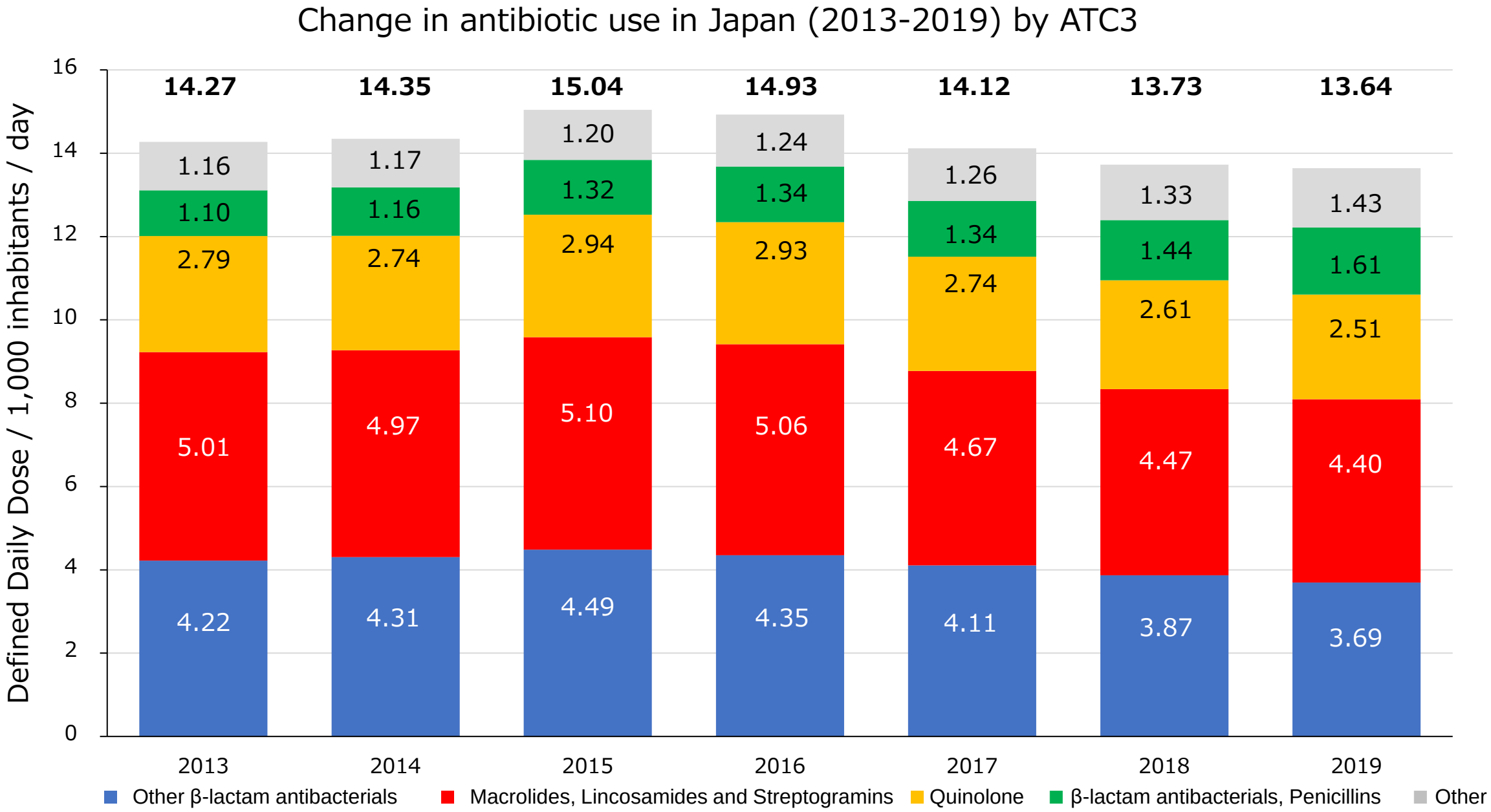
Surveillance of antibiotic use in Japan

	2013	2014	2015	2016	2017	2018	2019	Target value	Target reduction rate	2019
Total	14.27	14.35	15.04	14.93	14.12	13.73	13.64	10.99	33%⇩	4.41%⇩
Cephalosporin (oral)	3.58	3.67	3.83	3.70	3.46	3.23	3.07	1.79	50%⇩	14.22%⇩
Fluoroquinolone (oral)	2.75	2.71	2.91	2.90	2.71	2.58	2.48	1.38	50%⇩	9.72%⇩
Macrolide (oral)	4.97	4.93	5.06	5.03	4.63	4.43	4.37	2.48	50%⇩	12.07%⇩
Injection	0.83	0.82	0.85	0.86	0.86	0.87	0.86	0.67	20%⇩	3.92%⇧

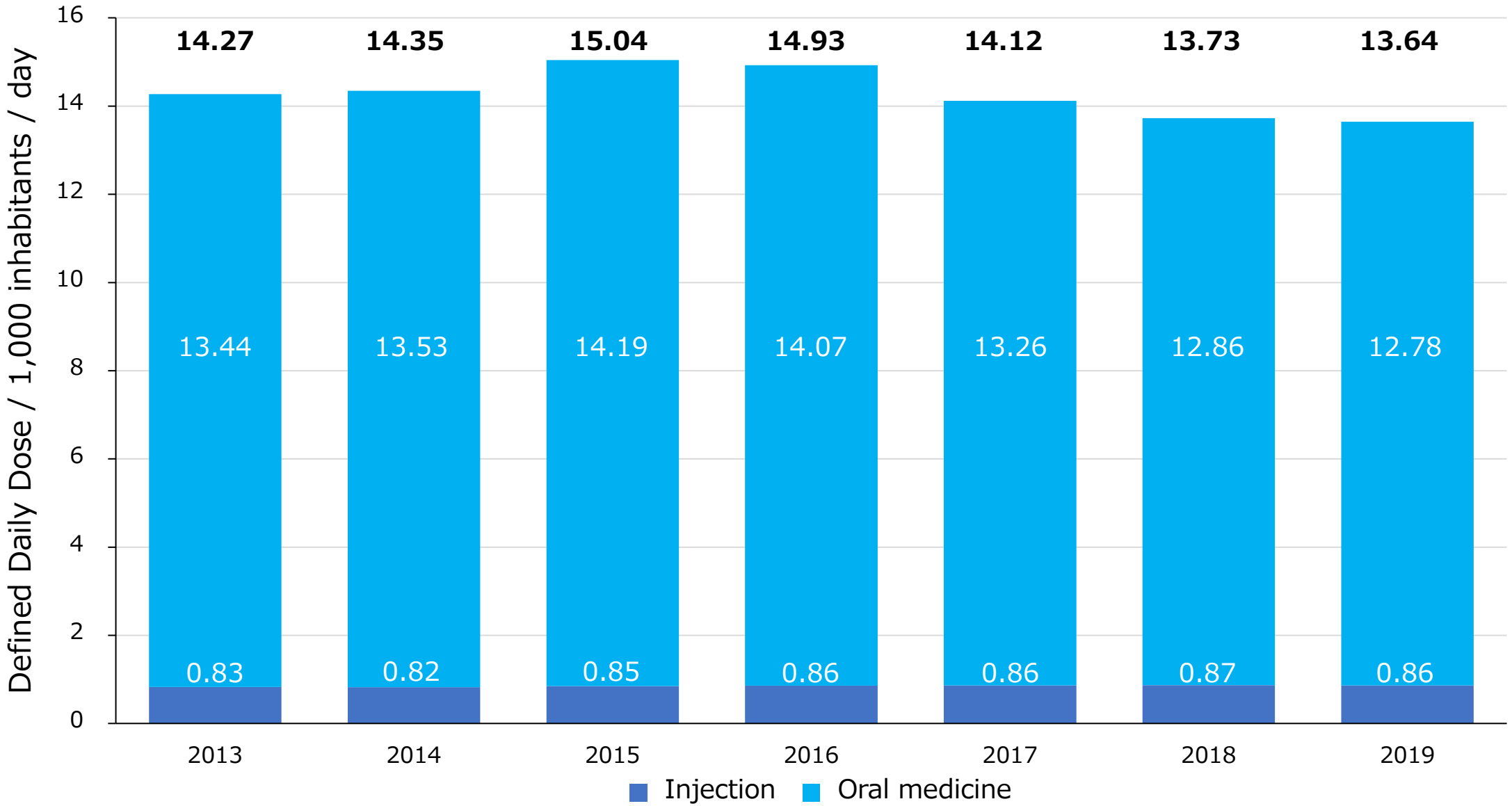
※ Values are presented as Defined Daily Doses per 1,000 inhabitants per day

Oral medicine + Injection

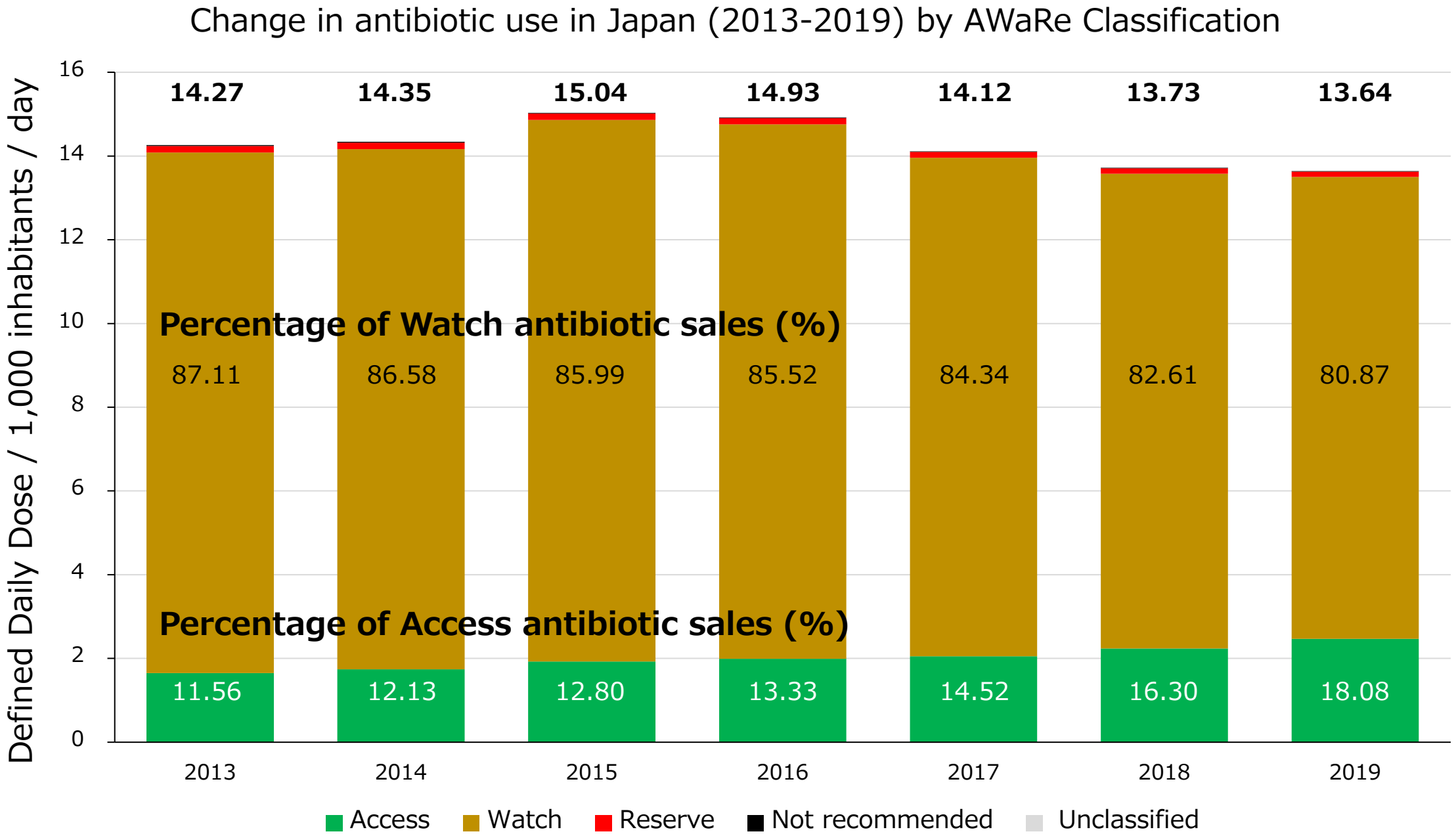


Oral medicine + Injection

Change in antibiotic use in Japan (2013-2019) by route of administration



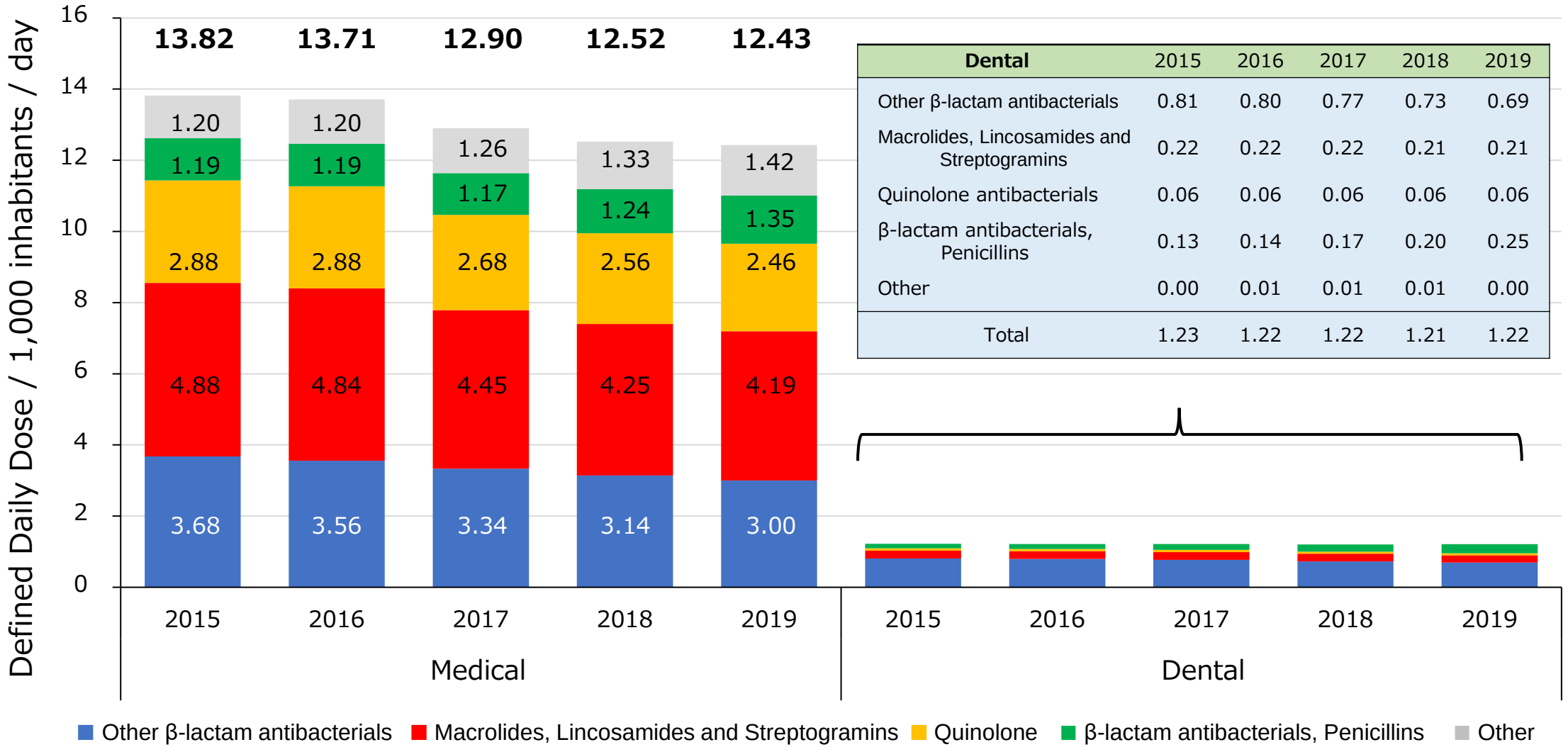
Oral medicine + Injection



Oral medicine + Injection

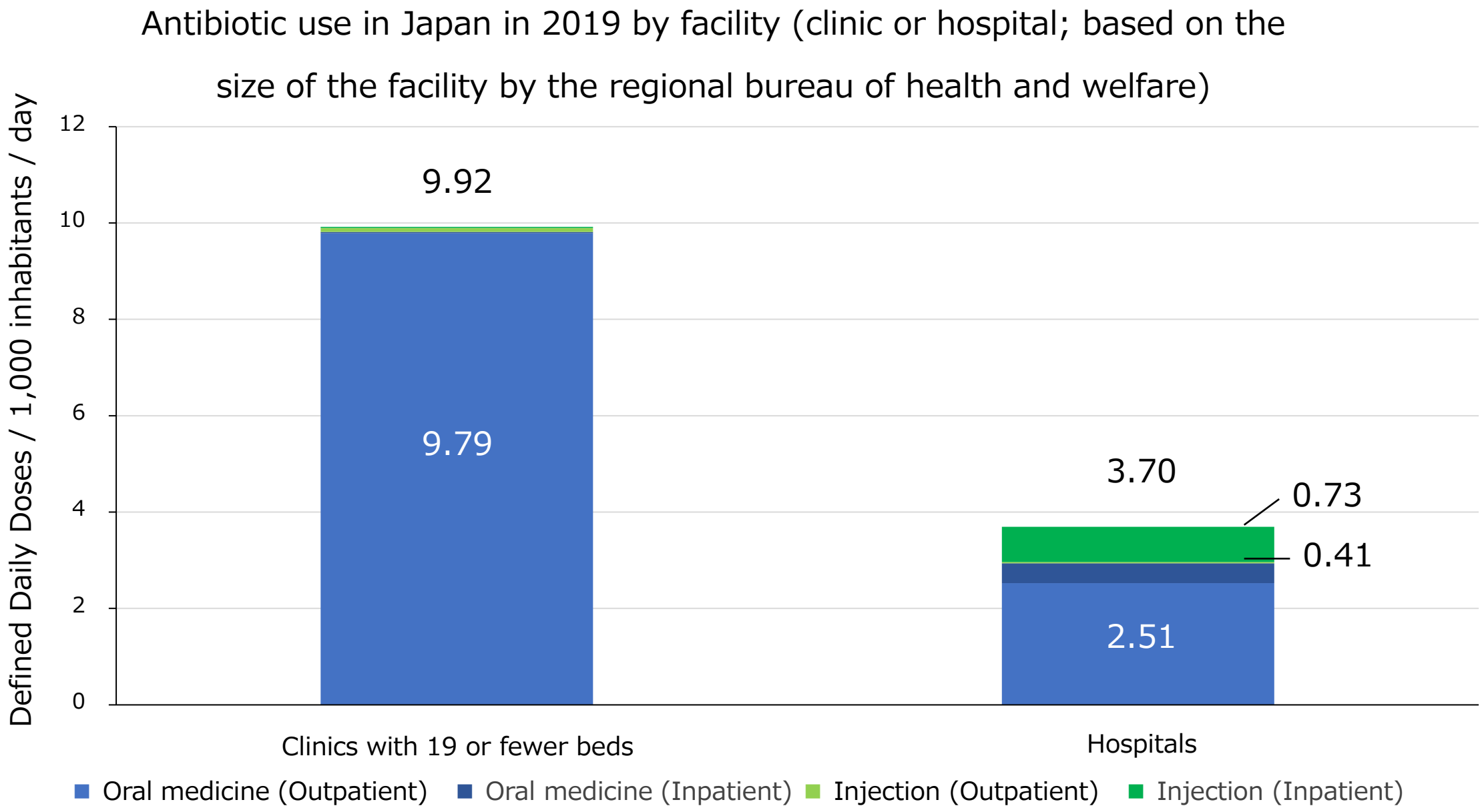
Change in antibiotic use in Japan 2015–2019

by classification as medical or dental and by ATC 3



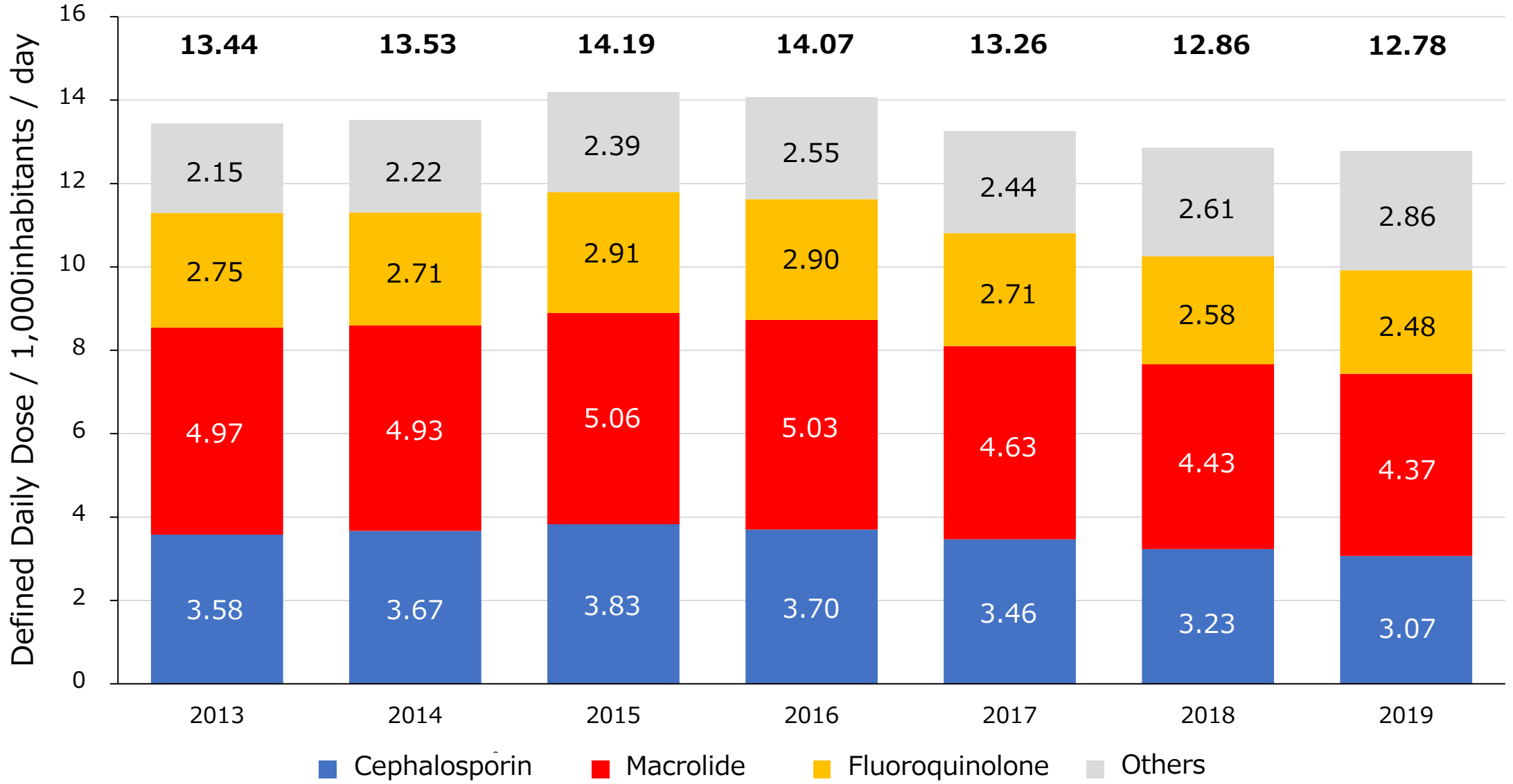
Dental	2015	2016	2017	2018	2019
Other β-lactam antibacterials	0.81	0.80	0.77	0.73	0.69
Macrolides, Lincosamides and Streptogramins	0.22	0.22	0.22	0.21	0.21
Quinolone antibacterials	0.06	0.06	0.06	0.06	0.06
β-lactam antibacterials, Penicillins	0.13	0.14	0.17	0.20	0.25
Other	0.00	0.01	0.01	0.01	0.00
Total	1.23	1.22	1.22	1.21	1.22

Oral medicine + Injection



Oral medicine

Change in antibiotic use in Japan (2013–2019) by ATC4

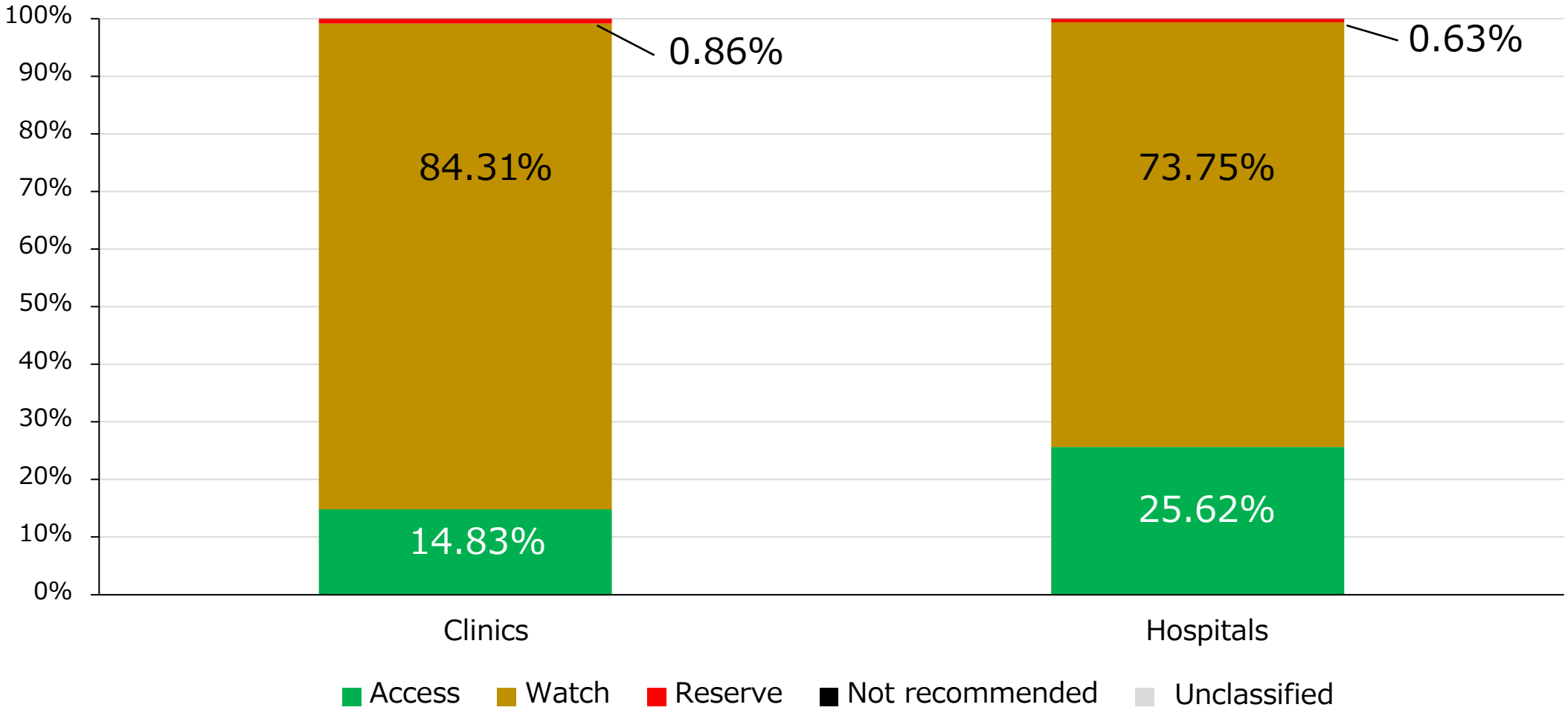


Oral medicine

Proportion (%) of antibiotic use in Japan in 2019

by AWaRe Classification and facility

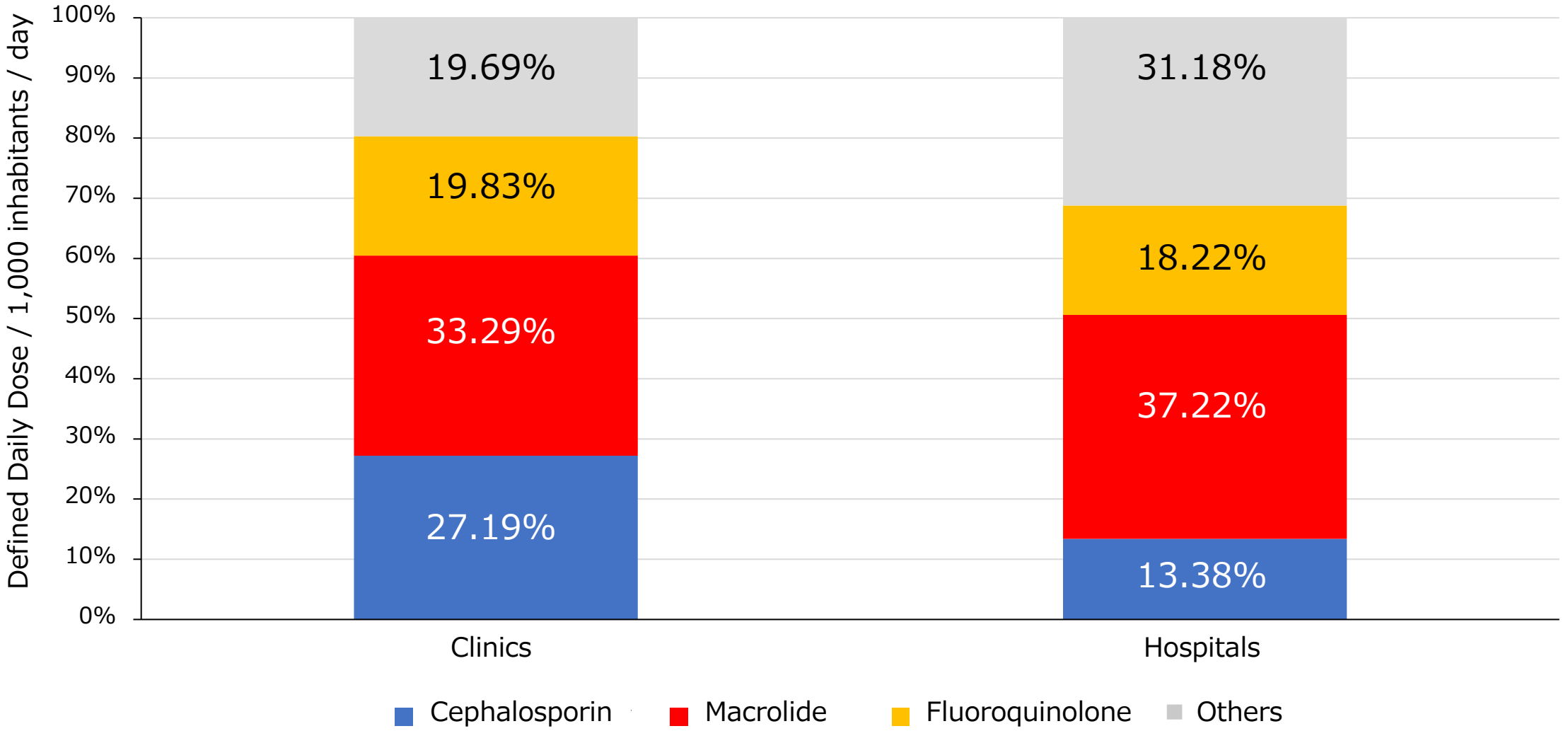
(clinic or hospital; based on the size of facility)



Oral medicine

Proportion (%) of antibiotic use in Japan in 2019 by ATC4 and by facility

(clinic or hospital; based on the size of facility)



○The data are calculated from claims registered in the NDB.
The data do not always reflect the precise antibiotic use because the data of patients who receive publicly funded health care are not always included.
The numerical values are different from those of the surveillance of antibiotic sales (http://amrcrc.ncgm.go.jp/surveillance/020/20190902163931.html) due to the different data source.

○The figures indicate drug utilization standardized by defined daily dose (DDD) per population and drug, called DID (DDDs/1,000 inhabitants/day)
(Reference: https://www.whocc.no/atc_ddd_index/).
The DDD is according to data published on January 1, 2017.

○The population is according to estimates published by the Statistics Bureau, Ministry of Internal Affairs and Communications, Japan.
(https://www.stat.go.jp/data/jinsui/)

○The AWaRe Classification is a tool for antimicrobial stewardship recommended by the WHO.
(Reference: : https://adoptaware.org/ ; related tables: http://amrcrc.ncgm.go.jp/surveillance/020/AWaRe_bunrui_2019_ver5.pdf)

○Please see this PDF (http://amr.ncgm.go.jp/pdf/190903_glossary.pdf) for definitions of terminology related to the surveillance of antibiotics.

○Notes
・The ATC 3 codes shown on pages 3 and 5 are explained below.
See https://www.whocc.no/atc_ddd_index/ for more information about ATC classifications.

- Other β-lactam antibacterials: J01D (Other β-lactam antibacterials) ※ Includes carbapenem
- Macrolides, Lincosamides and Streptogramins: J01F (Macrolides, Lincosamides and Streptogramins)
- Quinolone: J01M (Quinolone antibacterials) ※ Includes nalidixic acid and pipemidic acid
- β-lactam antibacterials, Penicillins: J01C (β-lactam antibacterials, Penicillins) ※ Includes combination drugs containing β-lactamase inhibitor

・Surveillance categorized by facility (clinic or hospital) is based on the classification by the regional bureau of health and welfare at the end of December. (see page 7, 9, and 10)

・ Surveillance categorized as medical or dental is from 2015, when electronic claims became widespread among dentists (see page 6).

（※）The data were surveyed in accordance with the study below.
・Research grant from the Ministry of Health, Labour and Welfare of Japan (20HA2003).
Research on the implementation of the AMR Action Plan (Chief Norio Ohmagari)