

The Outcomes and Challenges of AMS in China

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ANTIMICROBIAL RESISTANCE

Global Report
on surveillance

The Actions on AMS by Chinese MOH

《关于进一步加强抗菌药物临床应用管理工作的通知》

国卫办医发〔2015〕42号

2012

卫生部令第84号

《抗菌药物临床应用管理办法》

2015

关于印发遏制细菌耐药国家行动计划
(2016-2020年)的通知

国卫医发〔2016〕43号

2015

国卫办医发〔2015〕43号
关于印发抗菌药物临床应用指导原则(2015年版)的通知

2016

The Actions on AMS by Chinese MOH

明确主要职责：对我国细菌耐药和抗菌药物应用的相关性进行研究，提出政策建议；对我国用于预防和治疗感染的抗菌药物进行临床综合评价；对我国抗菌药物临床应用、细菌耐药形势、感染性疾病谱以及细菌耐药经济负担进行研究，提出完善相关技术规范的意见建议；完成国家卫生计生委交办的抗菌药物管理领域的其他工作。

国家卫生计生委办公厅关于成立抗菌药物临床应用与细菌耐药评价专家委员会通知

国卫办医函〔2017〕15号

2016

2017

国发〔2016〕77号

国务院关于印发“十三五”卫生与健康规划的通知

加强药师队伍建设，**实施遏制细菌耐药国家行动计划，以抗菌药物为重点推进合理用药**，加强处方监管，提高临床用药的安全性、有效性。

健全医疗质量安全管理制。建立全员参与、覆盖临床诊疗服务全过程的医疗质量管理与控制工作制度，**严格落实抗菌药物分级管理**等医疗质量安全核心制度。

国务院办公厅关于建立现代医院管理制度的指导意见

国办发〔2017〕67号

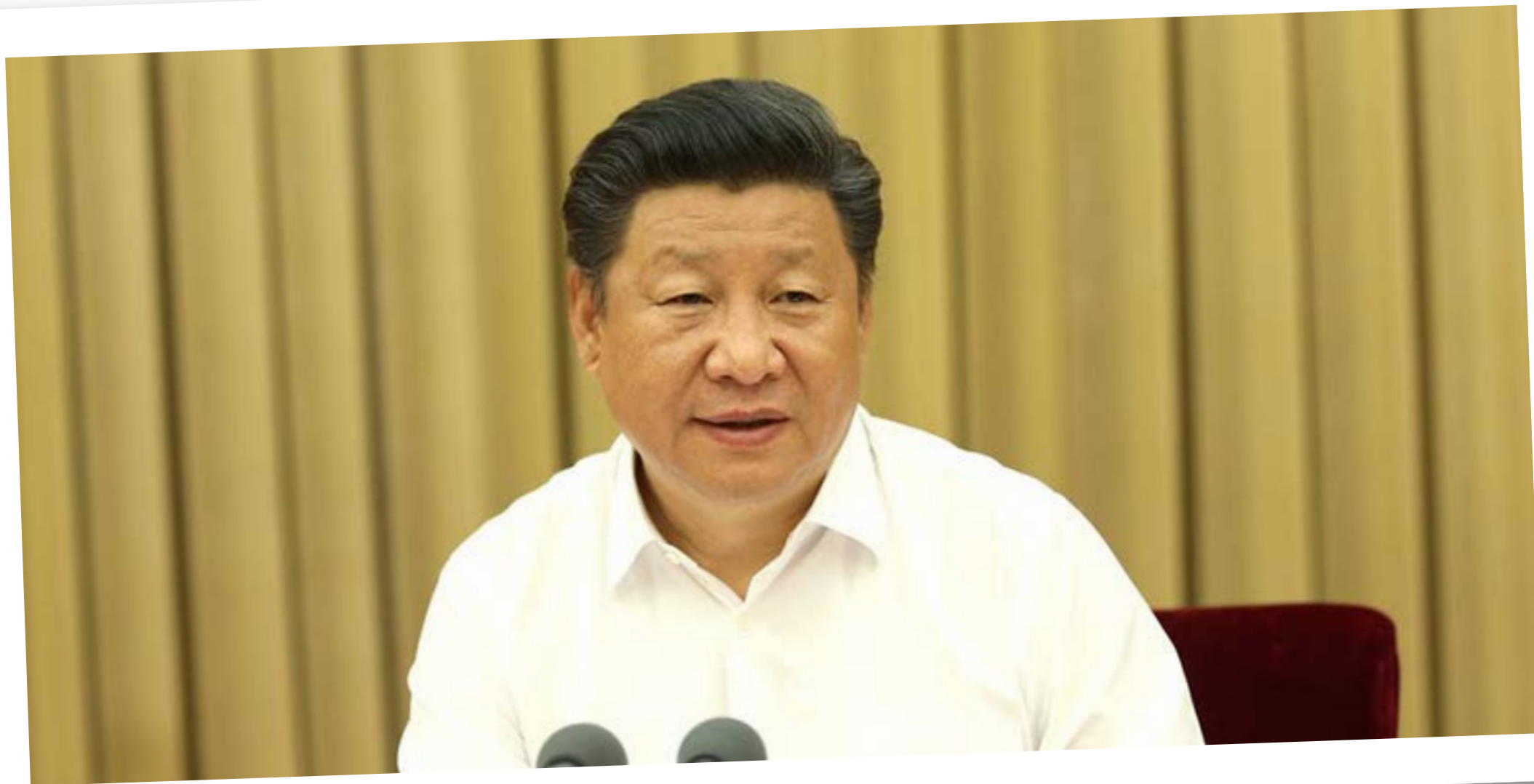
2017

2017

国卫办医发〔2017〕10号

国家卫生计生委办公厅关于进一步加强抗菌药物临床应用管理遏制细菌耐药的通知

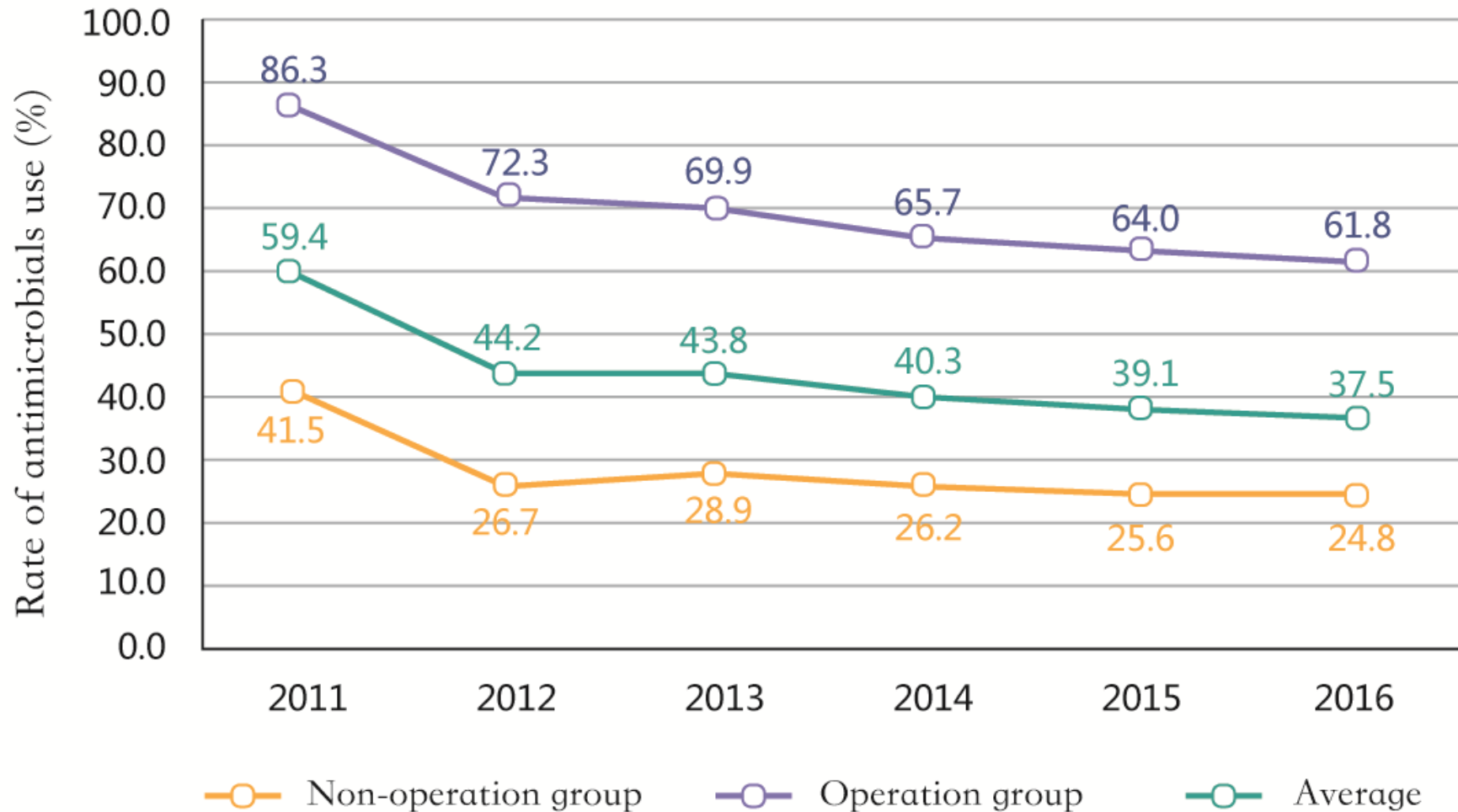
提出七点要求：高度重视抗菌药物临床应用管理工作；严格落实抗菌药物临床应用管理有关要求；加强抗菌药物临床应用管理技术支撑体系建设；加强抗菌药物临床应用和细菌耐药监测与评价；加强抗菌药物临床应用重点环节管理；加强督导检查 and 结果运用；明确责任部门和责任人





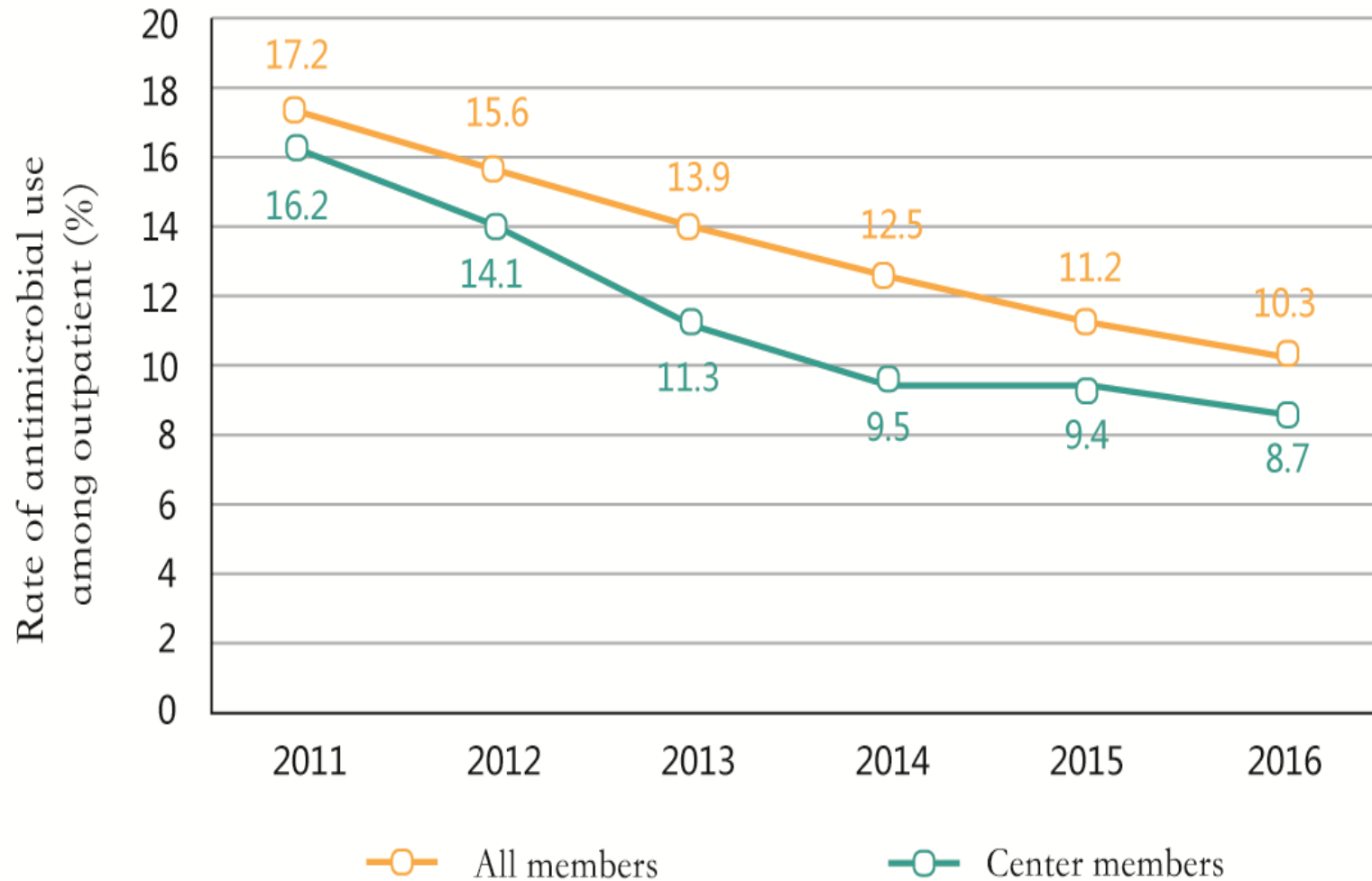
After 5 years' efforts
What we've achieved

I. Antimicrobial use prevalence in inpatients



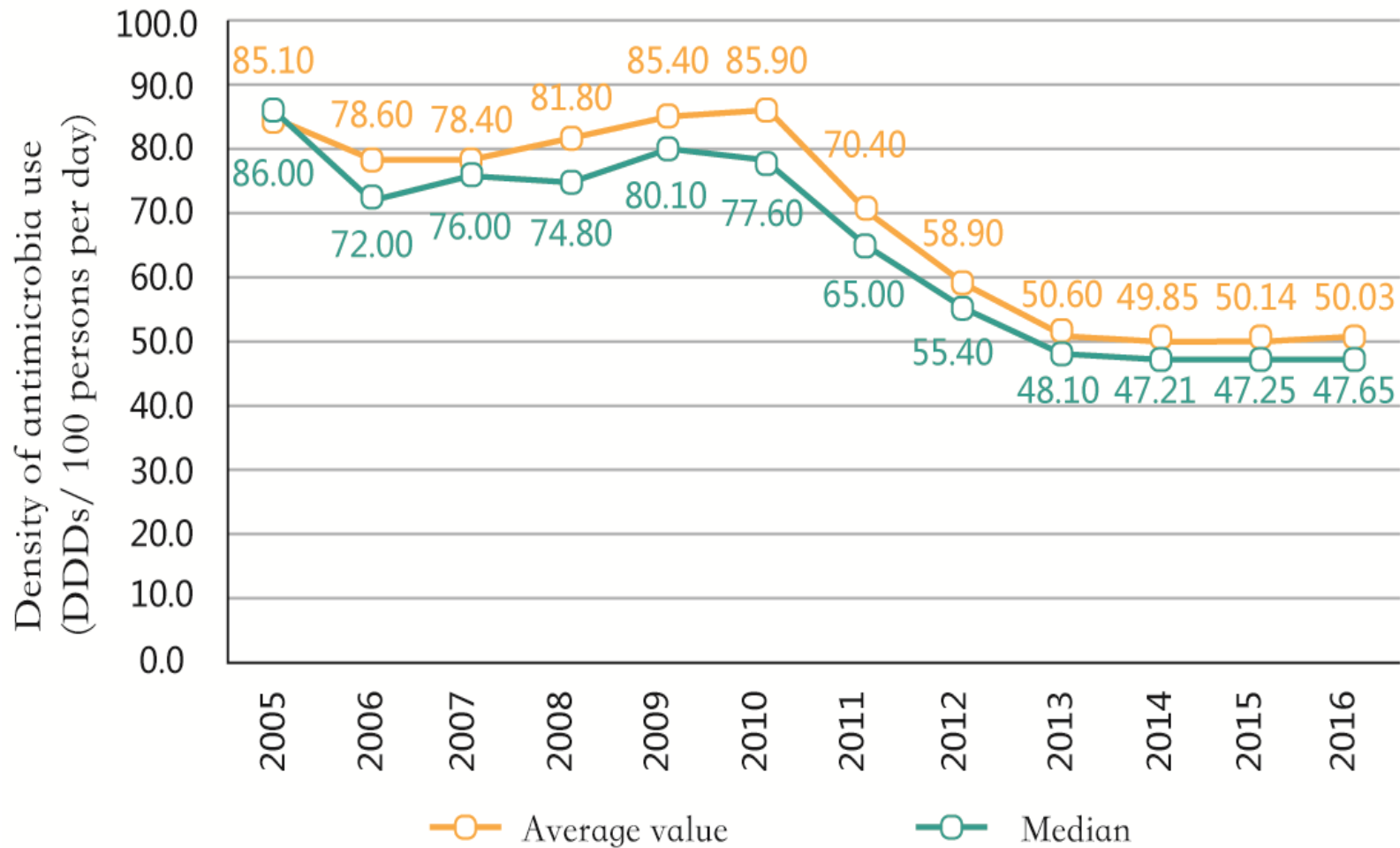
The average antimicrobial use among inpatients (%; according to CAS)

II. AUP in outpatients



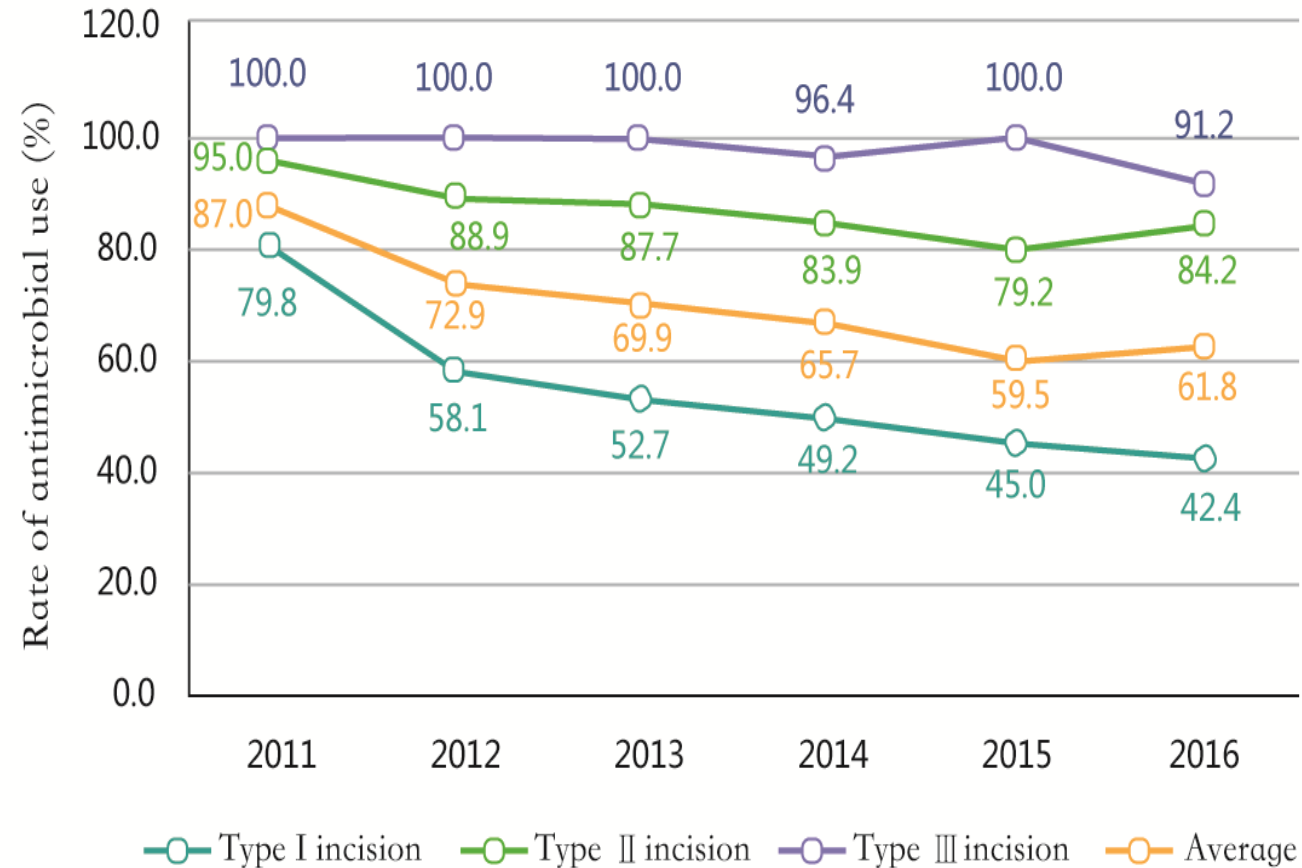
Rate of antimicrobial use among outpatients (%; according to CAS)

III. Intensity of antimicrobial use



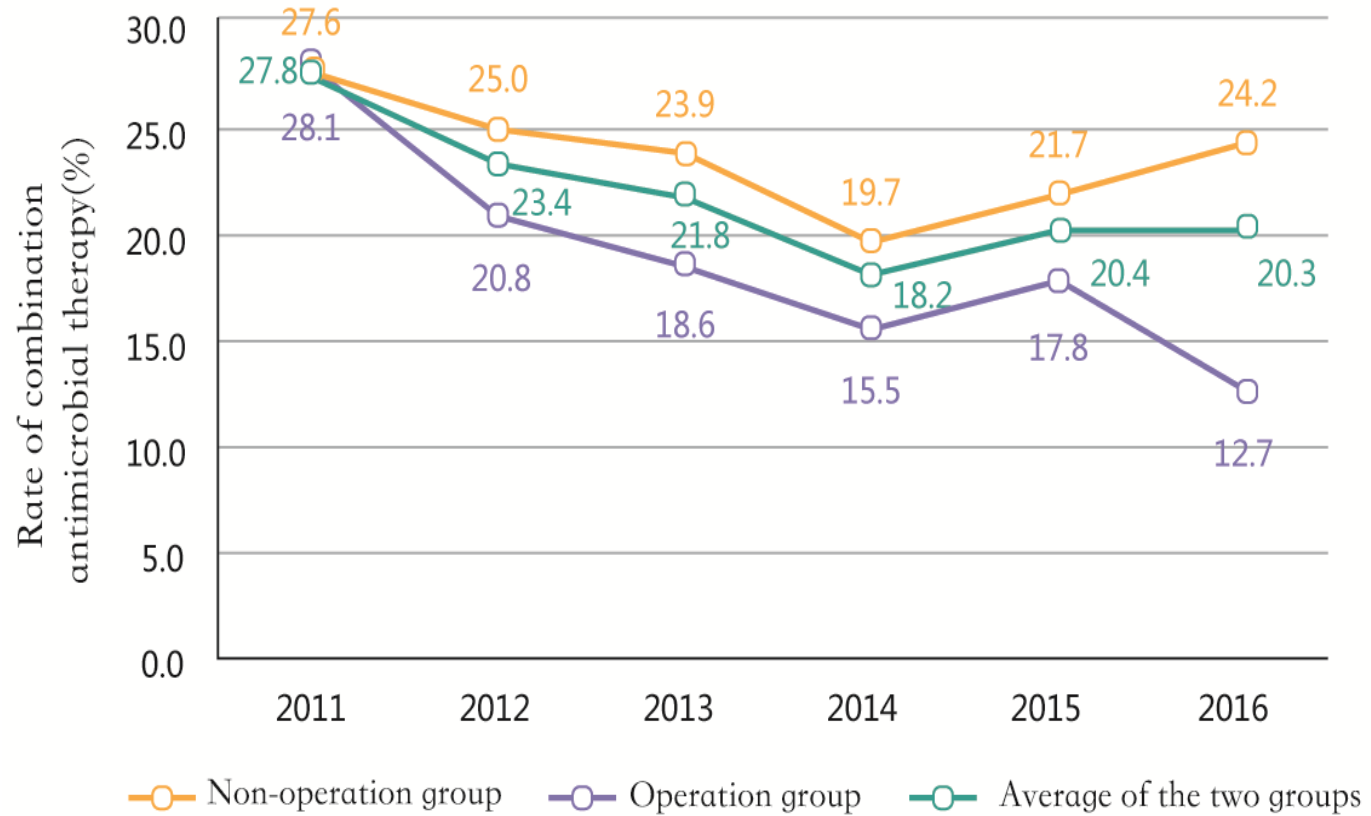
Density of antimicrobial use of CAS (DDDs/ 100 persons per day)

IV. AUP in the operation group for different incisions



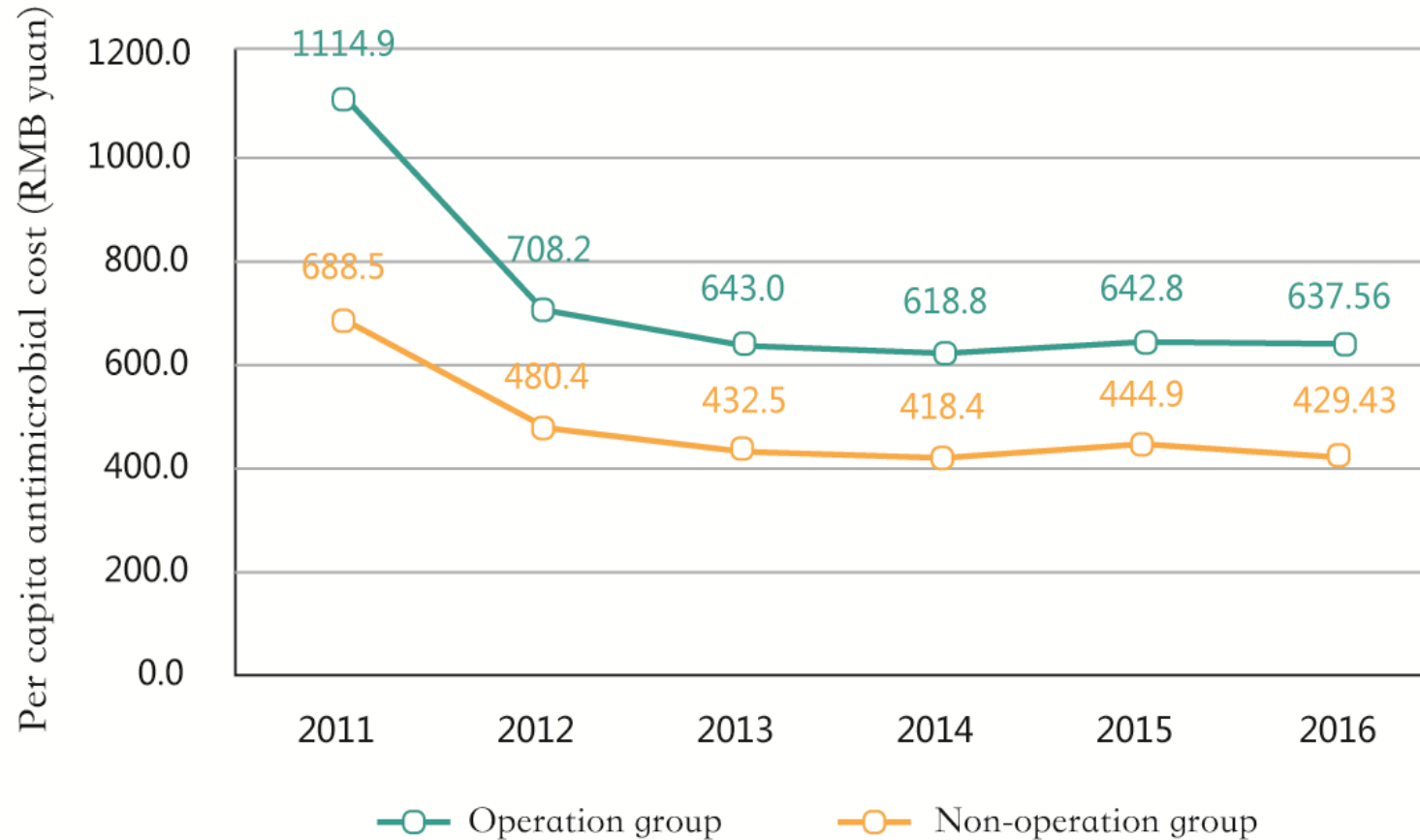
Rate of antimicrobial use of the operation group for different incisions (%; according to CAS)

V. Combined AUP in inpatients



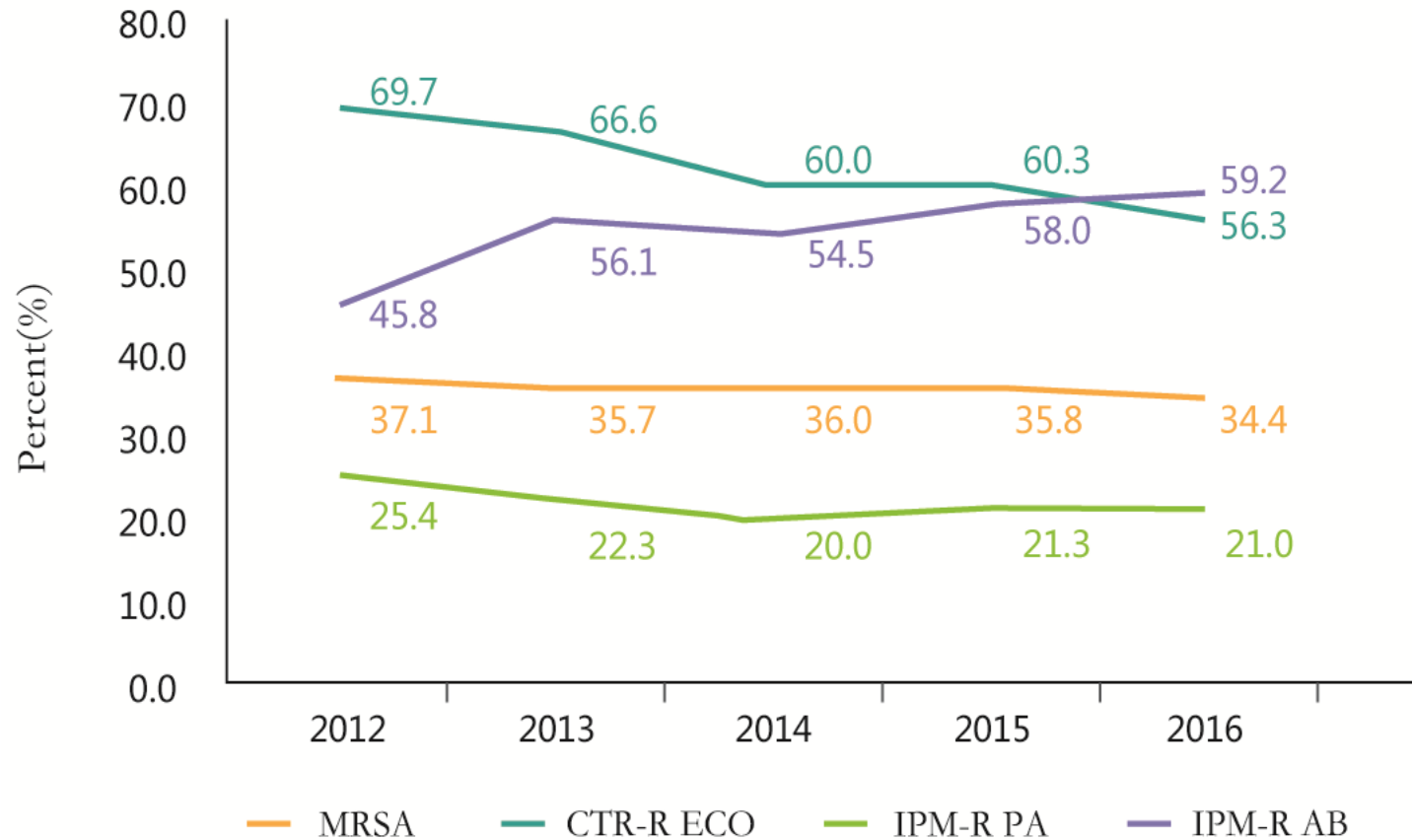
Combined use rate of antimicrobials of inpatients (%; according to CAS)

VII. Per capita antimicrobial cost



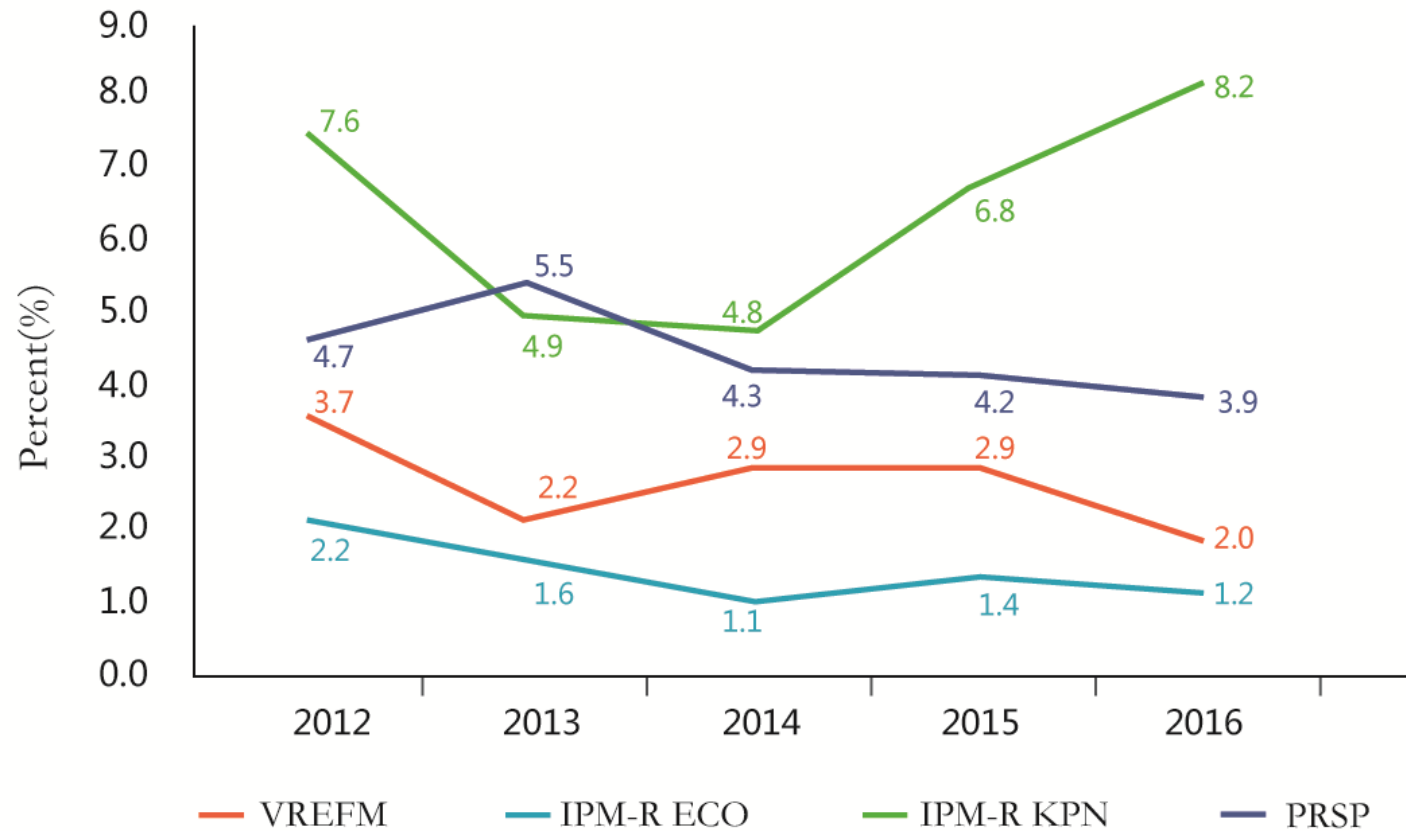
Changes in the per capita antimicrobial cost in the non-operation group and operation group of center members in 2011-2016

VIII. Improvement of AMR



Change in the antimicrobial resistance in China in 2012-2016

VIII.Improvement of AMR



Change in the antimicrobial resistance in China in 2012-2016

Challenges those we are still facing

Contents lists available at [ScienceDirect](#)

Clinical Microbiology and Infection

journal homepage: www.clinicalmicrobiologyandinfection.com



Original article

A survey on the status quo of antimicrobial stewardship in 116 tertiary hospitals in China

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Fig. 1. Distribution of hospitals surveyed in each province and municipality. Numerals represent the number of hospitals surveyed in each province.

Influence of a department of infectious diseases (DID) set-up on the hospital's technical guidelines on antimicrobial stewardship (AMS) interventions

Technical literature on AMS interventions	With formal DID (n, %)	Without formal DID (n, %)	p value
Anti-infection manuals developed based on the institution's pathogen and susceptibility data:			
Yes	47 (54.7%)	10 (33.3%)	0.044 ^a
No	39 (45.3%)	20 (66.7%)	
Adequate use of technical literature from superior departments ^b			
Yes	72 (83.7%)	19 (63.3%)	0.019 ^a
No	14 (16.3%)	11 (26.7%)	
Only administrative policy documents available ^c			
Yes	25 (29.1%)	8 (26.7%)	0.802
No	61 (70.9%)	22 (73.3%)	

^a p < 0.05.

^b Adequate use of technical literature from superior departments means that antimicrobial guidelines/manuals/SOP were made only by the administrative department.

^c Only administrative policy documents being available means there is only administrative policy to guide antimicrobial treatment.

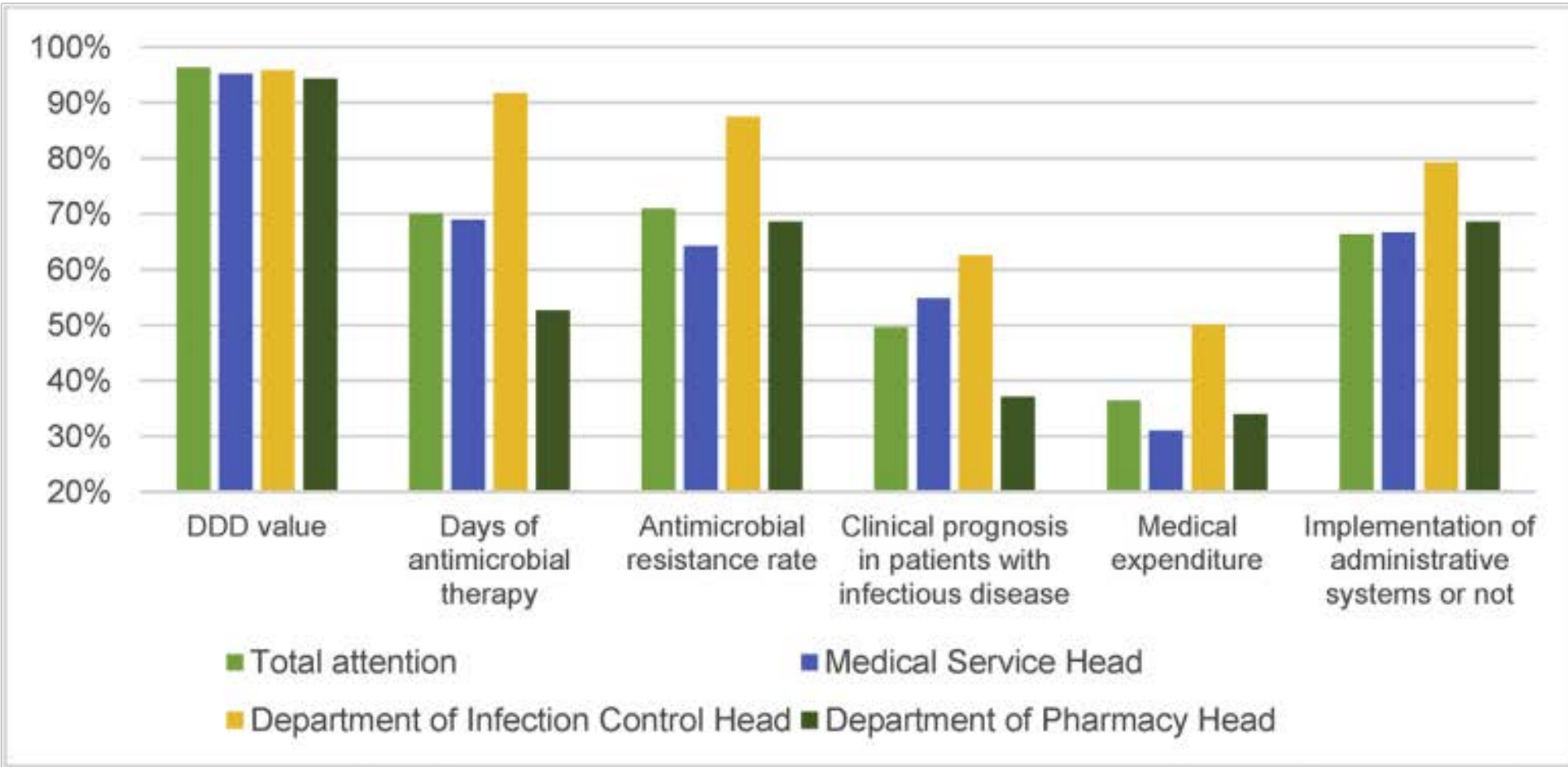


Fig. 3. Attention paid to the measures intended for evaluation of antimicrobial stewardship (AMS) outcome in 116 hospitals. The departments (whether or not for pharmacy, infection control or medical) only evaluated the defined daily dose (DDD) (>94%). But in hospitals where AMS was the responsibility of the pharmacy department, there are a few concerns about clinical prognosis and treatment cost. In hospitals where AMS is the responsibility of the infection control department more attention is paid to the number of days of therapy (DOT), antimicrobial resistance (AMR), clinical prognosis, and the cost of treatment.

Background

- China has a vast territory and a large number of medical organizations.
- With differences in regional, economic and social development, there are imbalances in development of clinical management of antimicrobials among different regions and medical organizations and there is also a big gap in the capacity of medical staff.

Challenges

- ① The clinical management of antimicrobials is not perfect, and the management mechanism of antimicrobials in primary medical institutions has not been established.***
- ② Most medical institutions adopt post-event review; the system for scientific management of AMR remains to be established.***

Challenges

- ③ *Physicians' capacity of drug use is not high enough; in particular, some primary physicians do not properly execute Guiding Principles for Clinical Application of Antimicrobials.*
- ④ *The rational use of antimicrobials in team construction is not perfect, and the capacity and the number of infectious disease doctors are insufficient, who have the ability to diagnose and treat bacterial or fungal infections; especially in pediatrics, they can not give enough guidance to medical workers in other departments.*

Challenges

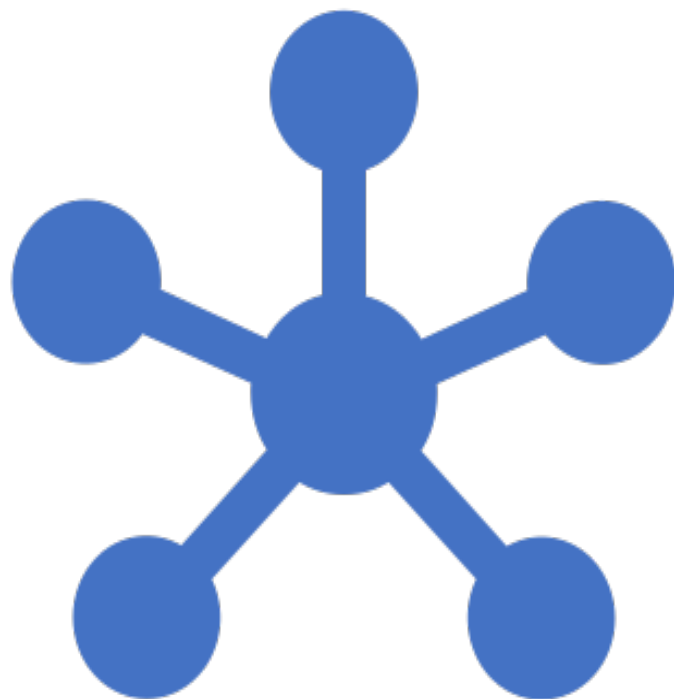
- ⑤ Propaganda and education of patients and the public are inadequate and the awareness of rational drug use is not strong.**
- ⑥ In recent years, the use amount and intensity of carbapenems have shown an increasing trend, which should be paid attention.**



Our Next Steps



关于印发遏制细菌耐药国家行动计划（2016-2020年）的通知



National Action Plan on AMR (2016-2020)

医疗机构抗菌药物管理技术规范 讨论稿

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国家卫生计生委抗菌药物临床应用与细菌耐药评价专家
Expert committee on clinical use of antimicrobials and evaluation of antimicrobial

▶ Core elements of AMS in medical institutions



制定和发布
管理制度

1

完善抗菌药物管
理团队和明确核
心人员

2

制订本机构适用
的感染性疾病诊
疗规范

3

抗菌药物
处方干预

4

抗菌药物临床应
用管理过程和效
果的评价

5

提高感染性疾病
诊断水平，
完善抗菌药物管
理模式

6

感染性疾病规范
诊治与抗菌药物
规范管理培训

7



国家卫生计生委抗菌药物临床应用与细菌耐药评价专家委员会
Expert committee on clinical use of antimicrobials and evaluation of antimicrobial resistance

▶ Formulate and issue management system



1

- ▶ 对照国家和各级卫生行政部门的政策、规定
- ▶ 结合本机构特点，制定、完善抗菌药物管理具体措施

2

- ▶ 经本机构药事管理与药物治疗学委员会和医疗质量管理委员会共同讨论、通过

3

- ▶ 发布实施



▶ Improve the management team of AMS and identify core personnel

- 在药事管理与药物治疗学委员会下设立抗菌药物管理工作组，建立**多学科的专业化工作团队**，各司其职。



国家卫生计生委抗菌药物临床应用与细菌耐药专家委员会
Expert committee on clinical use of antimicrobials and evaluation of antimicrobial resistance

Formulating guidelines for the diagnosis and treatment of infectious diseases applicable to institution internal level

1

- 参照《抗菌药物临床应用指导原则》和权威指南
- 结合本地区、本机构疾病谱和病原菌的流行病学及药敏特点
- 以每年更新一次为宜

2

- 应由本机构药事管理与药物治疗学委员会和医疗质量管理委员会批准后发布实施

3

- 国家发布的感染性疾病诊治临床路径应包括在诊疗规范中
- 抗菌药物供应目录应在诊疗规范中明确，并每年进行必要的品种动态调整



▶ Prescription intervention of antibiotics



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Expert committee on clinical use of antimicrobials and evaluation of antimicrobial resistance

Evaluation of management process and effect of antibacterial drugs in clinical application

- 定义日剂量 (DDD)
- 抗菌药物治疗日数 (DOT)
- 抗菌药物使用率
- 某些病区、某些药物的处方评估
- I类切口手术预防用抗菌药物比例
- 抗菌药物使用前微生物送检率
- 某种抗菌药物的总体用药增加、联合用药的必要性
- 异常增加的抗菌药物处方频率和处方医生
- 异常增加的处方原因
- 处方增加的药物与细菌耐药类型间的关系
- 处方异常增加的病区

抗菌药物指标评估

异常变化指标进行评估与反馈

管理过程评估

- 本机构制定的管理措施、诊疗规范的依从性评估
- 周期性评估抗菌药物处方的合理性

管理效果评估

围绕患者预后等指标进行考量：

- 感染病治愈率和归因病死亡率
- 医院感染发生率
- 抗菌药物花费
- 药物相关不良事件发生率
- 艰难梭菌感染发生率

▶ Improve the diagnostic level of infectious diseases and improve the management mode of antibiotics



1

➤ 加强感染性疾病诊疗相关专业的能力建设

3

➤ 不断提高信息化能力，提高管理的时效性和实效性

2

➤ 建立并完善感染性疾病的多学科诊疗体系

4

➤ 加强医院感染管理



Standardized diagnosis and treatment of infectious diseases and training of standardized management of antimicrobials



常态培训模式

着眼临床实际

制度与技术培训

周期性考核

权威

明确

简洁

方便

可重复



国家卫生计生委抗菌药物临床应用与细菌耐药评价专家委员会
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Conclusion

- The applicable "anti infection Guideline" is an important technical guarantee for the implementation of ASP;
- Symptomatic guidance is the basis for standardized diagnosis and treatment of every infectious disease;
- ASP should choose targets (such as preventive medication, CAP, UTI, drug resistance control) to steadily advance.



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**北京协和医院
大兴院区**



Thank you for your attention!