〇The data are calculated from claims registered in the NDB.
(Matsuda S, et al. Asian Pac J Dis Manag. 2012;Jun: 55–9. Kusama Y, et al. PLos One 2021 May 11;16(5):e0251299.)
The data do not always reflect the precise Antimicrobial Consumption 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 Antimicrobial sales
(http://amrcrc.ncgm.go.jp/surveillance/020/20190902163931.html) due to the different data source.

〇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.

〇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/)

〇The AWaRe Classification is a tool for antimicrobial stewardship recommended by the WHO.
(Reference: : https://adoptaware.org/ ; related tables:https://amrcrc.ncgm.go.jp/surveillance/020/AWaRe_bunrui_2021_ver1.pdf)

〇Please see this PDF (http://amr.ncgm.go.jp/pdf/190903_glossary.pdf) for definitions of terminology related to the surveillance of Antimicrobials.

〇Notes
・The ATC 3 codes shown on pages 3 and 6 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 as 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).

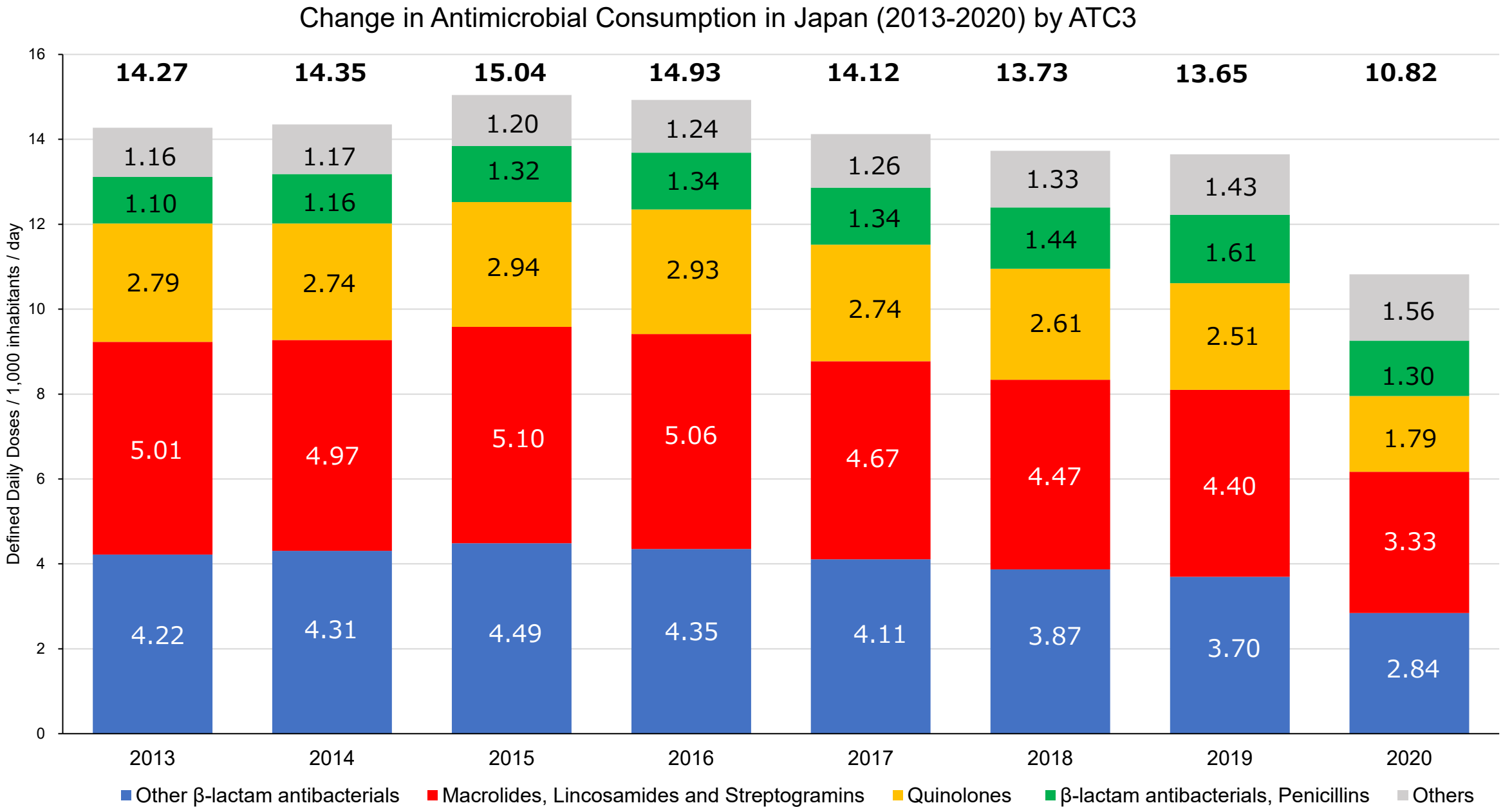
（※）The data were surveyed in accordance with the study below.
・Research grant from the Ministry of Health, Labour and Welfare of Japan in 2021.
Research on the implementation of the AMR Action Plan (Chief Norio Ohmagari)

Surveillance of Antimicrobial Consumption in Japan

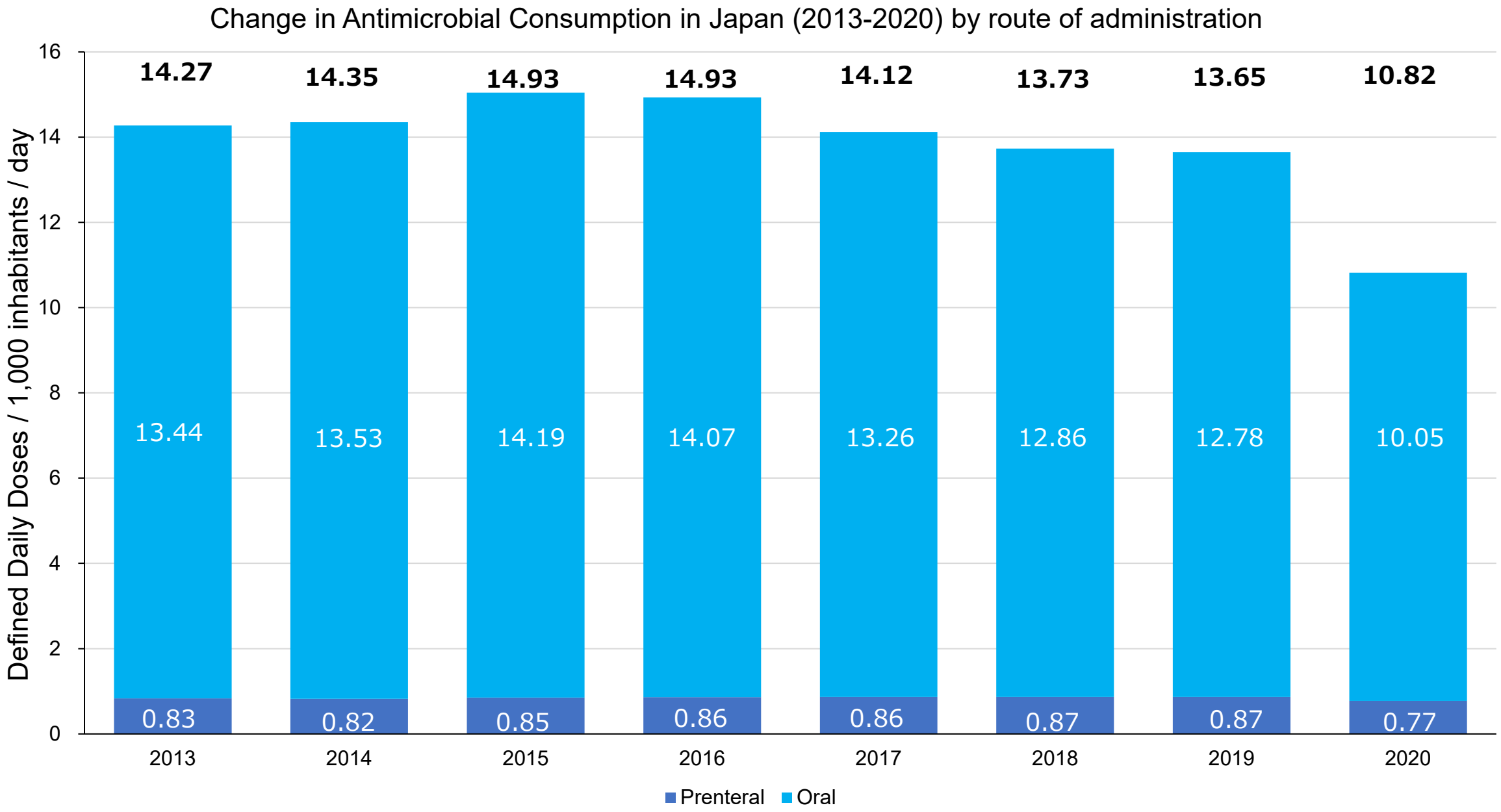
	2013	2014	2015	2016	2017	2018	2019	2020	Target value	Target reduction rate	2020
Total	14.27	14.35	15.04	14.93	14.12	13.73	13.65	10.82	9.56	33%⇩	24.20%⇩
Cephalosporins (oral)	3.58	3.67	3.83	3.70	3.46	3.23	3.07	2.27	1.79	50%⇩	36.39%⇩
Fluoroquinolones (oral)	2.75	2.71	2.91	2.90	2.71	2.58	2.49	1.76	1.38	50%⇩	36.00%⇩
Macrolides (oral)	4.97	4.93	5.06	5.03	4.64	4.43	4.37	3.30	2.48	50%⇩	33.62%⇩
Parenteral	0.83	0.82	0.85	0.86	0.86	0.87	0.87	0.77	0.67	20%⇩	7.00%⇩

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

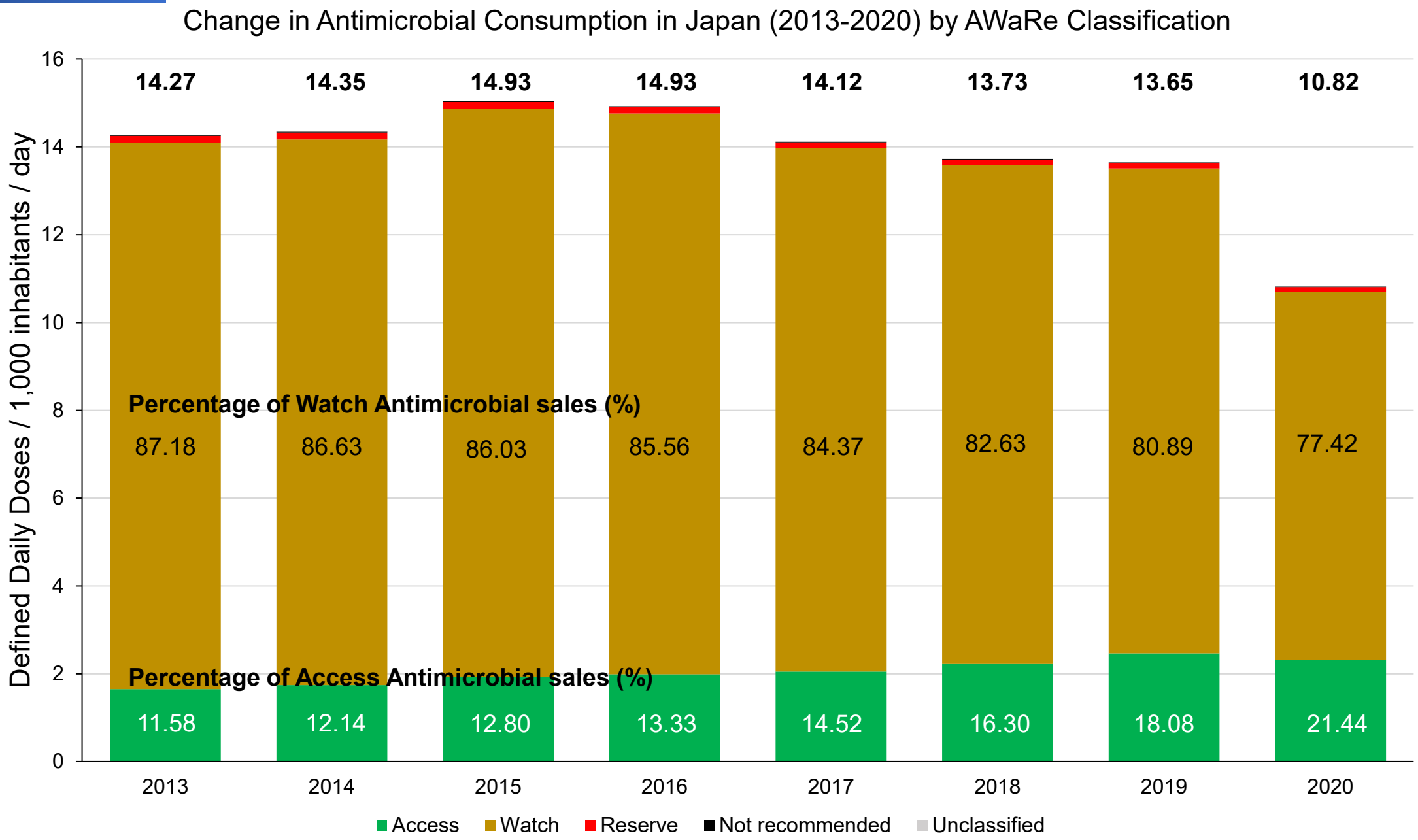
Oral + Parenteral



Oral + Parenteral

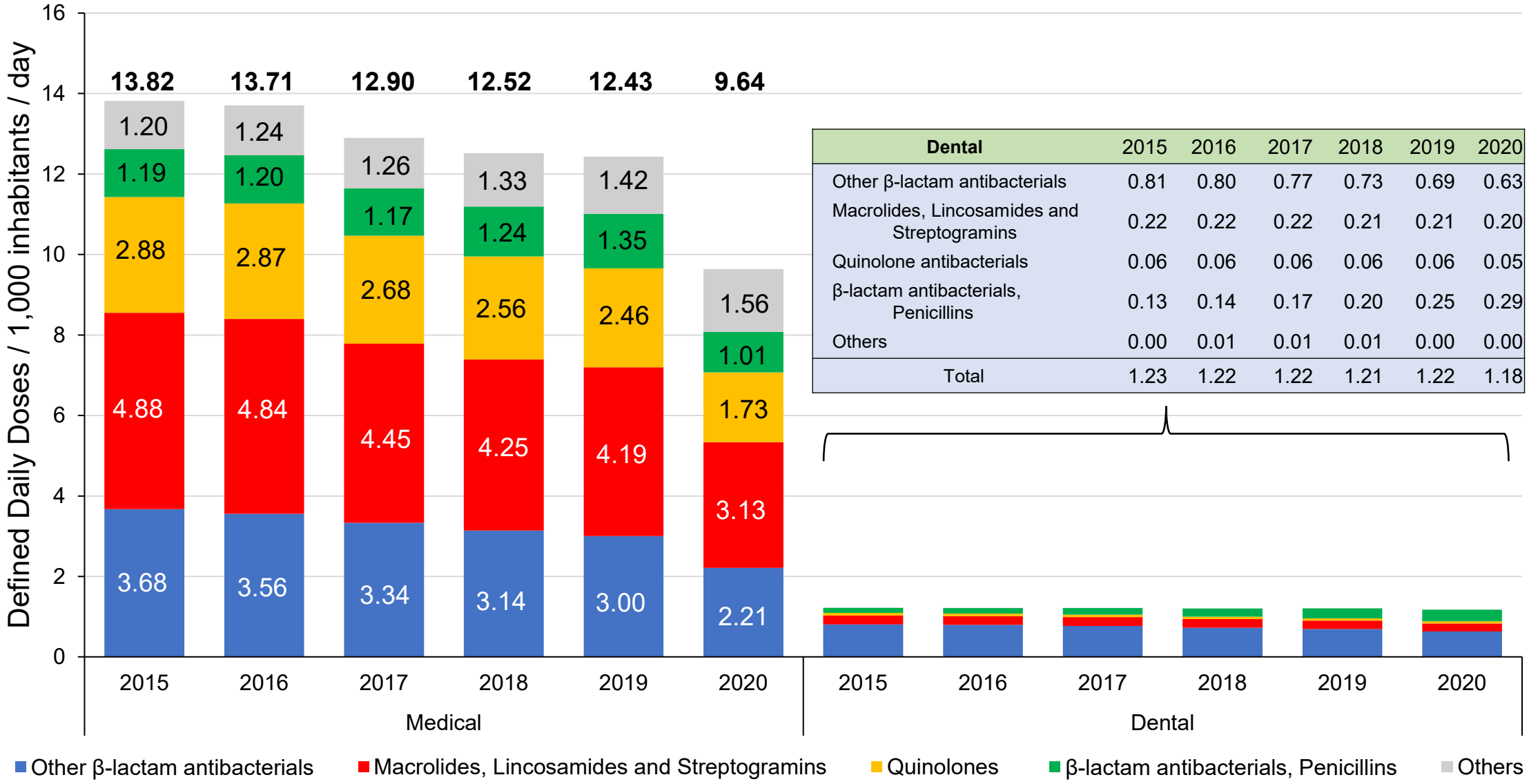


Oral + Parenteral



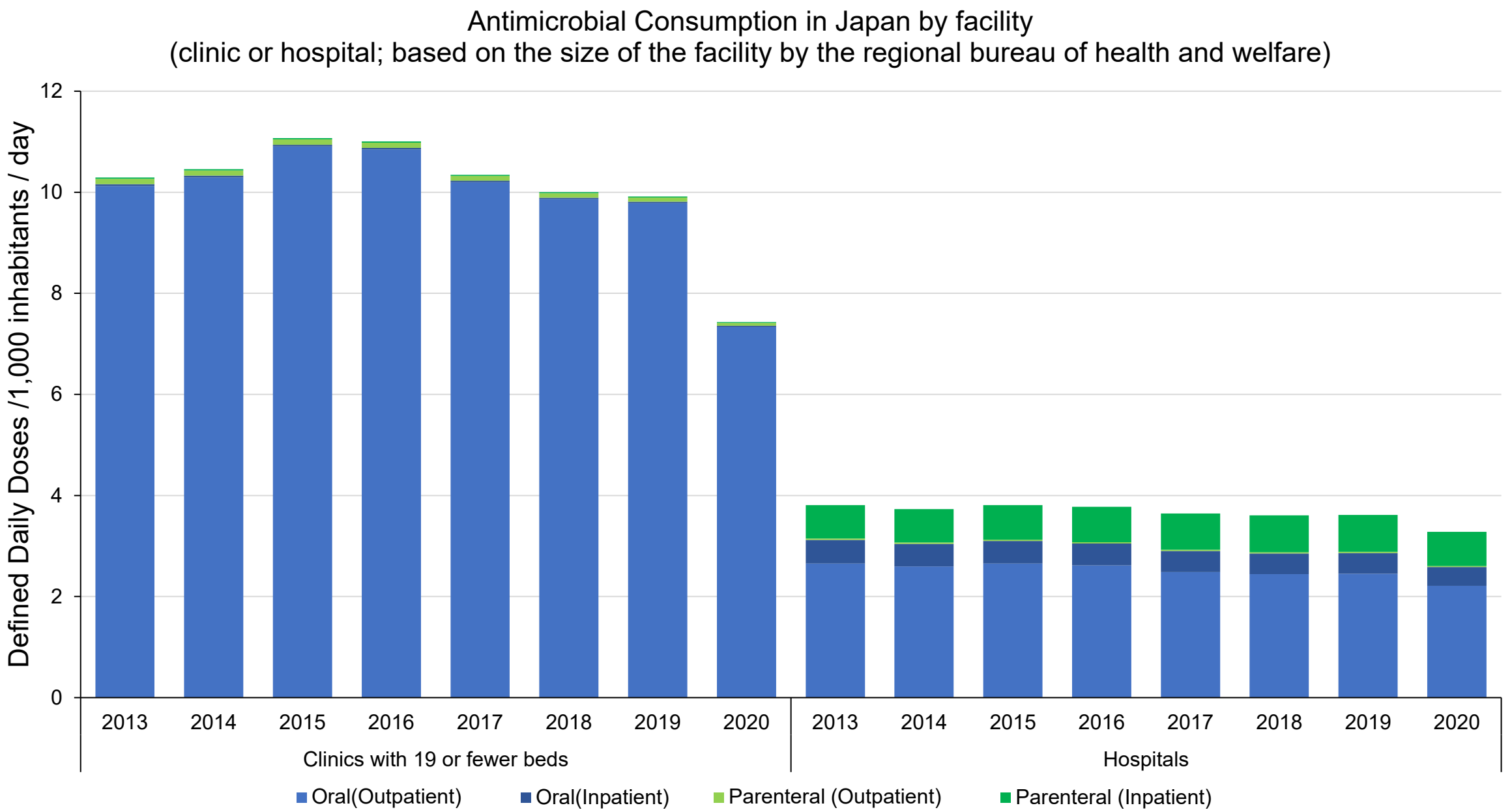
Oral + Parenteral

Change in Antimicrobial Consumption in Japan 2015–2020 by classification as medical or dental and by ATC3



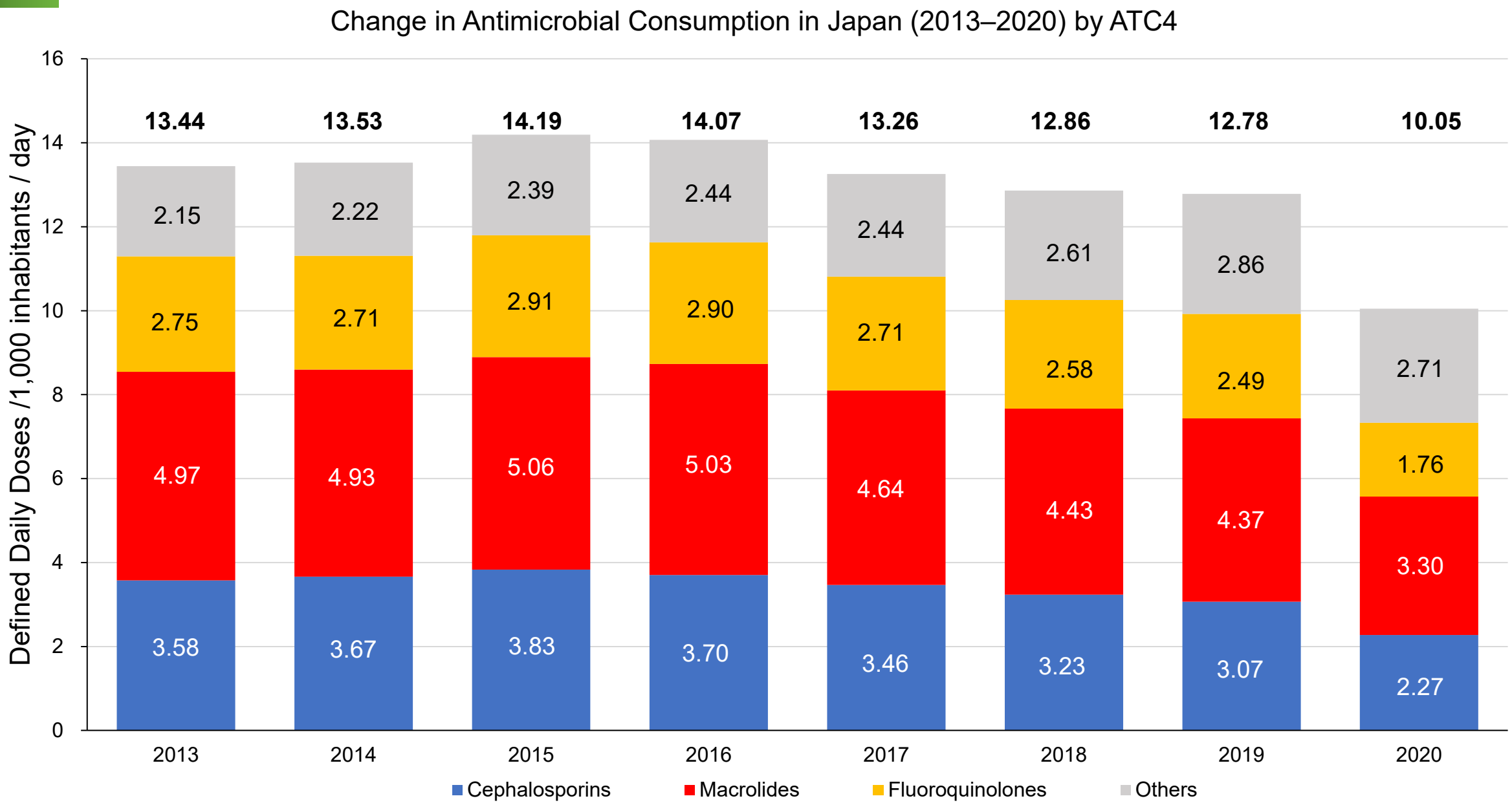
Dental	2015	2016	2017	2018	2019	2020
Other β-lactam antibacterials	0.81	0.80	0.77	0.73	0.69	0.63
Macrolides, Lincosamides and Streptogramins	0.22	0.22	0.22	0.21	0.21	0.20
Quinolone antibacterials	0.06	0.06	0.06	0.06	0.06	0.05
β-lactam antibacterials, Penicillins	0.13	0.14	0.17	0.20	0.25	0.29
Others	0.00	0.01	0.01	0.01	0.00	0.00
Total	1.23	1.22	1.22	1.21	1.22	1.18

Oral + Parenteral

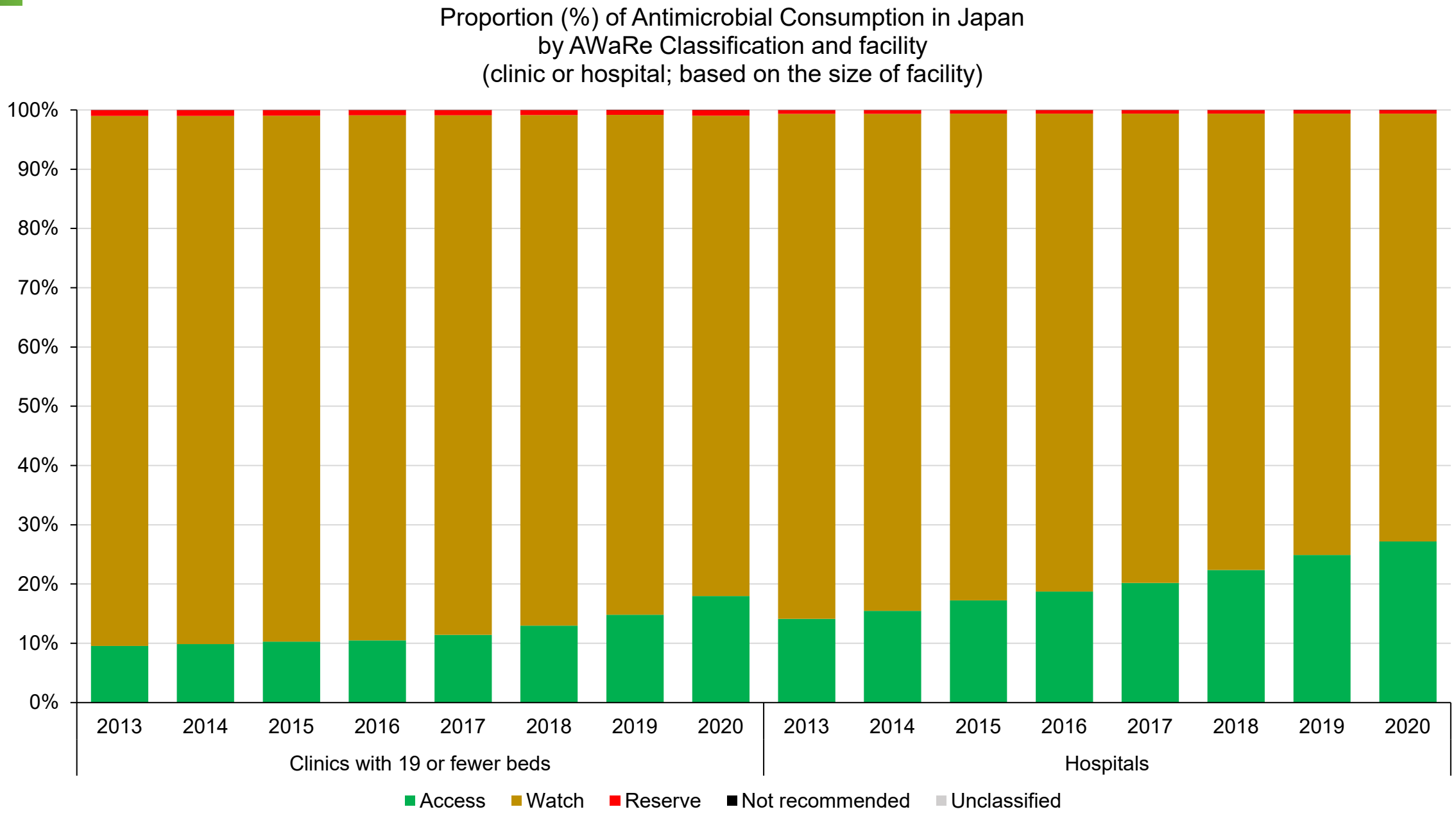


※ Facilities that have not been reported to the Health and Welfare Bureau as of December of each year are excluded as unknown.

Oral


Change in Antimicrobial Consumption in Japan (2013–2020) by ATC4
Defined Daily Doses /1,000 inhabitants / day
0
2
4
6
8
10
12
14
16
13.44
13.53
14.19
14.07
13.26
12.86
12.78
10.05
2.15
2.22
2.39
2.44
2.44
2.61
2.86
2.71
2.75
2.71
2.91
2.90
2.71
2.58
2.49
1.76
4.97
4.93
5.06
5.03
4.64
4.43
4.37
3.30
3.58
3.67
3.83
3.70
3.46
3.23
3.07
2.27
2013
2014
2015
2016
2017
2018
2019
2020
Cephalosporins
Macrolides
Fluoroquinolones
Others

Oral


Proportion (%) of Antimicrobial Consumption in Japan
by AWaRe Classification and facility
(clinic or hospital; based on the size of facility)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2013
2014
2015
2016
2017
2018
2019
2020
2013
2014
2015
2016
2017
2018
2019
2020
Clinics with 19 or fewer beds
Hospitals
Access
Watch
Reserve
Not recommended
Unclassified

Oral

Proportion (%) of Antimicrobial Consumption in Japan by ATC4 and by facility (clinic or hospital; based on the size of facility)