

# Surveillance of antimicrobial use and development of a surveillance system

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# Efforts in 2021

## Ongoing **surveillance** of antimicrobial use

- Changes in antimicrobial usage over time based on billing data (2013-2020)
- Changes in data on antimicrobial sales over time (2013-2021)

## A **system** to facilitate the proper use of antimicrobials

- A system to facilitate the proper use of antimicrobials in clinics  
Monitoring of antimicrobial use in clinics

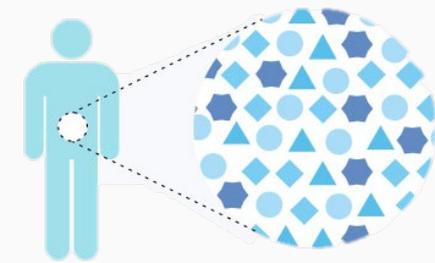
# Antimicrobials and antimicrobial resistance (AMR)

Antibacterials are medicines for an illness due to a bacterium, so they are ineffective against an illness due to a virus!



Even though antibacterials are often ineffective against a cold...  
**Antibacterials are being prescribed for a cold!**

# Antimicrobials and antimicrobial resistance (AMR)



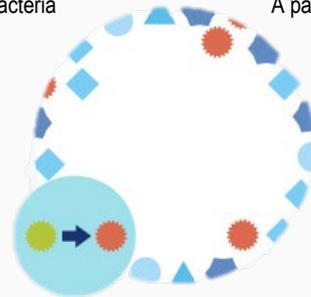
<Normally>  
There are various types of harmless bacteria  
in the human body



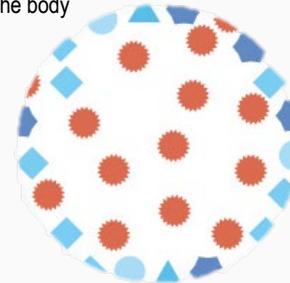
<In the event of an infection>  
A pathogen proliferates inside the body



<When an antibacterial is administered>  
Both the pathogen and  
harmless bacteria are killed



<When an antibacterial is administered>  
A drug-resistant microorganism survives, and the  
pathogen develops drug resistance

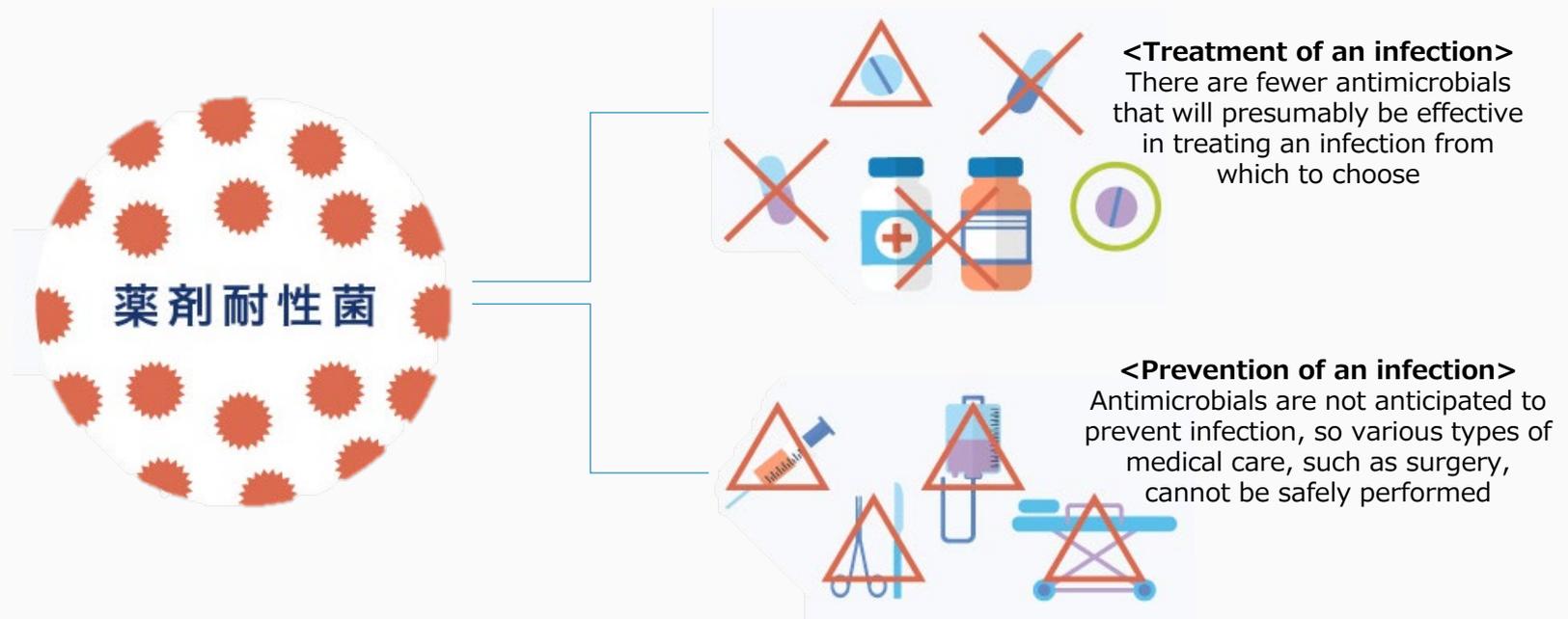


<When a drug-resistant microorganism predominates>  
The drug-resistant microorganism proliferates

Microorganisms have a greater chance to survive due to  
the necessary use of antimicrobials, and  
**drug-resistant microorganisms  
proliferate!**

From the AMR Clinical Reference Center's website (with revisions by the presenter)

# Antimicrobials and antimicrobial resistance (AMR)



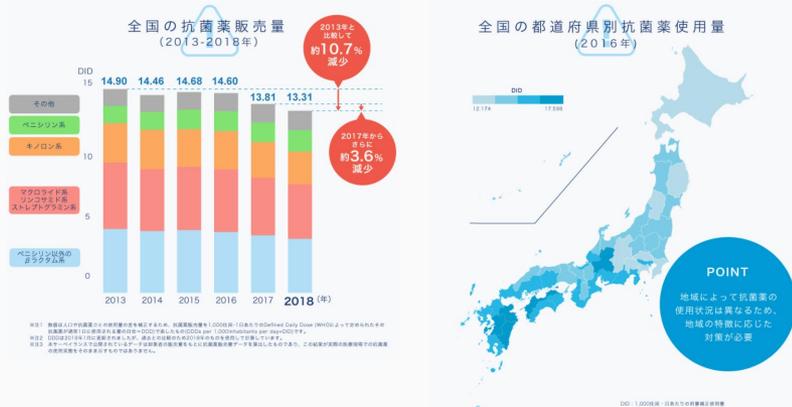
## Various types of medical care are being hampered

by an increase in drug-resistant microorganisms

# The role of the Pharmacoepidemiology Division

Monitoring and surveillance of antimicrobial use

Research on and development of a system for the proper use of antimicrobials



Surveillance of antimicrobial use  
Japan Surveillance of Antimicrobial Consumption (JSAC)

# Reduce unnecessary antimicrobial use

by clarifying and publicizing data on antimicrobial use and by encouraging the proper use of antimicrobials

# Surveillance of antimicrobial use (JSAC)

## Ongoing **surveillance** of antimicrobial use

- Changes in antimicrobial use over time based on billing data (2013-2020)
- Changes in data on antimicrobial sales over time (2013-2021)

Surveillance of antimicrobial use Japan Surveillance of Antimicrobial Consumption (JSAC)  
<https://amrcrc.ncgm.go.jp/surveillance/index.html>

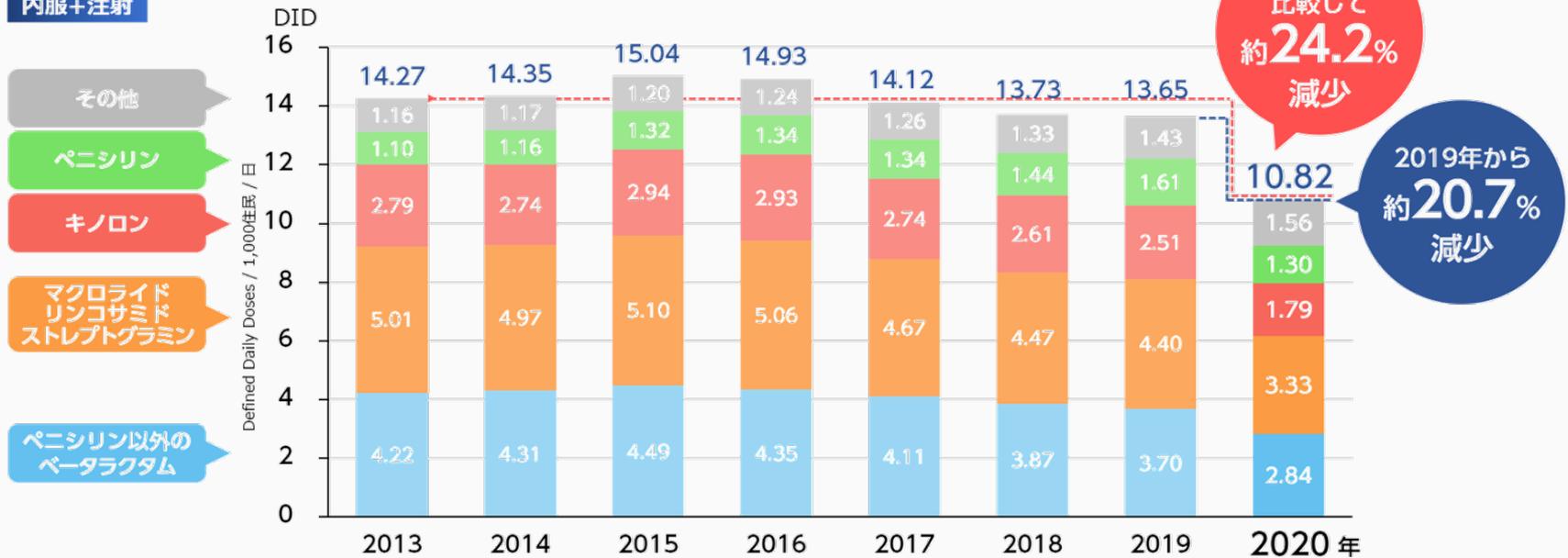
Development of a **system** to encourage the proper use of antimicrobials

- A system to facilitate the proper use of antimicrobials in clinics  
Monitoring of antimicrobial use in clinics

# Usage of antimicrobials 2013-2020

## 全国抗菌薬使用量推移 2013-2020 抗菌薬種類(ATC3)による集計

内服+注射



# Usage of antimicrobials 2013-2020

## 全国抗菌薬使用量推移 診療所と病院に分けた集計 (厚生局への届け出に基づく)

### 内服+注射

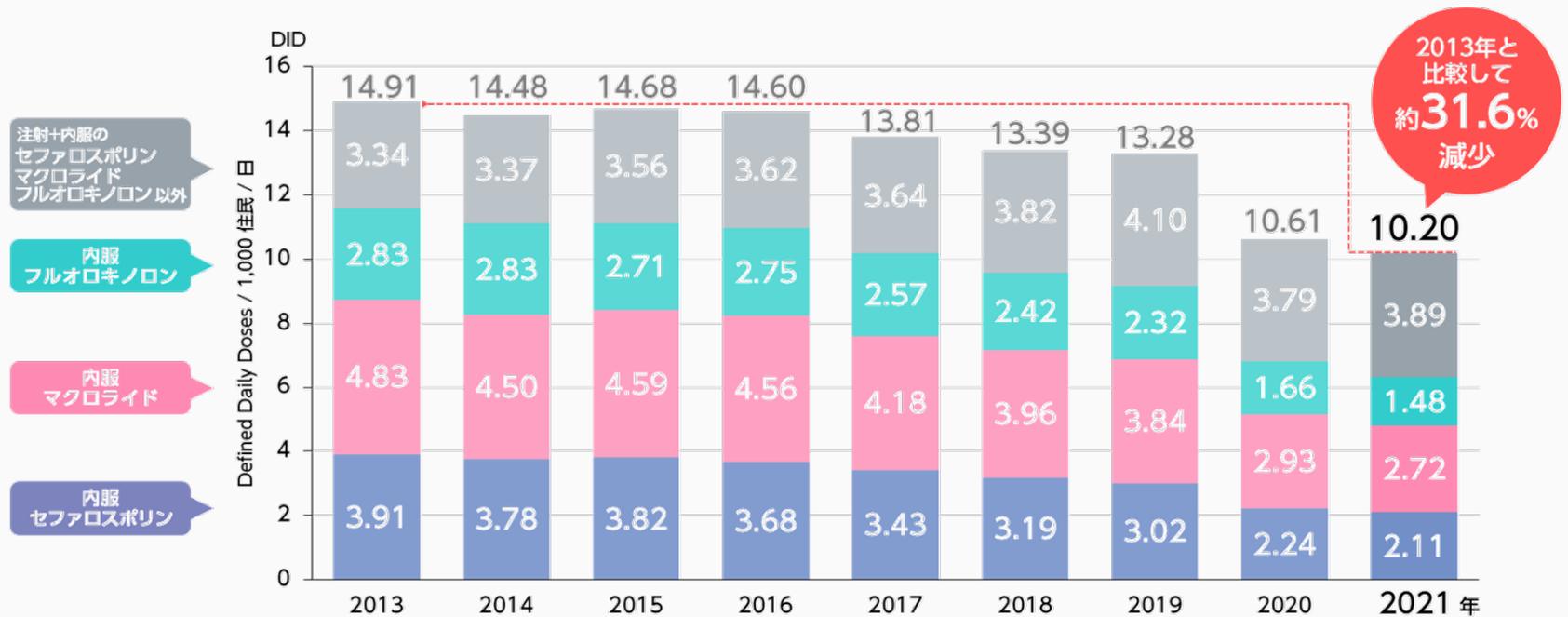
- 注射(入院)
- 注射(外来)

- 内服(入院)
- 内服(外来)



# Antimicrobial sales 2013-2021

全国抗菌薬販売量推移 2013-2021 (抗菌薬種類: ATC3別に分類)

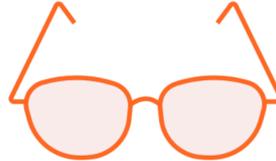


# The AWaRe Classification



## Access

*Which indicates the antibiotic of choice for each of the 25 most common infections. These antibiotics should be available at all times, affordable and quality-assured.*



## Watch

*Which includes most of the “highest-priority critically important antimicrobials” for human medicine and veterinary use. These antibiotics are recommended only for specific, limited indications*



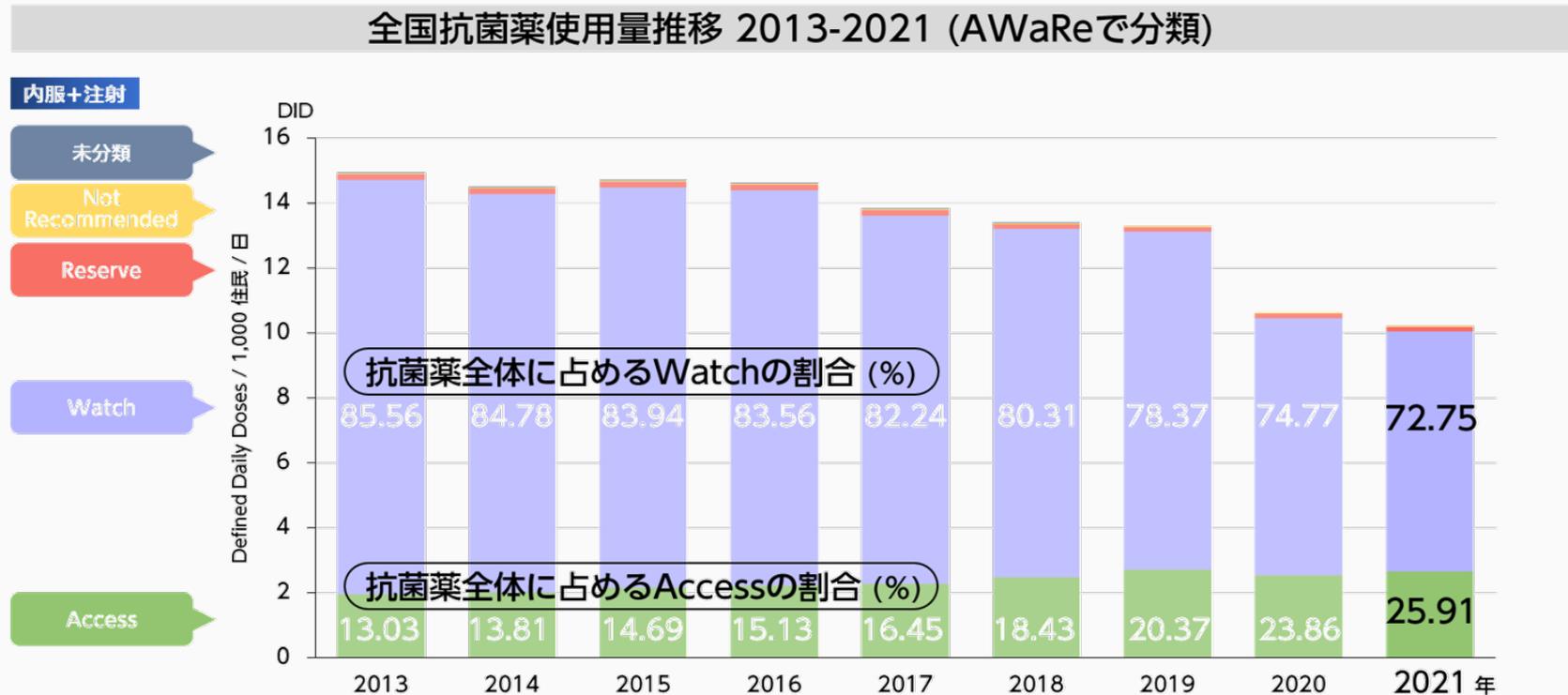
## Reserve

*Antibiotics that should only be used as a last resort when all other antibiotics have failed.*

The WHO seeks to have **at least 60%** of all antimicrobial use involve antimicrobials in the Access group

# Antimicrobial sales 2013-2021

## Changes in the proportion of antimicrobials in the Access group



# System development

Ongoing **surveillance** of antimicrobial use

- Changes in antimicrobial use over time based on billing data (2013-2020)
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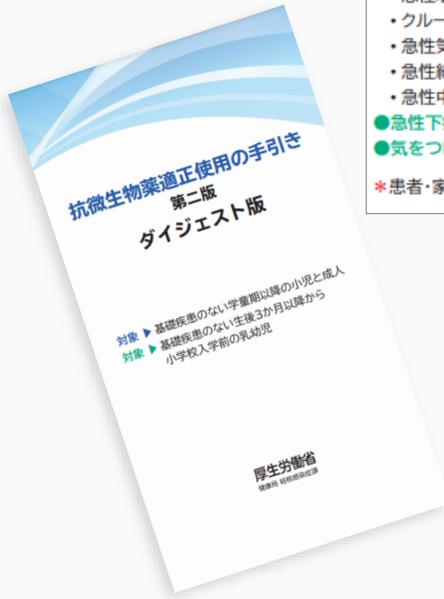
Development of a **system** to encourage the proper use of antimicrobials

- A system to facilitate the proper use of antimicrobials in clinics

Monitoring of antimicrobial use in clinics

# A system to facilitate the proper use of antimicrobials in clinics

## Manual of Antimicrobial Stewardship



**成人・学童期以降の小児編**

- 急性気道感染症 ..... 1
  - ・感冒 ..... 3
  - ・急性鼻副鼻腔炎
  - ・急性咽頭炎 ..... 4
  - ・急性気管支炎
- 急性下痢症 ..... 5

**乳幼児編**

- 急性気道感染症 ..... 7
  - ・感冒・鼻副鼻腔炎 ..... 9
  - ・急性咽頭炎 ..... 10
  - ・クループ症候群 ..... 11
  - ・急性気管支炎 ..... 12
  - ・急性細気管支炎 ..... 13
  - ・急性中耳炎 ..... 14
- 急性下痢症 ..... 15
- 気をつけるべき薬剤について ..... 16
- \*患者・家族への説明 ..... 17

### I 急性気道感染症とは

急性気道感染症は、急性上気道感染症(急性上気道炎)と急性下気道感染症(急性気管支炎)を含む概念であり、一般的には「風邪」、「風邪症候群」、「感冒」などの言葉が用いられている。

「風邪」は、狭義の「急性上気道感染症」という意味から「上気道から下気道感染症」を含めた広義の意味まで、様々な意味で用いられることがあり、気道症状だけでなく、急性(あるいは時に亜急性)の発熱や倦怠感、種々の体調不良を「風邪」と認識する患者が少なくないことが報告されている。

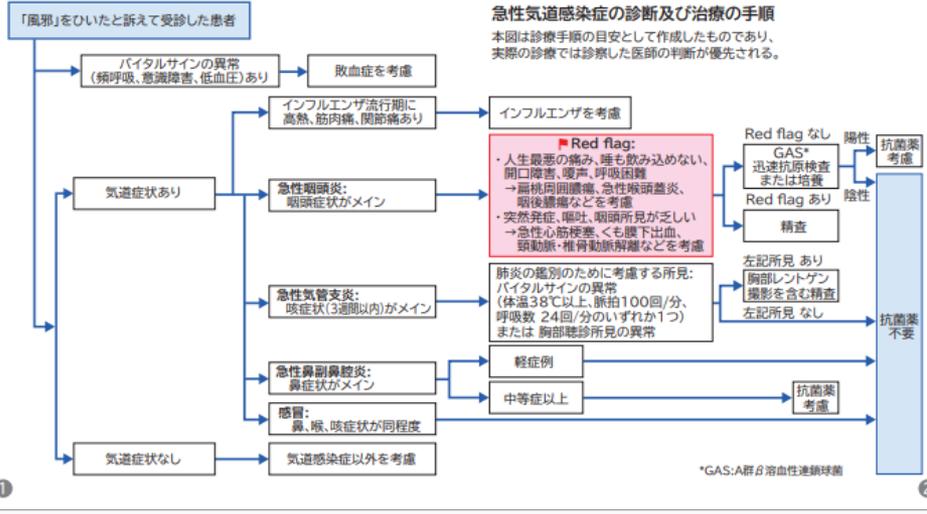
対象 基礎疾患のない学童期以降の小児と成人

患者が「風邪をひいた」として受診する場合、その病態が急性気道感染症を指しているのかを区別することが鑑別診断のためには重要である。

**急性気道感染症の病型分類**

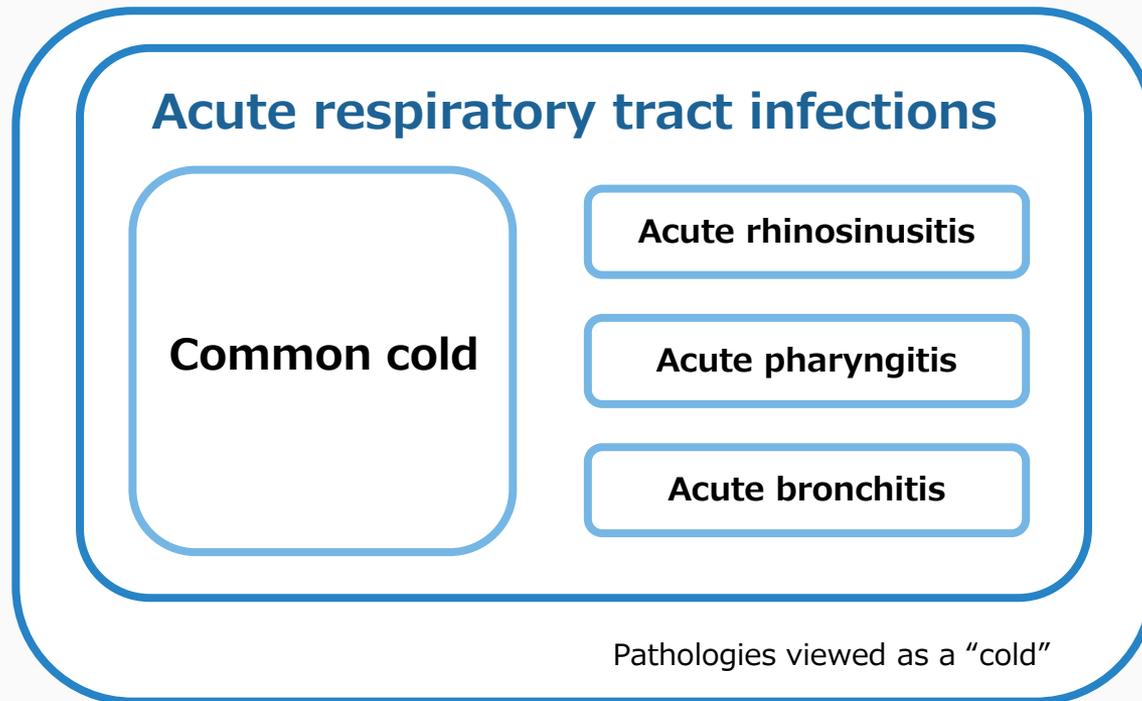
病型	鼻汁・鼻閉	喉頭痛	咳・痰
感冒	△	△	△
急性鼻副鼻腔炎	◎	×	×
急性咽頭炎	×	◎	×
急性気管支炎	×	×	◎

◎は主要症状  
△は際立っていない程度で他症状と併存  
×は症状なし〜軽度

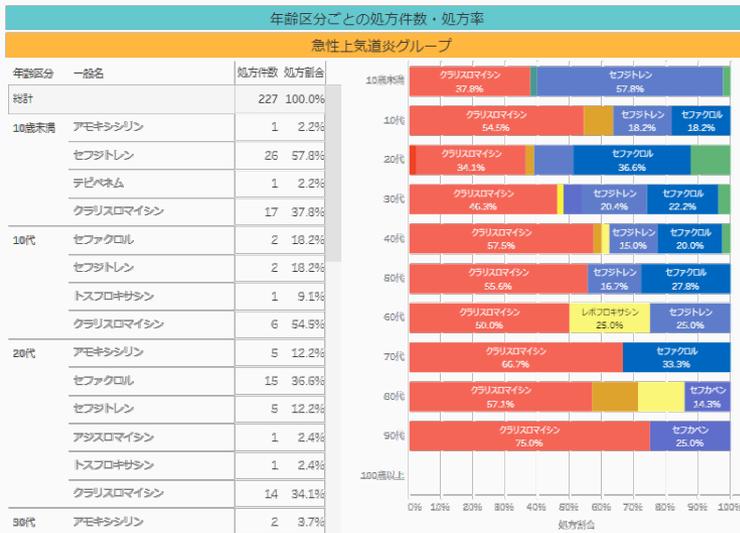
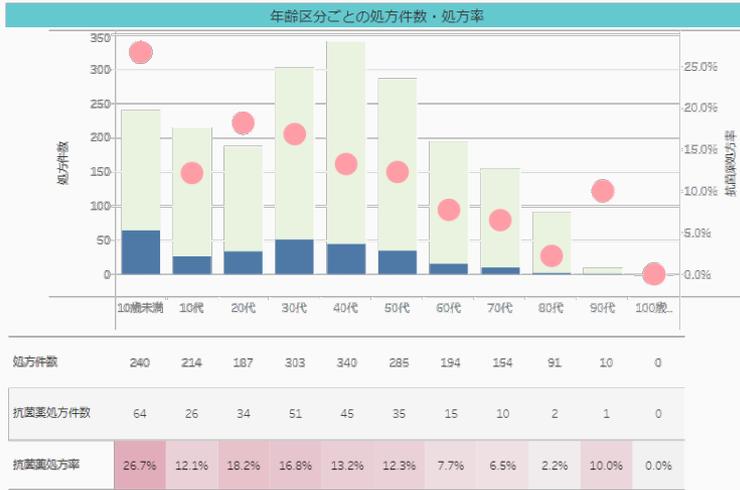


# A system to facilitate the proper use of antimicrobials in clinics

## Facilitation of the proper use of antimicrobials to treat



# A system to facilitate the proper use of antimicrobials in clinics



### 基本情報

2020年12月	合計	男性	女性
受診患者数	662	275	387
総受診件数	1,425	470	955
初診件数	332	151	181

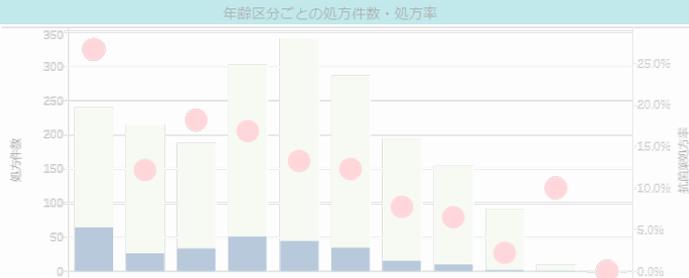


### 抗菌薬処方率（統計データとの比較）

	2020年											
	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
急性上気道炎の抗菌薬処方率（中央値）	14.3%	11.7%	15.9%	13.9%	9.5%	9.7%	12.8%	8.2%	8.7%	10.5%	12.1%	9.5%
自院での抗菌薬処方率	15.6%	13.0%	15.9%	13.7%	8.0%	5.3%	9.8%	7.8%	9.9%	9.2%	6.9%	7.7%
割合差	1.3%	1.3%	0.0%	-0.2%	-1.6%	-4.4%	-3.0%	-0.4%	1.1%	-1.3%	-5.2%	-1.8%



# A system to facilitate the proper use of antimicrobials in clinics



Ascertaining the use of antimicrobials in individual clinics and comparing it to that in other clinics

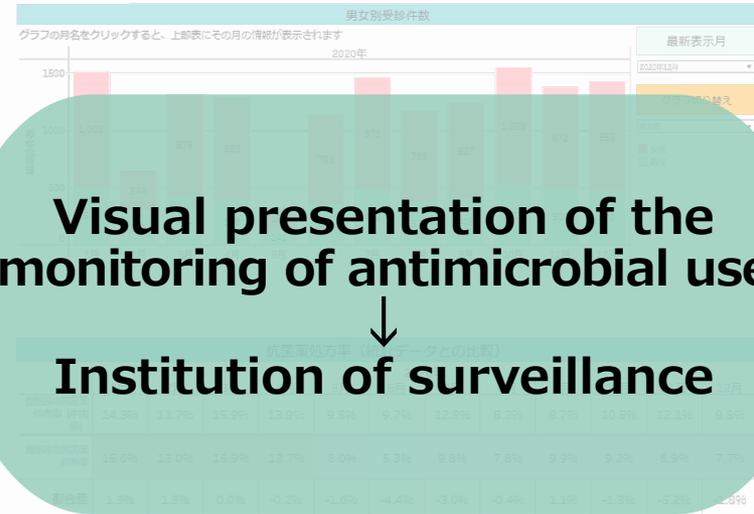
Encouraging the review of prescriptions



基本情報			
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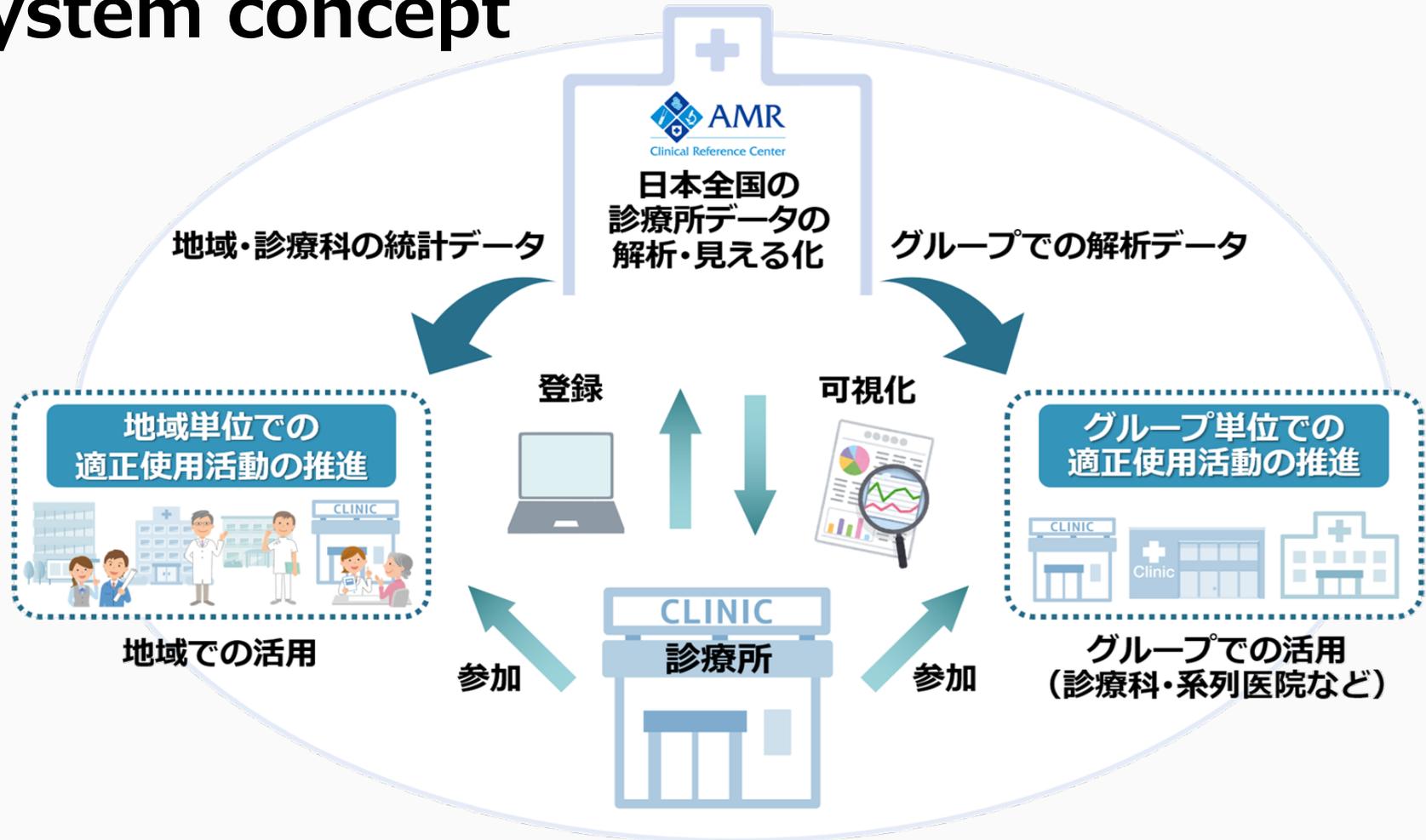
Visual presentation of the monitoring of antimicrobial use

Institution of surveillance



# A system to facilitate the proper use of antimicrobials in clinics

## System concept



# Summary

## Results prior to 2021

- **Improving the mechanism for surveillance of antimicrobial use**
- **The amount of antimicrobials taken has tended to decrease**

## Topics for the future

- **Continued antimicrobial surveillance and effective facilitation of the proper use of antimicrobials despite the effects of COVID-19**
- **Strategies for the proper use of antimicrobials on more limited targets**  
**Widespread use of the system to facilitate the proper use of antimicrobials in clinics and enhancement of its features**  
**Approaches to conditions besides respiratory tract infections, such as diarrhea and middle ear infections**