Antibiotics Stewardship : Pharmacists' role in community and hospitals

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- **Antibiotics are a shared resource—and becoming a scarce resource**

- **The most modifiable component of complications caused by antibiotic resistance >>** increased healthcare costs and poor health outcomes

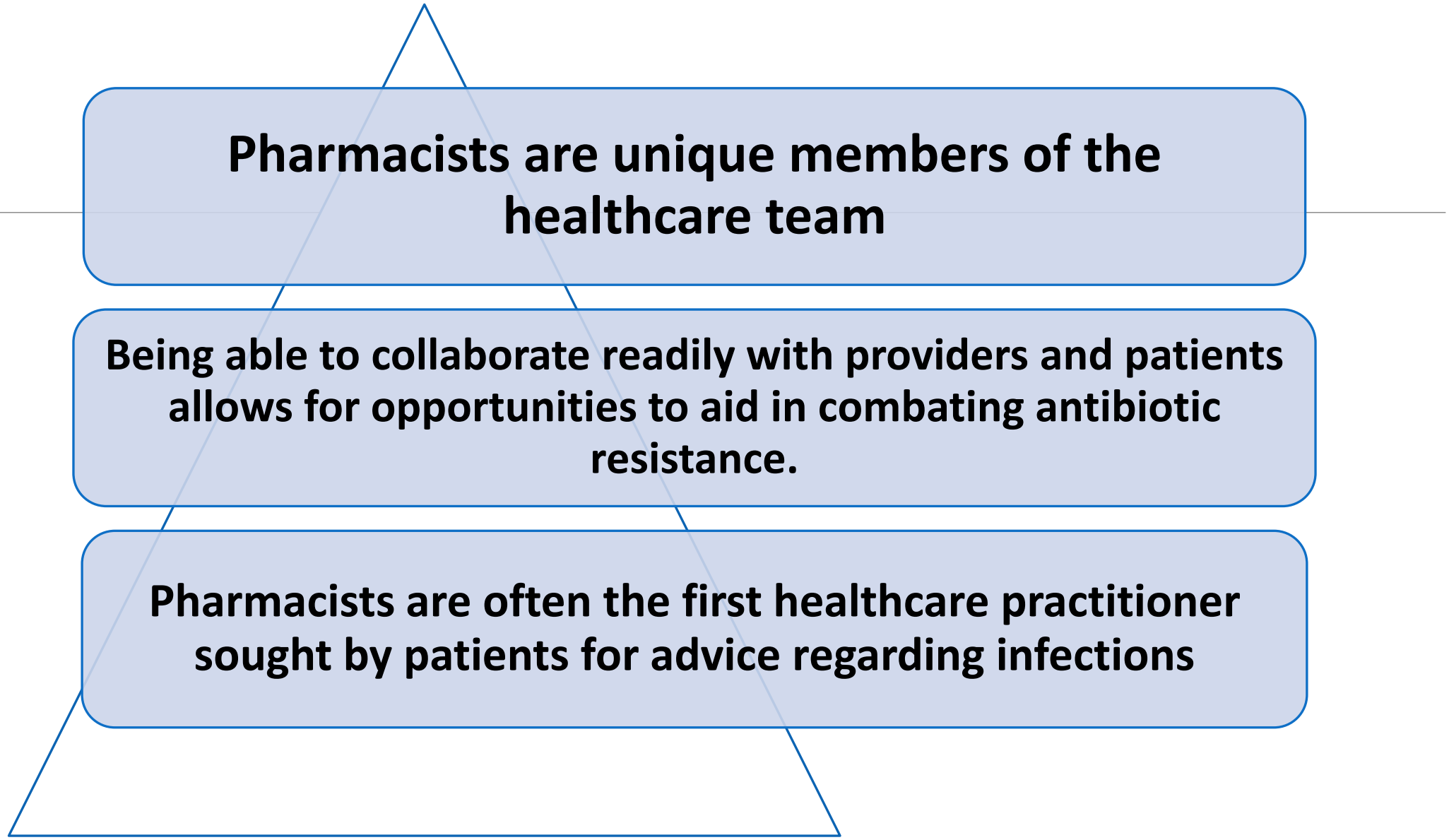
- **Up to 50% of outpatient antibiotic prescriptions are inappropriate, and are most often indicated for acute respiratory infections.**

Stewardship and Its Impact on the War on Antibiotic Resistance

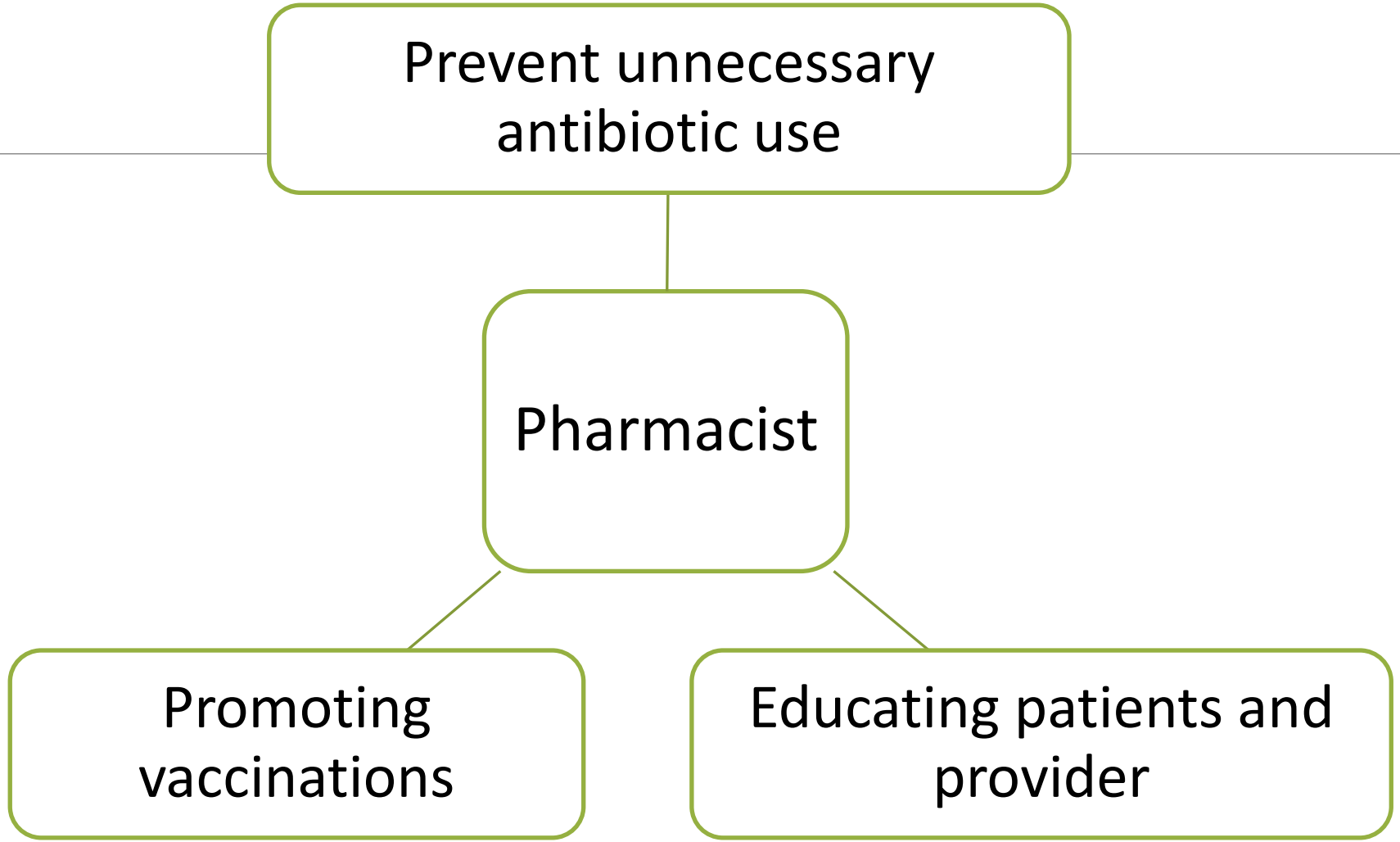
Antibiotic stewardship is defined as promoting the appropriate selection, dose, duration, and route of administration of antibiotics

Seeking to achieve optimal patient outcomes, limiting adverse events and toxicities, reducing patient care costs, and limiting the drug selection for antimicrobial-resistant bacteria are top priorities.

It is vital that we collaboratively take a stand against resistance and limit antibiotic use today to prevent larger problems tomorrow.


Pharmacists are unique members of the healthcare team
Being able to collaborate readily with providers and patients allows for opportunities to aid in combating antibiotic resistance.
Pharmacists are often the first healthcare practitioner sought by patients for advice regarding infections

How Can Community Pharmacists Help?



Pharmacists Are a Resource

1

Keeping up to date with current practice guidelines for appropriate antibiotic prescribing in adults and children who are seeking care in the community setting is of great importance

2

The CDC offers quick reference tables for practitioners

3

Acute rhinosinusitis , Acute bronchitis, Common cold, Pharyngitis, Acute uncomplicated cystitis

Condition	Epidemiology	Diagnosis	Management
Acute rhinosinusitis	Very common diagnosis 90%-98% of diagnosed cases are viral In cases where the causative agent is suspected to be bacterial, antibiotics are not guaranteed to help	Bacterial rhinosinusitis is considered if symptoms are: Severe (>3-4 days): fever, facial pain, purulent nasal discharge Persistent (>10 days): no improvement seen, with nasal discharge or daytime cough Worsening (3-4 days): worsening or new-onset symptoms after initial improvement of a viral respiratory infection (5-6 days)	Watchful waiting is encouraged for uncomplicated cases First-line therapy for bacterial diagnosis is amoxicillin or amoxicillin/clavulanate Macrolides are not recommended for treatment because of high levels of *Streptococcus pneumoniae* resistance; therefore, macrolides will not be as effective
Acute uncomplicated bronchitis	Most common symptom is cough Acute bronchitis is the most common diagnosis in adults seeking primary care when cough is the most common symptom	Evaluation should be focused on ruling out pneumonia Colored sputum does not mean bacterial infection	Routine antibiotic treatment is not recommended, regardless of cough duration
Common cold or nonspecific upper respiratory tract infection	3rd most frequent office visit diagnosis The common cold can be caused by ≥200 viruses	Symptoms can include fever, cough, sore throat, headache, postnasal drip, congestion, myalgias, rhinorrhea	Antibiotic treatment not recommended Weigh benefits and harms of symptomatic therapy
Pharyngitis	GAS infection is a common indication for sore throat Only 5%-10% of cases stem from GAS, requiring antibiotics	For patients who meet the criteria, a rapid throat culture can be done in the office to determine GAS or viral pharyngitis	If the patient is GAS-positive: First-line therapy includes amoxicillin or penicillin V Maximum 10-day treatment course Macrolides are not recommended first-line (because of increased resistance) Macrolides can be used in patients allergic to penicillin
Acute uncomplicated cystitis	Most common infection in women Often caused by *Escherichia coli* presence	Urine testing in the office for indicators: nitrites and leukocyte esterase Symptoms can include dysuria and increased frequency of small urine volumes	First-line therapy includes: Nitrofurantoin, trimethoprim/sulfamethoxazole (if resistance rates are <20%), and fosfomycin

GAS indicates group A beta-hemolytic streptococcal.

Pharmacists Are Educators

Patient expectations can influence prescribing habits

Difference between viral and bacterial infections

Symptomatic care can be recommended by the pharmacist as self-care options to try before seeking antibiotic therapy

Education on antibiotic resistance and stewardship during regular patient interventions already incorporated into their regular workflows.

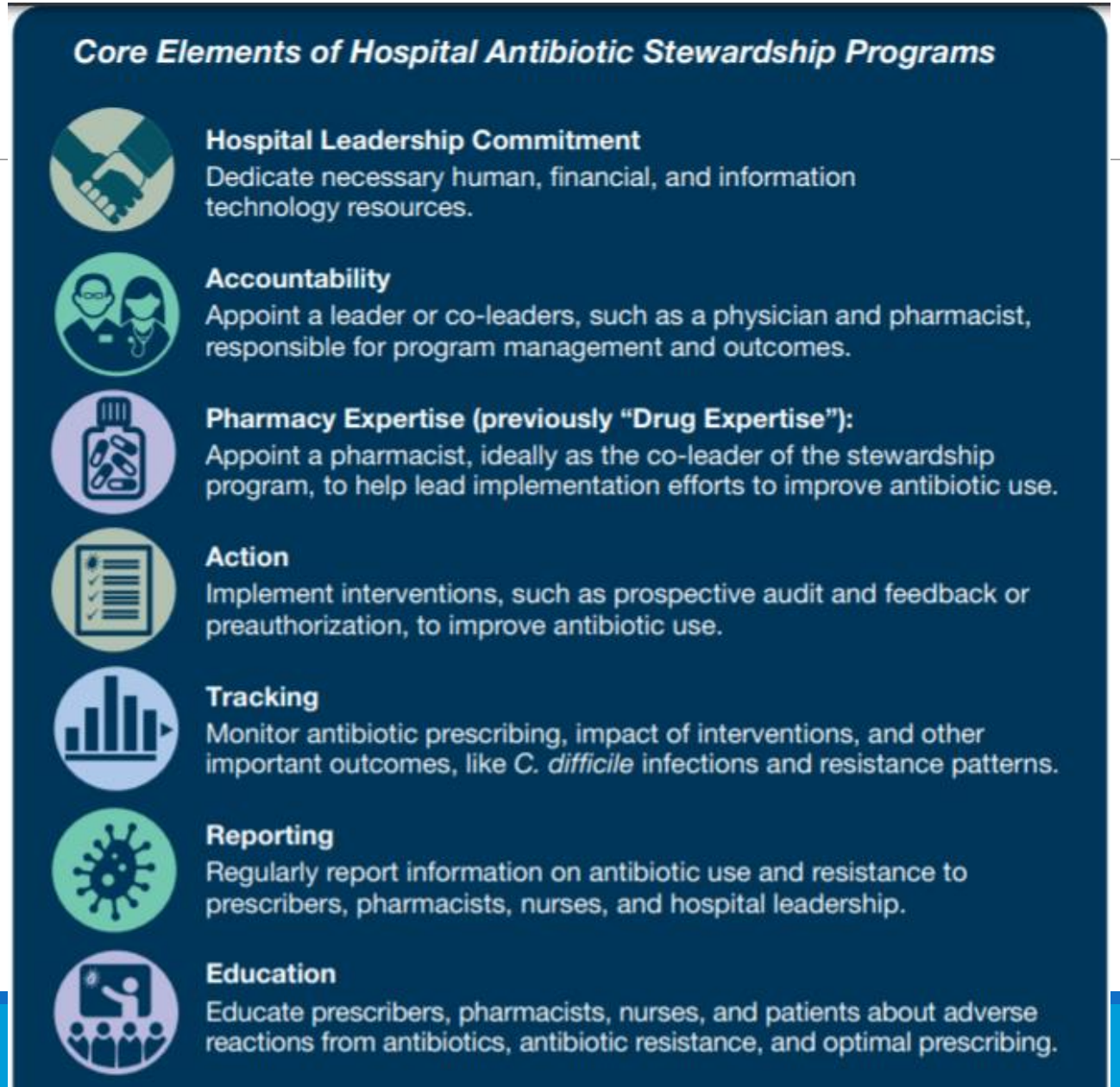
Viral infection	Bacterial infection
Infection caused by viruses Antibiotics are not effective Will not cure the infection Will not keep others from getting sick Will not help the patient feel better Can cause unnecessary and harmful side effects if used Can contribute to antibiotic resistance if used Symptomatic care is best Rest Increase fluid intake Symptom control: Cool mist vaporizers or saline sprays for congestion Crushed ice or lozenges for sore throat Over-the-counter products	Infection caused by bacteria Antibiotics can be effective Do not skip doses Complete the entire prescription even if you feel better, unless your healthcare provider tells you otherwise Do not save leftover antibiotics for the next time someone gets sick

Pharmacists Support Vaccination

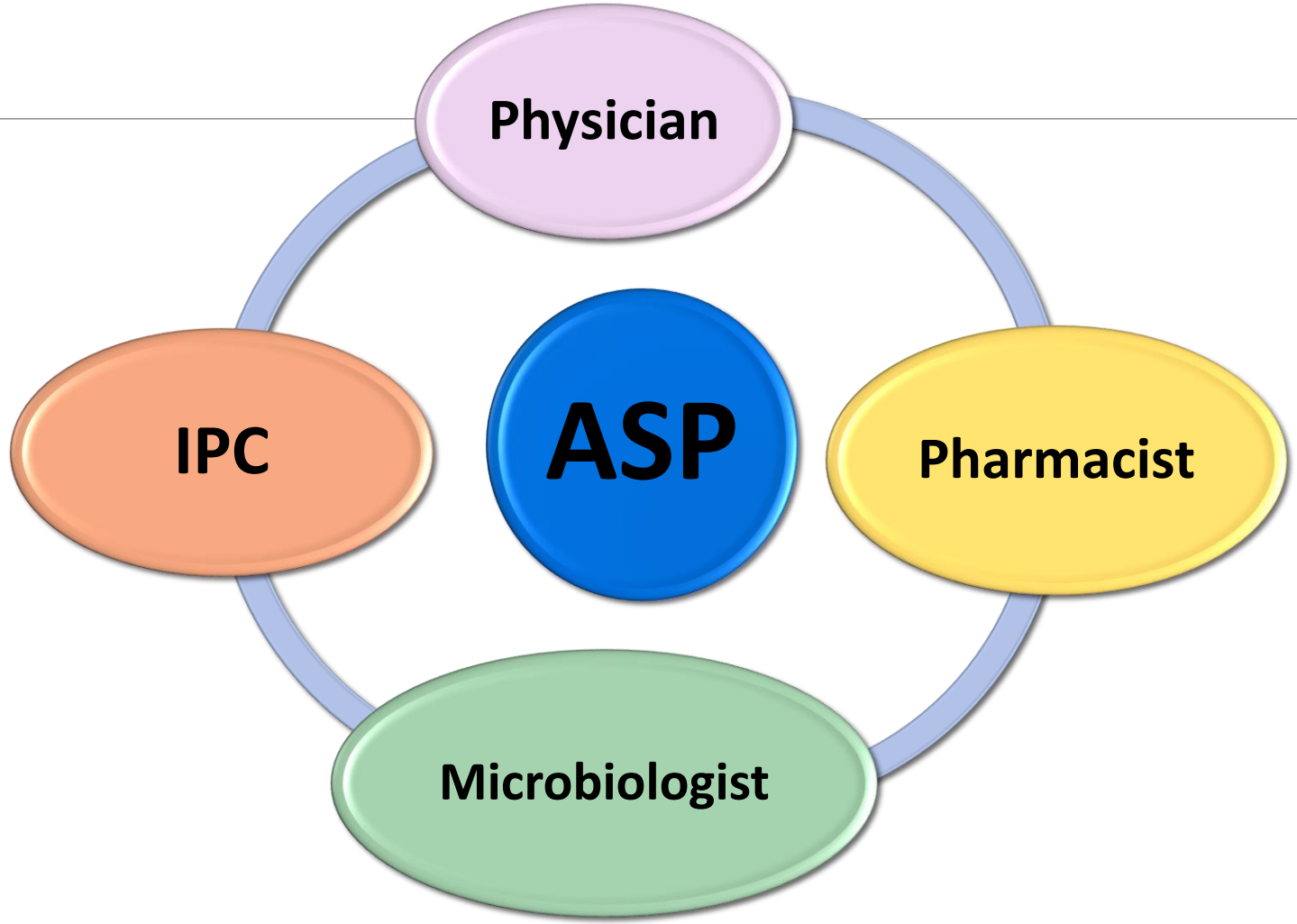
The use of antibiotics can be decreased directly because vaccines help prevent primary infection

Being up to date about vaccines

In-Hospital Settings



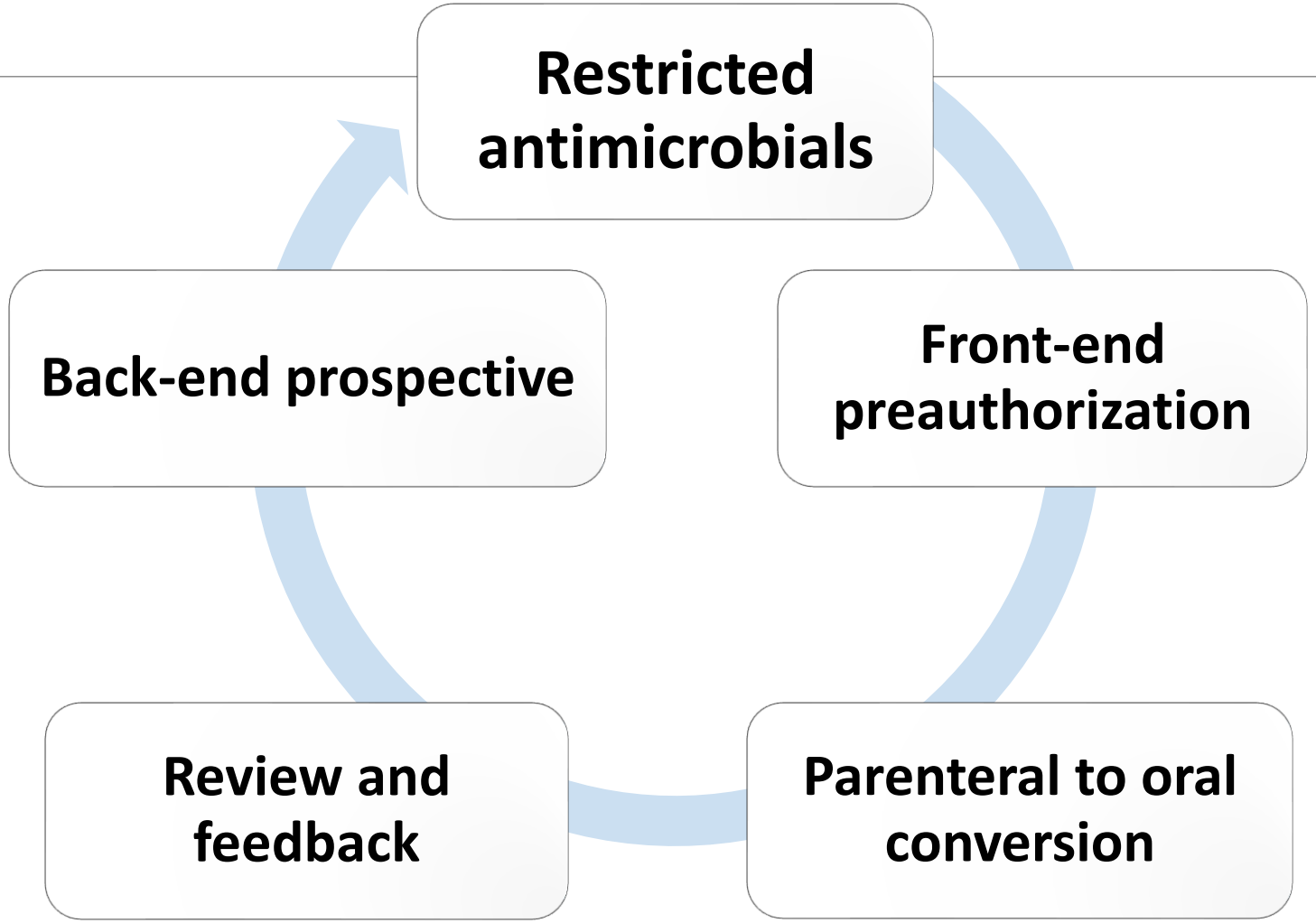
Antibiotics Stewardship Program (ASP)



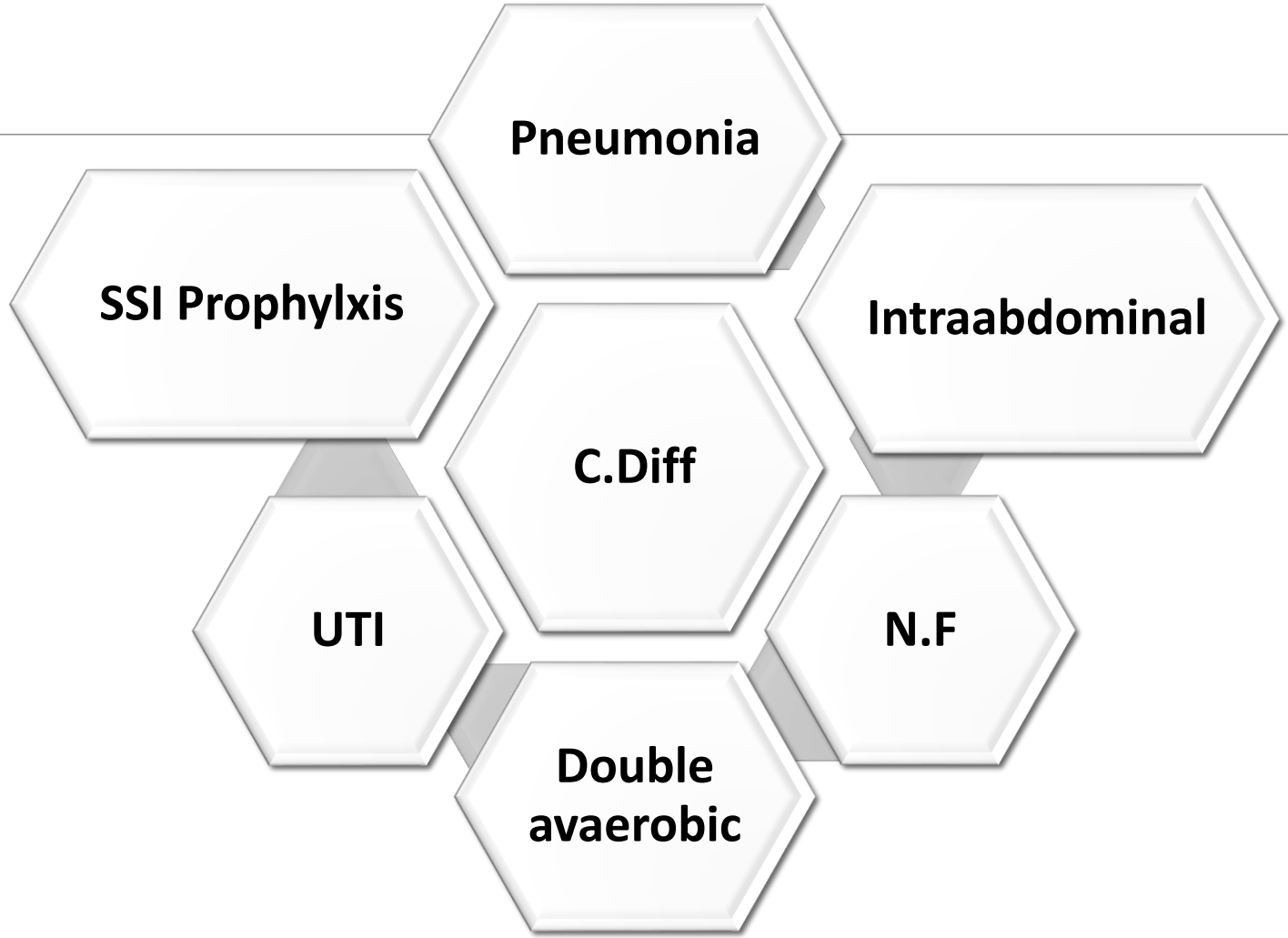
Pharmacy Expertise (“Drug Expertise”)

Appoint a pharmacist, ideally as the co-leader of the stewardship program, to lead implementation efforts to improve antibiotic use.

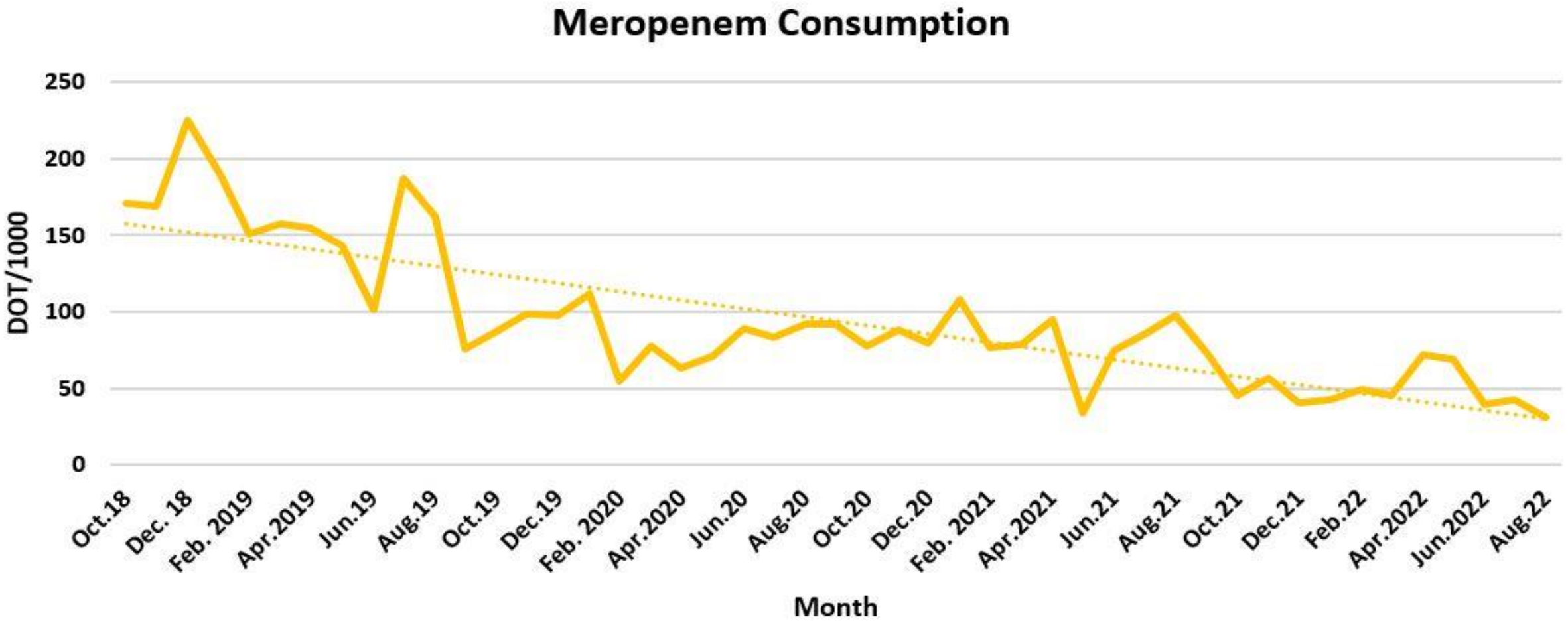
Policies Development

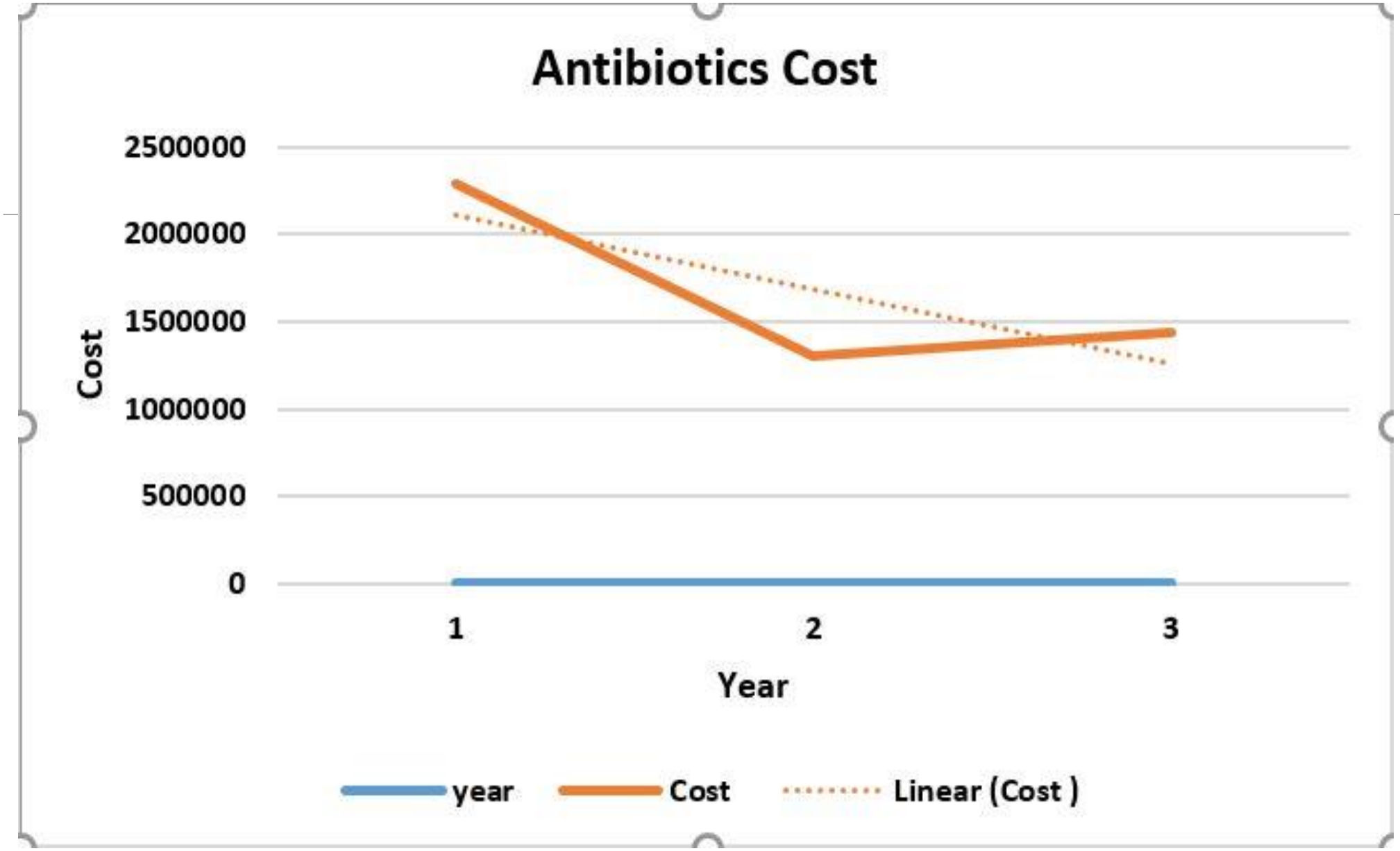


Clinical Practice Guidelines Development



Outcome Measures and Reporting




Antibiotics Cost
2500000
2000000
1500000
1000000
500000
0
Cost
1
2
3
Year
year
Cost
Linear (Cost)

Research Development

Conduct and promote high quality research projects and provide local antimicrobial guide

Thank You