved?

YUKTA KRITSHNA

KARMAKRIT

Lets all be healthy

References

- Source : https://openwho.org/courses/AMR-competency