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Ministry of Health and Family Welfare
Government of India



**Report of the
First Multicentric Point Prevalence Survey
of Antibiotic Use
at 20 NAC-NET Sites
INDIA
2021 - 22**



National Programme on AMR Containment

National Centre for Disease Control (NCDC), Directorate General of Health Services



Antimicrobial Resistance Stewardship – Our Role, Our Responsibility
Judicious Use of Antimicrobials – Key to Contain AMR



प्रो.(डॉ.) अतुल गोयल

Prof. (Dr.) ATUL GOEL

MD (Med.)

स्वास्थ्य सेवा महानिदेशक

DIRECTOR GENERAL OF HEALTH SERVICES



सत्यमेव जयते

भारत सरकार
स्वास्थ्य एवं परिवार कल्याण मंत्रालय
स्वास्थ्य सेवा महानिदेशालय
Government of India
Ministry of Health & Family Welfare
Directorate General of Health Services

FOREWORD

After discovery of sulphonamides and Penicillin in early 20th century, antibiotics emerged as a panacea for most bacterial diseases, helping in a decrease in morbidity and mortality due to bacterial infections. The period between 1980 and 2010 can be considered a boom period for antibiotic introduction by health care industry. But the period after that has raised alarms as microbes become resistant to available agents and with not many anti-microbials in pipeline. Inappropriate use of antibiotics, promoted by healthcare industry for growth is one of the major drivers for antibiotic resistance, the other two being inappropriate use and prescription by ill-informed physicians and over-enthusiastic patients respectively. In times where antibiotic resistance poses a significant threat to global health, there is a need for robust surveillance systems. Rapid emergence of increasing resistance among microbes and a dwindling efficacy of overused existing antimicrobials necessitates a proactive and comprehensive approach to monitoring of antimicrobial consumption.

Over the years India has taken many steps to deal with the challenge of antimicrobial resistance. One of the important strategies in the National Action Plan for antimicrobial resistance is gathering of information on antibiotic usage through surveillance. This has been able to generate useful information on antibiotic usage at tertiary care health facilities. Information about antibiotic prescriptions at patient level is limited. Point prevalence surveys have emerged as a valuable tool for collecting such data, allowing us to quantify and understand antibiotic prescriptions at patient level across various healthcare settings.

This report highlights the findings of Point Prevalence Survey conducted in 20 tertiary care health facilities across India. The report presents the methodology employed to ensure accuracy and reliability of information gathered. The report also underlines the efficacy of collaborative partnerships between central and state healthcare facilities, and other relevant stakeholders, whose contribution has been invaluable in creating a comprehensive and inclusive surveillance system. Furthermore, the report examines patterns of antimicrobial consumption across different health facilities. By identifying the most commonly prescribed types of antibiotics, one can gain an insight into prescribing practices and potential areas for improvement.

By leveraging insights generated by this report on antibiotic consumption, one can develop evidence-based strategies to promote responsible antimicrobial use, preserve efficacy of existing treatments, and safeguard health of future generations. I hereby extend my appreciation to the participating NAC-NET sites for their active involvement and contribution to this endeavour by the AMR-team at NCDC. It is my sincere hope that this report serves as a catalyst for change, encouraging a collective commitment to combat antimicrobial resistance. By working together, we can ensure a healthier and more sustainable future for generations to come.

(Atul Goel)

Table of Contents

Acknowledgements	v
Executive Summary	vii
Abbreviations	xi
Background	1
Objectives.....	1
Operational Definitions.....	2
Methodology	5
Data Management and Analysis.....	7
Results	10
Conclusion	23
Recommendations	24
References	25
Annexure 1: List of NAC-NET sites.....	28

List of Tables

Table 1: NAC-NET sites enrolled for conducting Point Prevalence Survey	10
Table 2: Details of AB use across 20 NAC-NET sites	11
Table 3: Details on indication of ABs prescribed	12
Table 4: Details on Surgical Prophylaxis	13
Table 5: AB coverage details of the eligible patients	13

List of Figures

Figure 1: Point Prevalence Survey at 20 NAC-NET sites	4
Figure 2: Flowchart of Point Prevalence Survey at 20 NAC-NET sites.....	9
Figure 3: Details on number of ABs prescribed.....	11
Figure 4: Details on indications for ABs.....	12
Figure 5: Distribution of AB prescriptions based on route of administration	14
Figure 6: Distribution of AB prescriptions based on AWaRe classification	14
Figure 7: Proportion of prescriptions with stop review date mentioned	15
Figure 8: Proportion of prescriptions in compliance with AB policy	15
Figure 9: Overall AB prescriptions according to WHO-ATC (Anatomical Therapeutic Chemical) class	16
Figure 10: Ward wise AB use (Days of therapy)	17
Figure 11: AB prevalence across 20 NAC-NET sites	18
Figure 12: Site wise distribution of patients based on no. of AB prescriptions ...	19
Figure 13: Distribution of patients on AB based on indication	20
Figure 14: Distribution of AB prescriptions as per AWaRe classification	21
Figure 15: AB consumption as Days of Therapy per 100 bed days in the NAC- NET sites	22

Individual Site Reports

Pandit Bhagwat Dayal Sharma Postgraduate Institute of Medical Sciences, Rohtak	29
Sawai Man Singh Medical College and associated Hospital, Jaipur	33
Guntur Medical College, Guntur.....	37
Osmania Medical College, Hyderabad	41
Mahatma Gandhi Memorial Government Medical College, Indore	45
Agartala Government Medical College, Agartala.....	49
Indira Gandhi Institute of Medical Sciences, Patna	53
Government Medical College, Aurangabad.....	57
Gandhi Medical College, Bhopal	61
North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong	65
Calcutta School of Tropical Medicine, Kolkata.....	69
Pt. Jawahar Lal Nehru Memorial Medical College, Raipur.....	73
B.J. Medical College, Pune	77
Government Medical College, Chandigarh.....	81
Lala Lajpat Rai Memorial Medical College, Meerut	85
Government Medical College, Haldwani.....	89
Ganesh Shankar Vidyarthi Memorial Medical College and L.L.R.M Hospital, Kanpur.....	93
K.A.P.Vishwanatham Medical College and Hospital, Tiruchirappalli.....	97
Gauhati Medical College and Hospital, Guwahati.....	101
Government Medical College, Jammu.....	105

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This report would not have been possible without the contributions of the PPS teams at NAC-NET sites that collaborated in the conduct of the workshops, trainings and data collation for this report.

We acknowledge the WHO India Office and Fleming Fund for the funding support.

Executive Summary

World Health Organization (WHO) included Antimicrobial Resistance (AMR) as one of the top ten threats to public health in 2019. The discovery of antibiotics was a groundbreaking advancement that revolutionized the approach to infectious diseases, earning them the status of miracle drugs. However, over the years, these once miraculous drugs have become less effective due to various factors. One of these factors is the indiscriminate, excessive, and inappropriate use of antibiotics. Addressing the challenge of AMR requires a multifaceted approach and diverse solutions. This also underscores the critical importance of having access to relevant information. Unfortunately, there is a lack of comprehensive data on antimicrobial consumption, particularly in low- and middle-income countries (LMICs).

Over the years, India has taken many steps to deal with the challenge of antimicrobial resistance. One of the important strategies in the National Action Plan for antimicrobial resistance is the gathering information on antibiotic usage through surveillance mechanisms. The surveillance mechanism has been able to generate information on antibiotic usage at the tertiary care institute levels. However, there is limited information on how antibiotics are prescribed and used at the patient level. For this, WHO has come up with the Global Point prevalence survey methodology to understand the prescribing patterns in hospitals, and repeated such surveys help compare antibiotic use over time. There are only few studies that have been conducted in India using this methodology. The present study has been done in 20 tertiary care institutes across 15 states and 2 Union Territories. The present report also generates recommendations based on the findings to monitor antibiotic usage at the hospital level.

The National Antimicrobial Consumption Network (NAC-NET) consists of 35 tertiary care institutes across India. This network is being coordinated by the National Centre for Disease Control. The network is in place since 2017 and has been monitoring antibiotic consumption at these institutes for the past five years. To supplement the available information on antibiotic consumption, NCDC conducted a training workshop on Point Prevalence Survey (PPS) on antibiotic use for the partner sites in September 2021. Of these, 20 sites participated in the current study.

Overview of the results

The study was conducted over a period of 6 months from November 2021 to April 2022. The number of days of survey ranged from 1 to 5 days at each health facility. 9652 eligible patients were surveyed out of 11588 admissions on the day of the survey. The prevalence of antibiotic use was 71.9%. It showed wide variation between the sites ranging from 37% to 100%. Overall, there were 12342 antibiotic prescriptions, 86.5% of these were prescribed through parenteral route. Only 6% of the patients were on definitive therapy with 94% being empirical therapy. 45% of the patients were being prescribed antibiotics for therapeutic indications and 55% for prophylactic indications. Double cover for gram-negative bacteria and double cover for anaerobic bacteria was observed in 26.4% and 8.7% of the prescriptions, respectively. When the prescriptions were classified on the basis of A WaRe groups, 57% were of the watch group, 38% were of the access group and 2% were from the reserve group. It is noteworthy that about 3% of the prescription were of the 'not recommended' group.

The high use of Watch group antibiotics is of concern as these antibiotics have a higher potential to develop antibiotic resistance.

Way forward

National Centre for Disease Control aims to continue to support the tertiary care institutions in the country to conduct antimicrobial consumption activities including Point prevalence surveys to help gather the much-needed information for data-driven interventions. They are also urged to gather and analyse antibiotic consumption data from outpatient departments (OPDs) to obtain a more comprehensive understanding of actual usage. NCDC will also increase its efforts to build capacity in the partner sites so that these surveys can be done at regular intervals to help gain a longitudinal picture of antibiotic consumption. We also encourage the sites to share the findings of the survey with the prescribing doctors to translate the research into timely solutions.

Key Messages

- Point Prevalence survey is an important methodology to assess prescription practices at the patient level
- The varied prevalence of antibiotic consumption denotes the different prescribing practices at sites
- Each site is encouraged to look at its prescribing practices and make necessary changes, especially at sites where the prevalence of antibiotic consumption was observed to be high
- The use of more watch group antibiotics as opposed to access group is of concern and relevant practices need to change in order to reverse the ratio
- Findings from the study reiterated the need to take action for the judicious use of antibiotics, especially in the context of use of double cover for gram negative bacteria and also high use in prophylactic indications
- Implementing site level data-driven interventions will be key to encouraging appropriate antibiotic use
- Encouraging the regular conduct of PPS will help assess the results of the interventions.

Abbreviations

AB	Antibiotic
AMC	Antimicrobial Consumption
AMR	Antimicrobial Resistance
ATC	Anatomical Therapeutic Chemical
AWaRe	Access, Watch, Reserve (Classification of ABs)
CAI	Community-Acquired Infection
DOT	Days of Therapy
ENT	Ear, Nose, and Throat
HAI	Hospital Associated Infection
HIV/AIDS	Human Immunodeficiency Virus Infection/Acquired Immune Deficiency Syndrome
ICU	Intensive Care Unit
MP	Medical Prophylaxis
NAC-NET	National Antimicrobial Consumption Network
NAP-AMR	National Action Plan on Antimicrobial Resistance
NR	Not Recommended
NCDC	National Centre for Disease Control
OBG	Obstetrics and Gynaecology
OPD	Outpatient Department
PPS	Point Prevalence Survey
SP	Surgical Prophylaxis
USD	United States Dollar
UT	Union Territory
UTIs	Urinary Tract Infections
WHO	World Health Organization

Background

Antimicrobial Resistance (AMR) has emerged as a worldwide silent pandemic that threatens human health, animal health, and the environment.^(1,2) An estimated 1.27 million deaths were a direct result of infections due to microorganisms resistant to antibiotics (ABs) in 2019. This number is predicted to rise dramatically to ten million and could cost a loss of 100.2 trillion USD by 2050^(3,4), if timely action is not taken. Inappropriate use of antibiotics is one of the main determinant of AMR.⁽⁵⁾ To add to this, the development of new antibiotic classes has decreased in the past three decades.^(6–8) Several studies have documented relationship between increased use of antibiotics and emergence of resistance.^(9–11) In view of the above challenges, it becomes imperative to monitor the use of existing antibiotics.

To tackle the challenge of AMR, Government of India launched the National Programme on AMR containment during the 12th five-year plan which is being co-ordinated by National Centre for Disease Control, Delhi. One of the main objectives of the programme is to carry out surveillance of antimicrobial usage in healthcare settings.⁽¹⁾ Currently, NCDC is working with a network of 35 state medical colleges for the monitoring of antimicrobial resistance and consumption. This network is referred to as the National Antimicrobial Consumption Network (NAC-NET). The network sites are continually collating and analysing the antimicrobial consumption data at their centres.⁽¹²⁾ In spite of continuous surveillance, there is lack of information on quantity and quality of antibiotic prescriptions, and antibiotic use at the patient level which can help in identifying the inappropriate use of antibiotics. To bridge this gap NCDC adopted WHO methodology for Point Prevalence Survey (PPS) to monitor antibiotic use in the network hospitals.⁽¹⁾

This study seeks to conduct a multicentric PPS to quantify antibiotic utilisation and determine pattern of antibiotic use in 20 NAC-NET sites.

Objectives

1. To find the point prevalence of antibiotic prescribing in selected health facilities
2. To find the most commonly prescribed antibiotics among patients
3. To find the most common indication of prescribing antibiotics in patients

Operational Definitions

Acute care beds: Acute care beds are beds accommodating patients where the principal clinical intent is to do one or more of the following

- Cure illness or provide definitive treatment of injury,
- Relieve symptoms of illness or injury (excluding palliative care),
- Reduce severity of illness or injury,
- Manage labour,
- Protect against exacerbation and /or complication of an illness and/or injury which could threaten life or normal function

Hospital annual admissions: The annual number of overall admissions in the hospital for the year prior to the year of the survey.

Eligible patients: Number of patients eligible for inclusion in the survey
= (Total patients in the ward) – [(No. of admissions after 9:00 am) + (No. of patients due for discharge on the day of survey)]

Bed days: Average number of days when hospital bed was occupied as % of available days.

Bed occupancy rate (%): Utilized bed-days x 100/available bed-days during the calendar year

Days of therapy (DOTs): The number of days a patient receives an antibiotic independent of dose.

= (Date of starting the first dose of currently prescribed antibiotic – Date of Survey)

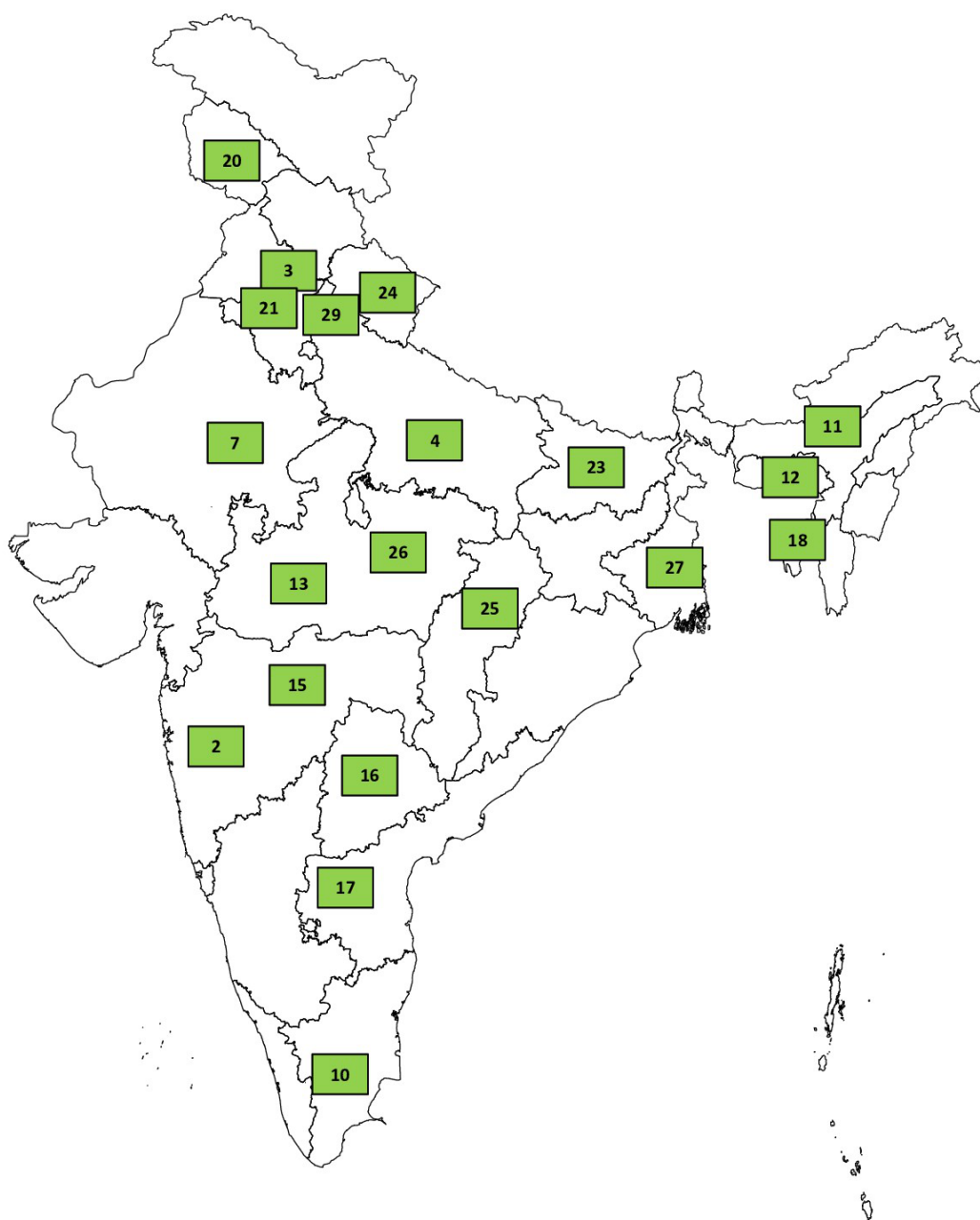
Community acquired infection: Infections in which symptoms started <48 hours from admission to the hospital.

Health care associated infection: Symptoms of infection starting 48 hours after admission to the hospital.

Surgical prophylaxis: For surgical patients present in the ward at 9 am on the day of survey it would be checked that the patients have been prescribed surgical prophylaxis in the 24 hours prior to 9 am. Administration of prophylactic antimicrobials should be checked in the previous 24 hours in order to encode the duration of prophylaxis as either one dose (SP1), one day (= multiple doses given within 24 hrs, SP2) and >1 day (SP3).

Medical prophylaxis: Indication for medical prophylaxis includes prevention of opportunistic infections in immunocompromised patients (HIV/AIDS patients). For example, long term use to prevent UTIs or use of antifungal in patients undergoing chemotherapy or penicillin in aspheric patients, late-stage cirrhosis upper gastro intestinal bleeding and acute necrotizing pancreatitis.

Figure 1: Point Prevalence Survey at 20 NAC-NET sites



List of NAC-NET sites that conducted PPS (Annex-I)			
1	PGIMS, Rohtak	11	CSTM, Kolkata
2	SMSMC, Jaipur	12	JNMMC, Raipur
3	GMC, Guntur	13	BJMC, Pune
4	OMC, Hyderabad	14	GMC, Chandigarh
5	MGMMC, Indore	15	LLRMMC, Meerut
6	AGMC, Agartala	16	GMC, Haldwani
7	IGIMS, Patna	17	GSVMMC, Kanpur
8	GMC, Aurangabad	18	K.A.P.V MC, Trichy
9	GMC, Bhopal	19	GMC, Guwahati
10	NEIGRIHMS, Shillong	20	GMC, Jammu

Methodology

Study Design: Point Prevalence Survey

Study setting:

- 20 NAC-NET sites. NAC-NET sites are tertiary care institutes enrolled under National Programme on AMR Containment.
- A national workshop was organized on 29 and 30 September, 2021 with the objective of orienting the officials from the NAC-NET sites on the Point Prevalence Survey methodology. 30 sites participated in the workshop, out of which, 20 sites from 15 states and 2 UTs agreed to conduct the PPS at their institutes

Study Period: This PPS was conducted from November 2021 to April 2022

Core Team: A core team was constituted at NCDC Delhi for technical support and co-ordination with participating NAC-NET sites. This team was involved in site level training, data cleaning, collation and analysis. The training involved hands on approach using hospital case sheets to conduct the data collection.

Site Team: A nodal officer was designated to conduct PPS by the institute. Each site chose their data collectors comprising of medical students, post graduate students, pharmacy students, nursing students and junior faculty as per their availability and convenience

Inclusion Criteria:

- All inpatients admitted in acute care wards at/or before 9:00 am on the day of the survey
- Neonates born at or before 9:00 am

Exclusion Criteria: All patients/wards falling in the exclusion criteria were excluded from both the numerator and denominator data

- All patients admitted after 9:00 am on the day of the survey
- Patients who were discharged before 9:00 am on the day of the survey and patients due for discharge on the day of survey
- Patients for day-care admissions such as endoscopy, dialysis or others

Wards Surveyed: The wards surveyed include Medicine, Surgery, Obstetrics and Gynaecology (OBG), Paediatrics, Intensive care units (ICU) and others like ENT, Ophthalmology, Orthopaedics. The other super specialty wards were reclassified as per the parent department of Medicine or Surgery.

Data collection tools: We used pre-designed and pretested PPS tool. The tool consisted of three different Google forms, which included details on hospital, ward, and patient.

The **hospital form** included:

- Type and size of hospital
- Date of start and end of survey
- Hospital total beds (acute and non-acute beds)
- Number of ICUs beds

The **ward form** included:

- Date of survey
- Type and name of ward
- Number of beds in a ward
- The total number of inpatients admitted

The **patient form** included:

- Date of admission
- Date of survey
- Patient characteristics (gender, age, weight)
- AB information (generic name, number of doses, route of administration, duration of treatment, empirical or targeted therapy, reason for treatment/ prophylaxis noted in notes, stop/ review date documented, prescription compliant with local treatment guidelines)

A pilot PPS was conducted in a tertiary care institute, Delhi. The google form was designed to capture AB details till 5 prescriptions. The data collectors were provided with paper forms to collect information on additional AB prescriptions. This decision was based on results of pilot study conducted.

Data collection: Each health facility was assigned a unique identification number (Table 1). The designated nodal officers completed the hospital form. The selection

of wards was based on the preferences of the institution, and the supervisors of the data collection team completed the ward forms.

Patients who met the inclusion were considered as eligible participants. The data collectors filled out the patient forms. The duration of data collection depended on the number of beds in the facility and the availability of data collectors, spanning one or more days. However, the data collection for each ward took place on a single day.

To determine the duration of surgical prophylaxis for patients, the administration of antibiotics within the previous 24 hours was observed and categorized as either one dose (SP1), multiple doses given in a single day (SP2), or multiple days (SP3). Additionally, any empirical or targeted treatment based on relevant clinical specimen microbiology data (e.g., blood or sputum, excluding screening tests) was recorded.

As the surveyor was collecting information on surgical prophylaxis during a 24-hour period prior to 9:00 am on the day of survey, care was taken not to survey surgical wards following a weekend or public holiday since elective procedures may be reduced during these days.

Days of therapy per 100 bed days: Data on bed occupancy was not collected, therefore DOT/100 Bed days was calculated assuming 100% bed occupancy of eligible patients. Days of therapy is a measure of antibiotic consumption.

Data Management and Analysis:

Data was collected using google forms and utmost care was taken to complete all the forms in all respect. The collected data was retrieved as an excel sheet. Site team analysed the collected data. Core team collated data from all sites and analysed it using MS Excel. Data was presented as descriptive statistics (frequencies, proportions), tables and graphs as appropriate.

Ethical consideration: This was a non-experimental and non-interventional study and did not involve any patient examination, interviews or interventions, thus, we did not take patient consent. We did not record personal identifiers of patients. Each hospital was given a unique ID number, and the data were kept confidential. For

the study, we obtained permission from NCDC Ethics Review Committee, New Delhi. Institutional approval was obtained from concerned authority of the hospital by participating sites as per need of the site.

Conflict of Interest: Nil

Funding: WHO Fleming Fund

Indicators

Indicators of AB consumption used for analysis are as follow –

1. Patients on ABs

- Prevalence of AB use
- Number of ABs
- Diagnosis of patients on ABs
- Patients on definitive or empiric therapy
- Patients given double cover for gram negative bacteria
- Patients given double cover for anaerobic bacteria

2. Details of AB Prescriptions

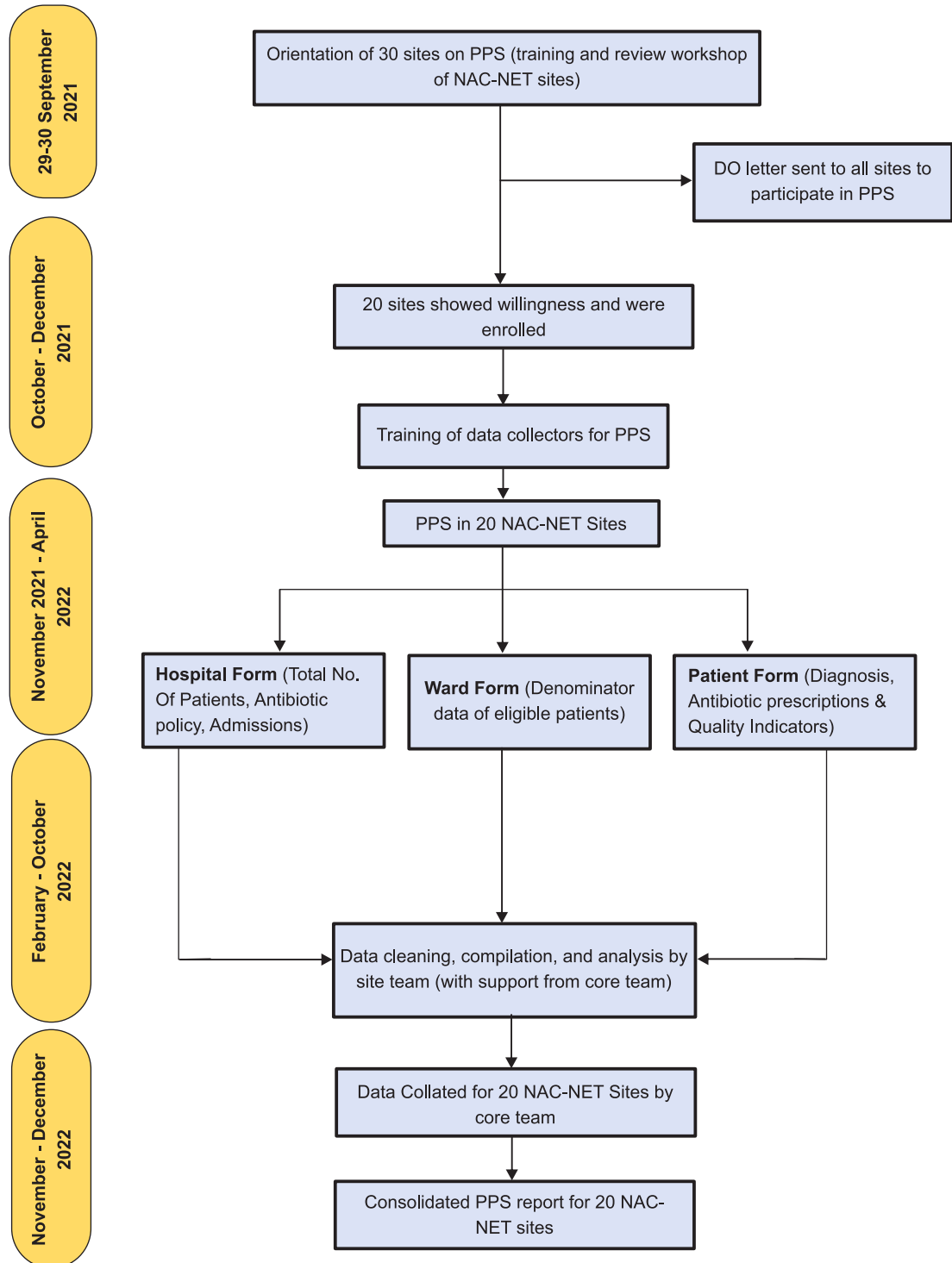
- Number of prescriptions
- Average no. of ABs prescribed per eligible patient
- Average no. of ABs prescribed per patient on AB
- AWaRe classification of AB prescriptions
- Number of AB prescriptions from ‘WHO not recommended’ list
- Route of systemic administration

3. Quality Indicators

- Prescriptions with stop/review date mentioned
- Prescriptions in compliance with AB guidelines

Note: Each antibiotic prescribed in a case sheet was taken as one AB prescription.

Figure 2: Flowchart of Point Prevalence Survey at 20 NAC-NET sites



Results

We conducted PPS of antibiotic use at 20 NAC-NET sites to quantify antibiotic utilization and determine patterns of antibiotic use at these sites (health care facilities). All the 20 NAC-NET sites have moderate to high patient load ranging from 1351 to 8,37,018 admissions annually. None of the participating sites had electronic medical records. A total of 9652 eligible patients from 20 NAC-NET sites were enrolled in the study from different specialties to study the prevalence of antibiotic use. Site wise break up of eligible patients is given in Table 1.

Table 1: NAC-NET sites enrolled for conducting Point Prevalence Survey

S. No.	NAC-NET site	Unique ID	Total Beds	Annual Admissions (Previous year)	Eligible Patients
1	Pandit Bhagwat Dayal Sharma Post Graduate Institute of Medical Sciences, Rohtak, Haryana	HR-R	2080	4,86,362	802
2*	Nawal Man Singh Medical College, Jaipur, Rajasthan	RJ-J	3255	1,71,842	441
3	Guntur Medical College, Guntur, Andhra Pradesh	AP-G	1267	51,107	450
4	Mahatma Gandhi Memorial Medical College, Indore, Madhya Pradesh	MP-I	1309	1,10,941	356
5*	Osmania Medical College, Hyderabad Telangana	TG-H	2183	8,37,018	1140
6	Agartala Government Medical College, Agartala Tripura	TR-A	733	2,10,775	496
7	Government Medical College, Aurangabad, Maharashtra	MH-A	1665	64,394	397
8*	Indra Gandhi Institute of Medical Sciences, Patna, Bihar	BR-P	1061	23,746	122
9*	Gandhi Medical College, Bhopal, Madhya Pradesh	MP-B	925	39,105	632
10	North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong, Meghalaya	MG-S	594	8,279	170
11	Calcutta School of Tropical Medicine, Kolkata, West Bengal	WB-K	162	1,351	84
12*	Pt. Jawahar Lal Nehru Memorial Medical College, Raipur, Chhattisgarh	CG-R	1250	39,966	215
13*	BJ Government Medical College and Session General Hospitals, Pune, Maharashtra	MH-P	1290	22,979	515
14*	Government Medical College, Chandigarh	CH-C	980	34,804	259
15	Lata Lajpat Rai Memorial Medical College, Meerut, Uttar Pradesh	UP-M	650	33,968	202
16	Government Medical College, Haldwani, Uttarakhand	UK-H	865	27,464	53
17	Ganesh Shankar Vidyarthi Memorial Medical College, Kanpur, Uttar Pradesh	UP-K	1779	45,982	341
18*	K.A.P. Viswanathan Medical College, Trichy, Tamil Nadu	TN-T	1703	4,48,564	720
19	Guwahati Medical College, Guwahati, Assam	AS-G	2220	73,637	1396
20	Government Medical College, Jammu	JK-J	1923	97,103	861
Total Eligible Patients					9652

*Sites which followed AB policy

Patients on ABs

Overall prevalence of AB use was found to be 71.9% ranging from 68.6% in Paediatrics to 78.9% in ICUs.

Ward wise details of Antibiotics

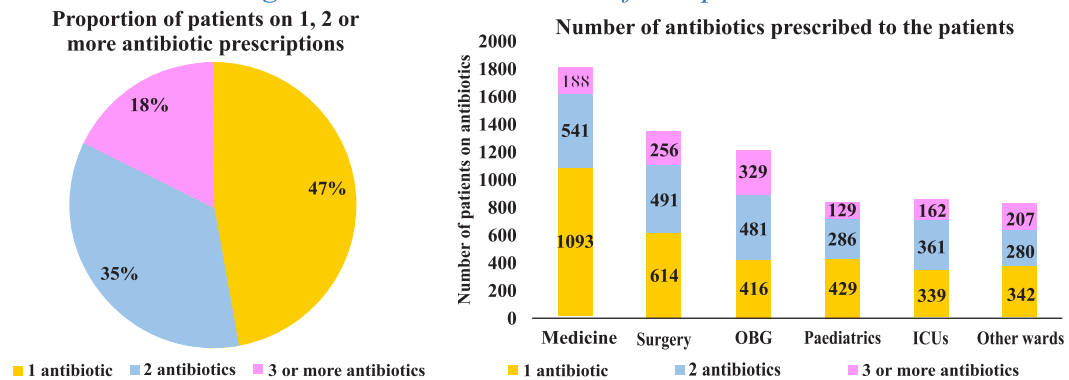
Table 2: Details of AB use across 20 NAC-NET sites

Wards	Eligible patients	Patients on ABs n (%)	Total AB prescriptions	Avg. AB per eligible patient	Avg. AB per patient on ABs
Medicine	2645	1822 (68.9)	2794	1.1	1.5
Surgery	1821	1361 (74.7)	2452	1.4	1.8
OBG	1659	1226 (73.9)	2422	1.5	2.0
Paediatrics	1231	844 (68.6)	1466	1.2	1.7
ICUs	1092	862 (78.9)	1621	1.5	1.9
Other wards*	1204	829 (68.9)	1587	1.3	1.9
Total	9652	6944 (71.9)	12342	1.3	1.8

*ENT, Orthopaedics, Ophthalmology

Out of the 9652 eligible patients surveyed, 6944 (71.9%) patients were put on ABs. Overall average AB prescriptions per eligible patient was 1.3 and average AB prescriptions per patient on AB was 1.8. The wards having maximum AB prescriptions per eligible patient were ICUs and OBG (1.5 ABs per eligible patient).

Figure 3: Details on number of ABs prescribed



Overall, 53% of the patients on antibiotics, were on more than one AB. Patients were on single AB maximally in medicine (60%) whereas three or more ABs were commonly practiced in OBG (26.9%).

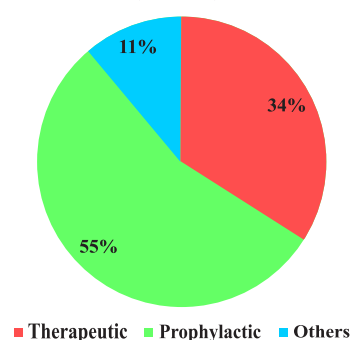
Table 3: Details on indication of ABs prescribed

Wards	Patients on Antibiotic prophylaxis		Patients on Antibiotic therapy			Total patients on ABs
	MP n (%)	SP n (%)	CAI n (%)	HAI n (%)	Others n (%)	
Medicine	597 (32.8)	34 (1.9)	852 (46.8)	64 (3.5)	275 (15)	1822
Surgery	65 (4.8)	928 (68.2)	269 (19.8)	24 (1.7)	75 (5.5)	1361
OBG	138 (11.3)	879 (71.7)	39 (3.2)	34 (2.8)	136 (11)	1226
Pediatrics	142 (16.8)	80 (9.5)	487 (57.7)	23 (2.7)	112 (13.3)	844
ICUs	204 (23.7)	113 (13.1)	303 (35.2)	78 (9)	164 (19)	862
Other wards	66 (8)	554 (66.8)	150 (18.1)	38 (4.6)	21 (2.5)	829
Total	1212 (17.5)	2588 (37.3)	2100 (30.2)	261 (3.8)	783 (11.2)	6944

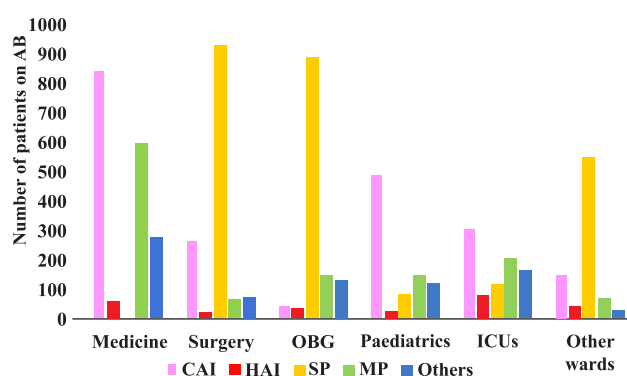
*MP: Medical Prophylaxis, SP: Surgical Prophylaxis, CAI: Community Acquired Infections, HAI: Healthcare Associated Infection

Figure 4: Details on indications for ABs

Proportion of patients based on the indications for antibiotic prescription (N=6944)



Ward wise distribution of patients based on indications for antibiotic prescriptions (N=6944)



45% patients were prescribed ABs for therapeutic indications and 55% patients were administered ABs for prophylactic indications. Among different wards Community Acquired Infection (CAI) dominated the indication of AB use in Medicine (47%), Paediatrics (58%) and ICUs (35%) whereas in Surgery, OBG and other wards surgical prophylaxis (SP) was given 68%, 72% and 67% respectively.

Table 4: Details on Surgical Prophylaxis

Wards	Patients on SP			Total
	SP1 n (%)	SP2 n (%)	SP3 n (%)	
Medicine	0	6 (18)	28 (82)	34
Surgery	11 (1)	67 (7)	850 (92)	928
OBG	22 (3)	73 (8)	784 (89)	879
Paediatrics	1 (1)	3 (4)	76 (95)	80
ICUs	1 (1)	8 (7)	102 (92)	113
Other wards	6 (1)	45 (8)	505 (91)	554
Total	41 (1)	202 (8)	2345 (91)	2588

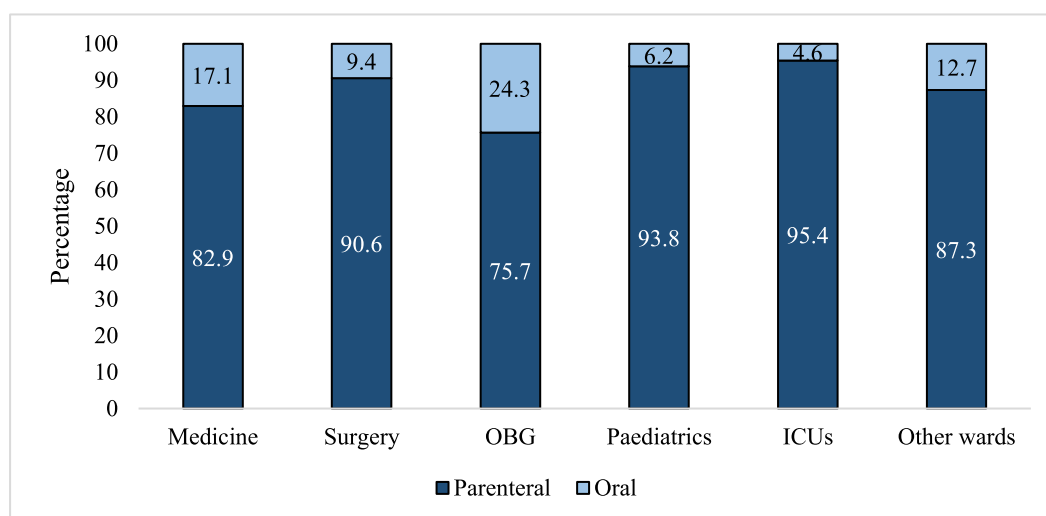
SP given to eligible patients was further classified as SP1, SP2 and SP3 as described in methodology and we found that most of the patients (91%) were put on SP3 , only 1 % patients were put on SP1 and 8% patients were put on SP2.

Table 5: AB coverage details of the eligible patients

Wards	Patients on definitive therapy n (%)	Patients on double anaerobic cover n (%)	Patients on double cover for gram negative organisms n (%)	Patients on ABs
Medicine	76 (4.2)	118 (6.5)	287 (15.8)	1822
Surgery	113 (8.3)	160 (11.8)	325 (23.9)	1361
OBG	64 (5.2)	124 (10.1)	353 (28.8)	1226
Paediatrics	53 (6.3)	34 (4)	211 (25)	844
ICUs	35 (4.1)	111 (12.9)	294 (34.1)	862
Other wards	76 (9.2)	54 (6.5)	363 (43.8)	829
Total	417 (6)	601 (8.7)	1833 (26.4)	6944

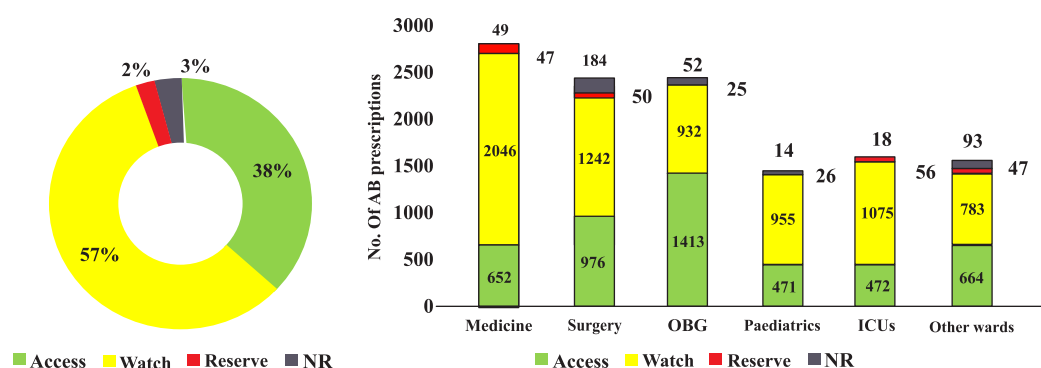
Overall, 6% of patients on ABs were put on definitive therapy. 8.7% of patients on ABs were prescribed double cover for anaerobic bacteria and 26.4% of all patients on ABs were put on double cover from gram negative bacteria. Maximally 12.9 % of patients were put on double cover against anaerobic bacteria in ICUs whereas least 4% patients from Paediatrics were put on double cover against anaerobic bacteria. Patients from other wards (Orthopaedics, Ophthalmology, ENT, Urology etc) were prescribed more double coverage against gram negative bacteria (34%).

Figure 5: Distribution of AB prescriptions based on route of administration (n=12342)



Overall, 86.5% of ABs were prescribed through parenteral route. Parenteral route of administration was the dominant route in all the wards ranging from 75.7% in OBG to 95.4% with highest parenteral administration in ICUs and Paediatrics (93.4%).

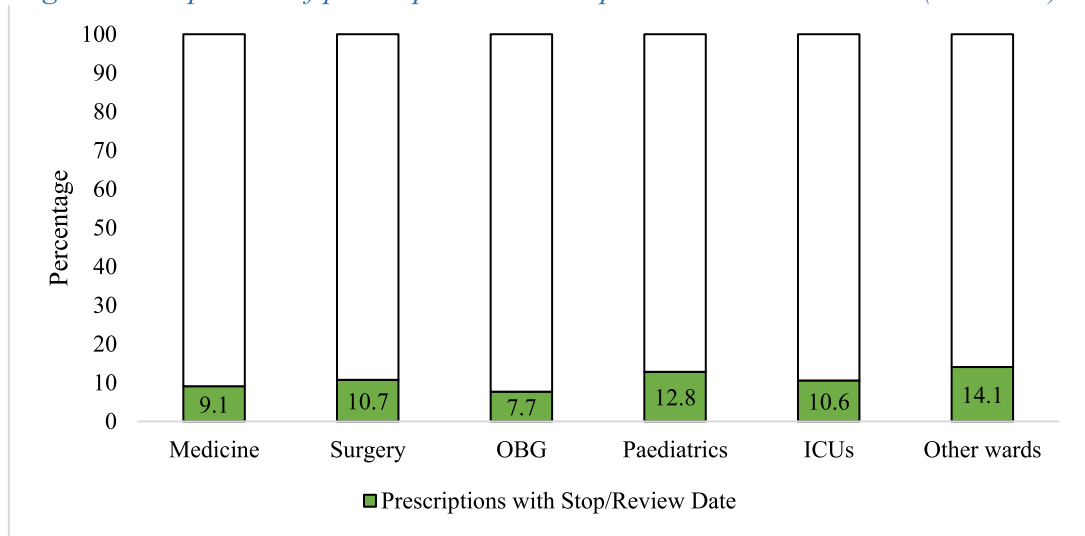
Figure 6: Distribution of AB prescriptions based on AWaRe classification (n=12342)



Based on WHO AWaRe classification, watch group ABs (57%) were prescribed more than the access group ABs (38%) in almost all the wards {maximally 73% in Medicine followed by ICUs (66%), Paediatrics (65%), Surgery (51%) and others (49%)} except OBG, where access group ABs (58%) were prescribed more than the watch group ABs (39%). Use of reserve group ABs ranged from 1% (OBG) to 3.5% (ICUs). The percentage of AB prescriptions from the ‘WHO not recommended’ group was 3.3% with surgery (7.5%) and other wards (5.9%).

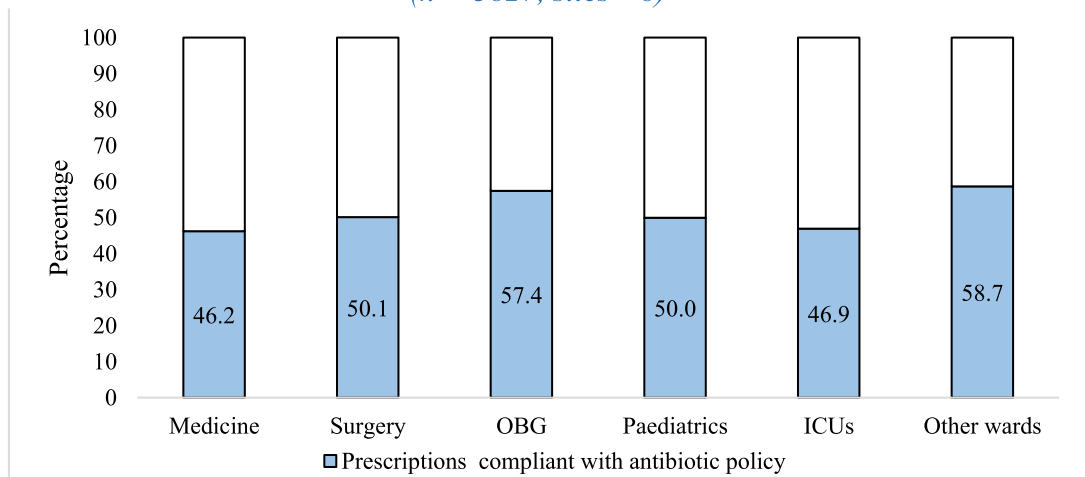
Prescription Quality Indicators

Figure 7: Proportion of prescriptions with stop review date mentioned (n=12342)



Stop/review date was recorded in only 10.4% prescriptions. This was more in the other wards with 14% prescriptions having the stop review date mentioned in the prescriptions.

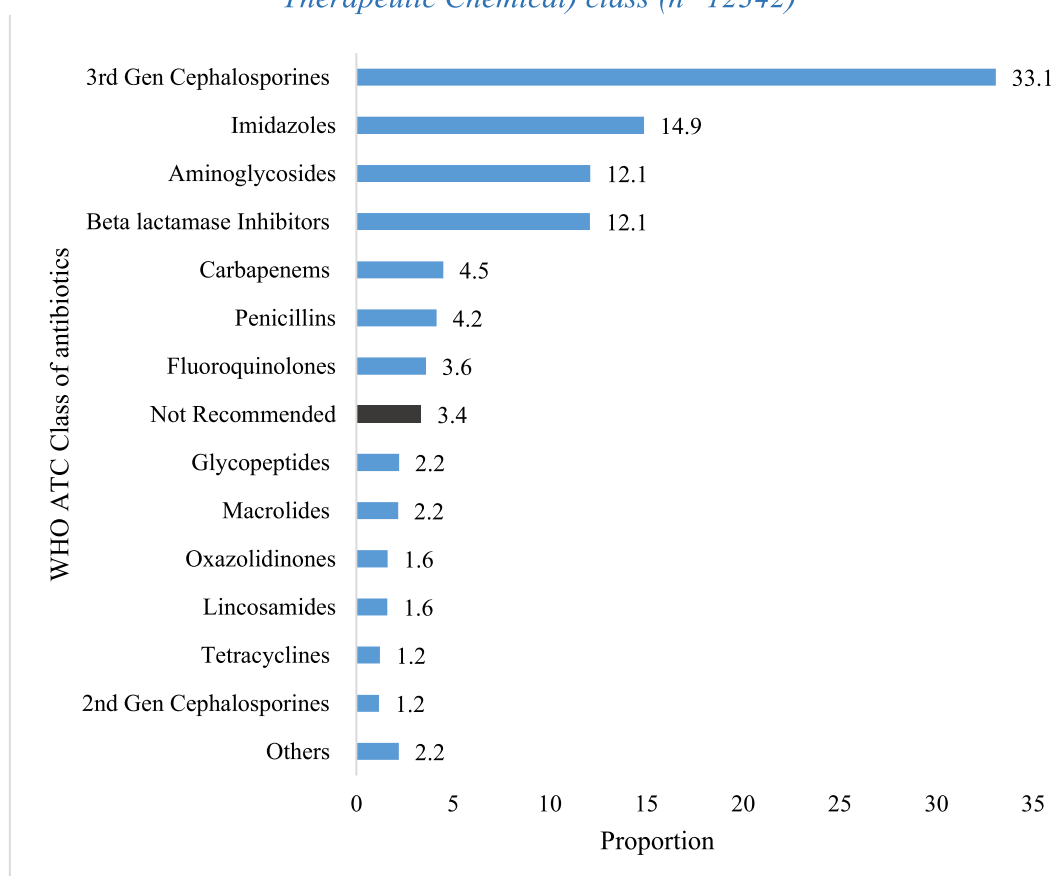
Figure 8: Proportion of prescriptions in compliance with AB policy (n = 3827, sites = 8)



Out of 20 NAC-NET sites only 6 sites followed AB policy in all wards, one site (OMC, Hyderabad) had AB policy in one of their three hospitals and one site (GMC, Bhopal) followed AB policy in only OBG ward. In these sites, the compliance to guidelines was noted in about 52.1% prescriptions. It was observed more in OBG department. In all sites compliance ranged from 14% to 92.4%, with two sites having compliance less than 30% (SMSMC, Jaipur & GMC Bhopal) and two sites with compliance more than 90% (GHC, Chandigarh & JLNMMC, Raipur).

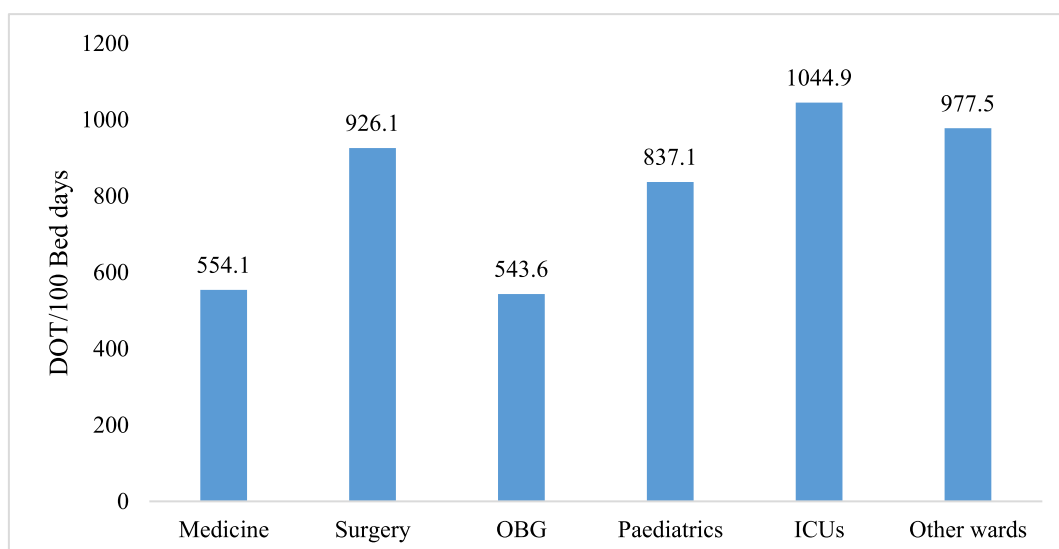
Top ABs across all the sites

Figure 9: Overall AB prescriptions according to WHO-ATC (Anatomical Therapeutic Chemical) class (n=12342)



Most commonly prescribed ABs were third generation cephalosporines (33.1%) followed by Imidazole (14.9%) and Aminoglycosides (12.1%). Top ABs prescribed across the sites were Ceftriaxone, Metronidazole and Amikacin followed by Piperacillin & Tazobactam.

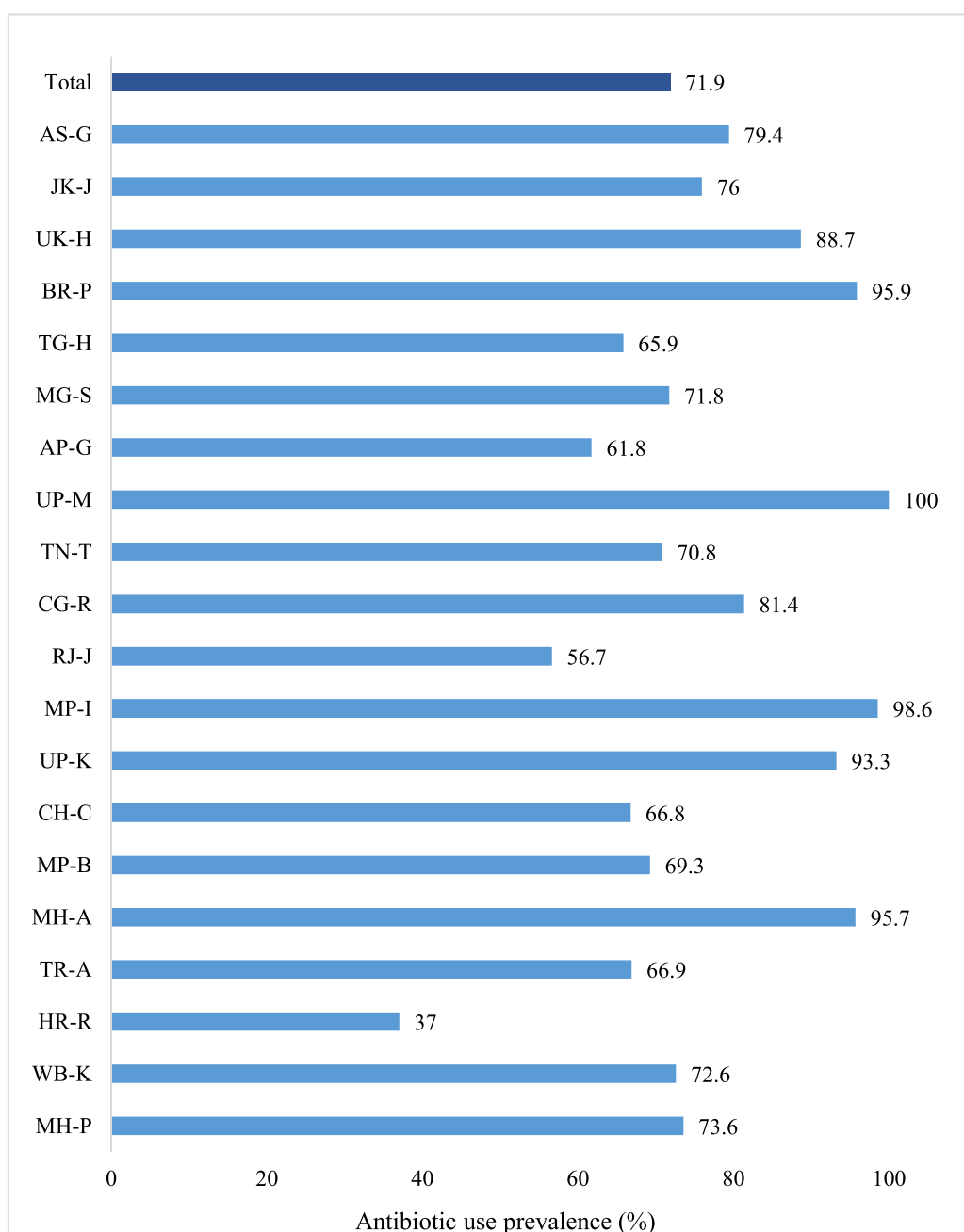
Figure 10: Ward wise AB use (Days of therapy)



Overall antibiotic use in all sites was 765.1 DOT/100 Bed days with ICUs (1044.9), and surgical wards (Surgery- 926.1 and other wards- 977.5) recording maximum antibiotic use.

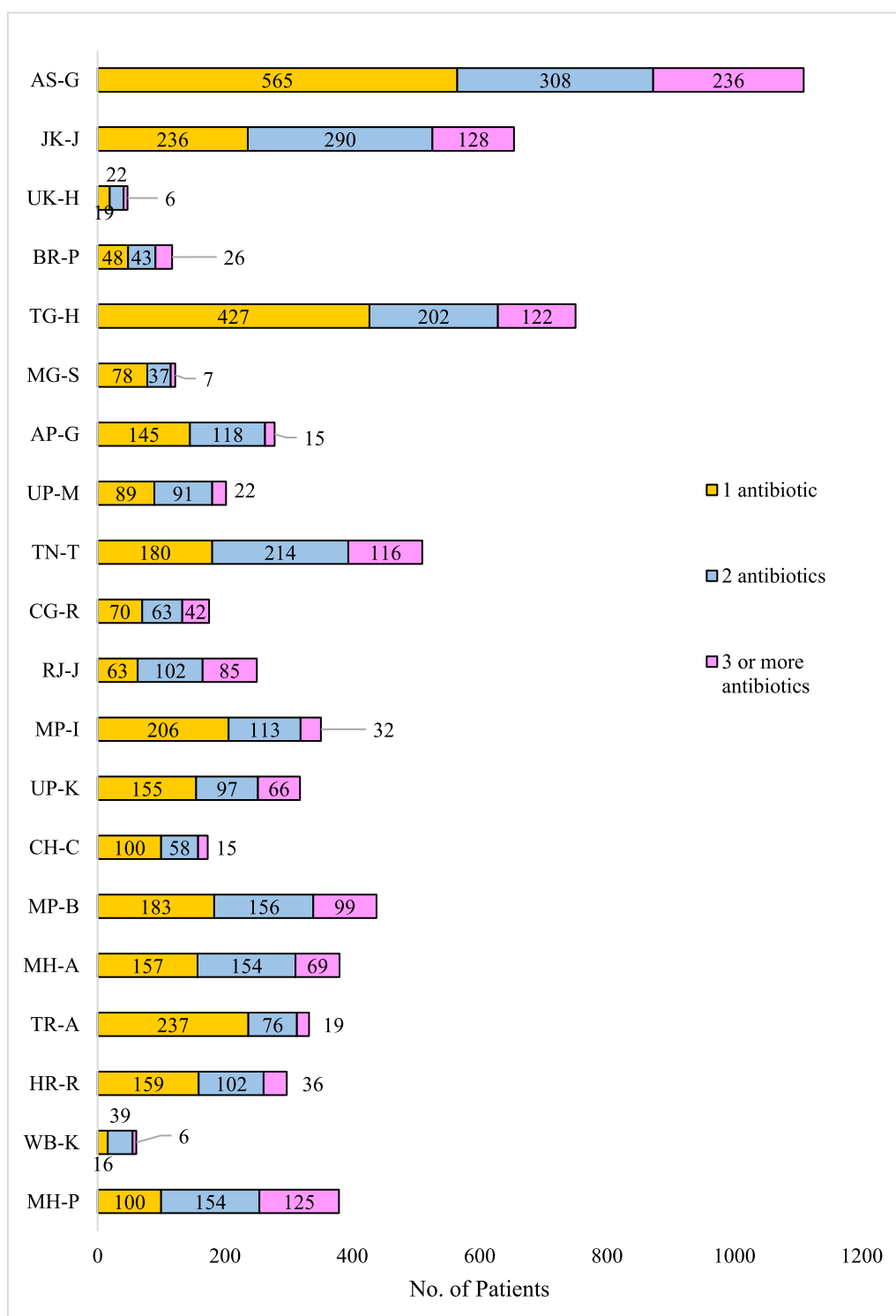
Site wise details of Antibiotics

Figure 11: AB prevalence across 20 NAC-NET sites



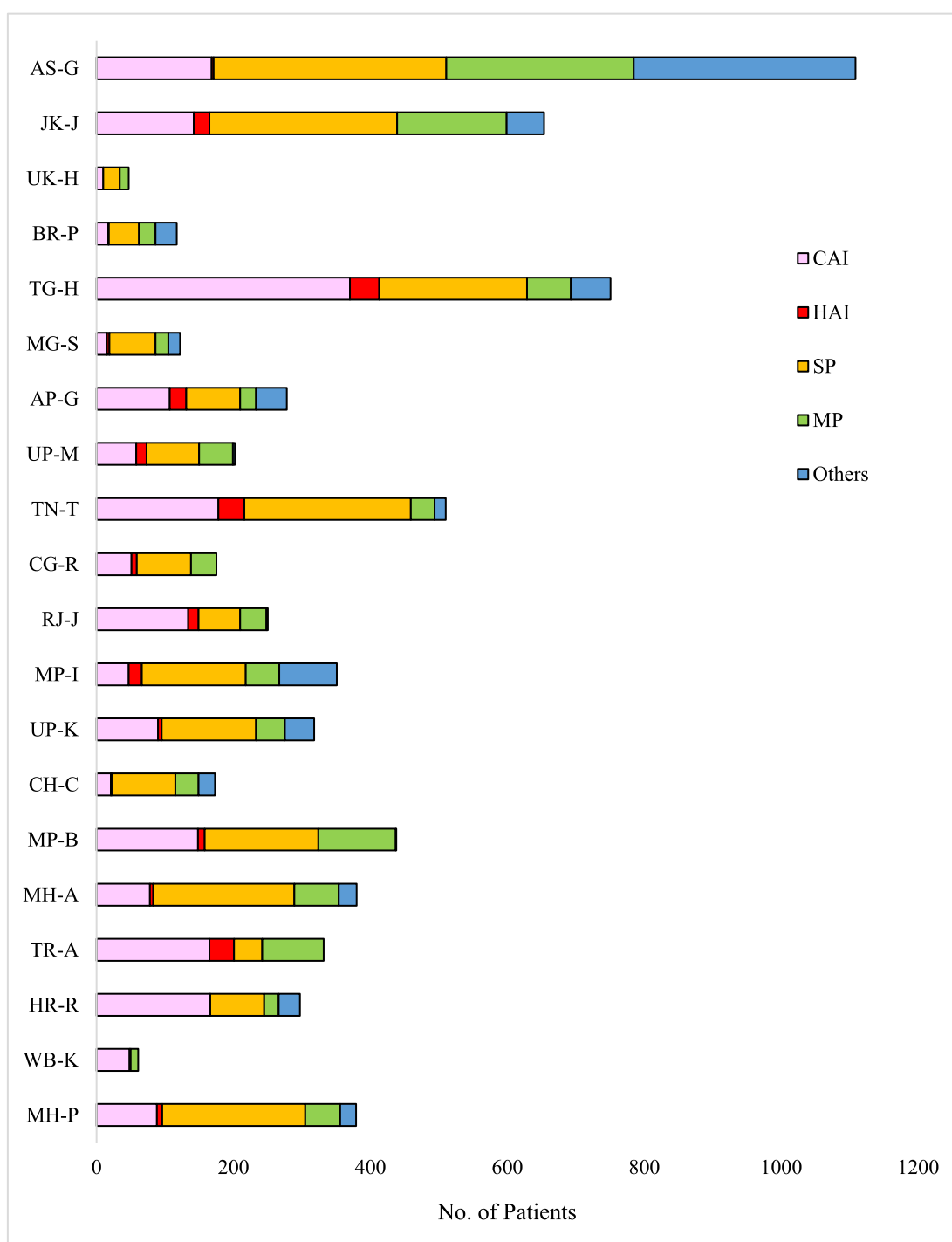
At the site level, the prevalence of AB use ranged from 37% at PGIMS, Rohtak to 100% at LLRM, Meerut. Four institutes recorded more than 95% prevalence of AB use.

Figure 12: Site wise distribution of patients based on no. of AB prescriptions
(n=12342)



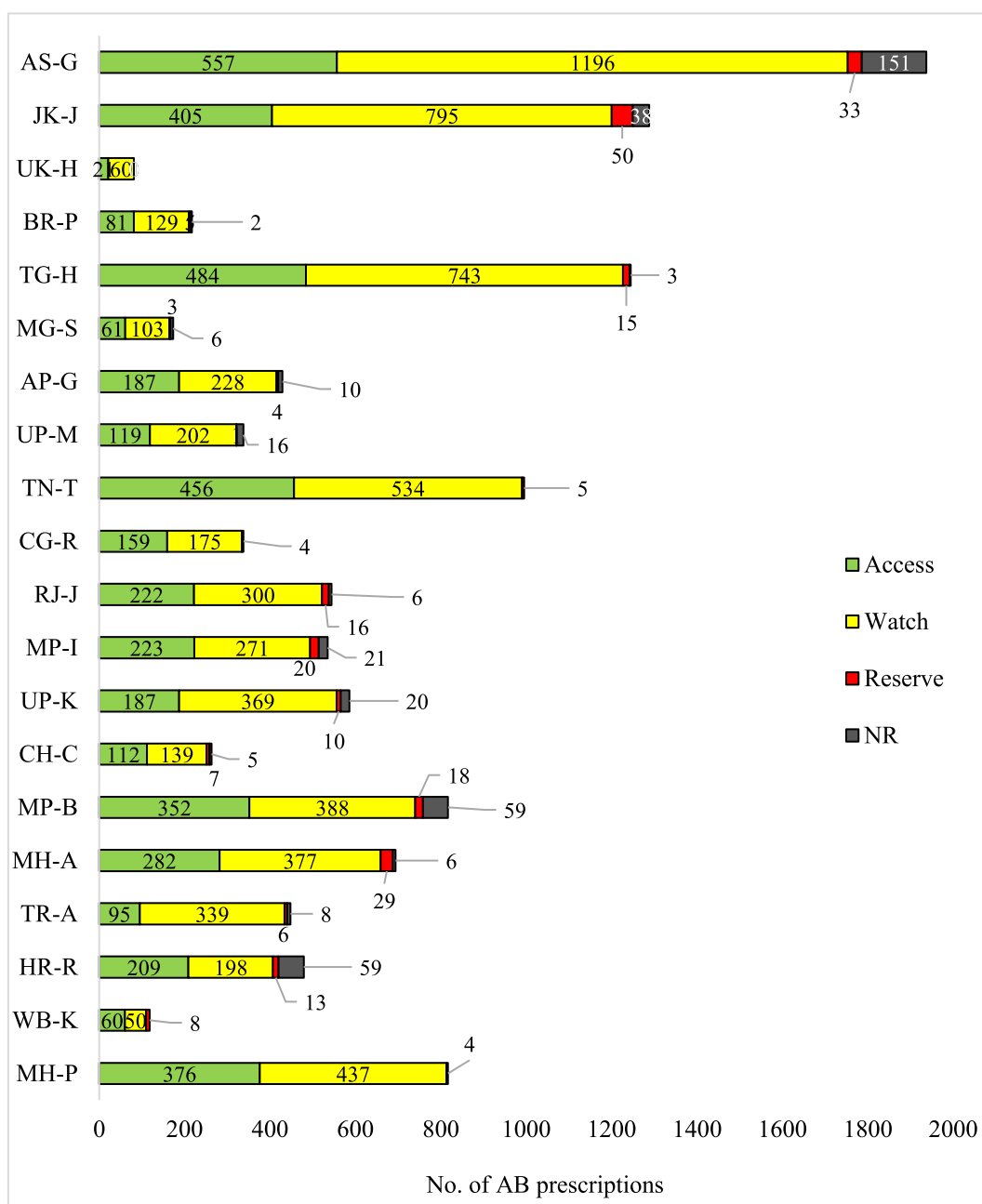
Out of the 20 institutes, 85% had more patients on one AB except for 15% of institutes where there were more patients on >1 AB. Two institutes (BJGMC, Pune & SMSMC, Jaipur) had more than 30% of patients being prescribed 3 or more ABs.

Figure 13: Distribution of patients on AB based on indication (n=6944)



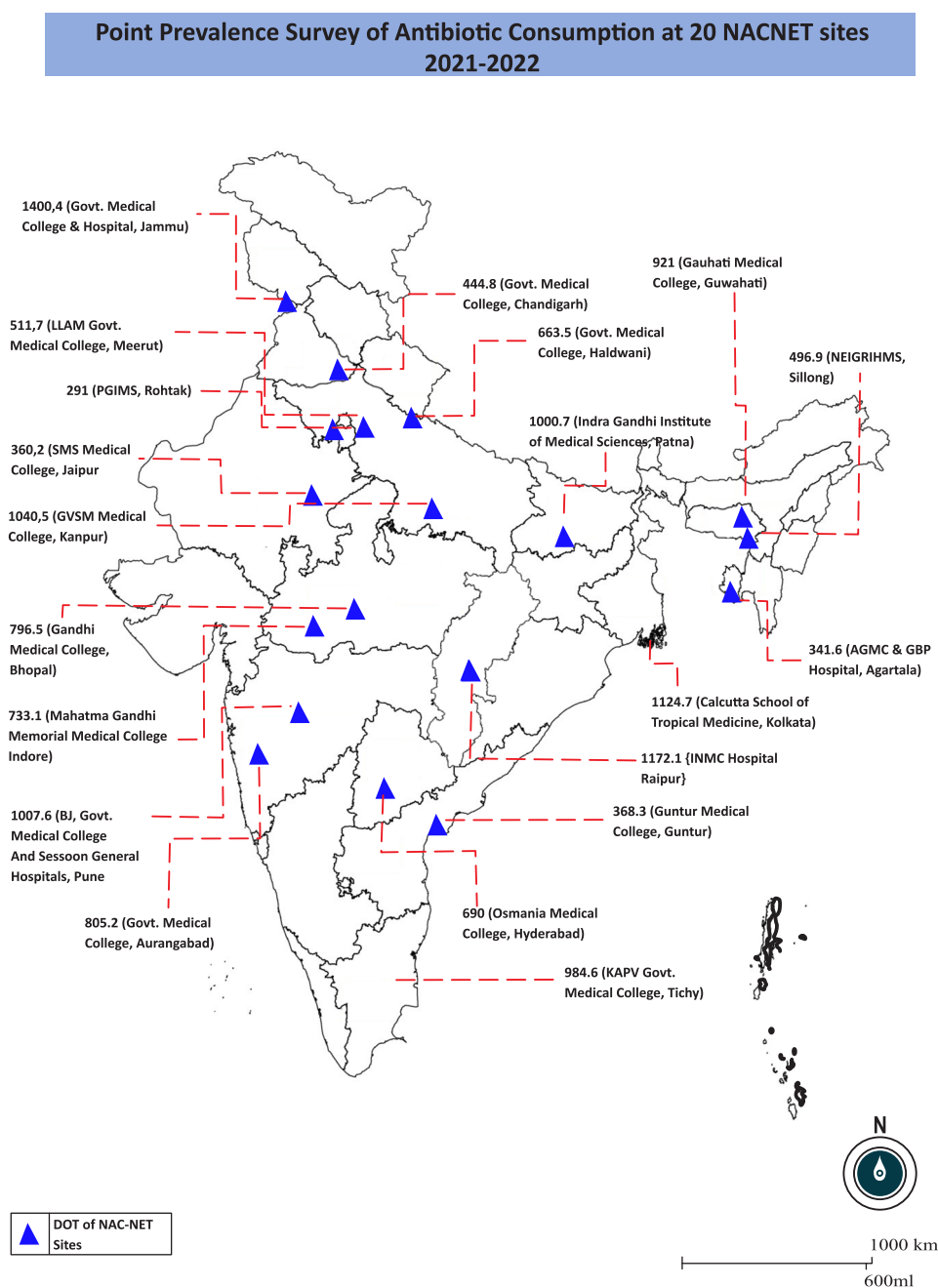
CAI as the reason for AB use ranged from 12.1% at GMC, Chandigarh to 78.7% at CSTM, Kolkata. Many of the sites had more AB use as a surgical prophylactic measure, the proportion ranges from 0% at CSM, Kolkata to 55.1% at BJGMC, Pune.

Figure 14: Distribution of AB prescriptions as per AWaRe classification
(n=12342)



When we compared the AB prescriptions as per AWaRe classification, only 2 sites (CSTM, Kolkata & PGIMS, Rohtak) reported more prescriptions from access group ABs. The prescriptions of access group ABs ranged from 21.2% (AGMC, Agartala) to 50.8% (CSTM, Kolkata). Prescriptions of watch group ABs ranged from 41% (PGIMS, Rohtak) to 76% (AGMC, Agartala). The range for reserve group prescriptions was from 0% (GMC, Haldwani) to 6.8% (CSTM, Kolkata). Many institutes prescribed ABs that come under the NR group as per WHO. Fifteen sites reported AB prescriptions from the NR group and it ranged from 0 to 12% (PGIMS, Rohtak).

Figure 15: AB consumption as Days of Therapy per 100 bed days in the NAC-NET sites



AB consumption ranged from 291 (PGIMS, Rohtak) to 1400.4 (GMC, Jammu) DOTs per 100 bed days.

Conclusion

The current study presents an overview of the largest multicentric PPS conducted to assess antibiotic usage in selected tertiary care institutes in the country till date.

Our findings indicate a remarkably high prevalence of antibiotic usage (71.9%), with 4.6% patients getting four or more antibiotics. Out of 20, four institutes had more than 95% prevalence of AB use. The study found that watch group antibiotics (57%) were prescribed more frequently than access group antibiotics (38%), with only two sites reporting higher prescription rates for access group antibiotics. Third Generation Cephalosporines were the most commonly prescribed class of antibiotics (33.1%). Top antibiotics being prescribed across classes were Ceftriaxone, Metronidazole and Amikacin. Almost a quarter of the patients on antibiotics (26.4%) were on double cover from gram negative bacteria. It was observed that more than half of the patients were prescribed ABs for prophylactic indications (37.3% - SP and 17.5% - MP) with 91% of patients receiving surgical prophylaxis for more than one day. In the selected institutes, only 6% of patients on ABs were put on definitive therapy and stop/review date was recorded in only 10.4% prescriptions. Only 8 out of 20 institutes have an antibiotic policy in place.

The knowledge gained from this study will serve as a foundation for future point prevalence surveys and will play a vital role in establishing and evaluating the effectiveness of antimicrobial stewardship programs, consequently, optimizing the utilization of antibiotics in human health, in accordance with the National Action Plan on Antimicrobial Resistance containment in the country.

Recommendations

- Institutions should adhere to standard treatment guidelines and infection control practices to mitigate antibiotic resistance.
- It is recommended that each institute should have a defined antibiotic policy.
- Antibiotic policy should encourage use of access group antibiotics.
- Institutions should aim to keep the consumption of reserve group antibiotics at low levels and monitor the usage of reserve group drugs obtained from outside the hospital pharmacy
- The institutions are advised to share the results of the PPS conducted to make appropriate changes in prescribing behaviours of the physicians.
- Polypharmacy was observed in all the institutions. Combining two antibiotics can increase the risk of adverse effects and drug interactions. Therefore, institutions are suggested adoption of Standard Treatment Guidelines
- Institutions are urged to avoid unnecessary double coverage with antibiotics for anaerobic bacteria and Gram-negative bacteria.
- The use of antibiotics ‘not recommended’ by the WHO has been observed in the study. Institutions should monitor the consumption of such drugs closely.
- Surgical prophylaxis should be limited to a single dose or one day before the surgical procedure, and treatment for post-procedure infections should only be administered after a diagnosis of infection.
- It is recommended that institutional Point Prevalence Survey should be conducted periodically to monitor changes in antibiotic consumption over the long term.
- The PPS report should be shared with stakeholders, particularly prescribing clinicians and the stewardship committee of the NAC-NET site.

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Third NAC-NET Training and Review Workshop 2021

Dignitaries during Inaugural of 3rd NAC-NET Workshop 2021



Introduction on PPS by Dr. Arti Bahl



Surveillance of antimicrobial consumption by Dr. Suneet Kaur



Participating sites during 3rd NAC-NET Workshop 2021



Third NAC-NET Training and Review Workshop 2021

*Hands-on
Activity
performed
during NAC-NET
2021 Workshop*



*Presentation
on AMC Data
By GMC,
Guntur*

*DGHS Prof. (Dr)
Sunil Kumar
delivering talk
on Impact of
AMR on Cancer*



*Valedictory
Session*

Annexure 1: List of NAC-NET sites

1. Pandit Bhagwat Dayal Sharma Postgraduate Institute of Medical Sciences, Rohtak
2. Sawai Man Singh Medical College and associated Hospital, Jaipur
3. Guntur Medical College, Guntur
4. Osmania Medical College, Hyderabad
5. Mahatma Gandhi Memorial Government Medical College, Indore
6. Agartala Government Medical College, Agartala
7. Indira Gandhi Institute of Medical Sciences, Patna
8. Government Medical College, Aurangabad
9. Gandhi Medical College, Bhopal
10. North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong
11. Calcutta School of Tropical Medicine, Kolkata
12. Pt. Jawahar Lal Nehru Memorial Medical College, Raipur
13. B.J. Medical College, Pune
14. Government Medical College, Chandigarh
15. Lala Lajpat Rai Memorial Medical College, Meerut
16. Government Medical College, Haldwani
17. Ganesh Shankar Vidyarthi Memorial Medical College and L.L.R.M Hospital, Kanpur
18. KAPV Government Medical College and Hospital, Tiruchirappalli
19. Gauhati Medical College and Hospital, Guwahati
20. Government Medical College, Jammu

Pandit Bhagwat Dayal Sharma Postgraduate Institute of Medical Sciences, Rohtak

Pt. B.D. Sharma, PGIMS, Rohtak, a tertiary care premier institute, serves patients from the whole of Haryana and adjacent states. It was included in NAC-NET under National Programme on AMR containment in 2019.

Hospital Information

- Total Beds: 2080
 - Acute beds: 1698
 - ICU Beds: 167
- Admissions in previous year: 4,86,362



Training of data collectors for PPS

Survey details:

Date of Training	20 November 2021
Data Collectors	Undergraduate medical students
Data collection dates	24 November (Wednesday), 25 November (Thursday), 26 November (Friday), 7 December (Tuesday) and 10 December 2021 (Friday)
No. of wards surveyed	16
Wards surveyed	Medicine, Surgery, OBG, Paediatrics, ICUs, Other wards (ENT and Orthopaedics)
Eligible patients*	802
AB policy followed	No

*Total admitted patients were taken as eligible patients

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	150	29	30	14	73	138	0.9	1.9
Surgery	104	29	11	4	44	63	0.6	1.4
OBG	248	54	8	2	64	76	0.3	1.2
Paediatrics	138	31	27	4	62	98	0.7	1.6
Other wards	162	16	26	12	54	104	0.6	1.9
Total	802	159	102	36	297	479	0.6	1.6

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	2	6	58	0	7
Surgery	18	1	14	0	11
OBG	35	13	12	0	4
Paediatrics	0	1	56	1	4
Other wards	24	0	25	0	5
Total	79	21	165	1	31

Table 3: Details of patients on Surgical Prophylaxis

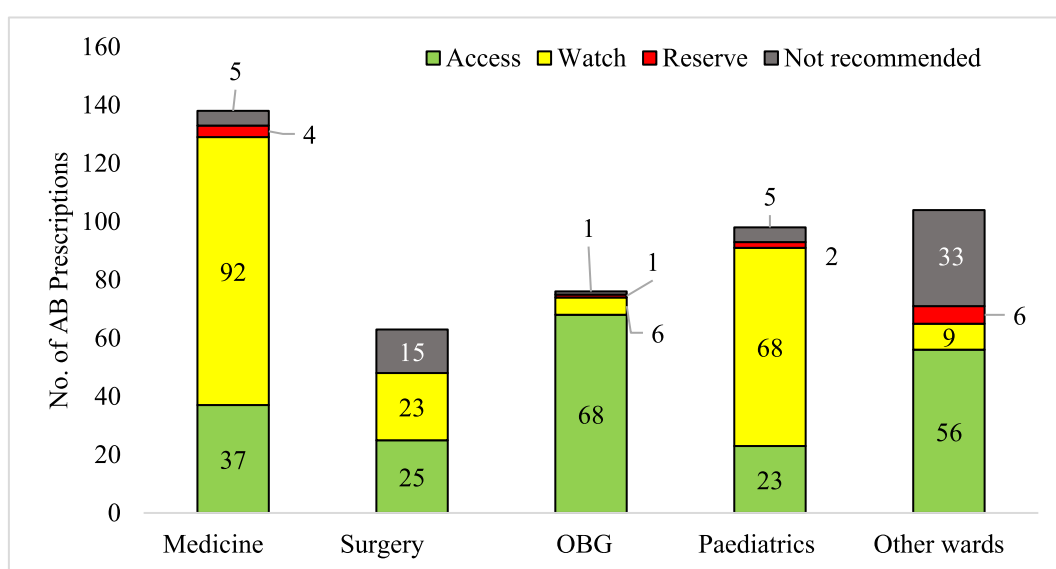
Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	0	2
Surgery	0	1	17
OBG	0	1	34
Other wards	0	0	24
Total	0	2	77

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=73)	1 (1.4)	5 (6.8)	11 (15)
Surgery	(n=44)	0	3 (6.8)	8 (18.2)
OBG	(n=64)	6 (9.3)	6 (9.3)	2 (3.1)
Paediatrics	(n=62)	0	0	7 (11.3)
Other wards	(n=54)	0	2 (3.8)	9 (16.7)
Total	(N=297)	7 (2.3)	16 (5.3)	37 (12.4)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

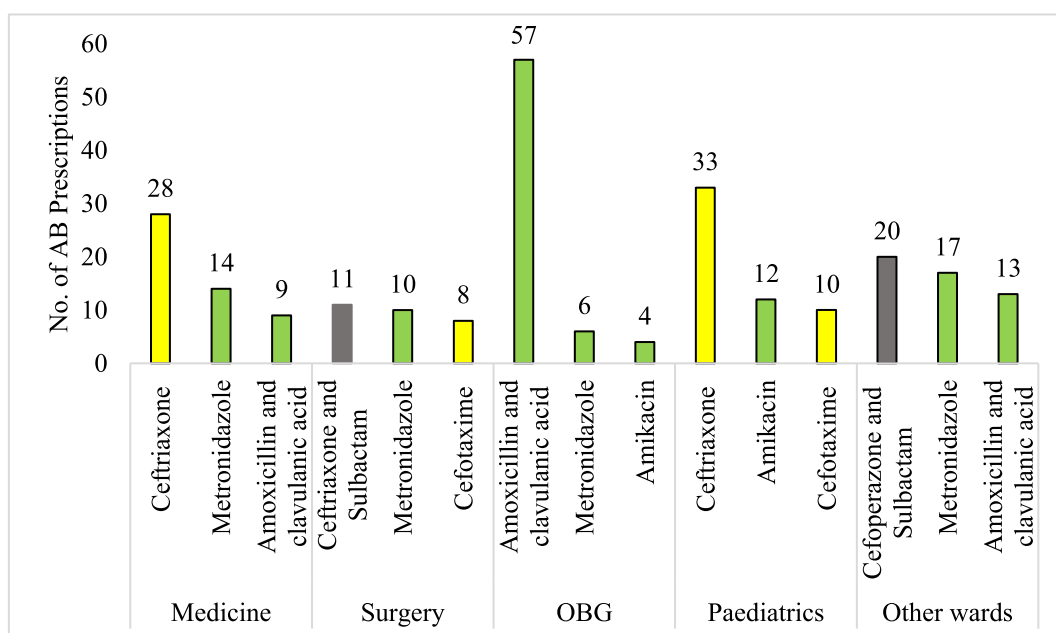


Table 5: Other details of AB prescriptions

Wards		Parenteral AB n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine	(n=138)	107 (77.5)	8 (5.8)
Surgery	(n=63)	63 (100)	2 (3.1)
OBG	(n=76)	55 (72.3)	8 (10.5)
Paediatrics	(n=98)	91 (92.8)	4 (4)
Other wards	(n=104)	89 (85.6)	0
Total	(N=479)	405 (84.6)	22 (4.6)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	56	Clindamycin	6
Amoxicillin and Clavulanic Acid	95	Colistin	1
Azithromycin	11	Cotrimoxazole	2
Cefepime	2	Doxycycline	4
Cefixime	8	Gentamycin	1
Cefoperazone	1	Levofloxacin	10
Cefoperazone and Sulbactam*	30	Linezolid	12
Cefotaxime	27	Meropenem	11
Cefpodoxime Proxetil	2	Metronidazole	49
Cefuroxime	1	Norfloxacin	1
Ceftriaxone	65	Ofloxacin	3
Ceftriaxone and Sulbactam*	26	Piperacillin and Tazobactam	13
Ciprofloxacin	13	Rifaximin	8
Ciprofloxacin and Tinidazole*	3	Vancomycin	18

* Not Recommended

AB consumption was 291 DOT/100 Bed days.

Sawai Man Singh Medical College and associated Hospital, Jaipur

SMS Medical College Jaipur (SMSMC Jaipur), is one of the oldest and major medical colleges of Rajasthan attached to several hospitals including the SMS hospital which is a tertiary care multi and super speciality hospital for adult patients & JK Lon hospital dedicated to the health care of children. It was included in NAC-NET under National Programme on AMR containment in 2017.

Hospital Information

- Total Beds: 2461(SMS), 794(J K Lon)
 - Acute beds: 1933
 - ICU Beds: 360(SMS), 215(J K Lon)
- Admissions in previous year: 1,36,564 and 35,278 respectively in SMS and JK Lon



Training of data collectors for PPS

Survey details:

Date of Training	24 November 2021
Data Collectors	Undergraduate medical students
Data collection dates	24 November (Thursday), 25 November (Friday), 26 November 2021 (Saturday)
No. of wards surveyed	33
Wards surveyed	Medicine, Surgery, Paediatrics, Other wards (ENT, Orthopaedics and Polytrauma)
Eligible patients	441
AB policy followed	Yes
Name of AB policy	National Treatment Guideline

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	126	37	33	16	86	152	1.2	1.8
Surgery	196	18	39	45	102	251	1.3	2.5
Paediatrics	62	4	16	12	32	73	1.2	2.3
Other wards	57	4	14	12	30	68	1.2	2.3
Total	441	63	102	85	250	544	1.2	2.2

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	0	25	54	7	0
Surgery	47	7	43	5	0
Paediatrics	3	4	24	1	0
Other wards	11	2	13	2	2
Total	61	38	134	15	2

Table 3: Details of patients on Surgical Prophylaxis

Wards	Patients on		
	SP1	SP2	SP3
Surgery	0	1	46
Paediatrics	0	0	03
Other wards	0	0	11
Total	0	1	60

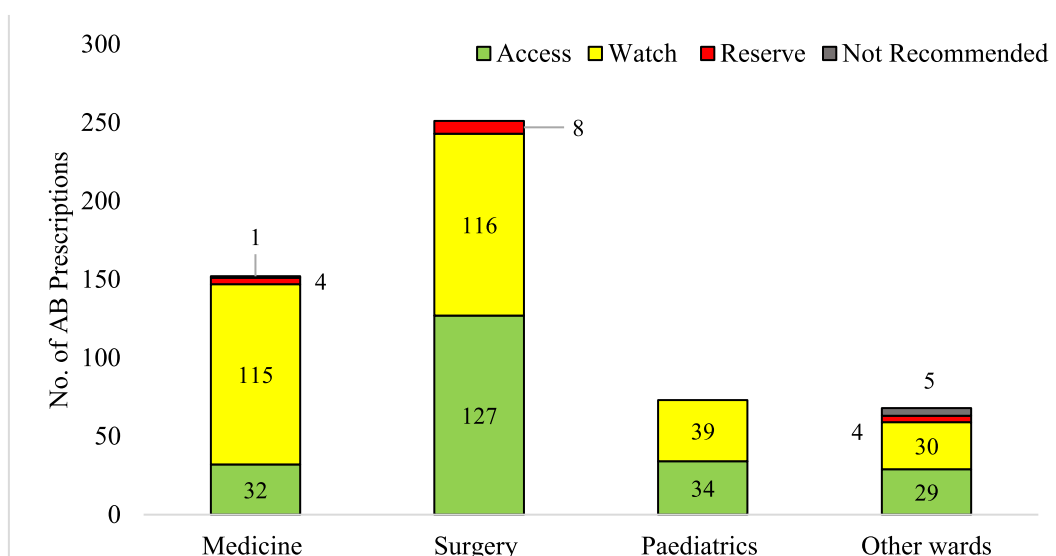
SP1: Single dose of AB, SP2: AB prescription for 1 day,

SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=126)	9 (7.1)	12 (9.5)	20 (15.9)
Surgery	(n=196)	20 (10.2)	19 (9.7)	57 (29.1)
Paediatrics	(n=62)	7 (11.3)	5 (8.1)	18 (29.1)
Other wards	(n=57)	9 (15.8)	3 (5.3)	23 (40.4)
Total	(N=441)	45 (10.2)	39 (8.8)	118 (26.8)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

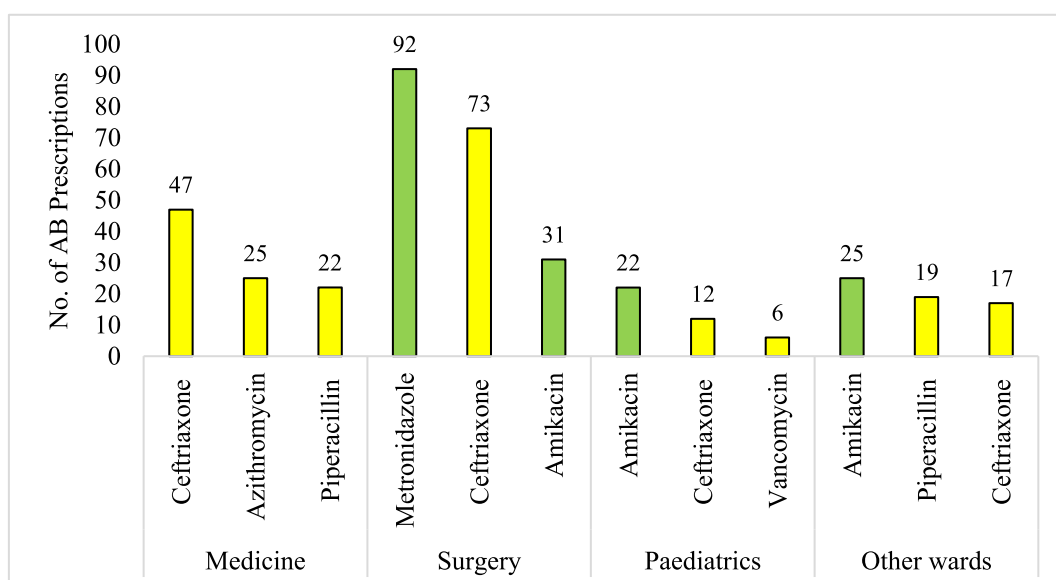


Table 5: Other details of AB prescriptions

Wards		Parenteral AB n (%)	Compliance with AB policy n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine	(n=153)	135 (88.2)	12 (7.8)	3 (1.9)
Surgery	(n=250)	247 (98.8)	52 (20.8)	16 (6.4)
Paediatrics	(n=73)	72 (98.6)	12 (16.4)	7 (9.6)
Other wards	(n=68)	55 (80.8)	0	0
Total	(N=544)	509 (93.6)	76 (13.9)	26 (4.8)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	101	Doxycycline	9
Azithromycin	30	Levofloxacin	7
Amoxicillin & Clavulanic acid	19	Linezolid	13
Aztreonam	3	Meropenem	18
Cefixime	4	Metronidazole	76
Cefoperazone sulbactam*	5	Moxifloxacin	1
Cefotaxime	3	Ofloxacin	6
Cefoperazone	4	Piperacillin & Tazobactam	52
Ceftazidime	6	Rifampicin	1
Ceftriaxone	143	Rifaximin	1
Ceftriaxone sulbactam*	1	Teicoplanin	4
Cefuroxime	2	Vancomycin	5
Ciprofloxacin	6	Cotrimoxazole	1
Clindamycin	16	Nitrofurantoin	1

* Not Recommended

AB consumption was 360.2 DOT/100 Bed days.

Guntur Medical College, Guntur

Guntur Medical College is affiliated with the Dr. NTR University of Health Sciences and works in conjunction with Government General Hospital. It caters to the needs of the people of Coastal districts of Andhra Pradesh. It was included in NAC-NET under National Programme on AMR containment in 2018.

Hospital Information

- Total Beds: 1267
 - Acute beds: 1252
 - ICU Beds: 145
- Admissions in previous year: 51,107



Training of data collectors for PPS

Survey details:

Date for Training	27 November 2021
Data Collectors	Pharmacy students
Data collection dates	1 December 2021 (Wednesday)
No. of wards surveyed	46
Wards surveyed	Medicine (including Neurology, Cardiology), Surgery, OBG, Paediatrics, ICUs, Other wards (Orthopaedics)
Eligible patients	450
AB policy followed	No

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	176	59	31	3	93	130	0.7	1.4
Surgery	52	14	14	9	37	72	1.4	1.9
OBG	86	17	38	1	56	96	1.1	1.7
Paediatrics	33	23	2	0	25	27	0.8	1.1
ICUs	87	20	32	2	54	90	1	1.7
Other wards	16	12	1	0	13	14	0.9	1.1
Total	450	145	118	15	278	429	0.9	1.5

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	2	7	49	4	31
Surgery	24	4	9	0	0
OBG	53	0	1	2	0
Paediatrics	0	7	16	2	0
ICUs	0	5	26	9	14
Other wards	0	0	6	7	0
Total	79	23	107	24	45

Table 3: Details of patients on Surgical Prophylaxis

Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	2	0
Surgery	0	2	22
OBG	0	4	49
Total	0	8	71

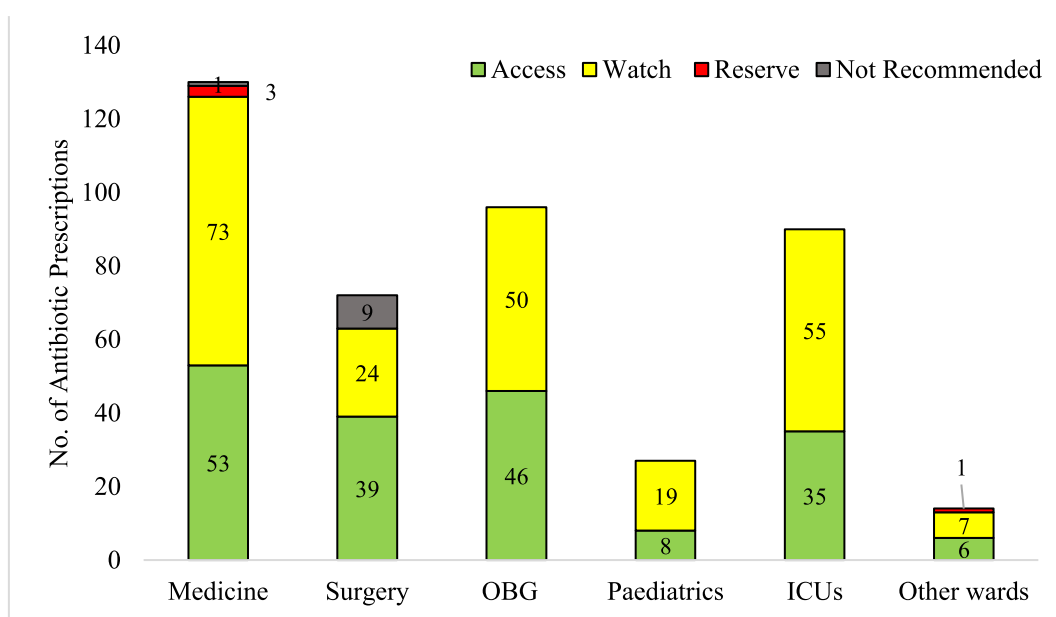
SP1: Single dose of AB, SP2: AB prescription for 1 day,

SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=176)	1 (0.6)	6 (3.4)	12 (6.8)
Surgery	(n=52)	1 (1.9)	10 (19.2)	8 (15.4)
OBG	(n=86)	0	1 (1.2)	1 (1.2)
Paediatrics	(n=33)	0	0	1 (3)
ICUs	(n=87)	0	7 (8)	24 (27.6)
Others wards	(n=16)	0	0	0
Total	(N=450)	2 (0.4)	24 (5.3)	46 (10.2)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

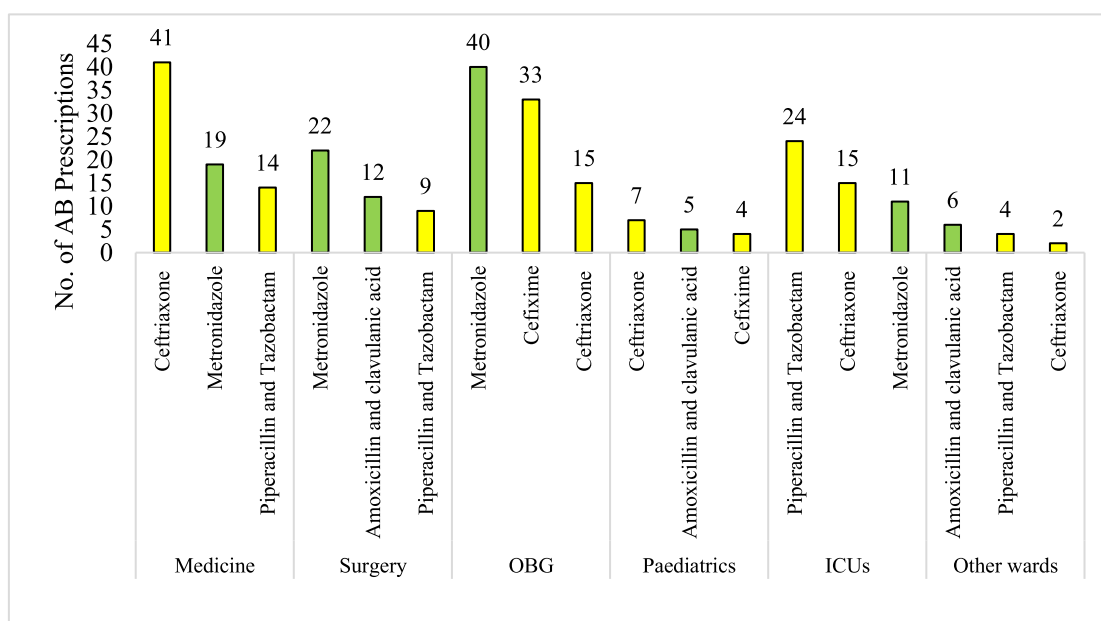


Table 5: Other details of AB prescriptions

Wards		Parenteral AB n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine	(n=130)	98 (75.4)	0
Surgery	(n=72)	59 (81.9)	8 (11.1)
OBG	(n=96)	31 (32.3)	1 (1)
Paediatrics	(n=27)	20 (74.1)	0
ICUs	(n=90)	85 (94.4)	1 (1.1)
Other wards	(n=14)	10 (71.4)	0
Total	(N=429)	303 (70.6)	10 (2.3)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	29	Doxycycline	19
Amoxicillin and Clavulanic Acid	42	Levofloxacin	2
Ampicillin	1	Linezolid	4
Cefixime	45	Meropenem	12
Cefoperazone	1	Metronidazole	92
Cefoperazone and Sulbactam*	10	Moxifloxacin	1
Cefotaxime	15	Nitrofurantoin	2
Cefpodoxime Proxetil	1	Piperacillin and Tazobactam	56
Ceftriaxone	82	Rifaximin	3
Ciprofloxacin	8	Vancomycin	2
Clindamycin	2		

* Not Recommended

AB consumption was 368.3 DOT/Bed days.

Osmania Medical College, Hyderabad

Osmania General Hospital, Niloufer Hospital, and Chest Hospital are attached to Osmania Medical College. The medical college and hospitals cater to the people of Telangana State. It was included in NAC-NET under National Programme on AMR containment in 2018.

Hospital Information

- Total Beds: 2183
 - Acute beds: 2134
 - ICU Beds: 916
- Admissions in previous year: 8,37,018



Training of data collectors for PPS

Survey details:

Date for Training	27 and 29 November 2021
Data Collectors	Postgraduate medical students
Data collection dates	1 December 2021 (Wednesday), 2 December 2021 (Thursday), 3 December 2021 (Friday) & 7 December 2021 (Tuesday)
No. of wards surveyed	69
Wards surveyed	Medicine (including Respiratory), Surgery (including Cardio Thoracic Vascular Surgery), OBG, Paediatrics, ICUs, Other wards (Orthopaedics)
Eligible patients	1140
AB policy followed	Yes, only in Osmania General Hospital
Name of AB policy	OGH AB policy

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	252	94	37	6	137	187	0.7	1.3
Surgery	128	43	21	11	75	126	1	1.7
OBG	118	4	30	30	64	158	1.3	2.5
Paediatrics	305	152	40	25	217	329	1.1	1.5
ICUs	280	126	70	18	214	328	1.2	1.5
Other wards	57	8	4	32	44	117	2.0	2.7
Total	1140	427	202	122	751	1245	1.1	1.7

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	5	19	76	2	35
Surgery	41	6	28	0	0
OBG	58	2	1	1	2
Paediatrics	34	15	165	3	0
ICUs	38	22	99	34	21
Other wards	40	0	1	3	0
Total	216	64	370	43	58

Table 3: Details of patients on Surgical Prophylaxis

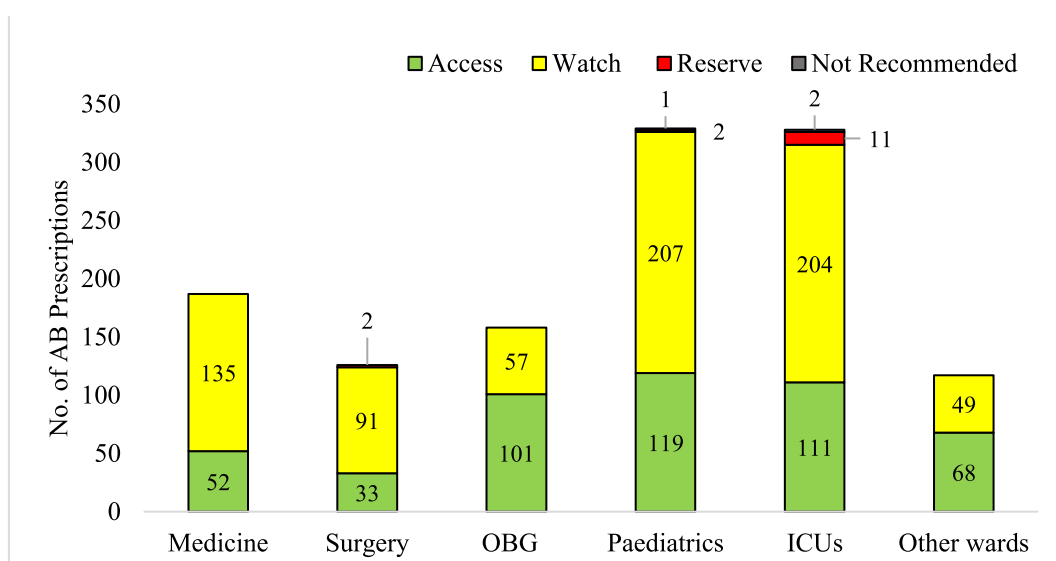
Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	1	4
Surgery	0	3	38
OBG	0	1	57
Paediatrics	1	1	32
ICUs	1	2	35
Other wards	0	0	40
Total	2	8	206

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=137)	13 (9.5)	2 (1.4)	15 (10.9)
Surgery	(n=75)	1 (1.3)	4 (5.3)	20 (26.7)
OBG	(n=64)	0	23 (35.9)	8 (12.5)
Paediatrics	(n=217)	8 (3.7)	9 (4.1)	39 (17.9)
ICUs	(n=214)	16 (7.5)	6 (2.8)	56 (26.2)
Other wards	(n=44)	0	3 (6.8)	31 (70.5)
Total	(N=751)	38 (5.1)	47 (6.3)	169 (22.5)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

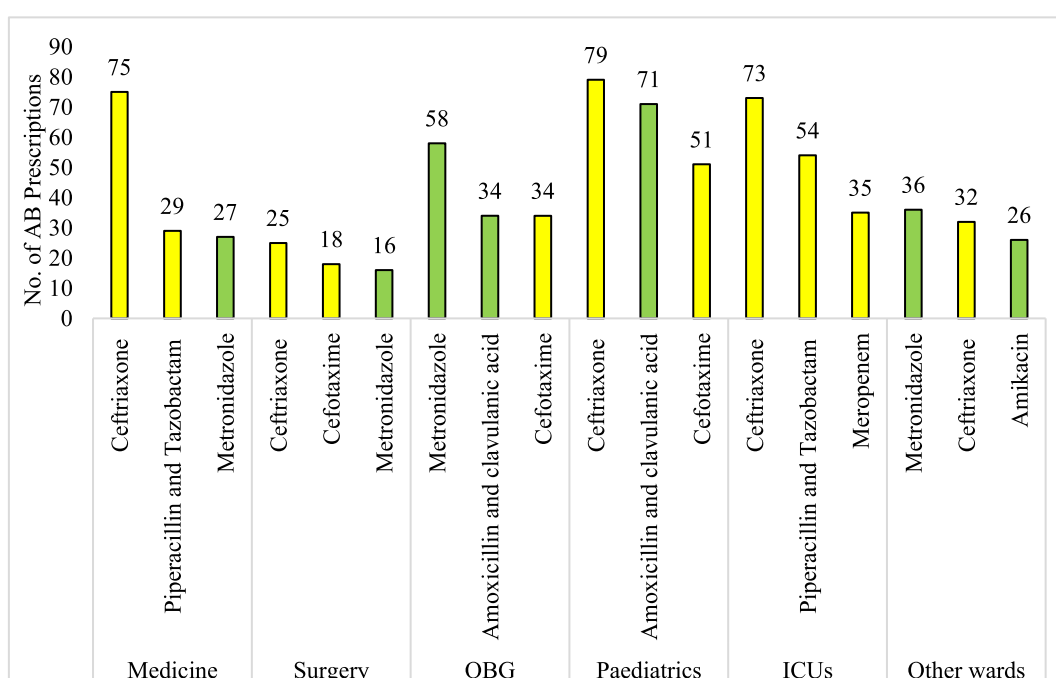


Table 5: Other details of AB prescriptions

Wards		Parenteral AB n (%)	Compliance with AB policy n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine	(n=187)	164 (87.7)	32 (23.7)	23 (12.3)
Surgery	(n=126)	87 (69.0)	87 (69)	21 (16.6)
OBG	(n=158)	135 (85.4)	0	32 (20.2)
Paediatrics	(n=329)	310 (94.2)	0	23 (6.9)
ICUs	(n=328)	311 (94.8)	25 (30.1)	30 (9.1)
Other wards	(n=117)	107 (91.4)	66 (56.4)	17 (14.5)
Total	(N=1245)	1114 (89.4)	210 (45.6)	146 (11.7)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	116	Doxycycline	12
Amoxicillin	1	Gentamicin	14
Amoxicillin and Clavulanic Acid	156	Levofloxacin	2
Azithromycin	15	Linezolid	8
Cefixime	14	Meropenem	73
Cefoperazone and Sulbactam*	3	Metronidazole	180
Cefotaxime	131	Norfloxacin	6
Ceftriaxone	303	Ofloxacin	2
Ciprofloxacin	29	Penicillin	1
Clarithromycin	5	Piperacillin and Tazobactam	133
Clindamycin	4	Tigecycline	2
Colistin	5	Vancomycin	30

* Not Recommended

AB consumption was 690 DOT/100 Bed days.

Mahatma Gandhi Memorial Government Medical College, Indore

Mahatma Gandhi Memorial Government Medical College, Indore is one of the oldest government-run medical colleges in India, having all the major medical departments. It was included in NAC-NET under National Programme on AMR containment in 2018.

Hospital Information

- Total Beds: 1309
 - Acute beds: 1068
 - ICU Beds: 81
- Admissions in previous year: 1,10,941



Training of data collectors for PPS

Survey details:

Date for Training	1 December 2021
Data Collectors	Undergraduate (2 nd year) & Postgraduate medical students
Data collection dates	2 December 2021 (Thursday)
No. of wards surveyed	27
Wards surveyed	Medicine, Surgery (including Neurosurgery and Paediatric Surgery), OBG, Paediatrics, Other wards (ENT and Orthopaedics)
Eligible patients	356
AB policy followed	No

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	106	79	16	7	102	133	1.3	1.3
Surgery	60	40	13	6	59	85	1.4	1.4
OBG	105	50	46	9	105	171	1.6	1.6
Paediatrics	31	16	10	5	31	51	1.7	1.6
Other wards	54	21	28	5	54	95	1.8	1.8
Total	356	206	113	32	351	535	1.5	1.5

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		Others
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	
Medicine	0	37	29	16	20
Surgery	50	0	4	1	4
OBG	48	3	0	1	53
Paediatrics	12	0	12	0	7
Other wards	42	9	2	1	0
Total	152	49	47	19	84

Table 3: Details of patients on Surgical Prophylaxis

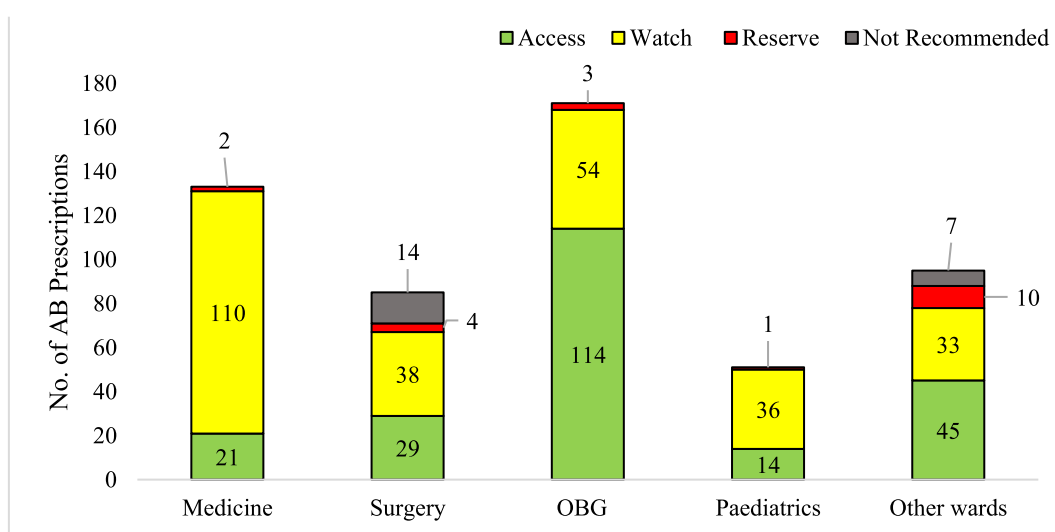
Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	0	0
Surgery	1	2	47
OBG	5	9	34
Paediatrics	0	1	11
Other wards	0	3	39
Total	6	15	131

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=106)	4 (3.4)	6 (5.7)	4 (3.4)
Surgery	(n=60)	2 (3.3)	3 (5)	11 (18.3)
OBG	(n=105)	5 (4.8)	24 (22.9)	8 (7.6)
Paediatrics	(n=31)	2 (6.5)	0	11 (35.5)
Other wards	(n=54)	11 (20.4)	2 (3.7)	14 (25.9)
Total	(N=356)	24 (6.7)	35 (9.8)	48 (13.5)

Graph 1: Distribution of AB prescriptions as per AWARe classification



Graph 2: Top 3 AB prescriptions in various wards

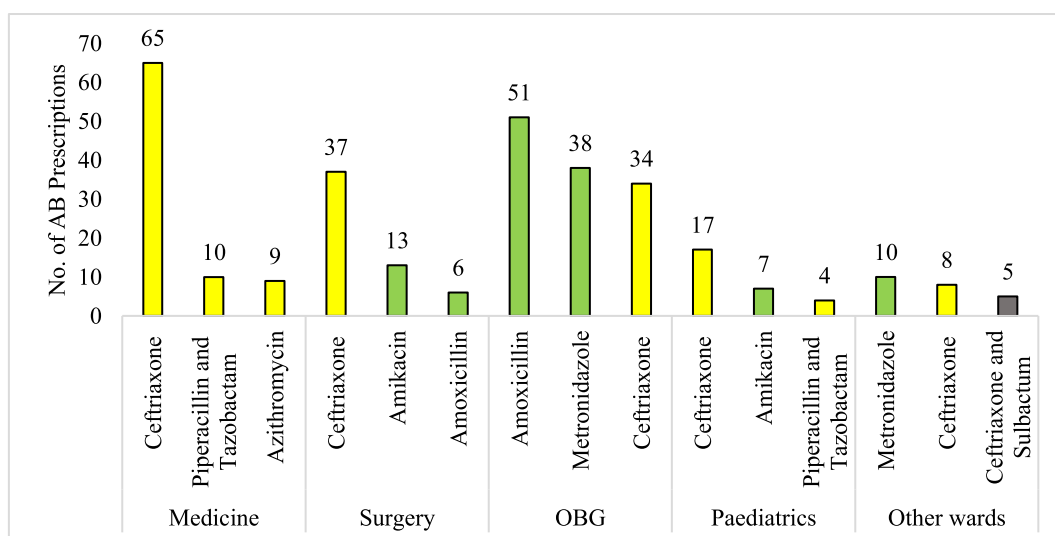


Table 5: Other details of AB prescriptions

Wards	Parenteral AB n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine (n=133)	117 (87.9)	6 (4.5)
Surgery (n=85)	68 (85)	8 (9.4)
OBG (n=171)	91 (53.2)	12 (7)
Paediatrics (n=51)	46 (90.2)	2 (3.9)
Other wards (n=95)	69 (72.6)	2 (2.1)
Total (N=535)	391 (73.1)	30 (5.4)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	40	Colistin	4
Amoxicillin	17	Cotrimoxazole	4
Amoxicillin and Clavulanic Acid	53	Doxycycline	1
Artesunate	1	Gentamicin	1
Azithromycin	11	Levofloxacin	6
Cefazolin	1	Linezolid	15
Cefixime	4	Meropenem	17
Cefotaxime	9	Metronidazole	62
Cefpodoxime	1	Norfloxacin	5
Ceftazidime	2	Piperacillin	19
Ceftriaxone	165	Piperacillin and Tazobactam	11
Ceftriaxone and Sulbactam*	21	Rifaximin	3
Cefuroxime	1	Streptomycin	1
Ciprofloxacin	11	Vancomycin	7
Clindamycin	42		

* Not Recommended

AB consumption was 733.1 DOT/100 Bed days.

Agartala Government Medical College, Agartala

Agartala Government Medical College, Agartala is a tertiary care hospital providing health facilities to the North-Eastern region in India. It was included in NAC-NET under National Programme on AMR containment in 2018.

Hospital Information

- Total Beds: 733
 - Acute beds: 713
 - ICU Beds: 14
- Admissions in previous year: 2,10,775



Data collection for PPS in wards

Survey details:

Date for Training	30 November 2021
Data Collectors	Undergraduate and Nursing students
Data collection dates	3 December (Friday) and 4 December 2021 (Saturday)*
No. of wards surveyed	32
Wards surveyed	Medicine, Surgery, OBG, Paediatrics, ICUs, Other wards (Ophthalmology, ENT & Orthopaedics)
Eligible patients	496
AB policy followed	No

* Some of the surgical wards were surveyed on Saturday due to logistical reasons

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	195	110	24	8	142	182	0.9	1.3
Surgery	81	35	14	5	54	80	0.9	1.5
OBG	62	30	7	0	37	44	0.7	1.2
Paediatrics	34	11	17	1	29	48	1.4	1.6
ICUs	14	9	5	0	14	19	1.4	1.4
Other wards	110	42	9	5	56	75	0.7	1.3
Total	496	237	76	19	332	448	0.9	1.3

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic	
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections
Medicine	1	57	80	4
Surgery	7	3	35	9
OBG	14	10	5	8
Paediatrics	0	3	22	4
ICUs	3	5	6	0
Other wards	16	12	17	11
Total	41	90	165	36

Table 3: Details of patients on Surgical Prophylaxis

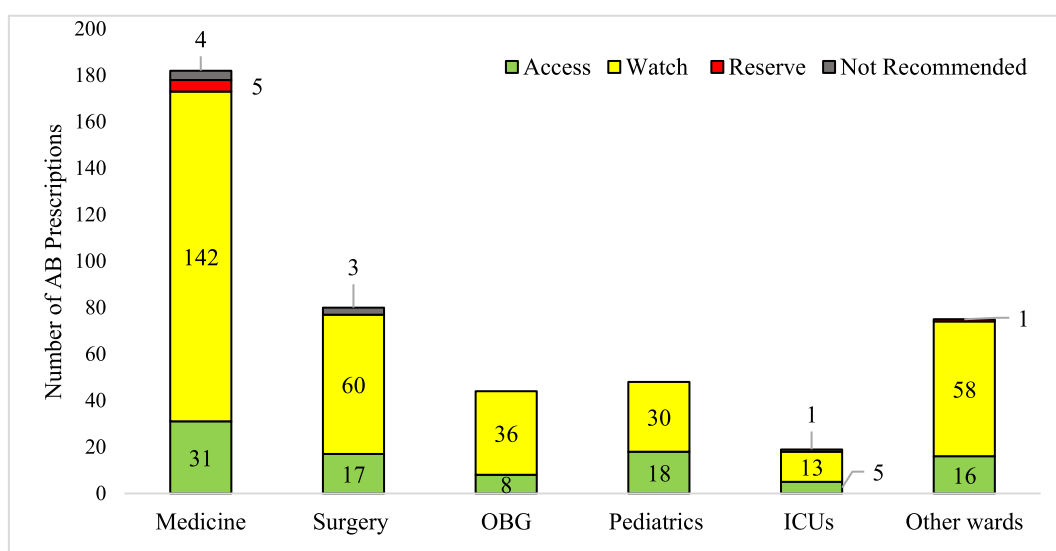
Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	0	1
Surgery	0	0	7
OBG	0	0	14
ICUs	0	0	3
Other wards	0	0	16
Total	0	0	41

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=195)	3 (1.5)	4 (2)	5 (2.6)
Surgery	(n=81)	6 (7.4)	6 (7.4)	0
OBG	(n=62)	2 (3.2)	0	0
Paediatrics	(n=34)	0	0	3 (8.8)
ICUs	(n=14)	0	2 (14.3)	2 (1.8)
Other wards	(n=110)	0	4 (3.6)	3 (2.7)
Total	(N=496)	11 (2.2)	16 (3.2)	13 (2.6)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

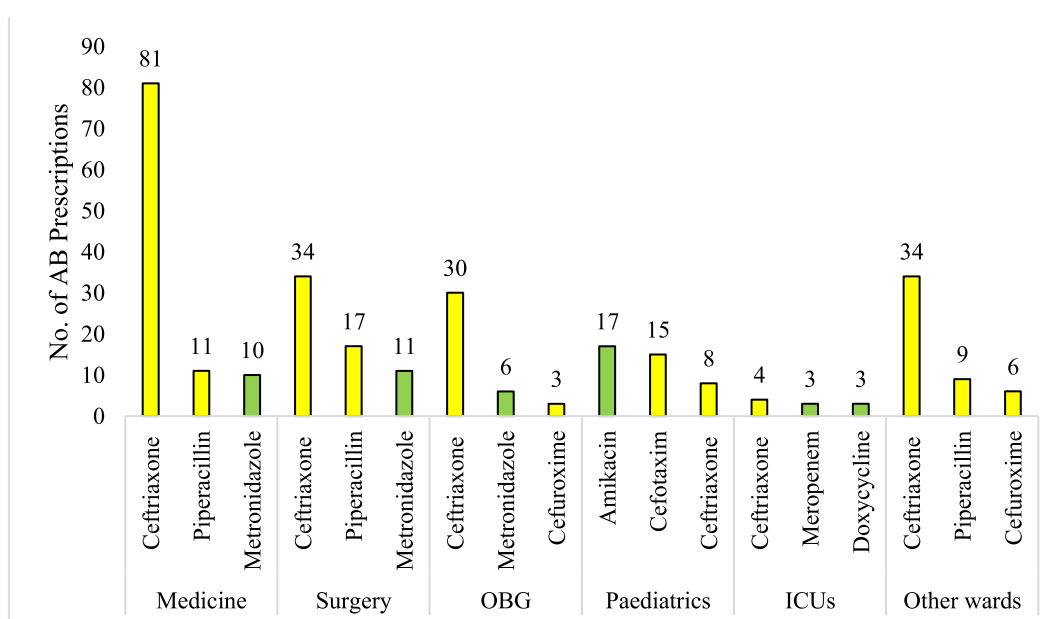


Table 5: Other details of AB prescriptions

Wards		Parenteral AB n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine	(n=182)	158 (86.8)	10 (5.5)
Surgery	(n=80)	77 (96.3)	11 (13.8)
OBG	(n=44)	39 (88.6)	8 (18.2)
Paediatrics	(n=48)	43 (89.6)	7 (14.6)
ICUs	(n=19)	13 (68.4)	0
Other wards	(n=75)	53 (70.6)	16 (21.3)
Total	(N=448)	383 (85.5)	52 (11.6)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	22	Faropenem	3
Amoxicillin	4	Gentamicin	5
Amoxicillin and clavulanic acid	6	Isoniazid	1
Azithromycin	3	Levofloxacin	1
Cefepime	2	Linezolid	5
Cefixime	2	Meropenem	33
Cefoperazone	13	Metronidazole	36
Cefotaxime	20	Nitrofurantoin	3
Ceftriaxone and Sulbactam*	5	Ofloxacin Ornidazole*	1
Ceftriaxone	186	Ornidazole	1
Cefuroxime	12	Piperacillin and Tazobactam	49
Cefuroxime and clavulanic acid*	2	Rifampicin	1
Ciprofloxacin	1	Rifaximin	6
Clindamycin	4	Tigecycline	1
Doxycycline	16	Vancomycin	3
Ethambutol	1		

* Not Recommended

AB consumption was 341.6 DOT/100 Bed days.

Indira Gandhi Institute of Medical Sciences, Patna

IGIMS, Patna was established on 19th November 1983, an autonomous organisation with all the major medical departments. It was included in NAC-NET under National Programme on AMR containment in 2021.

Hospital Information

- Total Beds: 1061
 - Acute beds: 919
 - ICU Beds: 75
- Admissions in previous year: 23,746



Training of data collectors for PPS

Survey details:

Date for Training	8 December 2021
Data Collectors	B.sc Nursing students & Postgraduate medical students
Data collection dates	9 December 2021 (Thursday) and 14 December 2021 (Tuesday)
No. of wards surveyed	6
Wards surveyed	Medicine, Surgery, OBG, Paediatrics, Other wards (ENT)
Eligible patients	122
AB policy followed	Yes
Name of AB policy	National Treatment guideline and Hospital AB policy

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	52	25	16	6	47	75	1.4	1.6
Surgery	18	3	5	10	18	44	2.4	2.4
OBG	9	6	3	0	9	12	1.3	1.3
Paediatrics	7	5	1	1	7	10	1.4	1.4
Other wards	36	9	18	9	36	76	2.1	2.1
Total	122	48	43	26	117	217	1.8	1.9

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	1	23	8	1	14
Surgery	16	0	1	0	1
OBG	4	0	2	0	3
Paediatrics	0	0	1	0	6
Other wards	23	1	5	0	7
Total	44	24	17	1	31

Table 3: Details of patients on Surgical Prophylaxis

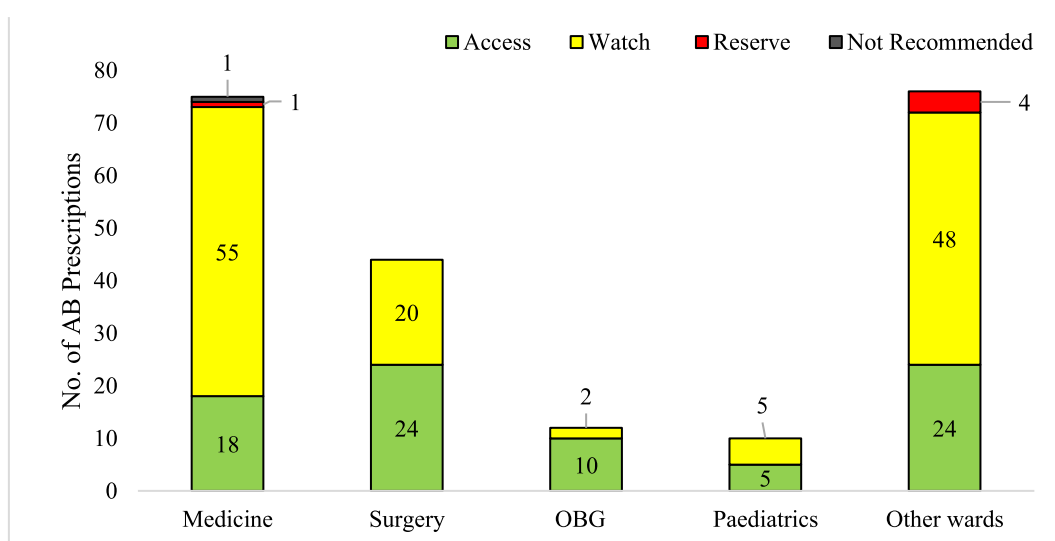
Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	0	1
Surgery	0	0	16
OBG	1	2	1
Other wards	1	1	21
Total	2	3	39

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=52)	5 (9.6)	9 (17.3)	8 (15.4)
Surgery	(n=18)	17 (94.4)	4 (22.2)	10 (55.6)
OBG	(n=9)	5 (55.6)	0	0
Paediatrics	(n=7)	5 (71.4)	1 (14.3)	2 (28.6)
Other wards	(n=36)	11 (30.6)	2 (5.6)	21 (58.3)
Total	(N=122)	43 (35.2)	16 (13.1)	41 (33.6)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

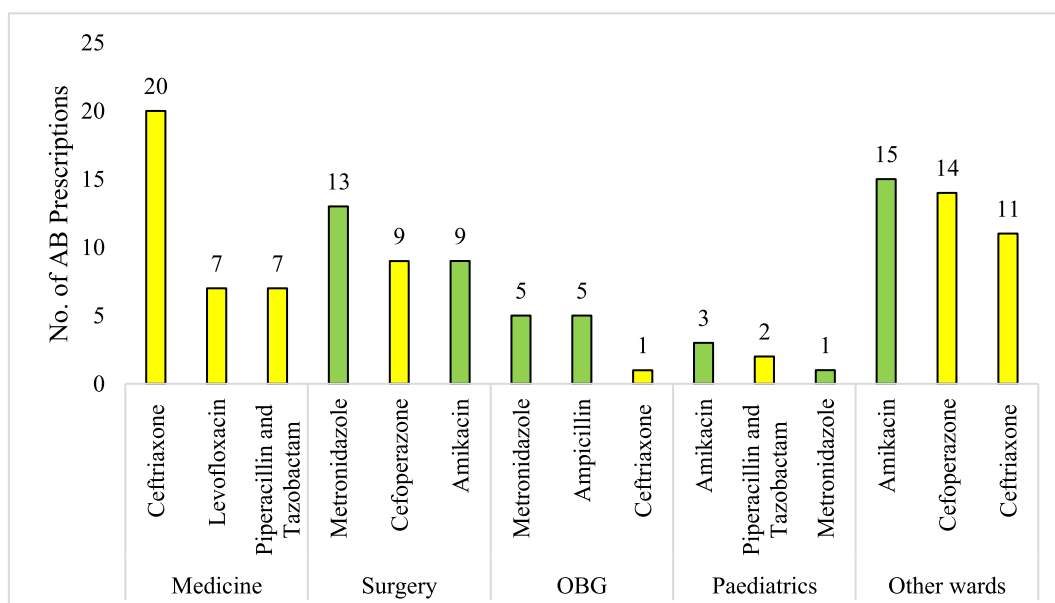


Table 5: Other details of AB prescriptions

Wards	Parenteral AB n (%)	Compliance with AB policy n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine (n=75)	65 (86.6)	18 (24)	2 (2.6)
Surgery (n=44)	41 (93.1)	42 (95.5)	24 (54.5)
OBG (n=12)	6 (50)	13 (108.3)	0
Paediatrics (n=10)	9 (90)	10 (100)	4 (40)
Other wards (n=76)	66 (86.8)	72 (94.7)	23 (30.2)
Total (N=217)	187 (86.1)	155 (71.4)	53 (24.4)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	27	Cotrimoxazole	1
Amoxicillin	5	Doxycycline	3
Amoxicillin and Clavulanic Acid	1	Faropenem	1
Ampicillin	5	Gentamycin	2
Azithromycin	3	Levofloxacin	8
Carbapenem	2	Linezolid	4
Cefoperazone	24	Meropenem	7
Cefepime	2	Meropenem and sulbactam*	1
Cefixime	2	Metronidazole	25
Cefpodoxime Proxetil	2	Moxifloxacin	6
Cefotaxime	4	Piperacillin	6
Cefpodoxime	4	Piperacillin and Tazobactam	6
Ceftriaxone	37	Rifaximin	1
Cefuroxime	8	Streptomycin	2
Cefuroxime axetil	1	Tigecycline	1
Ciprofloxacin	2	Vancomycin	2
Clindamycin	12		

* Not Recommended

AB consumption was 1000.7 DOT/100 Bed days.

Government Medical College, Aurangabad

Government Medical College and hospital, Aurangabad is one of the premier medical colleges in Maharashtra and the biggest tertiary care hospital. It was included in NAC-NET under National Programme on AMR containment in 2017.

Hospital Information

- Total Beds: 1665
 - Acute beds: 1537
 - ICU Beds: 98
- Admissions in previous year: 64,394



Training of data collectors for PPS

Survey details:

Date for Training	8 December 2021
Data Collectors	Postgraduate medical students
Data collection dates	9 December 2021 (Thursday)
No. of wards surveyed	28
Wards surveyed	Medicine, Surgery, OBG, Paediatrics, ICUs, Other wards (Orthopaedics and Ophthalmology)
Eligible patients	397
AB policy followed	No

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	96	51	27	10	88	135	1.4	1.5
Surgery	93	38	32	15	85	156	1.6	1.8
OBG	96	28	51	17	96	181	1.9	1.9
Paediatrics	33	6	20	7	33	67	2	2
ICUs	61	21	22	18	61	132	2.2	2.2
Other wards	18	13	2	2	17	23	1.3	1.4
Total	397	157	154	69	380	694	1.8	1.8

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	1	27	42	3	15
Surgery	84	0	0	1	0
OBG	96	0	0	0	0
Paediatrics	0	13	15	0	5
ICUs	9	25	21	0	6
Other wards	16	0	0	1	0
Total	206	65	78	5	26

Table 3: Details of patients on Surgical Prophylaxis

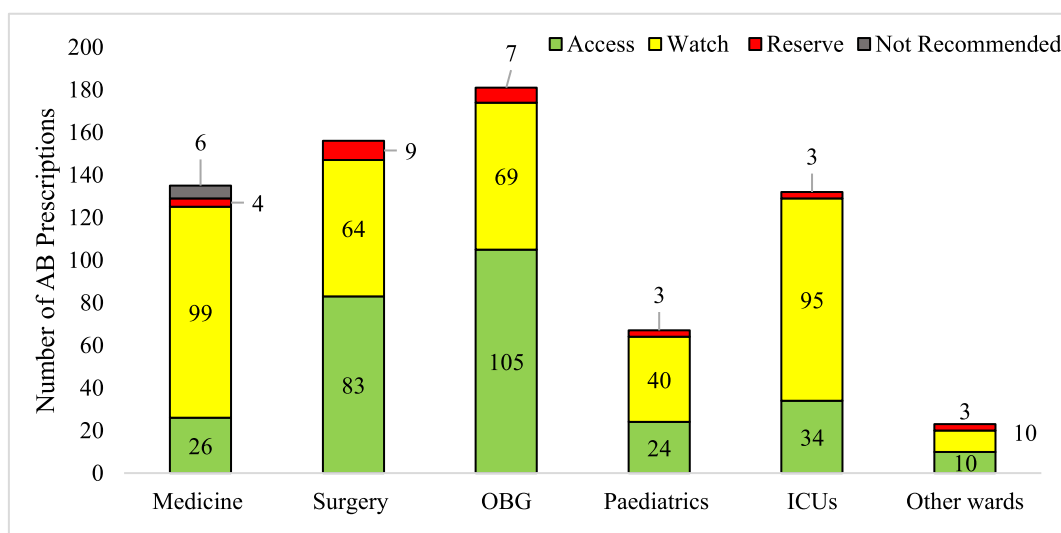
Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	0	1
Surgery	0	1	83
OBG	1	10	85
ICUs	0	0	9
Other wards	0	0	16
Total	1	11	194

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=88)	2 (2.3)	4 (4.5)	16 (18.2)
Surgery	(n=85)	12 (14.1)	12 (14.1)	7 (8.2)
OBG	(n=96)	3 (3.1)	0	17 (17.7)
Paediatrics	(n=33)	0	0	16 (48.5)
ICUs	(n=61)	0	13 (21.3)	26 (42.6)
Other wards	(n=17)	0	0	2 (11.8)
Total	(N=380)	17 (4.5)	29 (7.6)	84 (22.1)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

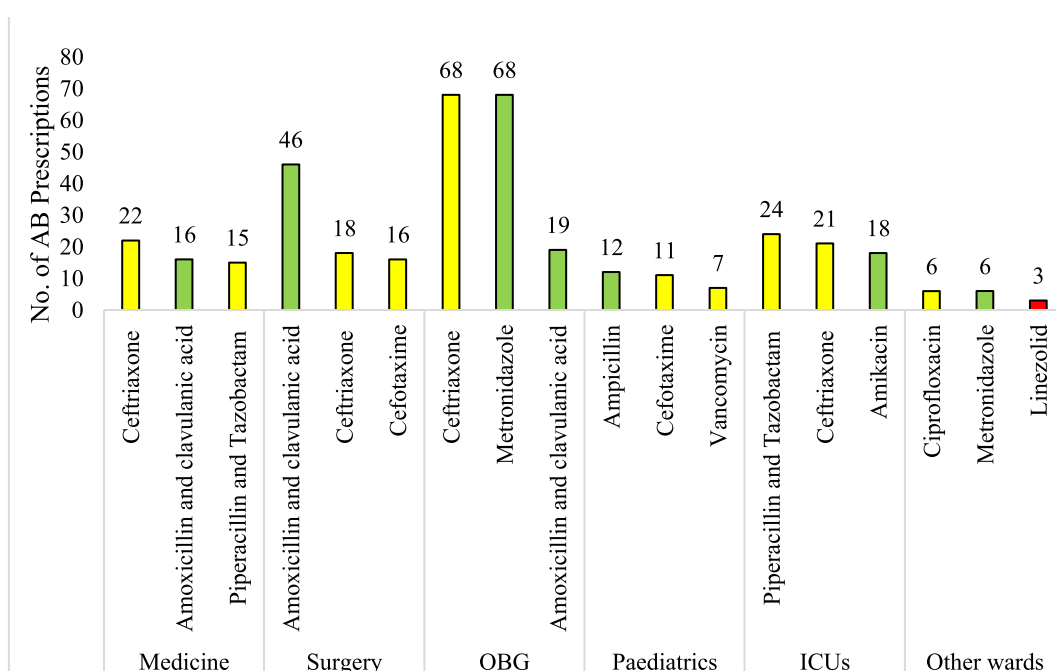


Table 5: Other details of AB prescriptions

Wards		Parenteral AB n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine	(n=135)	114 (84.4)	1 (0.7)
Surgery	(n=156)	129 (82.7)	13 (8.3)
OBG	(n=181)	158 (87.3)	0
Paediatrics	(n=67)	66 (98.5)	0
ICUs	(n=132)	121 (91.7)	29 (22)
Other wards	(n=23)	12 (52.2)	0
Total	(N=694)	600 (86.5)	43 (6.2)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	40	Doxycycline	1
Amoxicillin and Clavulanic Acid	89	Erythromycin	1
Ampicillin	12	Gentamycin	23
Azithromycin	25	Levofloxacin	18
Cefixime	9	Linezolid	24
Cefoperazone and Sulbactam*	1	Meropenem	35
Cefotaxime	38	Metronidazole	114
Ceftriaxone	145	Nitrofurantoin	1
Ceftriaxone and Sulbactam*	5	Norfloxacin	2
Ceftazidime	2	Piperacillin and Tazobactam	57
Ciprofloxacin	18	Rifaximin	5
Clarithromycin	3	Tigecycline	1
Colistin	4	Vancomycin	19
Cotrimoxazole	2		

* Not Recommended

AB consumption was 805.2 DOT/100 Bed days.

Gandhi Medical College, Bhopal

Gandhi Medical College, is a leading tertiary care hospital in Bhopal. Hamidia Hospital & Sultania Zanana Hospital are its integral part. Lady Bhole Centre caters to antenatal & child welfare activities in addition to Preventive and Social Medical Counselling. It was included in NAC-NET under National Programme on AMR containment in 2019.

Hospital Information

- Total Beds: 925
 - Acute beds: 858
 - ICU Beds: 287
- Admissions in previous year: 39,108



Training of Data Collectors for PPS

Survey details:

Date for Training	11 December 2021
Data Collectors	Undergraduate and Postgraduate medical students
Data collection dates	13 December (Monday), 15 December 2021 (Wednesday) & 16 December 2021 (Thursday)
No. of wards surveyed	41
Wards surveyed	Medicine (including Pulmonary), Surgery, OBG, Paediatrics, ICUs, Other wards (ENT, Orthopaedics, Ophthalmology)
Eligible patients*	632
AB policy followed	Yes, (OBG)
Name of AB policy	Promoting Rational drug use under NRHM

*Total admitted patients were taken as eligible patients

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	76	44	10	1	55	67	0.9	1.2
Surgery	110	41	33	10	84	140	1.3	1.6
OBG	109	26	11	45	82	192	1.8	2.3
Paediatrics	91	18	34	8	60	115	1.3	1.9
ICUs	139	22	46	25	93	195	1.4	2.1
Other wards	107	32	23	9	64	108	1	1.5
Total	632	183	157	98	438	817	1.3	1.8

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		Others
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	
Medicine	1	13	41	0	0
Surgery	46	15	23	0	0
OBG	46	31	2	2	1
Paediatrics	13	18	25	4	0
ICUs	19	34	37	3	0
Other wards	41	2	20	1	0
Total	166	113	148	10	1

Table 3: Details of patients on Surgical Prophylaxis

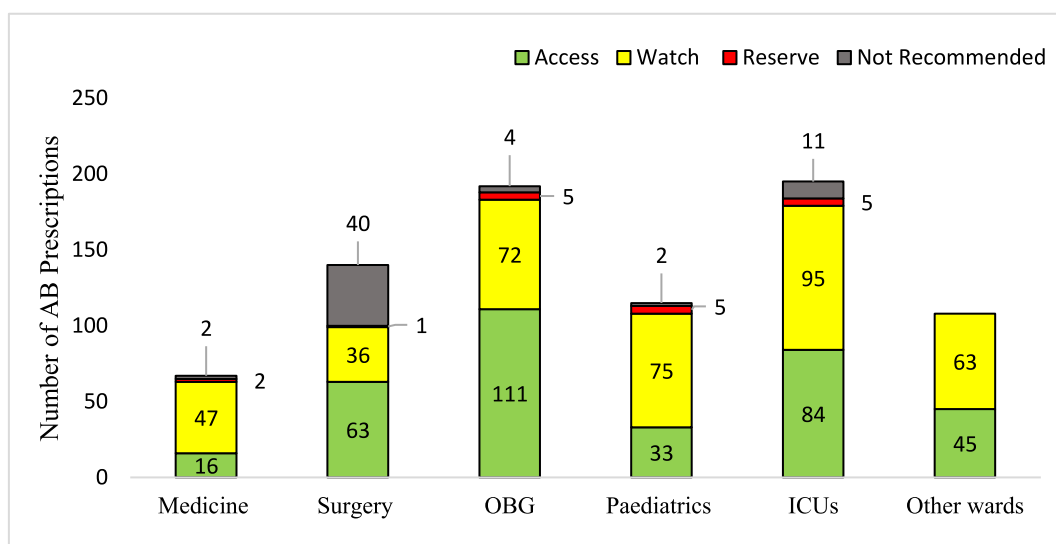
Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	1	0
Surgery	0	3	43
OBG	0	0	46
Paediatrics	0	0	13
ICUs	0	1	18
Other wards	0	2	39
Total	0	7	159

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=76)	0	0	2 (2.6)
Surgery	(n=110)	3 (2.7)	10 (9.1)	6 (5.5)
OBG	(n=109)	0	13 (11.9)	47 (43.1)
Paediatrics	(n=91)	2 (2.2)	0	26 (28.6)
ICUs	(n=139)	0	20 (14.4)	32 (23)
Other wards	(n=107)	2 (1.9)	1 (0.9)	28 (26.2)
Total	(N=607)	7 (1.2)	44 (7.2)	141 (23.2)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

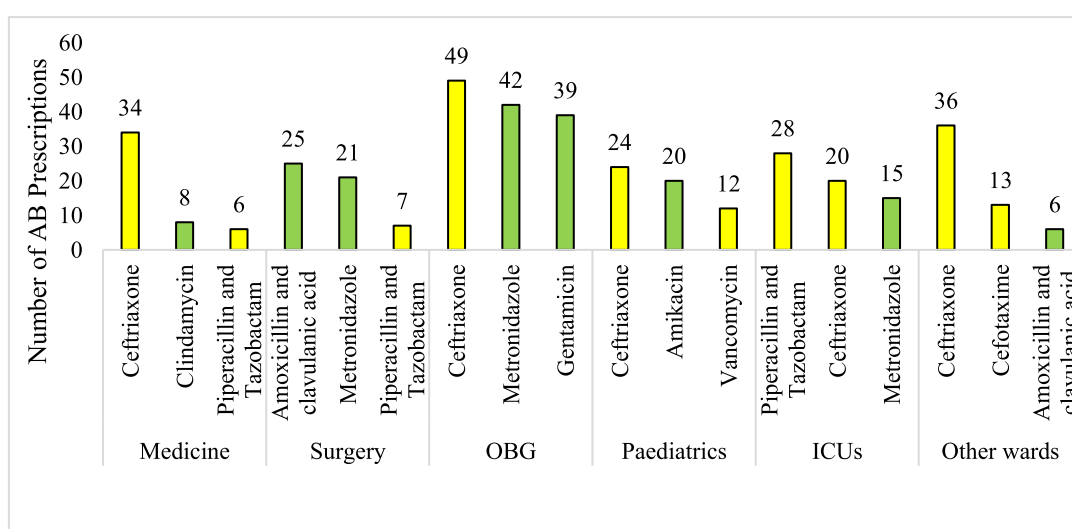


Table 5: Other details of AB prescriptions

Wards	Parenteral AB n (%)	Compliance with AB policy n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine (n=67)	62 (92.5)	-	5 (7.5)
Surgery (n=140)	121 (86.4)	-	10 (7.1)
OBG (n=192)	176 (91.6)	53 (27.6)	7 (3.6)
Paediatrics (n=115)	111 (96.5)	-	5 (4.3)
ICUs (n=195)	183 (93.8)	-	8 (4.1)
Other wards (n=108)	93 (86.1)	-	11 (10.2)
Total (N=817)	746 (91.2)	53 (27.6)	46 (5.6)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	78	Colistin	1
Amoxicillin	4	Doxycycline	7
Amoxicillin & clavulanic acid	54	Gentamicin	55
Ampicillin	13	Imipenem	3
Azithromycin	12	Levofloxacin	8
Cefepime	3	Linezolid	17
Cefepime & tazobactam*	1	Meropenem	23
Cefixime	11	Metronidazole	106
Cefoperazone & sulbactam*	5	Nitrofurantoin	1
Cefotaxime	35	Ofloxacin	7
Ceftazidime	4	Piperacillin & tazobactam	64
Ceftriaxone	170	Rifaximin	2
Ceftriaxone & sulbactam*	13	Streptomycin	1
Ceftriaxone & tazobactam*	40	Sulfamethoxazole trimethoprim	1
Cefuroxime	3	Teicoplanin	1
Ciprofloxacin	17	Vancomycin	27
Clindamycin	30		

* Not Recommended

AB consumption was 796.5 DOT/100 Bed days.

North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong

NEIGRIHMS, established in 1987, is a postgraduate medical institution. It caters to the population of Meghalaya and adjacent states. It was included NAC-NET under National Programme on AMR containment in 2017.

Hospital Information

- Total Beds: 594
 - Acute beds: 577
 - ICU Beds: 78
- Admissions in previous year: 8279



Data collectors and faculty participating in PPS

Survey details:

Date for Training	15 December 2021
Data Collectors	Post Graduate students, Nursing staff and Faculty
Data collection dates	16 December 2021 (Thursday) and 17 December 2021 (Friday)
No. of wards surveyed	10
Wards surveyed	Medicine (including CTVS), Surgery, OBG, Paediatrics, ICUs, Other wards (ENT and Orthopaedics)
Eligible patients	170
AB policy followed	No

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	31	16	0	1	17	19	0.6	1.1
Surgery	36	16	10	5	31	51	1.4	1.6
OBG	34	17	9	0	26	35	1	1.3
Paediatrics	14	6	1	0	7	8	0.6	1.1
ICUs	37	14	10	0	24	34	0.9	1.4
Other wards	18	9	7	1	17	26	1.4	1.5
Total	170	78	37	7	122	173	1	1.4

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	0	6	1	0	10
Surgery	28	0	2	1	0
OBG	21	0	0	1	4
Paediatrics	0	1	6	0	0
ICUs	1	12	6	2	3
Other wards	17	0	0	0	0
Total	67	19	15	4	17

Table 3: Details of patients on Surgical Prophylaxis

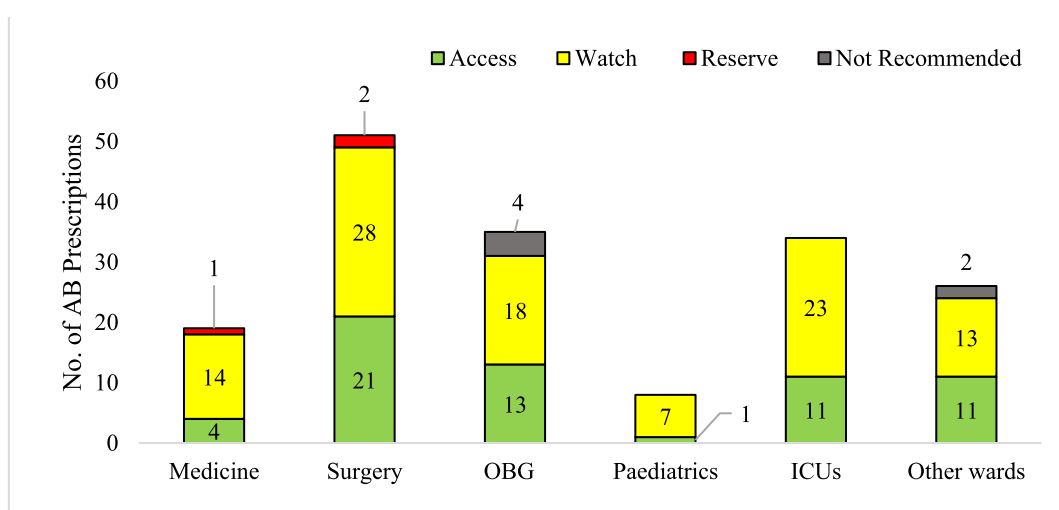
Wards	Patients on		
	SP1	SP2	SP3
Surgery	0	1	27
OBG	0	1	20
ICUs	0	0	1
Other wards	0	0	17
Total	0	2	65

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=31)	6 (19.4)	0	1 (3.2)
Surgery	(n=36)	10 (27.8)	1 (2.8)	10 (27.8)
OBG	(n=34)	4 (11.8)	0	0
Paediatrics	(n=14)	0	0	1 (7.1)
ICUs	(n=37)	10 (27)	2 (5.4)	4 (10.8)
Other wards	(n=18)	9 (50)	0	6 (33.3)
Total	(N=170)	39 (22.9)	3 (1.8)	22 (12.9)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

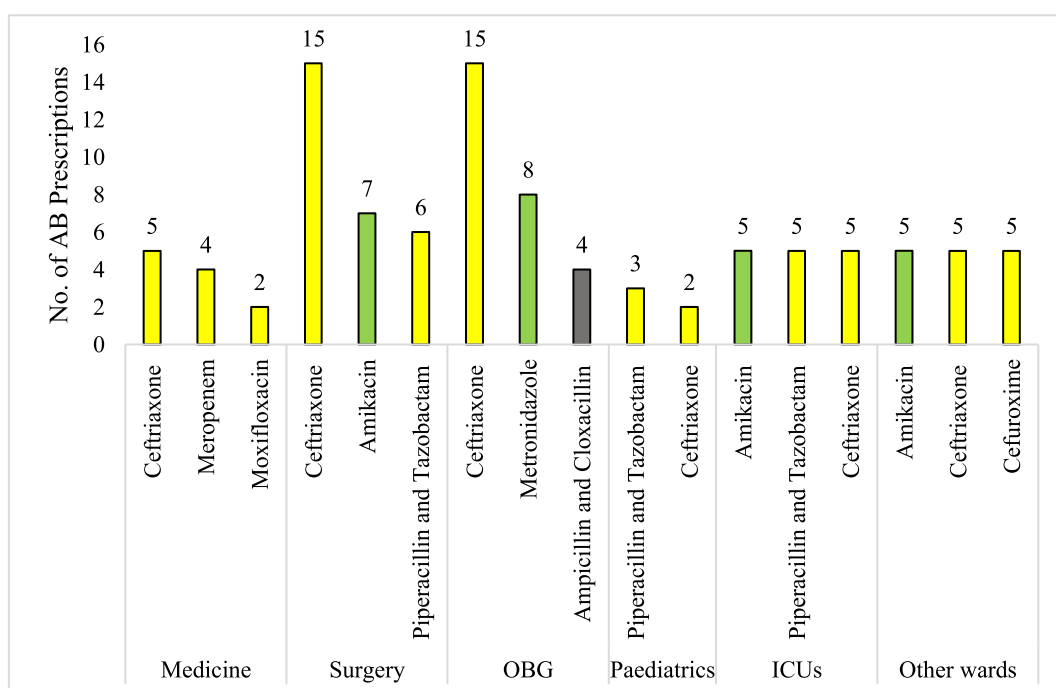


Table 5: Other details of AB prescriptions

Wards		Parenteral AB n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine	(n=19)	17 (89.5)	1 (5.2)
Surgery	(n=51)	44 (86.3)	0
OBG	(n=35)	27 (77.1)	2 (5.7)
Paediatrics	(n=8)	7 (87.5)	2 (25)
ICUs	(n=34)	33 (97)	0
Other wards	(n=26)	23 (88.5)	1 (3.8)
Total	(N=173)	151 (87.2)	6 (3.5)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	21	Gentamycin	4
Amoxycillin and Clavulanic acid	7	Imipenem	4
Ampicillin and Cloxacillin*	5	Imipenem and Cilastatin	1
Ampicillin Sulbactam	2	Meropenem	12
Cefepime	1	Metronidazole	17
Cefoperazone and Sulbactam *	1	Nitrofurantoin	2
Cefotaxime	3	Moxifloxacin	2
Ceftazidime	1	Piperacillin and Tazobactam	14
Ceftriaxone	49	Sulfamethoxazole and Trimethoprim	2
Cefuroxime	5	Levofloxacin	1
Ciprofloxacin	4	Linezolid	3
Clindamycin	4	Teicoplanin	3
Doxycycline	2	Vancomycin	3

* Not Recommended

AB consumption was 496.9 DOT/100 Bed days.

Calcutta School of Tropical Medicine, Kolkata

School of Tropical Medicine (STM), is dedicated to research, care and cure of tropical diseases. It was founded in 1914. It was included in NAC-NET under National Programme on AMR containment in 2020.

Hospital Information

- Total Beds: 162
 - Acute beds: 101
 - ICU Beds: 9
- Admissions in previous year: 1351



Data collectors and faculty participating in PPS training

Survey details:

Date for Training	22 December 2021
Data Collectors	Postgraduate students and Junior Residents
Data collection dates	22 December 2021 (Wednesday)
No. of wards surveyed	8
Wards surveyed	Medicine
Eligible patients	84
AB policy followed	No

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	84	16	39	6	61	118	1.4	1.9

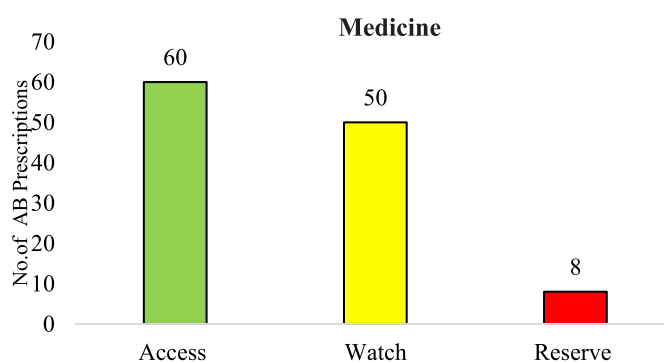
Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic	
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections
Medicine	0	11	48	2

Table 3: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards	Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine (n=84)	5 (5.9)	2 (2.4)	28 (33.3)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

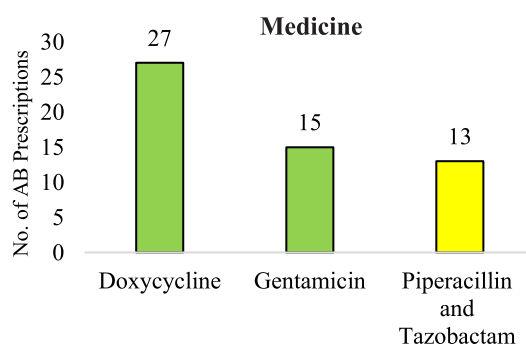


Table 5: Other details of AB prescriptions

Wards	Parenteral AB n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine (n=118)	57 (48.3)	36 (30.5)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amoxicillin and Clavulanic Acid	2	Gentamicin	15
Azithromycin	5	Levofloxacin	1
Cefotaxime	5	Linezolid	7
Ceftriaxone	8	Meropenem	4
Chloramphenicol	1	Metronidazole	4
Ciprofloxacin	6	Piperacillin and Tazobactam	13
Clarithromycin	1	Polymyxin B	1
Clindamycin	2	Rifaximin	7
Cotrimoxazole	8	Vancomycin	1
Doxycycline	27		

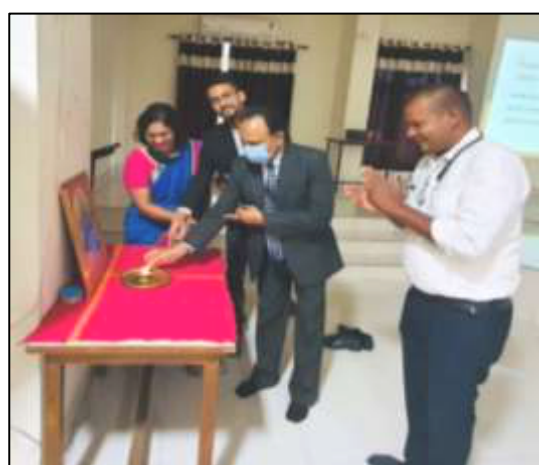
AB consumption was 1124.7 DOT/100 Bed days.

Pt. Jawahar Lal Nehru Memorial Medical College, Raipur

Pt. Jawahar Lal Nehru Memorial Medical College, is one of the oldest institutions in the state of Chhattisgarh and with all the major medical departments. It was included in NAC-NET under National Programme on AMR containment in 2021.

Hospital Information

- Total Beds: 1250
 - Acute beds: 1141
 - ICU Beds: 224
- Admissions in previous year: 39,966



Inauguration for PPS training

Survey details:

Date for Training	3 December 2021
Data Collectors	2 nd year Undergraduates & Postgraduates medical students
Data collection dates	3 January (Monday) & 23 February 2022 (Wednesday)
No. of wards surveyed	7
Wards surveyed	Medicine (including Respiratory Medicine), Surgery, OBG, Paediatrics, Other wards (Orthopaedics & ENT)
Eligible patients	215
AB policy followed	Yes
Name of AB policy	National Treatment Guidelines

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	89	32	25	15	72	134	1.5	1.9
Surgery	50	12	18	14	44	94	1.9	2.1
OBG	27	3	9	7	19	45	1.7	2.4
Paediatrics	8	4	1	0	5	6	0.8	1.6
Other wards	41	19	10	6	35	59	1.4	1.7
Total	215	70	63	42	175	338	1.6	1.9

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic	
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections
Medicine	0	35	32	5
Surgery	37	0	7	0
OBG	15	1	1	2
Paediatrics	0	1	3	1
Other wards	27	0	8	0
Total	79	37	51	8

Table 3: Details of patients on Surgical Prophylaxis

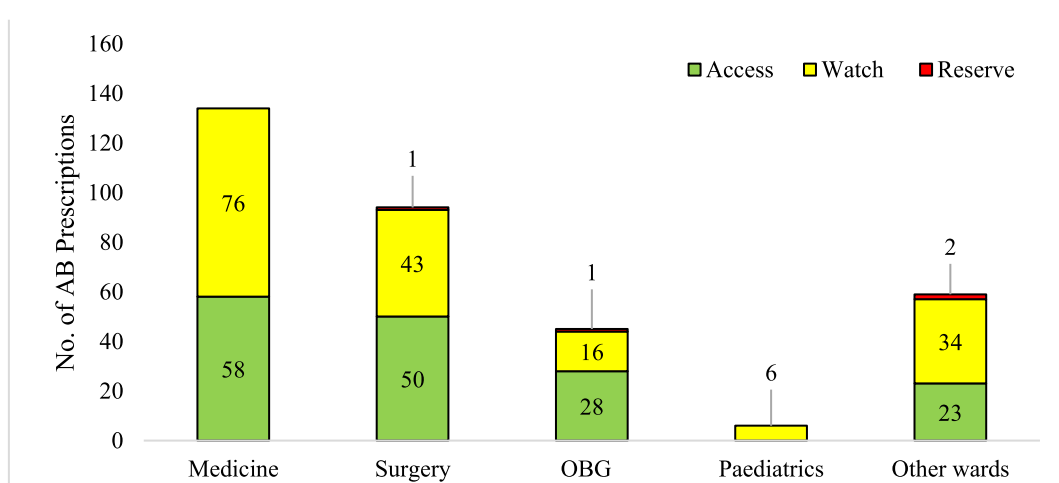
Wards	Patients on		
	SP1	SP2	SP3
Surgery	0	2	35
OBG	0	0	15
Paediatrics	0	0	0
Other wards	1	1	25
Total	1	3	75

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=89)	0	8 (8.9)	8 (8.9)
Surgery	(n=50)	2 (4)	7 (14)	10 (20)
OBG	(n=27)	0	5 (18.5)	5 (18.5)
Paediatrics	(n=8)	0	0	1 (12.5)
Other wards	(n=41)	0	2 (4.9)	8 (19.5)
Total	(N=215)	2 (0.9)	22 (10.2)	32 (14.9)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

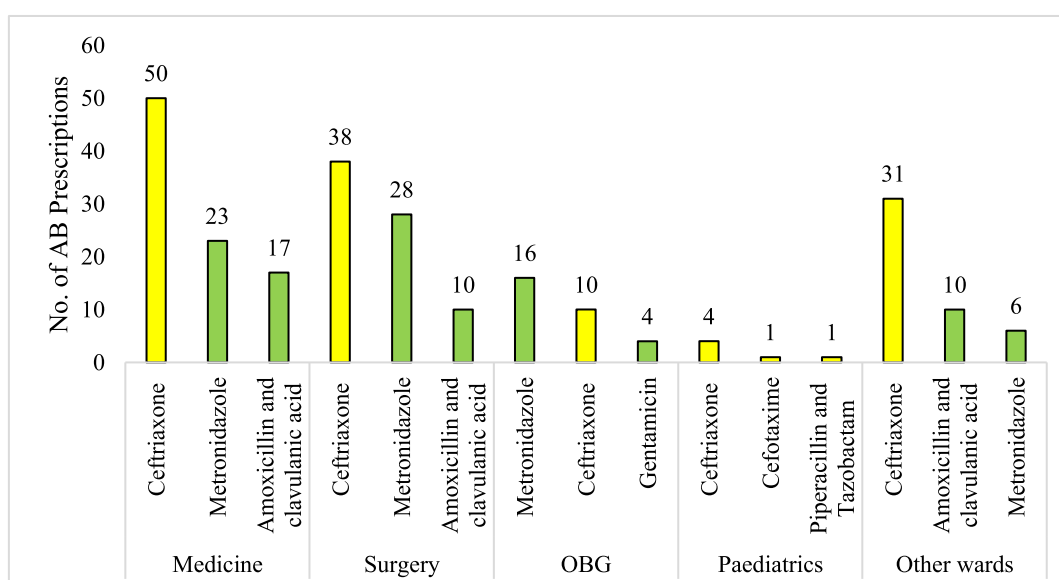


Table 5: Other details of AB prescriptions

Wards	Parenteral AB n (%)	Compliance with AB policy n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine (n=134)	109 (81.3)	115 (85.8)	20 (14.9)
Surgery (n=94)	84 (89.3)	91 (96.8)	17 (18.1)
OBG (n=45)	23 (51.1)	45 (100)	6 (13.3)
Paediatrics (n=6)	6 (100)	5 (83.3)	2 (33.3)
Other wards (n=59)	47 (79.7)	56 (94.9)	16 (27.1)
Total (N=338)	269 (79.6)	312 (92.3)	61 (18)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	19	Doxycycline	8
Amoxicillin	4	Gentamicin	4
Clarithromycin	1	Levofloxacin	5
Amoxicillin and Clavulanic Acid	46	Linezolid	4
Ampicillin	2	Meropenem	1
Azithromycin	8	Metronidazole	73
Cefixime	7	Nitrofurantoin	1
Cefotaxime	1	Ofloxacin	1
Ceftriaxone	135	Piperacillin and Tazobactam	7
Ciprofloxacin	3	Rifaximin	7
Clindamycin	1		

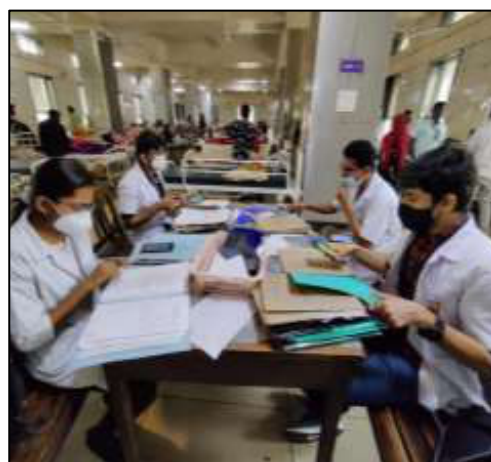
AB consumption was 1172.1 DOT/Bed days.

B.J. Medical College, Pune

Sassoon General Hospitals is a large state-run hospital in Pune with super specialty facilities for Cardiology, Neurology, and Nephrology. It was included in NAC-NET under National Programme on AMR containment in 2014.

Hospital Information

- Total Beds: 1290
 - Acute beds: 1240
 - ICU Beds: 104
- Admissions in previous year: 22,797



Training of data collectors, faculty and PPS by data collectors in wards

Survey details:

Date for Training	5 January 2022
Data Collectors	Medical students and Pharmacology Residents and Faculty
Data collection dates	6 January 2022 (Thursday)
No. of wards surveyed	14
Wards surveyed	Medicine, Surgery, OBG, Paediatrics, Other wards (Orthopaedics)
Eligible patients	515
AB policy followed	Yes
Name of AB policy	BJGMC Sassoon Hospital Policy

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	167	37	36	19	92	171	1.0	1.9
Surgery	169	38	63	37	138	283	1.7	2.0
OBG	85	7	29	43	79	203	2.4	2.6
Paediatrics	37	7	12	8	27	60	1.6	2.2
Other wards	57	11	14	18	43	100	1.8	2.3
Total	515	100	154	125	379	817	1.6	2.2

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		Others
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	
Medicine	5	36	42	5	4
Surgery	100	6	26	3	3
OBG	60	0	3	0	16
Paediatrics	1	9	17	0	0
Other wards	43	0	0	0	0
Total	209	51	88	8	23

Table 3: Details of patients on Surgical Prophylaxis

Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	0	5
Surgery	0	8	92
OBG	2	0	58
Paediatrics	0	0	1
Other wards	0	4	39
Total	2	12	195

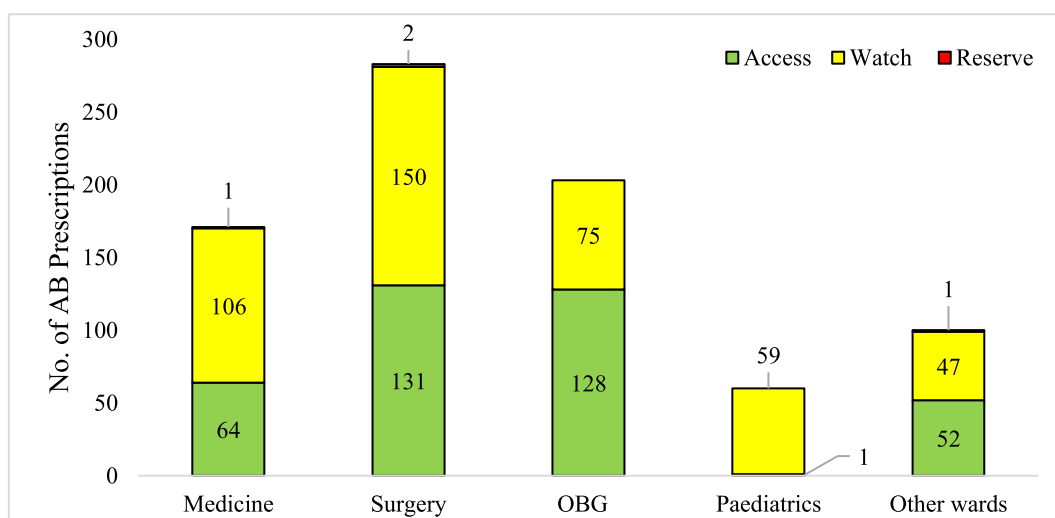
SP1: Single dose of AB, SP2: AB prescription for 1 day,

SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=167)	3 (1.8)	9 (5.4)	15 (8.9)
Surgery	(n=169)	23 (13.6)	5 (2.9)	45 (26.6)
OBG	(n=85)	8 (9.4)	5 (5.8)	35 (41.1)
Paediatrics	(n=37)	0	0	13 (35.1)
Other wards	(n=57)	3 (5.2)	1 (1.7)	27 (47.3)
Total	(N=515)	37 (7.1)	20 (3.8)	135 (26.2)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

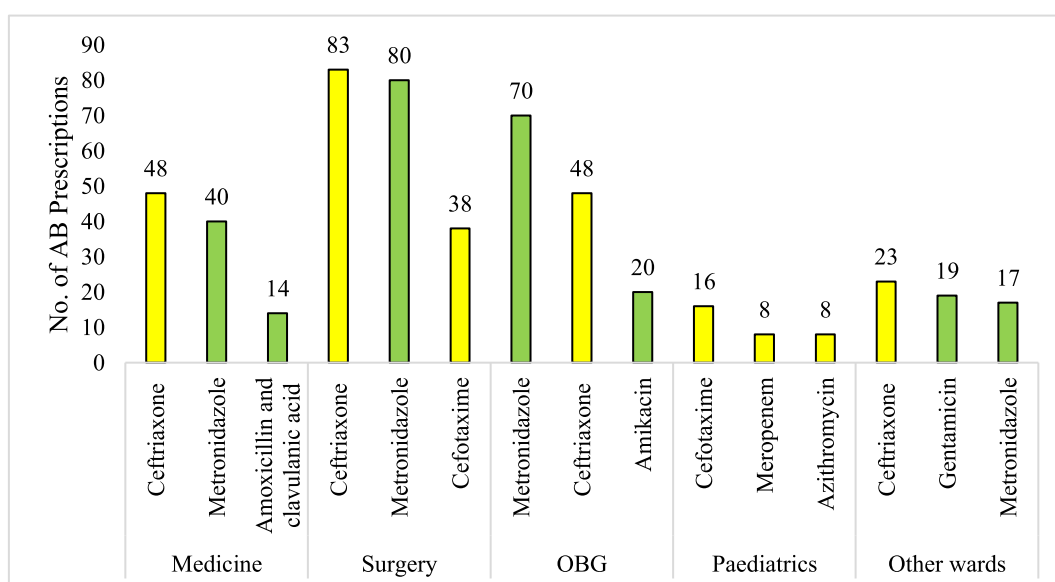


Table 5: Other details of AB prescriptions

Wards		Parenteral AB n (%)	Compliance with AB policy n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine	(n=171)	144 (84.2)	139 (81.3)	17 (9.9)
Surgery	(n=283)	260 (91.8)	168 (59.4)	14 (4.9)
OBG	(n=203)	164 (80.8)	57 (28.1)	15 (7.4)
Paediatrics	(n=60)	49 (81.7)	49 (81.7)	23 (38.3)
Other wards	(n=100)	92 (92)	70 (70)	17 (17)
Total	(N=817)	709 (86.8)	483 (59.1)	86 (10.5)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	48	Doxycycline	7
Amoxicillin	5	Ertapenem	1
Amoxicillin and Clavulanic Acid	30	Fosfomycin	1
Ampicillin	7	Gentamicin	50
Aztreonam	1	Levofloxacin	8
Azithromycin	14	Linezolid	3
Cefepime	1	Meropenem	13
Cefixime	2	Metronidazole	222
Cefotaxime	98	Norfloxacin	1
Cefpodoxime Proxetil	7	Piperacillin and Tazobactam	38
Ceftazidime	3	Rifaximin	3
Ceftriaxone	209	Teicoplanin	2
Ciprofloxacin	17	Tobramycin	1
Cotrimoxazole	7	Vancomycin	18

AB consumption was 1007.6 DOT/100 Bed days.

Government Medical College, Chandigarh

Government Medical College, Chandigarh is a tertiary care premier institute. It was included in NAC-NET under National Programme on AMR containment in 2019.

Hospital Information

- Total Beds: 980
 - Acute beds: 643
 - ICU Beds: 14
- Admissions in previous year: 34,804



Training of data collectors for PPS

Survey details:

Date for Training	10 February 2022
Data Collectors	Undergraduate medical students and BSc Nursing students
Data collection dates	11 February (Friday), 14 February (Monday), 15 February (Tuesday) and 17 February 2022 (Thursday)
No. of wards surveyed	17
Wards surveyed	Medicine, Surgery, OBG, Paediatrics, Other wards (ENT and Orthopaedics)
Eligible patients	259
AB policy followed	Yes
Name of AB policy	GMC Chandigarh guidelines (Hospital AB Policy)

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	74	27	12	1	40	54	0.7	1.4
Surgery	46	19	15	2	36	55	1.2	1.6
OBG	78	24	22	10	56	99	1.3	1.8
Paediatrics	22	5	6	1	12	20	0.9	1.8
Other wards	39	25	3	1	29	35	0.9	1.2
Total	259	100	58	15	173	263	1.0	1.5

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	1	31	7	0	1
Surgery	31	0	5	0	0
OBG	37	0	0	0	19
Paediatrics	0	3	9	0	0
Other wards	24	0	0	1	4
Total	93	34	21	1	24

Table 3: Details of patients on Surgical Prophylaxis

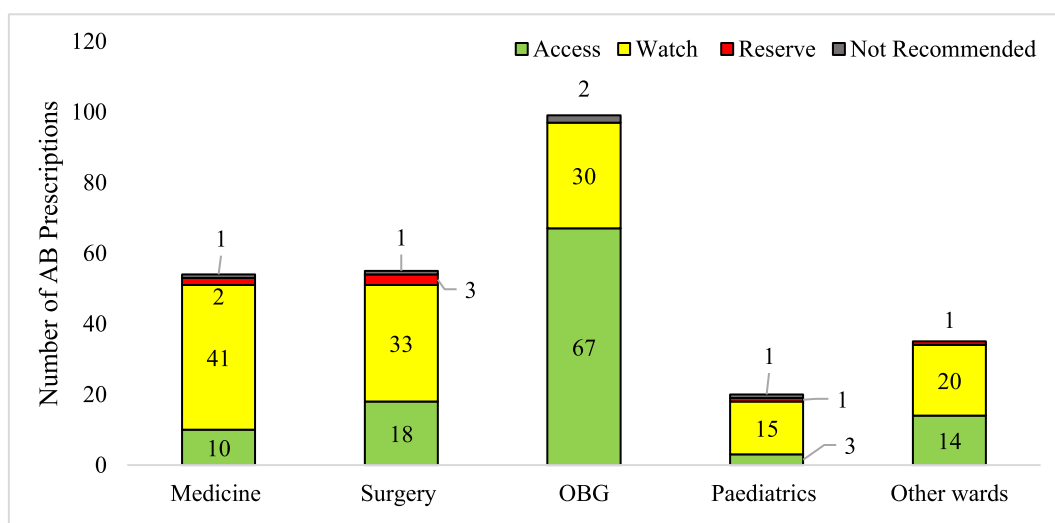
Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	1	0
Surgery	0	2	29
OBG	0	4	33
Other wards	2	10	12
Total	2	17	74

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=74)	13 (17.6)	1 (1.4)	3 (4.1)
Surgery	(n=46)	5 (10.9)	3 (6.5)	5 (10.9)
OBG	(n=78)	22 (28.2)	11 (14.1)	6 (7.7)
Paediatrics	(n=22)	3 (13.6)	0	0
Other wards	(n=39)	9 (23.1)	0	1 (2.6)
Total	(N=259)	52 (20.1)	15 (5.8)	15 (5.8)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

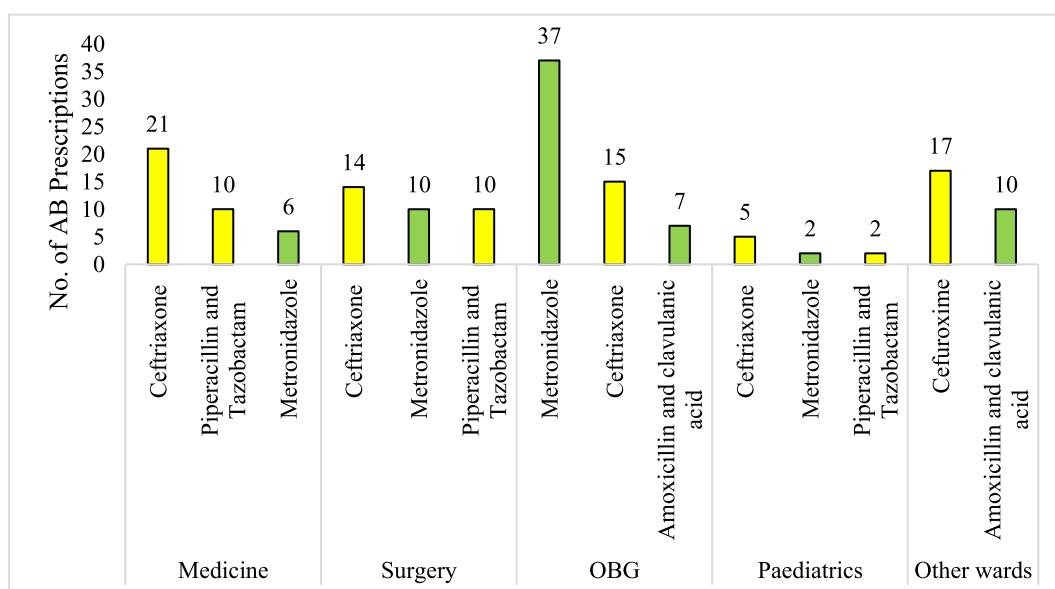


Table 5: Other details of AB prescriptions

Wards	Parenteral AB n (%)	Compliance with AB policy n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine (n=54)	44 (81.5)	54 (100)	3 (5.5)
Surgery (n=55)	50 (90.9)	41 (74.5)	8 (14.5)
OBG (n=99)	66 (66.6)	97 (98)	3 (3)
Paediatrics (n=20)	20 (100)	20 (100)	0
Other wards (n=35)	28 (80)	31 (88.6)	7 (20)
Total (N=263)	208 (79.1)	243 (92.4)	21 (7.9)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	8	Dicloxacillin	1
Amoxicillin	8	Doxycycline	1
Amoxicillin and Clavulanic Acid	15	Fosfomycin	1
Ampicillin	9	Gentamicin	13
Azithromycin	5	Imipenem	2
Cefepime	1	Imipenem & Cilastin	1
Cefepime & Sulbactam*	1	Levofloxacin	1
Cefixime	12	Linezolid	7
Cefoperazone and Sulbactam*	4	Meropenem	2
Cefotaxime	1	Metronidazole	53
Cefpodoxime	1	Ofloxacin	1
Ceftriaxone	56	Piperacillin and Tazobactam	25
Cefuroxime	20	Rifaximin	2
Ciprofloxacin	2	Streptomycin	1
Clindamycin	2	Vancomycin	5
Cloxacillin	2		

* Not Recommended

AB consumption was 444.8 DOT/100 Bed days.

Lala Lajpat Rai Memorial Medical College, Meerut

Lala Lajpat Rai Memorial Medical College (LLRMMC) is a state-run Medical College located in Meerut, Uttar Pradesh, catering to the patients of western UP and Uttarakhand. It was included in NAC-NET under National Programme on AMR containment in 2020.

Hospital Information

- Total Beds: 650
 - Acute beds: 625
 - ICU Beds: 136
- Admissions in previous year: 33,968



LLRM Medical College, Meerut

Survey details:

Date for Training	15 February 2022
Data Collectors	Nursing students
Data collection dates	15 February 2022 (Tuesday)
No. of wards surveyed	17
Wards surveyed	Medicine, Surgery, OBG, ICUs, Other wards (ENT and Orthopaedics)
Eligible patients	202
AB policy followed	No

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	56	31	24	1	56	82	1.5	1.4
Surgery	20	8	12	0	20	32	1.6	1.6
OBG	15	3	12	0	15	27	1.8	1.8
ICUs	65	24	30	11	65	118	1.8	1.8
Other wards	46	23	13	10	46	79	1.7	1.7
Total	202	89	91	22	202	338	1.7	1.6

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	0	18	35	3	0
Surgery	18	1	1	0	0
OBG	0	11	2	2	0
ICUs	17	19	16	10	3
Other wards	42	0	4	0	0
Total	77	49	58	15	3

Table 3: Details of patients on Surgical Prophylaxis

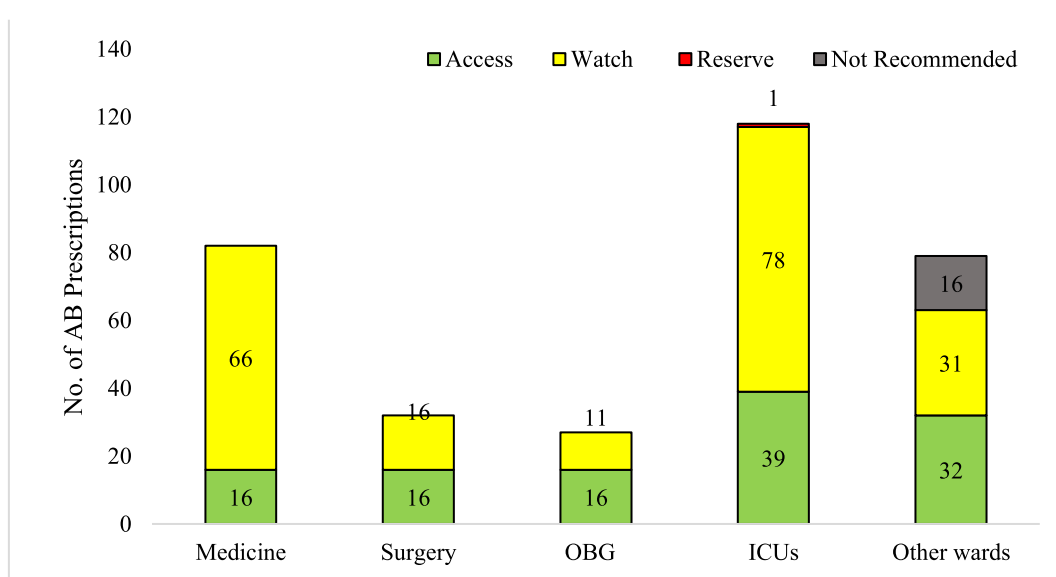
Wards	Patients on		
	SP1	SP2	SP3
Surgery	0	0	18
ICUs	0	0	15
Other wards	0	5	39
Total	0	5	72

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=56)	2 (3.6)	1 (1.8)	15 (26.8)
Surgery	(n=20)	0	1 (5)	7 (35)
OBG	(n=15)	0	2 (13.3)	1 (6.7)
ICUs	(n=65)	0	9 (13.8)	23 (35.4)
Other wards	(n=46)	0	0	20 (4.3)
Total	(N=202)	2 (0.9)	13 (6.4)	66 (32.7)

Graph 1: Distribution of AB prescriptions as per AwaRe classification



Graph 2: Top 3 AB prescriptions in various wards

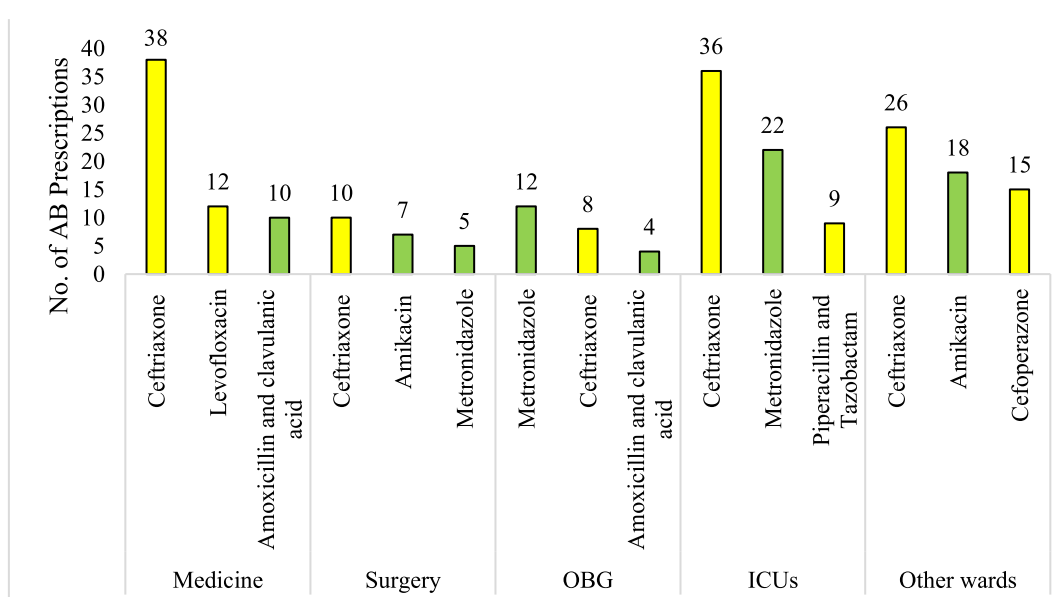


Table 5: Route of administration for AB prescriptions

Wards	Parenteral AB n (%)
Medicine (n=82)	80 (97.5)
Surgery (n=32)	25 (78.1)
OBG (n=27)	16 (59.3)
ICUs (n=118)	117 (99.2)
Other wards (n=79)	74 (93.7)
Total (N=338)	312 (92.3)

None of the prescriptions had stop /review date mentioned

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	33	Imipenem	1
Amoxycillin and Clavulanic acid	29	Levofloxacin	29
Azithromycin	3	Linezolid	1
Cefixime	3	Meropenem	7
Cefoperazone and sulbactam *	15	Metronidazole	58
Cefotaxime	3	Moxifloxacin	3
Ceftriaxone	111	Ofloxacin	5
Ceftriaxone and Sulbactam *	1	Piperacillin and Tazobactam	18
Ciprofloxacin	9	Rifaximin	1
Gentamycin	1	Vancomycin	7

* Not Recommended

AB consumption was 511 DOT/100 Bed days.

Government Medical College, Haldwani

Government Medical College, Haldwani was established in 1997 in Uttarakhand, India. It has two hospitals associated with it - Dr Susheela Tiwari Memorial Hospital and SRM Cancer Hospital & Research Centre. It was included in NAC-NET under National Programme on AMR containment in 2019.

Hospital Information

- Total Beds: 865
 - Acute beds: 843
 - ICU Beds: 106
- Admissions in previous year: 27,464



Inauguration of training for PPS

Survey details:

Date for Training	18 February 2022
Data Collectors	Nursing students
Data collection dates	19 February (Saturday) and 25 March 2022 (Friday)
No. of wards surveyed	5
Wards surveyed	Medicine, Surgery, OBG
Eligible patients	53
AB policy followed	No

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	23	7	9	4	20	37	1.6	1.9
Surgery	25	9	11	2	22	37	1.5	1.7
OBG	5	3	2	0	5	7	1.4	1.4
Total	53	19	22	6	47	81	1.5	1.7

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic	
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infection
Medicine	1	9	10	0
Surgery	20	2	0	0
OBG	3	2	0	0
Total	24	13	10	0

Table 3: Details of patients on Surgical Prophylaxis

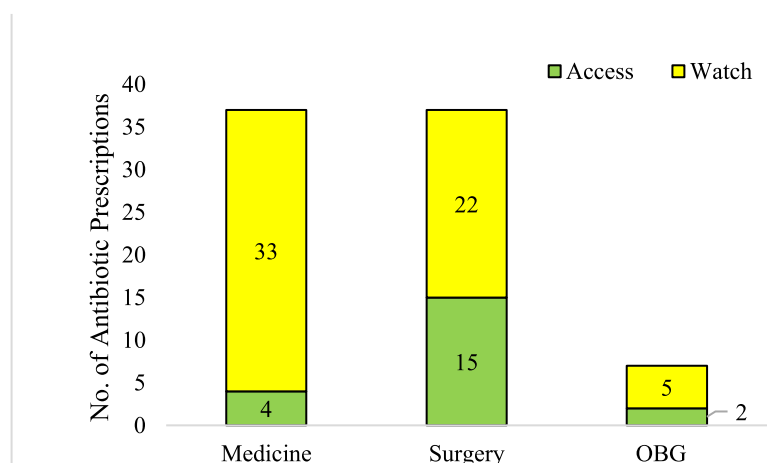
Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	0	1
Surgery	0	0	20
OBG	0	0	3
Total	0	0	24

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=20)	2 (10)	2 (10)	8 (40)
Surgery	(n=22)	1 (4.5)	2 (9.1)	8 (36.4)
OBG	(n=5)	0	0	0
Total	(N=47)	3 (6.4)	4 (8.5)	16 (34)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

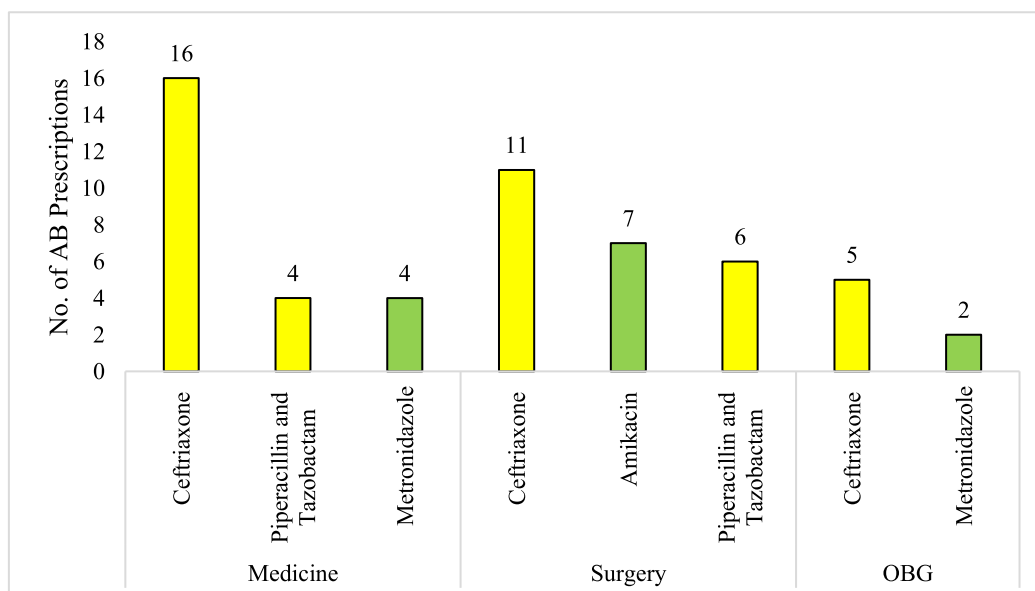


Table 5: Other details of AB prescriptions

Wards		Parenteral AB n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine	(n=37)	28 (75)	6 (16.2)
Surgery	(n=37)	36 (97.2)	0
OBG	(n=7)	7 (100)	0
Total	(N=81)	71 (87.7)	6 (7.4)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	9	Clarithromycin	1
Azithromycin	7	Clindamycin	1
Carbapenems	1	Faropenem	1
Cefixime	1	Metronidazole	10
Ceftriaxone	33	Moxifloxacin	3
Cefuroxime	1	Ofloxacin	1
Ciprofloxacin	2	Piperacillin and Tazobactam	10

AB consumption was 663.5 DOT/100 Bed days.

Ganesh Shankar Vidyarthi Memorial Medical College and L.L.R.M Hospital, Kanpur

G.S.V.M, Kanpur is a tertiary care premier institute, serving patients from the whole of Uttar Pradesh and adjacent states. The institute includes a Medical College, LLRM Hospital and a Super-specialty Centre. It was included in NAC-NET under National Programme on AMR containment in 2019.

Hospital Information

- Total Beds: 1779
 - Acute beds: 857
 - ICU Beds: 124
- Admissions in previous year: 45,982



Training & Data collection for PPS in wards

Survey details:

Date for Training	23 February 2022
Data Collectors	Undergraduate & Postgraduate medical students
Data collection dates	24 February (Thursday) & 25 February 2022 (Friday)
No. of wards surveyed	25
Wards surveyed	Medicine, Surgery, OBG, Paediatrics, Other wards (ENT, Orthopaedics)
Eligible patients	341
AB policy followed	No

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	101	54	27	16	97	167	1.6	1.7
Surgery	39	19	10	10	39	72	1.9	1.8
OBG	85	42	34	5	81	126	1.5	1.6
Paediatrics	45	32	5	5	42	62	1.4	1.5
Other wards	71	8	21	30	59	159	2.2	2.7
Total	341	155	97	66	318	586	1.7	1.8

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	2	30	51	1	13
Surgery	32	4	2	1	0
OBG	60	0	1	2	18
Paediatrics	0	6	25	0	11
Other wards	44	2	11	1	1
Total	138	42	90	5	43

Table 3: Details of patients on Surgical Prophylaxis

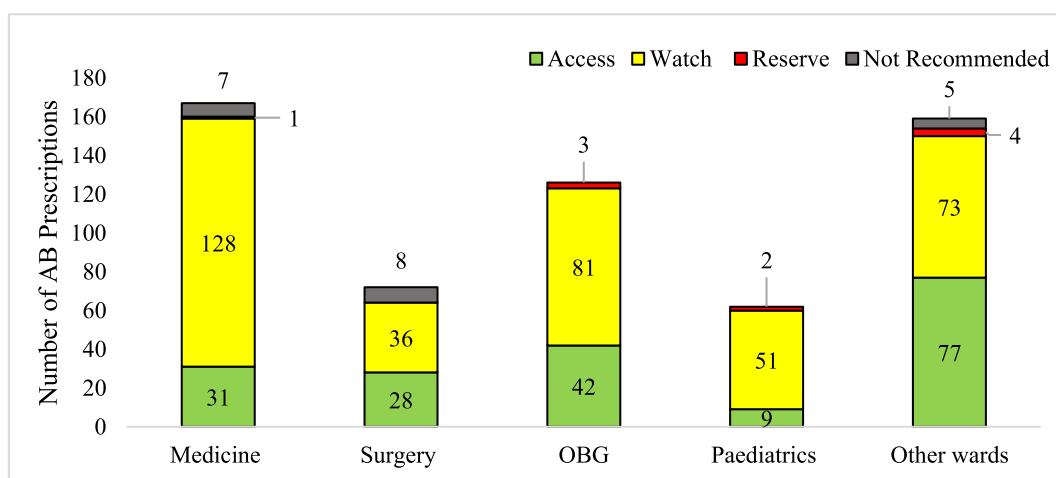
Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	1	1
Surgery	0	2	30
OBG	4	18	38
Other wards	0	0	44
Total	4	21	113

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=97)	0	15 (15.5)	17 (17.5)
Surgery	(n=39)	1(2.6)	5 (12.8)	14 (35.9)
OBG	(n=81)	0	14 (17.2)	6 (7.4)
Paediatrics	(n=42)	0	1 (2.4)	5 (11.9)
Other wards	(n=59)	0	10 (16.9)	48 (81.3)
Total	(N=318)	1 (0.3)	45 (14.1)	90 (28.3)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

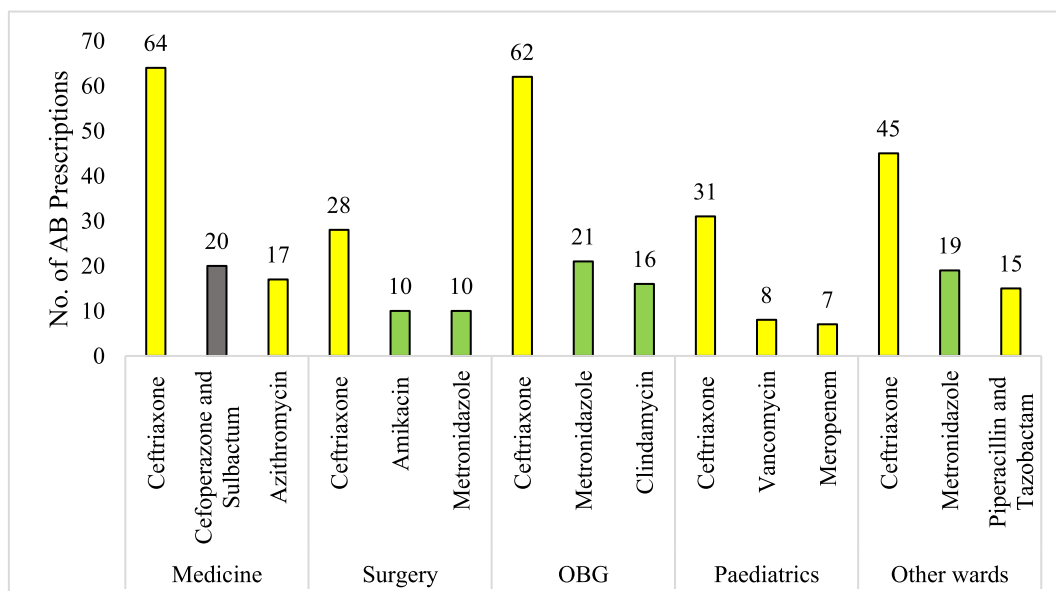


Table 5: Other details of AB prescriptions

Wards		Parenteral AB n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine	(n=167)	140 (84.3)	16 (9.6)
Surgery	(n=72)	70 (97.2)	7 (9.7)
OBG	(n=126)	108 (85.6)	9 (7.1)
Paediatrics	(n=62)	62 (100)	7 (11.3)
Other wards	(n=159)	148 (93.1)	31 (19.5)
Total	(N=586)	528 (90.1)	70 (11.9)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	66	Clindamycin	37
Amoxicillin	11	Colistin	2
Amoxicillin and Clavulanic Acid	16	Faropenem	1
Ampicillin and Clavulanic Acid	1	Levofloxacin	3
Azithromycin	19	Linezolid	8
Cefixime	5	Meropenem	13
Cefoperazone	17	Metronidazole	55
Cefoperazone and Sulbactam*	12	Norfloxacin	1
Cefotaxime	1	Ofloxacin	3
Ceftriaxone	223	Piperacillin	17
Ceftriaxone and Sulbactam	7	Piperacillin and Tazobactam	36
Cefuroxime	9	Rifaximin	9
Cefuroxime and Sulbactam*	1	Tazopenem	3
Ciprofloxacin	1	Vancomycin	8

* Not Recommended

AB consumption was 1040.5 DOT/100 Bed days.

K.A.P.Vishwanatham Medical College and Hospital, Tiruchirappalli

KAPV Govt. Medical College and Hospital Tiruchirappalli is a tertiary care government hospital. It was included in NAC-NET under National Programme on AMR containment in 2017.

Hospital Information

- Total Beds: 1703
 - Acute beds: 1555
 - ICU Beds: 117
- Admissions in previous year: 4,48,564



Training of data collectors for PPS

Survey details:

Date for Training	24 February 2022
Data Collectors	Undergraduate medical students
Data collection dates	26 February 2022 (Saturday)
No. of wards surveyed	49
Wards surveyed	Medicine, Surgery, OBG, Paediatrics, ICUs, Other wards (Orthopaedics, ENT, Ophthalmology, Urology)
Eligible patients	720
AB policy followed	Yes
Name of AB policy	National Treatment Guideline, Hospital AB Policy

* Some of the surgical wards were surveyed on Saturday due to logistical reasons

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	194	50	31	8	89	141	0.7	1.6
Surgery	105	35	26	13	74	129	1.2	1.7
OBG	173	26	79	60	165	385	2.2	2.3
Paediatrics	28	12	4	1	17	23	0.8	1.4
ICUs	150	36	51	18	105	194	1.3	1.8
Other wards	70	21	23	16	60	123	1.8	2
Total	720	180	214	116	510	995	1.4	1.9

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	1	2	73	9	4
Surgery	57	0	14	2	1
OBG	147	3	5	8	2
Paediatrics	0	2	12	2	1
ICUs	11	27	54	7	6
Other wards	27	1	20	10	2
Total	243	35	178	38	16

Table 3: Details of patients on Surgical Prophylaxis

Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	0	1
Surgery	0	0	57
OBG	0	4	143
ICUs	0	2	9
Other wards	0	0	27
Total	0	6	237

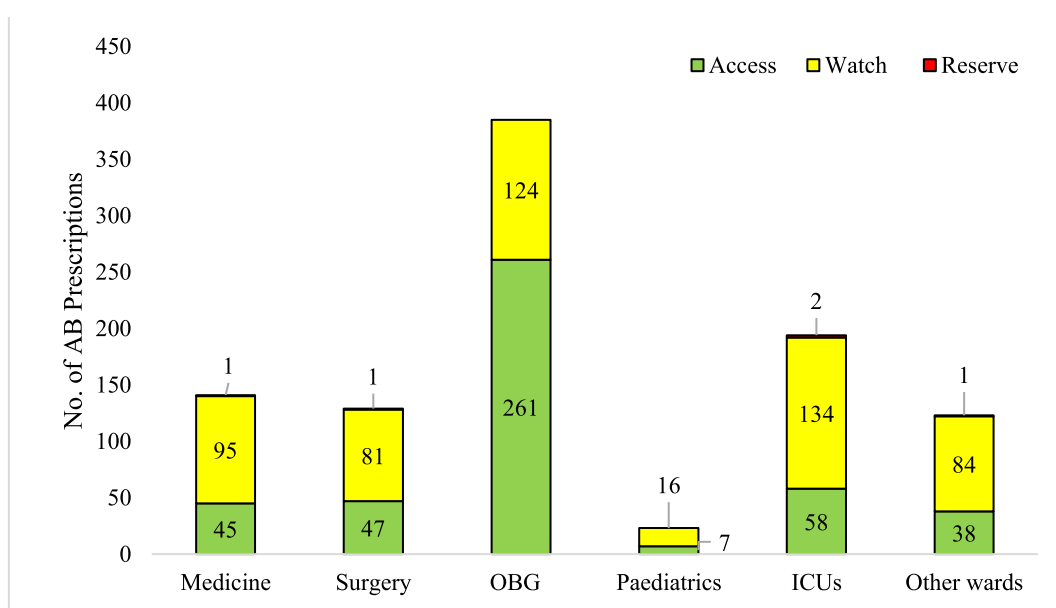
SP1: Single dose of AB, SP2: AB prescription for 1 day,

SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=194)	4 (2.1)	9 (4.6)	18 (9.3)
Surgery	(n=105)	1 (1)	9 (8.6)	26 (24.8)
OBG	(n=173)	0	9 (5.2)	52 (30.1)
Paediatrics	(n=28)	2 (7.1)	0	4 (14.3)
ICUs	(n=150)	1 (0.7)	8 (5.3)	36 (24)
Other wards	(n=70)	2 (2.9)	11 (15.7)	30 (42.9)
Total	(N=720)	10 (1.4)	46 (6.4)	166 (23.1)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

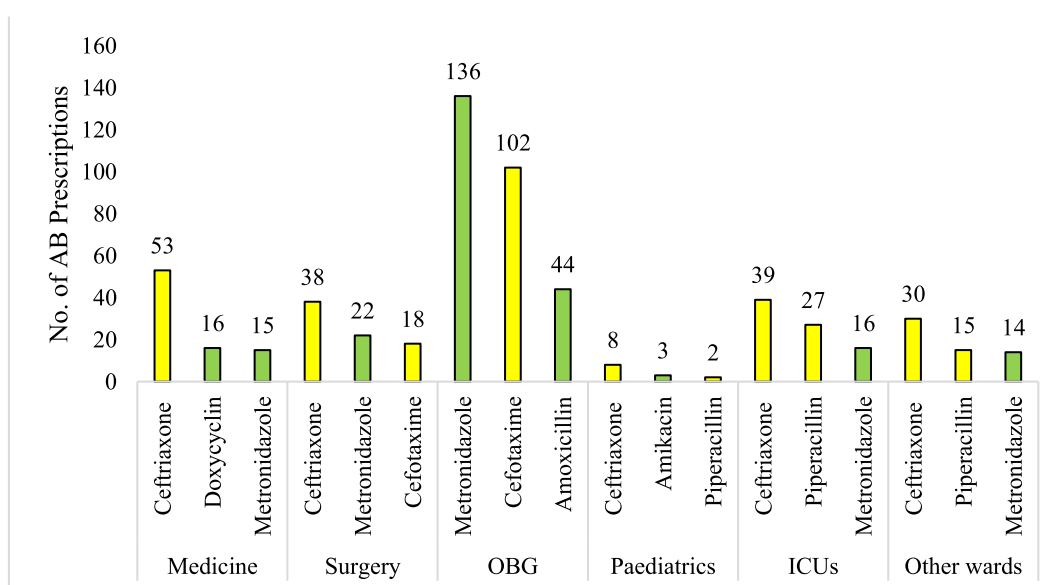


Table 5: Other details of AB prescriptions

Wards		Parenteral AB n (%)	Compliance with AB policy n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine	(n=141)	106 (75.2)	28 (19.9)	18 (12.8)
Surgery	(n=129)	113 (87.6)	11 (8.5)	20 (15.5)
OBG	(n=385)	204 (52.9)	272 (70.6)	34 (8.8)
Paediatrics	(n=23)	20 (86.9)	0	1 (4.3)
ICUs	(n=194)	183 (94.3)	105 (54.1)	18 (9.3)
Other wards	(n=123)	106 (86.2)	44 (35.8)	37 (30.1)
Total	(N=995)	732 (73.6)	460 (46.2)	128 (12.9)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	64	Doxycycline	22
Amoxicillin	56	Gentamicin	10
Amoxicillin and clavulanic acid	2	Imipenem	3
Ampicillin	25	Erythromycin	1
Azithromycin	19	Linezolid	3
Cefixime	2	Metronidazole	237
Cefotaxime	152	Meropenem	32
Ceftriaxone	188	Piperacillin-Tazobactam	77
Cefalexin	62	Penicillin	2
Ciprofloxacin	28	Rifaximin	4
Cotrimoxazole	3	Vancomycin	3

AB consumption was 984.6 DOT/100 Bed days.

Gauhati Medical College and Hospital, Guwahati

Guwahati Medical College and Hospital Guwahati, Assam is a tertiary care hospital with all the major medical departments. It was included in NAC-NET under National Programme on AMR containment in 2017.

Hospital Information

- Total Beds: 2220
 - Acute beds: 2015
 - ICU Beds: 717
- Admissions in previous year: 73,637



Training of data collectors for PPS

Survey details:

Date for Training	7 March 2022
Data Collectors	Nursing students & Postgraduate medical students
Data collection dates	8 March (Tuesday), 9 March (Wednesday) & 10 March 2022 (Thursday)
No. of wards surveyed	43
Wards surveyed	Medicine (including Nephrology, Urology, Cardiology), Surgery (including Neurosurgery), OBG, Paediatrics, Other wards (ENT and Orthopaedics)
Eligible patients	1396
AB policy followed	No

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	445	233	82	32	347	500	1.1	1.4
Surgery	345	157	87	36	280	452	1.3	1.6
OBG	216	50	33	96	179	411	1.9	2.3
Paediatrics	118	39	26	21	86	162	1.4	1.9
ICUs	175	64	56	40	160	308	1.8	1.9
Other wards	97	22	24	11	57	104	1.1	1.8
Total	1396	565	308	236	1109	1937	1.4	1.7

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	0	162	71	1	113
Surgery	175	13	39	0	53
OBG	115	60	0	1	3
Paediatrics	14	1	26	1	44
ICUs	8	14	27	0	111
Other wards	28	24	5	0	0
Total	340	274	168	3	324

Table 3: Details of patients on Surgical Prophylaxis

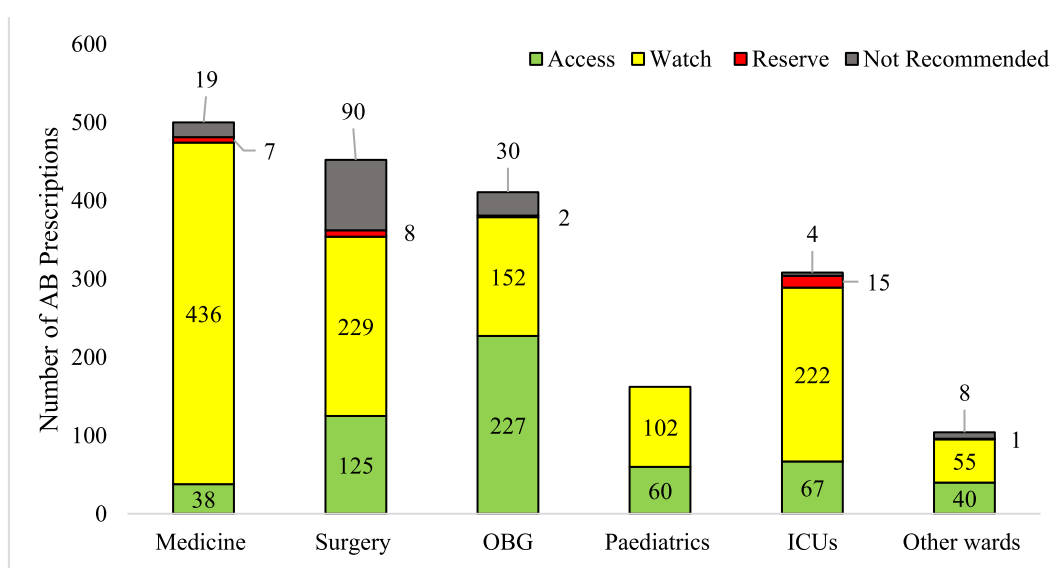
Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	0	0
Surgery	3	29	143
OBG	0	13	102
Paediatrics	0	1	13
ICUs	0	2	6
Other wards	1	1	26
Total	4	46	290

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=445)	3 (0.7)	17 (3.8)	64 (14.4)
Surgery	(n=345)	2 (0.6)	41 (11.9)	48 (13.9)
OBG	(n=216)	3 (1.4)	11 (5.1)	108 (5)
Paediatrics	(n=118)	11 (9.3)	9 (7.6)	33 (27.9)
ICUs	(n=175)	2 (1.1)	35 (2)	66 (37.7)
Other wards	(n=97)	0	3 (3.1)	30 (30.9)
Total	(N=1396)	21 (1.5)	116 (8.3)	349 (25)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

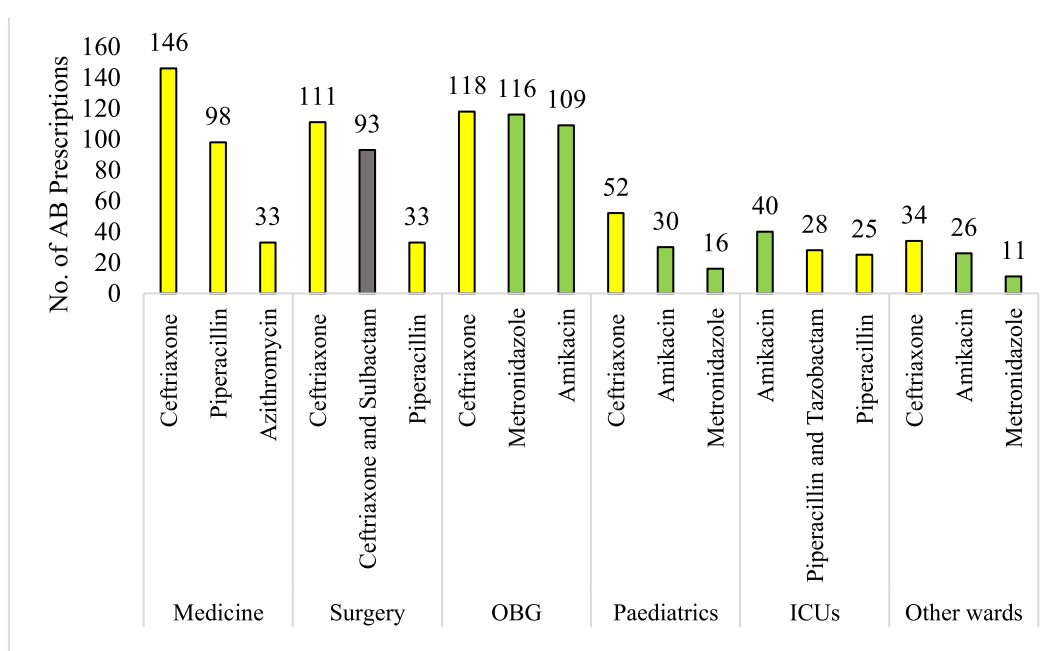


Table 5: Other details of AB prescriptions

Wards	Parenteral AB n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine (n=500)	424 (84.8)	65 (13)
Surgery (n=452)	429 (94.9)	52 (11.5)
OBG (n=411)	386 (93.9)	40 (9.7)
Paediatrics (n=162)	155 (95.7)	29 (17.9)
ICUs (n=308)	299 (97.1)	39 (12.7)
Other wards (n=104)	103 (98.1)	10 (9.5)
Total (N=1937)	1796 (92.7)	235 (12.1)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	227	Faropenem	3
Amoxicillin	18	Fosfomycin	1
Amoxicillin & Clavulanic acid	11	Gentamicin	3
Ampicillin	2	Imipenem	1
Azithromycin	38	Levofloxacin	35
Aztreonam	1	Linezolid	19
Benzyl Penicillin	1	Meropenem	170
Cefepime & Tazobactam*	1	Metronidazole	258
Cefixime	18	Moxifloxacin	2
Cefoperazone	4	Neomycin	1
Cefoperazone & Sulbactam*	6	Netilmicin	1
Cefotaxime	94	Nitrofurantoin	3
Cefpodoxime	1	Ofloxacin	25
Ceftazidime	2	Piperacillin	184
Ceftriaxone	474	Piperacillin sulbactam	1
Ceftriaxone & Sulbactam*	145	Piperacillin & Tazobactam	52
Ceftriaxone & Tazobactam*	2	Polymixin-E	1
Cefuroxime	14	Rifampicin	3
Ciprofloxacin	6	Rifaximin	17
Clindamycin	29	Streptomycin	4
Colistinmethate	2	Teicoplanin	9
Cotrimoxazole	2	Tigecycline	7
Doxycycline	3	Vancomycin	36

* Not Recommended

AB consumption was 921 DOT/100 Bed days.

Government Medical College, Jammu

Govt. Medical College Jammu started in 1971. The hospital has all the major medical departments. It was included in NAC-NET under National Programme on AMR containment in 2019.

Hospital Information

- Total Beds: 1923
 - Acute beds: 228
 - ICU Beds: 112
- Admissions in previous year: 97,103



Training of data collectors for PPS

Survey details:

Date for Training	18 April 2022
Data Collectors	2 nd Undergraduates & Postgraduate medical students
Data collection dates	19 April (Tuesday), 20 April (Wednesday) & 21 April 2022 (Thursday)
No. of wards surveyed	38
Wards surveyed	Medicine, Surgery (including Neurosurgery), OBG, Paediatrics, Other wards (ENT and Orthopaedics)
Eligible patients	861
AB policy followed	No

Results:

Table 1: Distribution of patients on ABs

Wards	Eligible patients	Patients on ABs				AB Prescriptions	Average ABs	
		1 AB	2 AB	≥ 3 AB	Total		per eligible patient	per patient on ABs
Medicine	152	62	32	14	108	172	1.1	1.6
Surgery	144	40	57	22	119	230	1.6	1.9
OBG	108	26	58	4	88	154	1.4	1.8
Paediatrics	225	58	64	30	152	307	1.4	2.0
ICUs	84	3	39	30	72	203	2.4	2.9
Other wards	148	47	40	28	115	222	1.5	1.9
Total	861	236	290	128	654	1288	1.5	1.9

Table 2: Diagnosis of patients on ABs

Wards	Prophylactic		Therapeutic		
	Surgical Prophylaxis	Medical Prophylaxis	Community-Acquired Infection	Hospital Acquired Infections	Others
Medicine	11	43	45	1	8
Surgery	97	3	16	1	2
OBG	67	2	4	4	11
Paediatrics	3	58	53	4	34
ICUs	7	41	11	13	0
Other wards	89	13	13	0	0
Total	274	160	142	23	55

Table 3: Details of patients on Surgical Prophylaxis

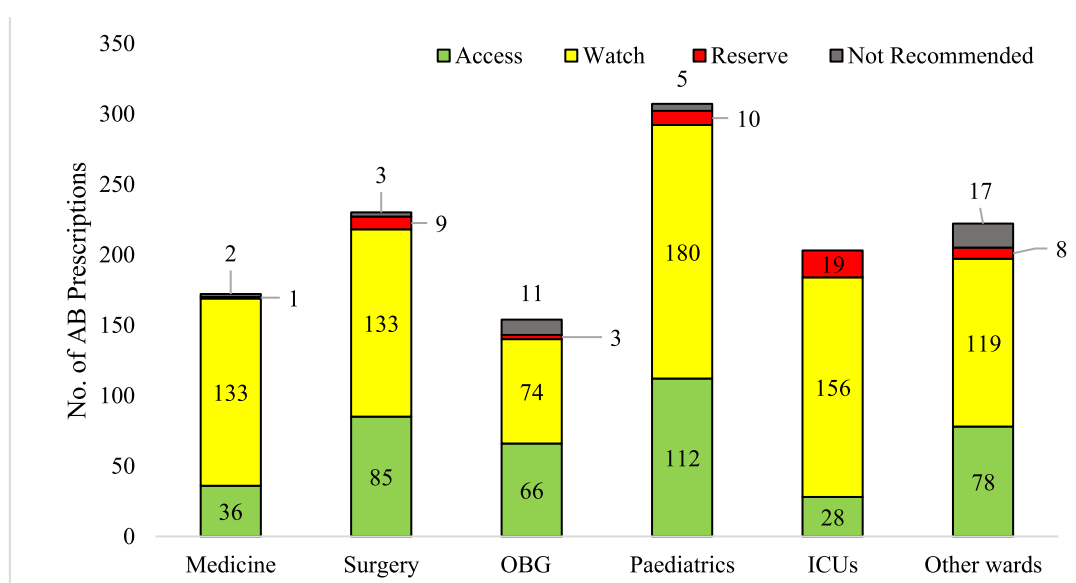
Wards	Patients on		
	SP1	SP2	SP3
Medicine	0	0	11
Surgery	7	10	80
OBG	9	6	52
Paediatrics	0	0	3
ICUs	0	1	6
Other wards	1	18	70
Total	17	35	222

SP1: Single dose of AB, SP2: AB prescription for 1 day,
SP3: AB prescription for more than 1 day

Table 4: Patients on definitive therapy, double anaerobic cover and double cover for gram-negative organisms

Wards		Definitive therapy n (%)	Double Anaerobic cover n (%)	Double cover for Gram-negative n (%)
Medicine	(n=152)	0	6 (3.9)	17 (11.2)
Surgery	(n=144)	6 (4.2)	15 (10.4)	25 (17.4)
OBG	(n=108)	6 (5.6)	0	57 (52.8)
Paediatrics	(n=225)	13 (5.7)	9 (4)	31 (13.8)
ICUs	(n=84)	6 (7.1)	9 (10.7)	25 (29.8)
Other wards	(n=148)	20 (13.5)	10 (6.8)	62 (41.9)
Total	(N=861)	51 (5.9)	49 (5.7)	217 (25.2)

Graph 1: Distribution of AB prescriptions as per AWaRe classification



Graph 2: Top 3 AB prescriptions in various wards

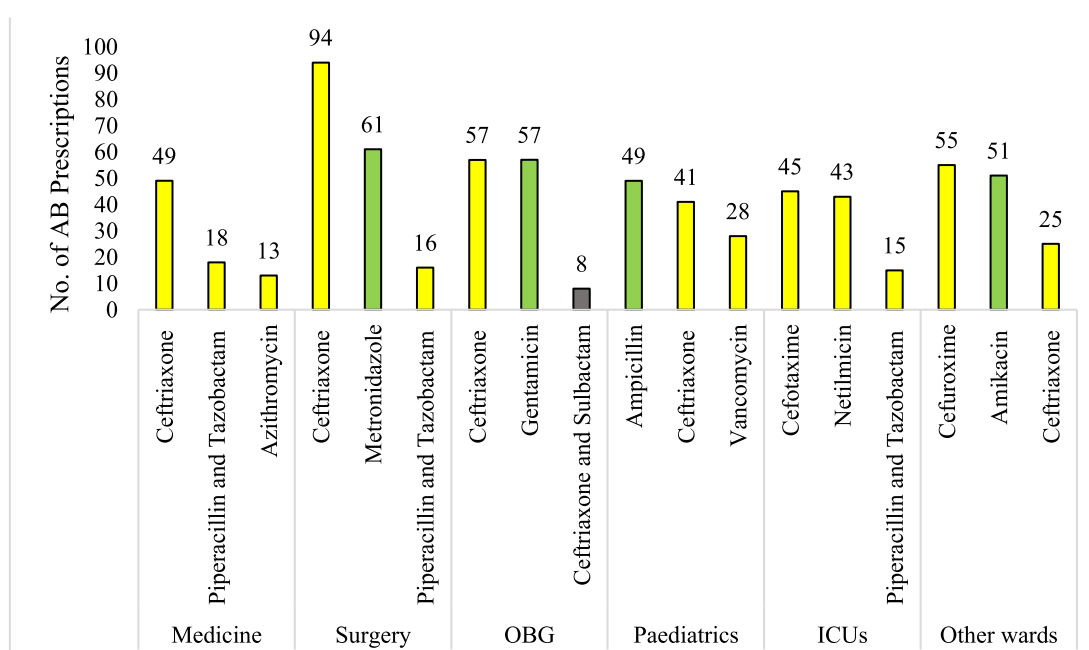


Table 5: Other details of AB prescriptions

Wards		Parenteral AB n (%)	Prescriptions with stop /review date mentioned n (%)
Medicine	(n=172)	147 (82.5)	13 (7.5)
Surgery	(n=230)	218 (94.8)	32 (13.9)
OBG	(n=154)	141 (92.2)	10 (6.5)
Paediatrics	(n=307)	288 (93.8)	72 (23.5)
ICUs	(n=203)	201 (99)	47 (23.2)
Other wards	(n=222)	210 (94.6)	35 (15.8)
Total	(N=1288)	1205 (93.6)	209 (16.2)

Table 6: List of AB prescriptions

ABs	No. of Prescriptions	ABs	No. of Prescriptions
Amikacin	98	Clindamycin	7
Amoxicillin	3	Cloxacillin	3
Amoxicillin and Clavulanic Acid	9	Colistin	4
Ampicillin	58	Cotrimoxazole	5
Azithromycin	19	Doxycycline	9
Cefalexin	6	Levofloxacin	7
Cefepime	1	Linezolid	43
Cefixime	6	Meropenem	51
Cefoperazone	11	Metronidazole	111
Cefoperazone and sulbactam*	5	Moxifloxacin	4
Cefotaxime	90	Netilmicin	73
Cefpodoxime	4	Nitrofurantoin	1
Cefpodoxime Proxetil	3	Ofloxacin	4
Ceftazidime	2	Ofloxacin ornidazole*	5
Ceftriaxone	284	Piperacillin	7
Ceftriaxone and Sulbactam*	28	Piperacillin and Tazobactam	76
Ceftriaxone and cefpodoxime	1	Rifaximin	7
Cefuroxime	61	Streptomycin	1
Cefuroxime Axetil	2	Teicoplanin	1
Cephalin	1	Tigecycline	1
Cefpodoxime proxitel	1	Tobramycin	1
Cilastin and Imipenem	2	Vancomycin	46
Ciprofloxacin	11		

* Not Recommended

AB consumption was 1400.4 DOT/100 Bed days.

List of Contributors

National Centre for Disease Control, Delhi

Arti Bahl, Addl. Director & HOD Epidemiology Division

Suneet Kaur, Deputy Director Epidemiology Division

Kavita Rajesh Gudibanda, Project Officer (Co-ordination)

Shailja Anand, Project Officer (AMU)

Vibhor Dudhraj, Research Associate

Shikha Yadav, Research Assistant

Priyanka Khuda, Research Assistant

Panchami VK, Research Assistant

Agartala Government Medical College, Agartala

Debasis Ray, Nodal Officer

Rakesh Das, Pharmacist

Government Medical College, Aurangabad

Satish Eknath Bahekar, Nodal Officer

Tejas Kalyan Indapure, Pharmacist

Gandhi Medical College, Bhopal

Hemlata Verma, Nodal Officer

Rekha Choudhary, Pharmacist

Government Medical College, Chandigarh

Varsha Gupta, Nodal Officer

Rajiv Gupta, Nodal Officer

Ankit Kumar, Pharmacist

Guntur Medical College, Guntur

Dr. K Chandrakala, Nodal Officer

Harshvardhan Reddy Singham, Pharmacist

Gauhati Medical College, Guwahati

Mukundam Borah, Nodal officer

Ananga Chakraborty, Pharmacist

Government Medical College, Haldwani

Vikrant Negi, Nodal Officer

Deepak Singh Chuphal, Pharmacist

[Osmania Medical College, Hyderabad](#)

K. Madhurima, Nodal Officer

A Swathi, Pharmacist

[Mahatma Gandhi Memorial Government Medical College, Indore](#)

Ashutosh Tiwari, Nodal Officer

Manish Purohit, Nodal Officer

Taruna Malviya, Pharmacist

[Sawai Man Singh Medical College, Jaipur](#)

Alka Bansal, Nodal Officer

Janak Singh Gurjar, Pharmacist

[Government Medical College, Jammu](#)

Vivek Mahajan, Nodal Officer

Chandrashekar, Pharmacist

[Ganesh Shankar Vidyarthi Memorial Medical College, Kanpur](#)

Amit Kumar, Nodal Officer

Shobhana Srivastava, Pharmacist

[Calcutta School of Topical Medicine, Kolkata](#)

Chiranjib Bagchi, Nodal Officer

Trisha Sarkar, Pharmacist

[Lala Lajpat Rai Memorial Medical College, Meerut](#)

Sharad Chaddha, Nodal Officer

Pankaj Sharma, Pharmacist

[Indira Gandhi Institute of Medical Sciences, Patna](#)

Hitesh Mishra, Nodal Officer

Rahul Kumar, Pharmacist

[B. J. Medical College, Pune](#)

Smita Anand Tiwari, Nodal Officer

Yamini Satpure, Pharmacist

[Pt. Jawahar Lal Nehru Memorial Medical College, Raipur](#)

Manju Aggarwal, Nodal Officer

Apurva Gupta, Pharmacist

[Pandit Bhagwat Dayal Sharma Post Graduate Institute of Medical Sciences, Rohtak](#)

Niti Mittal, Nodal Officer

Rakesh Mittal, Nodal Officer

Ashish Gupta, Pharmacist

[North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong](#)

Julie Wahlang, Nodal Officer

Priyotosh Banerjee, Nodal Officer

Aitilutmon Surong, Pharmacist

[K.A.P. Viswanatham Medical College, Tiruchirappalli](#)

Gnanaguru, Nodal Officer

Bhuvaneshwari, Pharmacist

Fourth NAC-NET \Training and Review Workshop 2022

**Inaugural
address by
Dr. Polin Chan**



**Dignitaries during
Inaugural of
4th NAC-NET
Workshop 2022**



**Overview of
PPS By
Dr. Suneet
Kaur**



**Overview of
Antimicrobial
Consumption by
Dr. Vibhor
Dudhraj**



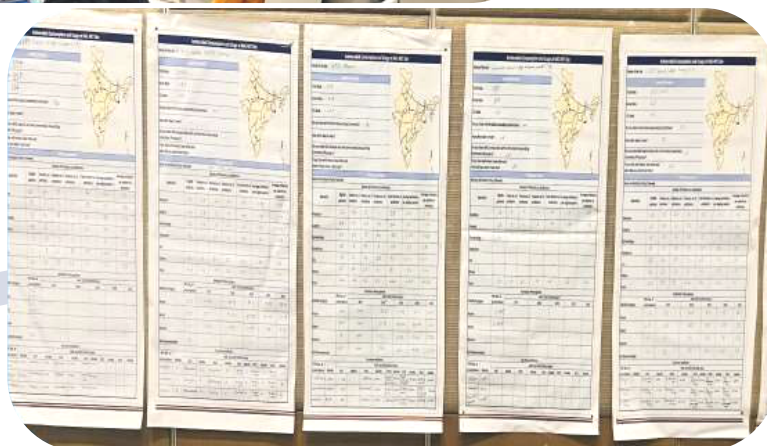
Fourth NAC-NET \Training and Review Workshop 2022

**Presentation
on PPS By
GMC, Agartala**



**Presentation
on
10 sites AMC
Data by
Dr. Priyanka
Khuda**

**Activities
performed
during NAC-NET
2022 Workshop**



**Presentation
sites during
4th NAC-NET
Workshop 2022**



***Third National Antimicrobial Consumption Network Workshop
on September 29th and 30th, 2021***



***Fourth National Antimicrobial Consumption Network Workshop
on November 14th and 15th, 2022***

