

# Antimicrobial Stewardship in Human Medicine

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# Trend of the global community for AMR

- Global Action Plan for drug resistance was adopted in WHO World Health Assembly in May 2015. → WHO members were requested to develop National Action Plan within the next 2 years.
- In Elmau Summit, June 2015, the development of WHO Global Action Plan was well received, and also, enforcement of One Health Approach as well as undertaking of research and development for new medicine were confirmed.



# NATIONAL ACTION PLAN FOR COMBATING ANTIBIOTIC-RESISTANT BACTERIA

MARCH 2015



# Effort made by the Infectious Diseases Society of America

Guideline revised on April 13, 2016

## Implementing an Antibiotic Stewardship Program: Guidelines by the Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America

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# “Cases of healthcare-associated infections are decreasing in the US”

**CDC’s annual *National and State Healthcare-Associated Infections Progress Report*** (Data in 2014)

- One out of 25 hospital inpatients acquired healthcare-associated infections.
- Infection in the bloodstream associated with central intravenous catheter:  
2008 through 2014 Decreased by 50%
- Infection of the urinary tract associated with catheter:  
2009 through 2014 Invariant
- SSI (subject to 10 operative procedures) :  
2008 through 2014 Decreased by 17%
- Nosocomial *C. difficile* infection: 2011 through 2014 Decrease by 8%
- Nosocomial MRSA bacteremia : 2011 through 2014 Decreased by 13%
- Long term acute care hospitals : 2013 through 2014 Decreased by 9% for CLABSI and 11% for CAUTI
- In-hospital rehabilitation medical facility: 2013 through 2014 Decreased by 14% for CAUTI

# AMR Local Indicators: UK

Home > Introduction > Data

Contact Us

## AMR local indicators

Indicator keywords

Antibiotic Prescribing

Area type

Areas grouped by

Benchmark

Area

Sub-region    
 10 most similar CCGs to Bedfordshire

\* a note is attached to the value, hover over to see more details

Compared with benchmark



Low    High

Export table as image

<http://fingertips.phe.org.uk/profile/amr-local-indicators>

# AMR Local Indicators: UK

Indicator	Period	England	Central Midlands NHS region	NHS Bedfordshire CCG	NHS Corby CCG	NHS East And North Hertfordshire...	NHS East Leicestershire And Rutlia...	NHS Herts Valleys CCG	NHS Leicester City CCG	NHS Lincolnshire East CCG	NHS Lincolnshire West CCG	NHS Luton CCG	NHS Milton Keynes CCG	NHS Nene CCG	NHS South Lincolnshire CCG	NHS South West Lincolnshire CCG	NHS West Leicestershire CCG
Total number of prescribed antibiotic items per 1000 resident individuals by quarter	2016 Q1	175.1	181.5	180.8	228.6	195.2	163.0	172.4	177.8	208.5	176.0	195.5	189.2	174.7	214.0	186.1	158.9
Total number of prescribed antibiotic items per STAR-PU by quarter	2016 Q1	0.30	0.30	0.30	0.27	0.33	0.28	0.29	0.28	0.32	0.29	0.35	0.33	0.30	0.31	0.28	0.29
Percentage of prescribed antibiotic items from cephalosporin, quinolone and co-amoxiclav class by quarter	2016 Q1	8.50	8.46	8.92	8.74	7.47	10.80	6.86	8.37	9.92	10.69	8.33	5.97	7.56	8.99	9.50	10.71
Twelve month rolling total number of prescribed antibiotic items per 1000 individuals per day	Mar 2016	1.74	1.79	1.76	2.29	1.85	1.66	1.68	1.76	2.11	1.75	1.92	1.83	1.80	2.13	1.82	1.57
Twelve month rolling total number of prescribed antibiotic items per STAR-PU	Mar 2016	1.08	0.90	1.09	1.03	1.15	1.04	1.03	1.06	1.18	1.07	1.26	1.19	1.14	1.14	1.03	1.03
Twelve month rolling percentage of prescribed antibiotic items from cephalosporin, quinolone and co-amoxiclav class	Mar 2016	9.73	9.82	9.64	12.06	8.26	11.41	7.75	9.02	11.91	12.11	9.91	6.83	10.51	10.89	11.08	11.71

<http://fingertips.phe.org.uk/profile/amr-local-indicators>

# Belgian Antibiotic Policy Coordination Committee



## ベルギー抗菌薬政策調整委員会 (Belgian Antibiotic Policy Coordination Committee) の成功

(Vol. 30 p. 79: 2009年3月号)

ベルギーでは1999年に国王令によって、ベルギー抗菌薬政策調整委員会 (BAPCOC) が設立された。BAPCOCの目的は、人と動物における適正な抗菌薬使用の促進と、感染管理・病院衛生の改善により、薬剤耐性菌を減らすことである。この業務に対応するため、BAPCOCは、微生物学者、感染症感染管理専門家、疫学者、臨床医、薬剤師、看護師、獣医師、基礎研究者、公衆衛生専門家、健康経済学者からなる外来診療・入院診療・啓発活動・感染管理・獣医学の5分野にわたる作業部会で構成されている。

設立以来、公衆衛生、科学、政策の異なる分野が協力し合い、強力なリーダーシップを発揮し、エビデンスに基づいた数多くの介入を行った。例えば、地域社会における抗菌薬の適正使用を勧めるためのマルチメディアキャンペーン、病院における手指衛生向上のための全国的キャンペーン、臨床的手技に関するガイドラインの発行、ベルギーの全病院に抗菌薬管理チームを設立するために必要な職員配置と技術支援、人と動物における抗菌薬使用や薬剤耐性菌をサーベイランスするプログラムのサポート、さらに、研究を促進させるための資金提供も行っている。

これらの活動や介入の結果、ベルギーでは、抗菌薬使用と市中および病院内の耐性菌が減少した。

[Euro Surveill. 2008; 13(46): pii=19036]

<http://idsc.nih.gov/iasr/30/349/fr3493.html>



# Guidelines for antimicrobial use in primary care

- Simple guidelines for outpatient care are necessary.
- Preparation by public agency is preferable.

Provided by Dr. Yoshiaki Gu, Tohoku University

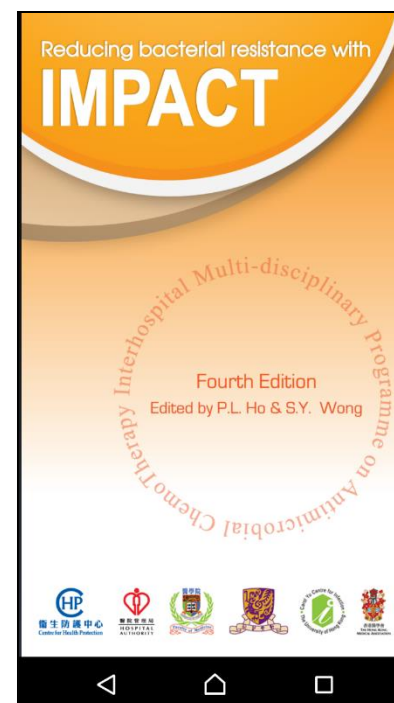
## Sweden



## Belgium



## Hong Kong



# Efforts made in Japan

- 1980s Issues raised for in-hospital infection by drug-resistance bacteria, such as methicillin-resistant *Staphylococcus aureus* (MRSA)
- April 1996 Ministry of Health, Labour and Welfare introduced “Addition of in-hospital infection preventive measures” by revising the medical fee system.
- 2000 Launched operations of Japan Nosocomial Infections Surveillance (JANIS)
- 2002 Ministry of Health, Labour and Welfare established infection control council.
- 2006 Amended Medical Service Act (Law Partially Revising the Medical Service Act in an effort to establish a system to provide high quality medical services (Act No. 84 of 2006) to mandate all medical facilities to develop infection control guidelines, establish infection control committee (or appointment of a responsible person in case of small clinics without inpatients and dental clinics), and hold infection control workshop for all employees.
- 2012 Include “addition of in-hospital infection preventative measures” in the medical fee system
- 2015 Infection control central committee “Proposal for controlling drug-resistance bacteria”

# Excerpt from “In-hospital infection control in medical facilities” by Director, Training Administration Division, Health Policy Bureau, Ministry of Health, Labour and Welfare

## 9. Surgery and infection prevention

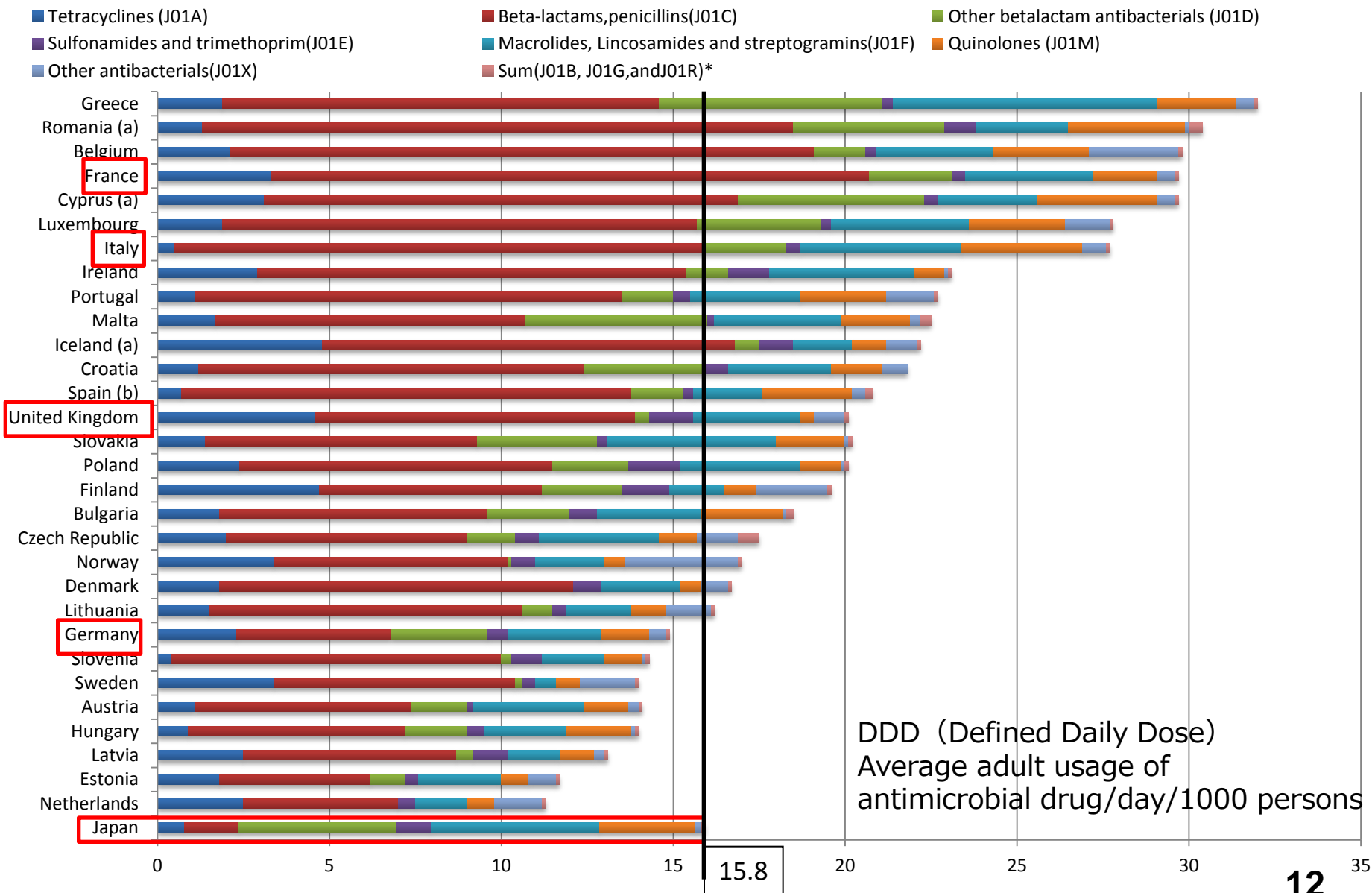
Regarding the use of prophylactic antibiotics, the cephem first-generation or second-generation antimicrobial (except for lower gastrointestinal tract, etc.) should be administered once immediately before the procedure for clean surgery/clean-contaminated surgery (per operative wound). In some surgeries taking longer time, additional administration may be applied 39-51). Antimicrobial must not be administered for preventive purposes for a long period of time after the surgery. It is typical to administer for about 3 days after gastroenterological surgery.

## 11. Control of antimicrobial-resistant bacteria

Antimicrobial drug abuse must be avoided by having a good understanding of the status of drug-resistance bacteria detection and susceptibility pattern data. It is preferable to prepare a manual for antimicrobial drug use in cooperation with pharmacists 71-76) to institute a permit system for major antimicrobial drug use, as well as to conduct therapeutic drug monitoring: TDM) 77-81).

2003 Health and Labour Sciences Research Grant (Health and Labour Sciences Special Research Business)  
Assigned research report : National/municipal government-involved special urgent research for institutionalizing the overall infection control “In-hospital infection control in medical facilities”

# Antimicrobial drug usage for medical purposes (Comparison with EU countries) 2012



# In outpatient care in Japan:

- Antimicrobial drugs are administered to 60% of upper respiratory inflammation patients.
  - Third generation cephem: 46%, Macrolide: 27%, Quinolone: 16%

※Upper respiratory inflammation: rheum, acute bronchitis, acute sinusitis, acute pharyngitis (except for those identified as bacterial), acute pharyngolaryngitis, and upper respiratory tract infection

# Awareness survey

Current aggregate votes:  
283,238,014

Result: Do you know that antimicrobial drugs (antibiotics) are not effective for cold or influenza?



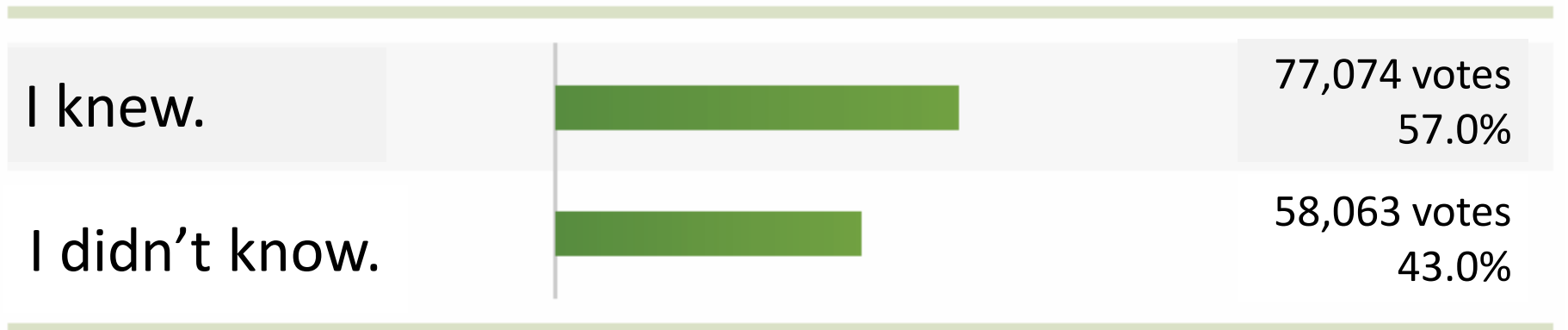
アフロ

Many of you may take some medicine when you don't feel well. But did you know that antimicrobial drugs (antibiotics) are not effective for cold or influenza? (Question by Cabinet Secretariat, Ministry of Health, Labour and Welfare)

•(Reference) Yahoo! News Awareness Survey – Accurately visualize the public mind for a better society  
<http://polls.dailynews.yahoo.co.jp/domestic/25663/result>

Total votes: 135,137

Survey period: October 1, 2016 to October 20, 2016



•(Reference) Yahoo! News Awareness Survey – Accurately visualize the public mind for a better society

<http://polls.dailynews.yahoo.co.jp/domestic/25663/result>

# National Action Plan on Antimicrobial Resistance (AMR)

*National Action Plan on Antimicrobial Resistance*

**2016-2020**

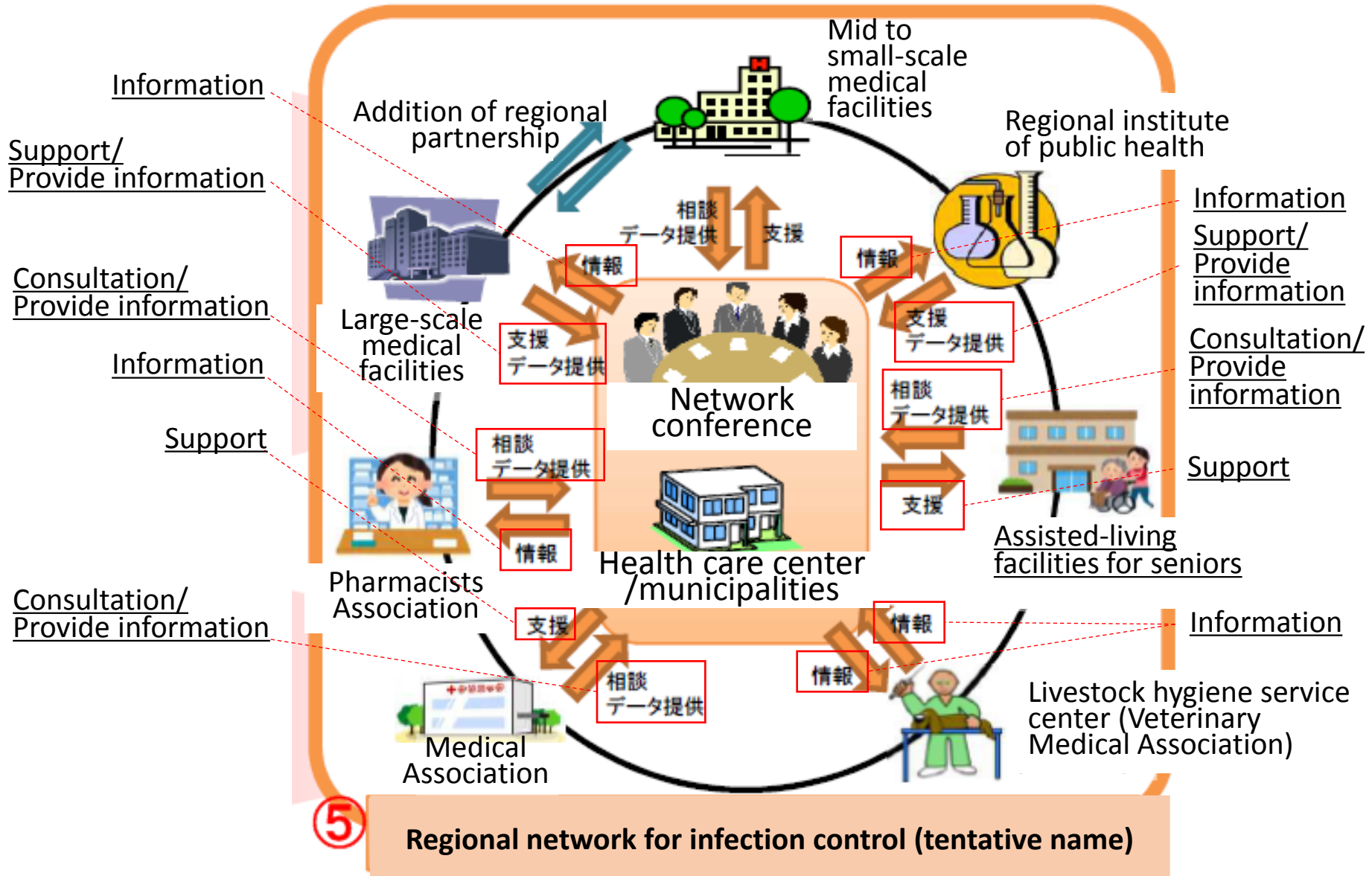
April 5, 2016  
The Government of Japan

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Field	Goal
1 Public awareness/education	IMPROVE PUBLIC AWARENESS AND UNDERSTANDING, AND PROMOTE EDUCATION AND TRAINING OF PROFESSIONALS
2 Surveillance/monitoring	CONTINUOUSLY MONITOR ANTIMICROBIAL RESISTANCE AND USE OF ANTIMICROBIALS, AND APPROPRIATELY UNDERSTAND THE SIGNS OF CHANGE AND SPREAD OF ANTIMICROBIAL RESISTANCE
3 Infection prevention/control	PREVENT THE SPREAD OF ANTIMICROBIAL-RESISTANT ORGANISMS BY IMPLEMENTING APPROPRIATE INFECTION PREVENTION AND CONTROL
4 Proper use of antimicrobial agents	PROMOTE APPROPRIATE USE OF ANTIMICROBIALS IN THE FIELDS OF HEALTHCARE, LIVESTOCK PRODUCTION AND AQUACULTURE
5 Research & development/drug development	PROMOTE RESEARCH ON ANTIMICROBIAL RESISTANCE AND FOSTER RESEARCH AND DEVELOPMENT TO SECURE THE MEANS TO PREVENT, DIAGNOSE AND TREAT THE ANTIMICROBIAL-RESISTANT INFECTIONS
6 International cooperation	ENHANCE GLOBAL MULTIDISCIPLINARY COUNTERMEASURES AGAINST ANTIMICROBIAL RESISTANCE

# Regional network for infection control (tentative name)



# Public awareness/education for AMR control

- Goal 1: Public awareness/education
  - Support a preparation of awareness tools (such as website contents)
  - Launch/operate online education platform for health care professionals and nursing care professionals
  - Reinforce provision of training for hospital epidemiology and proper use of antimicrobial drugs that may contribute to AMR control

Prior model: National Cancer Center Japan

国立研究開発法人国立がん研究センター  
がん対策情報センター

がん対策情報センターについて 各部の紹介 がん情報サービス 患者・市民/専門家パネル

がん対策情報センタートップ

## がん対策情報センター

- がん対策情報センターについて **UPDATE!**
- 各部の紹介 **UPDATE!**
- がん情報サービスについて
- 患者・市民パネル/専門家パネル **NEW!**
- プロジェクト **NEW!**
- 外部との意見交換会・協議会

がん情報サービス ganjoho.jp 一般の方向けサイト

「がん情報サービス」は、がんについて信頼できる、最新の正しい情報をわかりやすく紹介しています。下側に並んだ項目からご覧になりたいものを選んでお入りください。

[詳しい使い方はこちら](#)

■ □ □ □ □

「平成28年熊本地震に関する情報」を掲載しています。

もくじ

- それぞれのがんの解説  
診断から療養まで
- 診断・治療  
検査や治療、臨床試験について
- 生活・療養  
食事や治療中のケア、支援制度など
- 予防・検診  
がんの原因や予防について
- 資料室  
冊子や資料、講演会の記録など
- がんの相談  
情報を知りたい、相談したい

- ✓ Public awareness
- ✓ Training specialists
- ✓ Organize comprehensive regional network for infection control
- ✓ Expand the surveillance and use it for regional control
- ✓ Establish a proper use of antimicrobial drugs team

For realization of sustainable  
medical environment