

Antimicrobial Stewardship

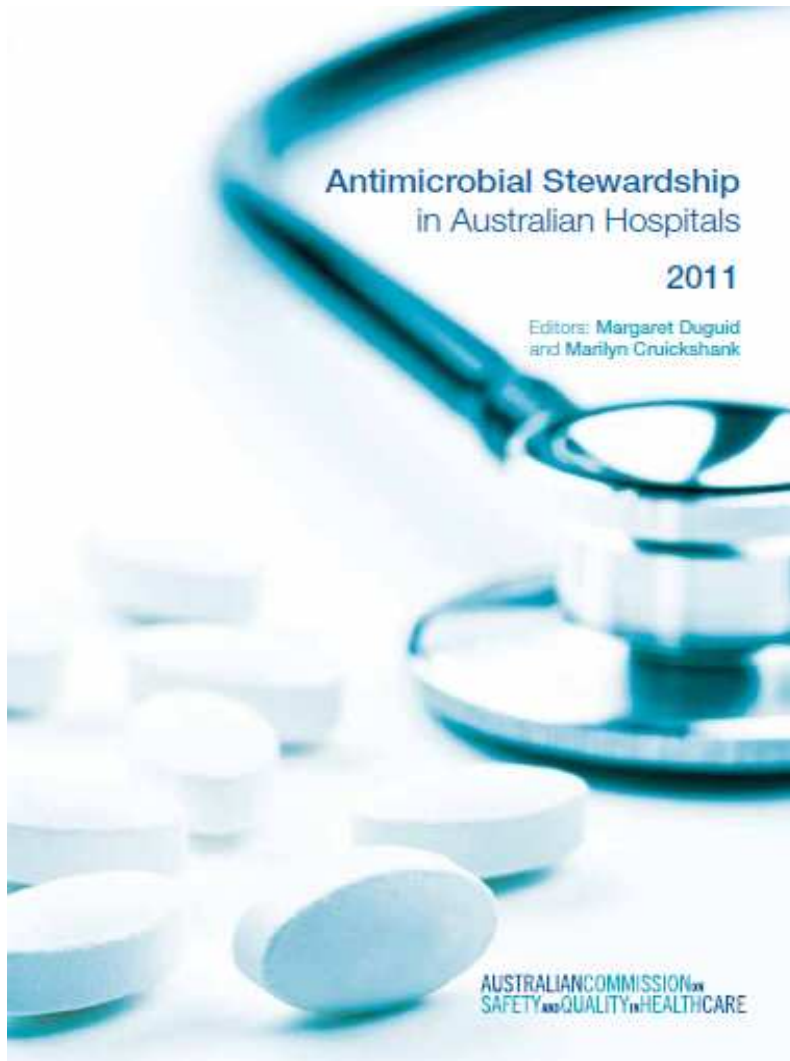
Clinical Senate, 4th March 2016

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Antimicrobial Stewardship (AMS)

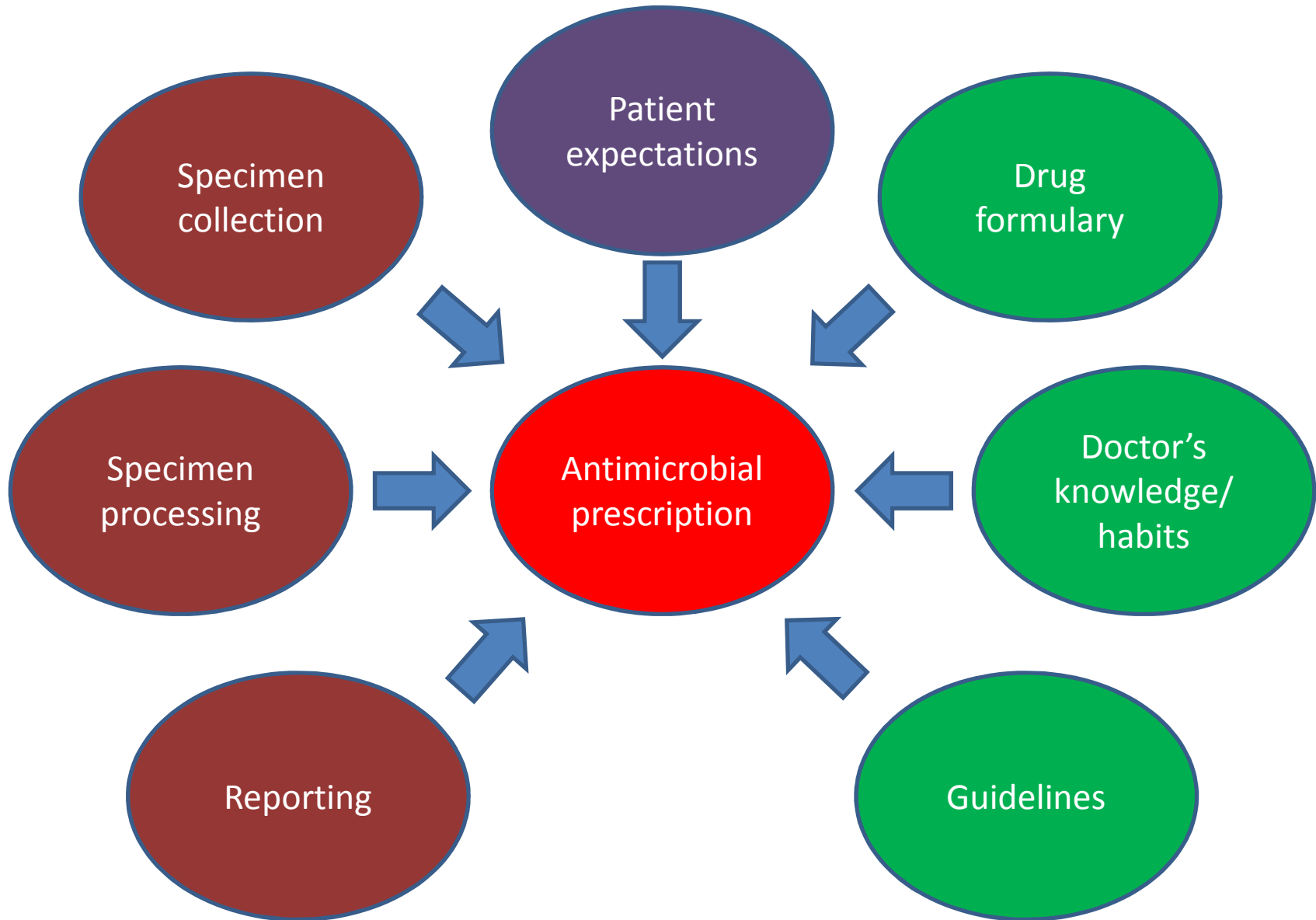


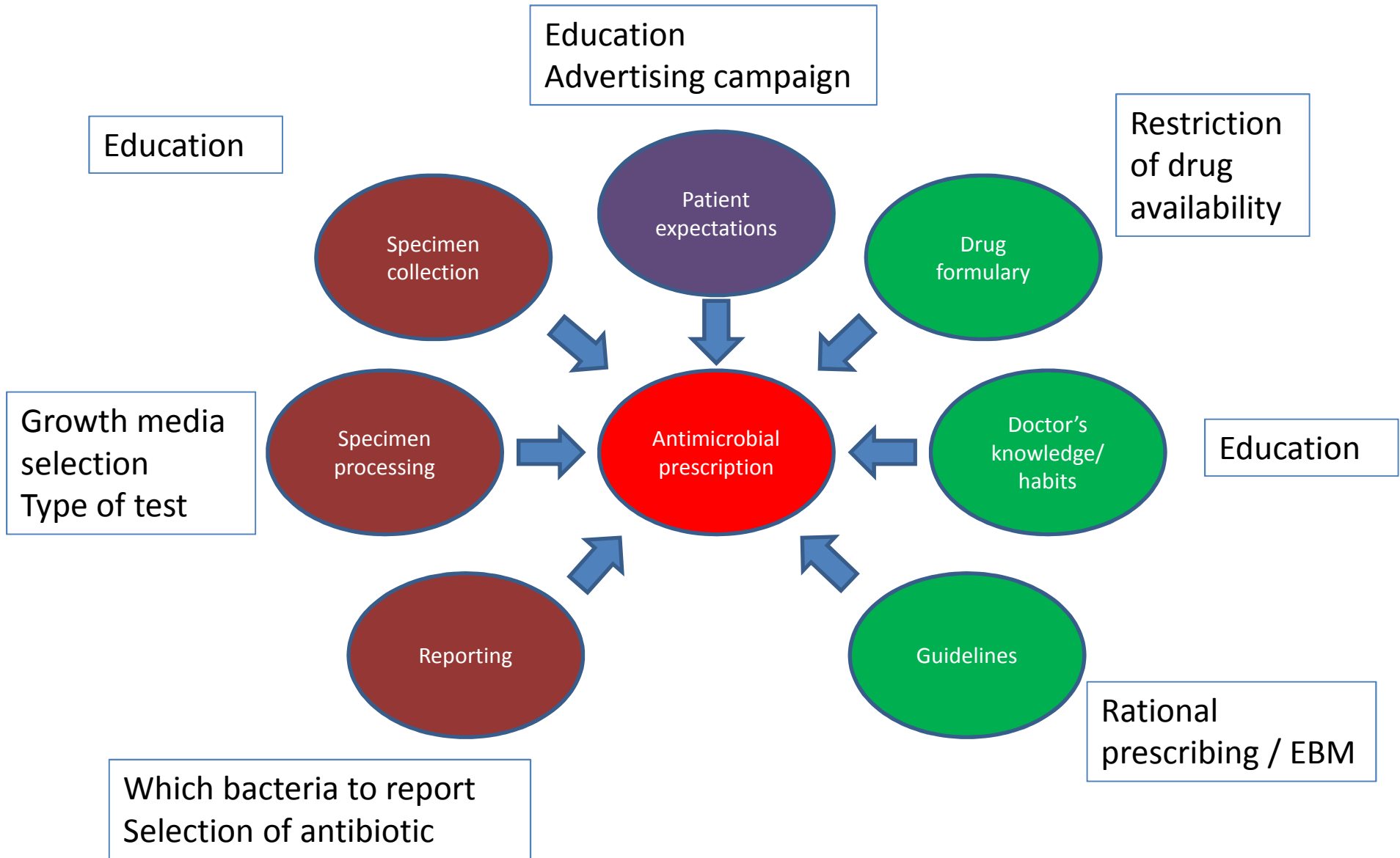
AMS involves a systemic approach to optimizing the use of antimicrobials

Aims:

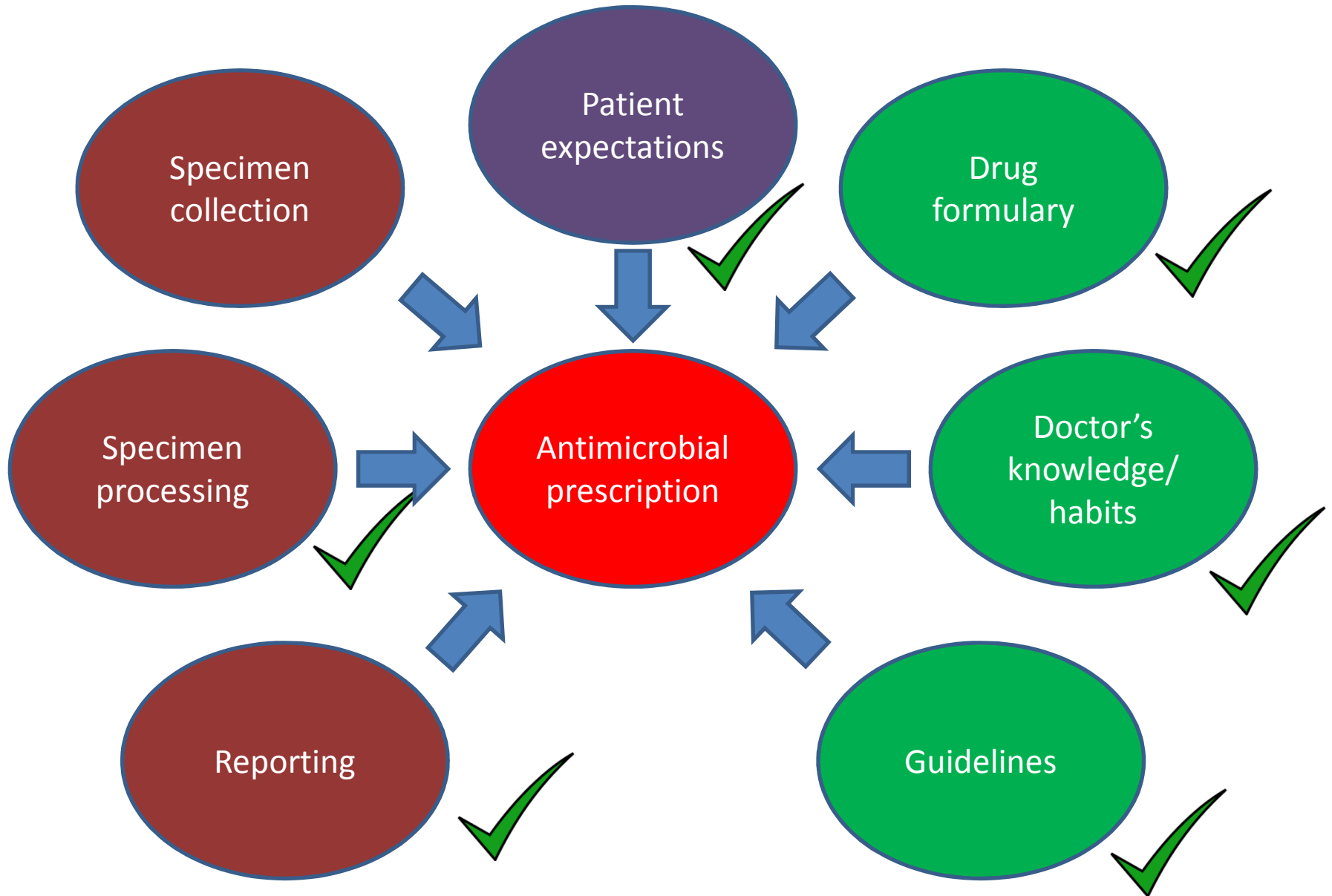
- Reduce inappropriate antimicrobial use
- Improve patient outcome
- Reduce adverse consequences of antimicrobial use, including **resistance, toxicity and unnecessary costs**

Front end AMS





What is currently done WA?



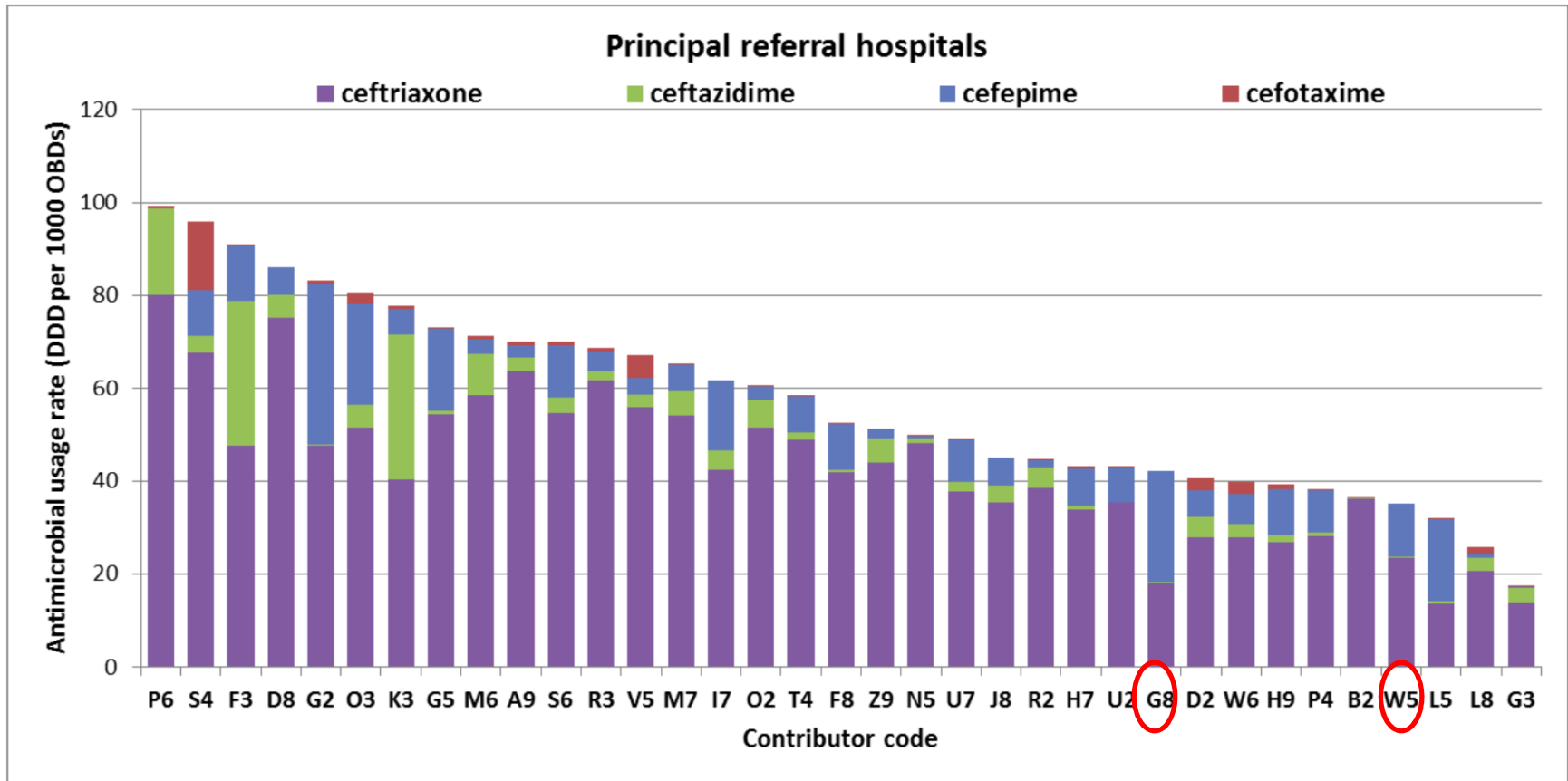
Back end: Post prescription review

The screenshot displays the eReferrals system interface for Royal Perth Hospital. The browser address bar shows the URL: <https://ereferrals.hdwa.health.wa.gov.au/Patient/Referral/CreateInpatient?caseIdentifier=27302111&defaultUnitToCase=false>. The interface includes a navigation bar with options like 'Create Referral', 'Home', 'Search', 'Reports', 'Admin', 'Help', and 'ROBINSON, James'. A toolbar at the top contains icons for 'Save', 'Request', 'Copy', 'Cancel', 'PDF', and 'Attach File'. The patient information section shows: Born: 09-Jul-1986 (29y), Gender: Female, H. The referral details include: Site: RP1 (10A, Q, 17), Current Consultant: CHEE, Roland Howe Tak, Admission Date: 01-Mar-2016 at 04:16am, Expected Discharge Date: -, Financial Classification: Public, and Specialty/Team: GMED/IMUA. The 'Referrer Details - Inpatient (Draft)' section lists RPH - Infectious Diseases, Referrer: ROBINSON, James, Contact No., and Specialist: ROBINSON, James. The 'Referral To' section shows Site: Royal Perth Hospital, Unit: Infectious Diseases (INTD) / Antimicrobial St, Responder, and Urgency. The 'Hints to Unit' section provides instructions for IV AB registrars and lists criteria for infectious diseases consultation and antimicrobial stewardship round review. The 'Details' section includes a 'Questionnaire' with fields for Reason for referral, Antimicrobial start date, What is the indication?, Relevant microbiology, Relevant PMH, and Is Antimicrobial allergy present?. The Windows taskbar at the bottom shows various open applications and the system clock at 14:51.

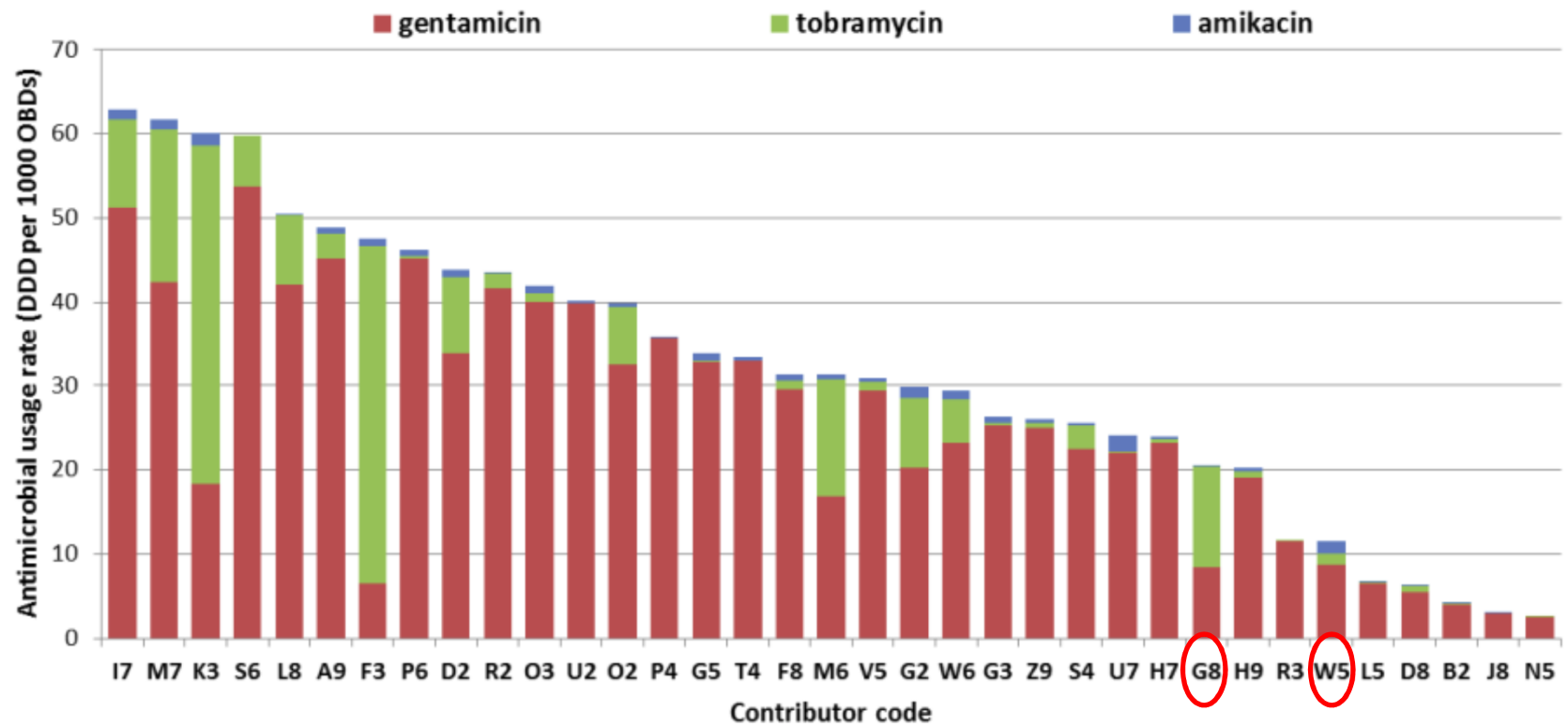
Post prescription review

- Between 750-850 cases as SCGH and 1200 at FSH
- 85-90% advice acceptance rate
 - Directed therapy
 - Dose/duration
 - IV to PO switch
 - Suggest ceasing antibiotics
- Only one complaint in RPH since 2005

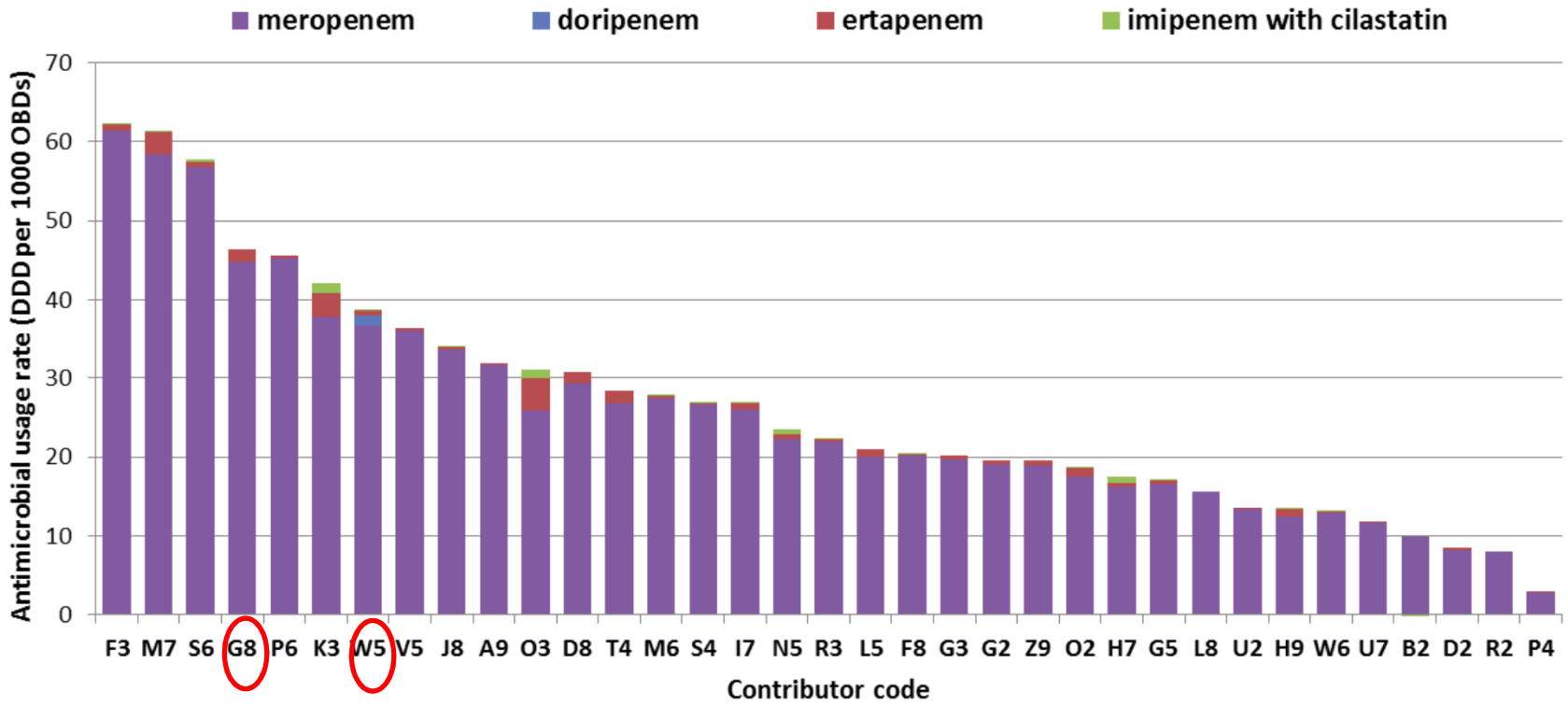
National Antimicrobial Utilisation Program (NAUSP)



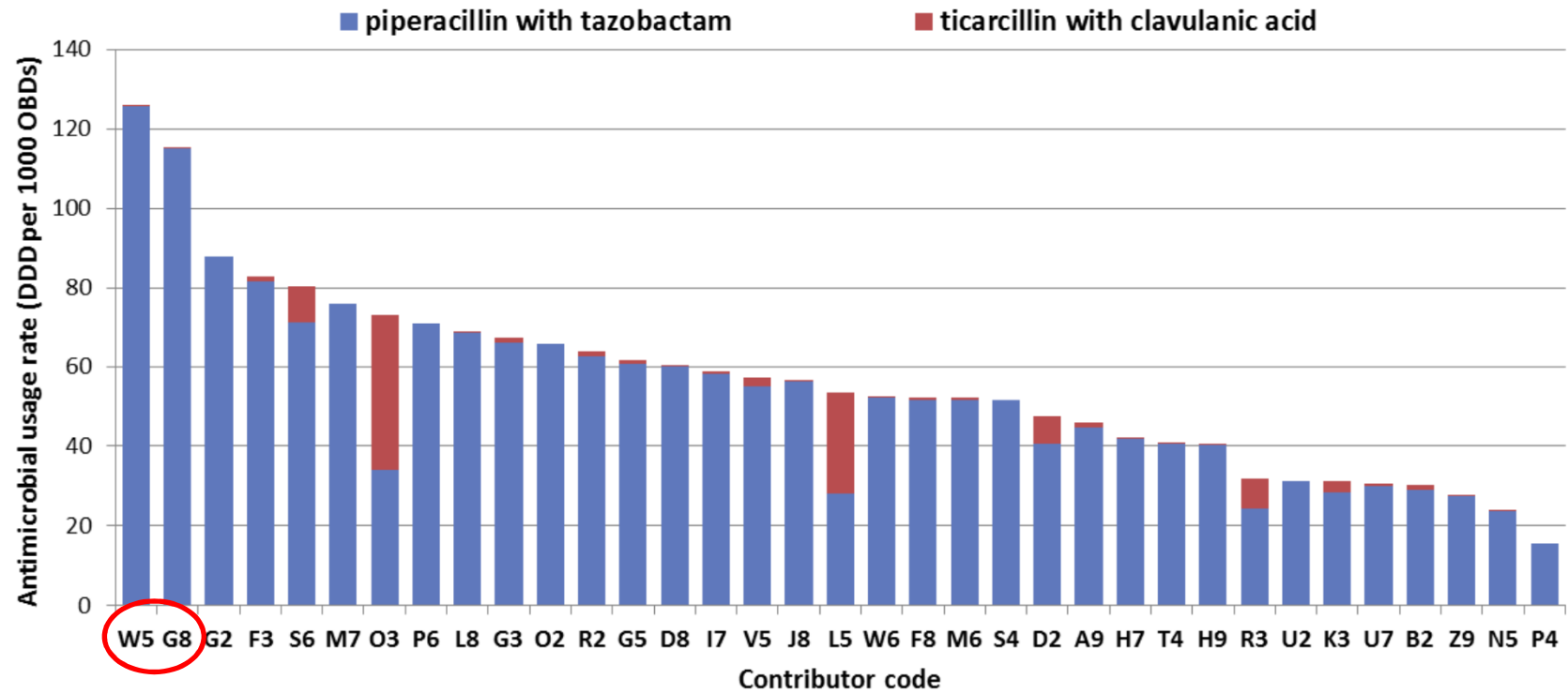
Principal referral hospitals



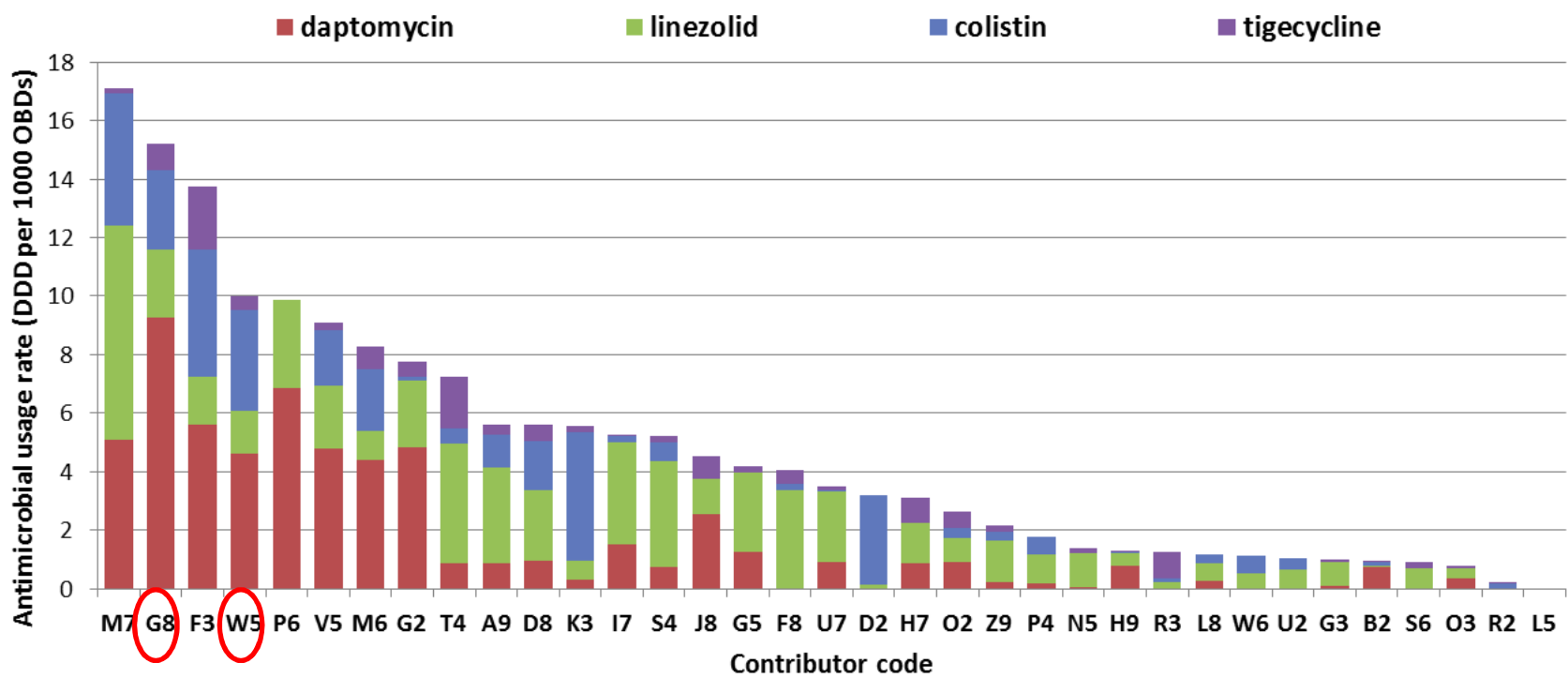
Principal referral hospitals



Principal referral hospitals



Principal referral hospitals

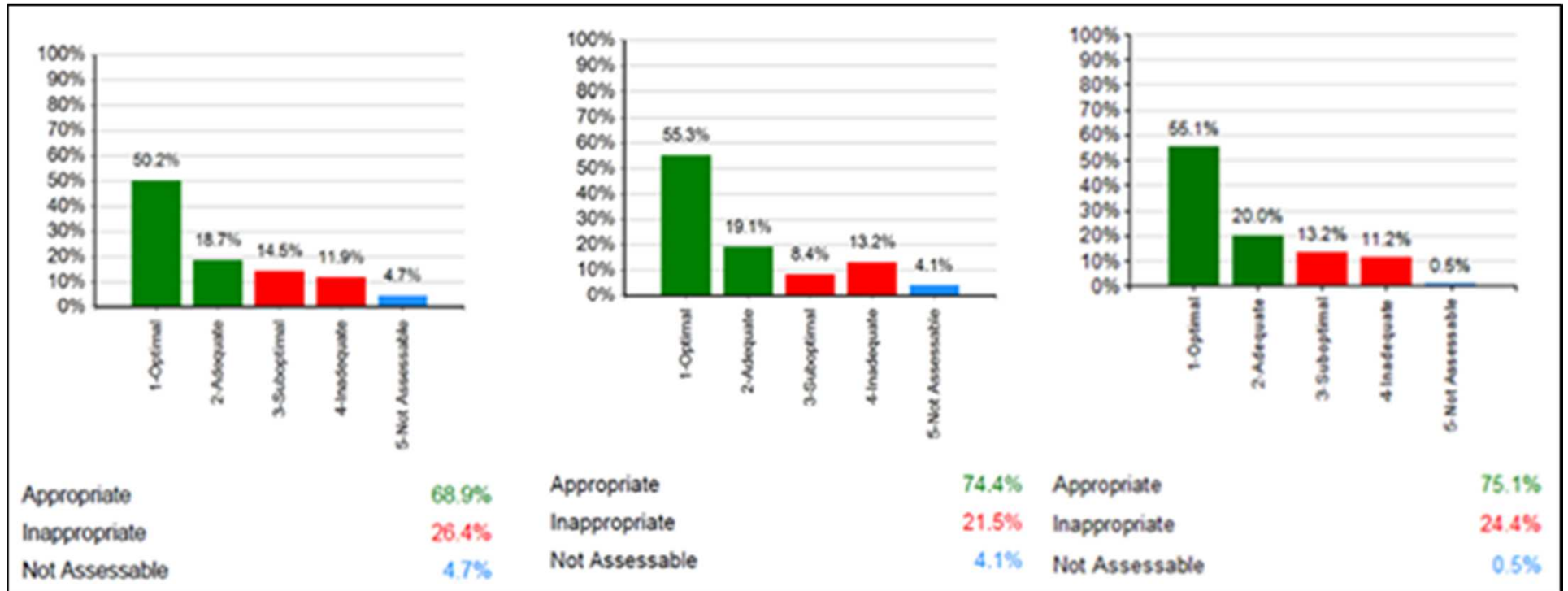


National Antimicrobial Prescription Survey (NAPS) at RPH

2015

2014

2013



Organism	No. of isolates	Penicillin	Amoxicillin	Flucloxacillin	Vancomycin	Erythromycin	Clindamycin	Tetracycline	Cotrimoxazole
Staphylococcus aureus (all)	1668	13		76	100	81	82	96	95
MSSA	1270	17		100	100	86	87	96	97
MRSA	398	0		0	100	65	66	96	92
Coag Neg Staph	331	25		53	100	57	62	89	80
Enterococci	497		84		96			27	
Group A/C/G streptococci	275	100		100	100	96	96		
S. pneumoniae	71	95 ^a			100	67 ^b			

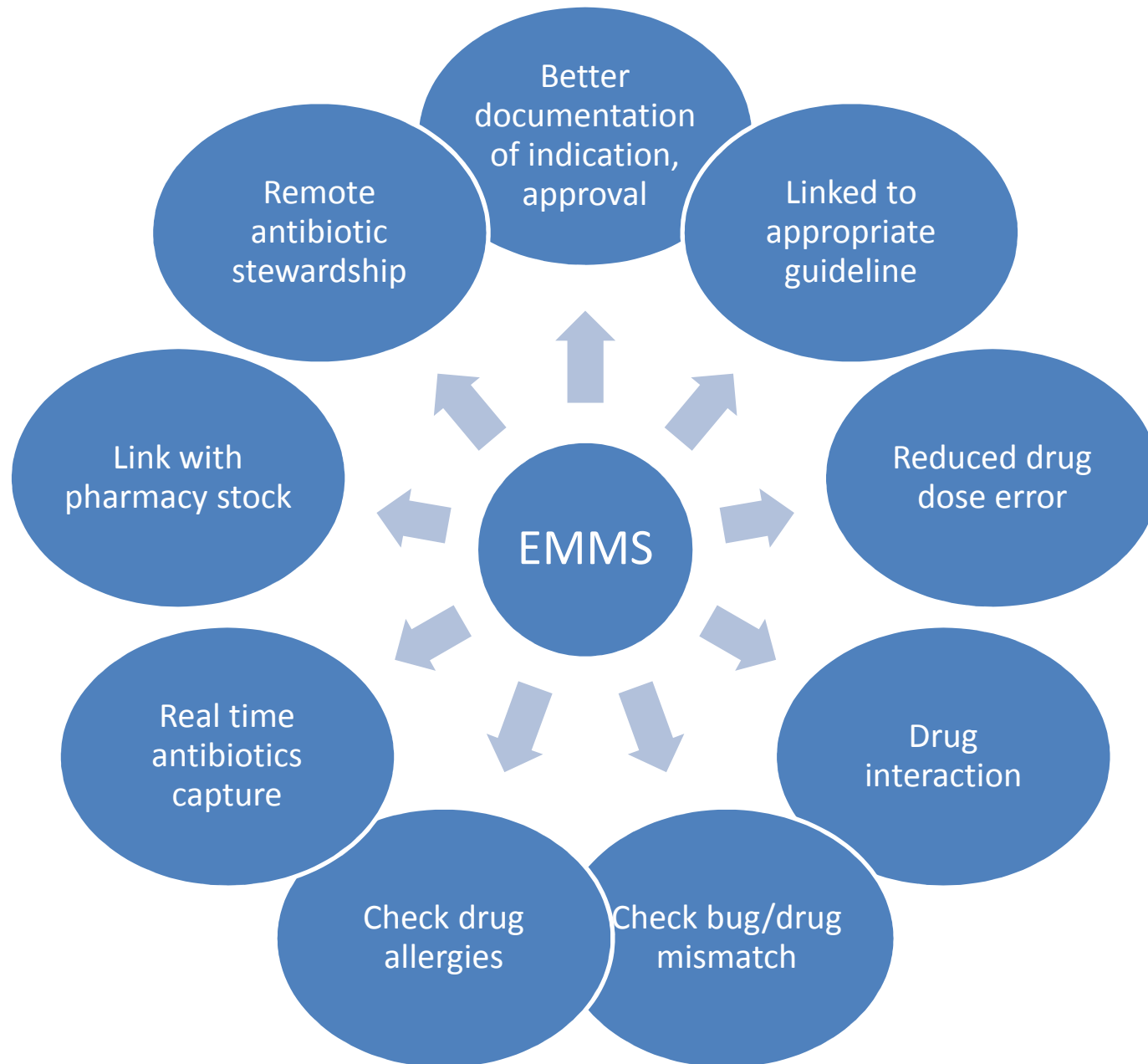
Organism	No. of isolates	Amoxicillin	Amoxicillin /clavulanate	Cephalexin	Cephazolin	Ceftriaxone	Cefipime	Piperacillin /tazobactam	Ticarcillin /clavulanate	Meropenem	Norfloxacin	Ciprofloxacin	Gentamicin	Trimethoprim	Cotrimoxazole	Nitrofurantoin ^c	Doxycycline
E. coli	1693	48	76	NT	85 ^d	89 ^d	94 ^d	92 ^d	80 ^d	100 ^d	83	83 ^d	90 ^d	73	70 ^d	95	NT
Klebsiella sp.	530	0	93	NT	94 ^d	96 ^d	100 ^d	94 ^d	96 ^d	100 ^d	98	98 ^d	100 ^d	91	100 ^d	43	NT
Proteus mirabilis	134	81	98	NT	97	NT	NT	NT	NT	NT	100	NT	NT	86	NT	R	NT
ESCAPPM ^e	491	R	R	R	R	R	R	R	R	98	98	98	99	93	95	19	NT
Pseudomonas aeruginosa	552	R	R	R	R	R	94	89	59	93	96	94	97	R	R	R	R
Acinetobacter sp	51	R	R	R	R	R	91	87	96	98	96	96	96	NT	94	NT	NT
Stenotrophomonas	30								38						97		
Haemophilus influenzae	159	77	93			100									64		99



Limitations of current system

- Approximately half of restricted antibiotics are not captured, thus not reviewed
- Only restricted antibiotics are reviewed
- Documentation of antibiotics indication, planned duration/review date is often missing
- Data captured is not precise and time consuming

Electronic medicine management system (EMMS)



**WE CAN DO
BETTER**