

2019 NTM & Bronchiectasis Physician/Patient Conference, 2019.05.17

Epidemiology of NTM Pulmonary Disease in East Asia

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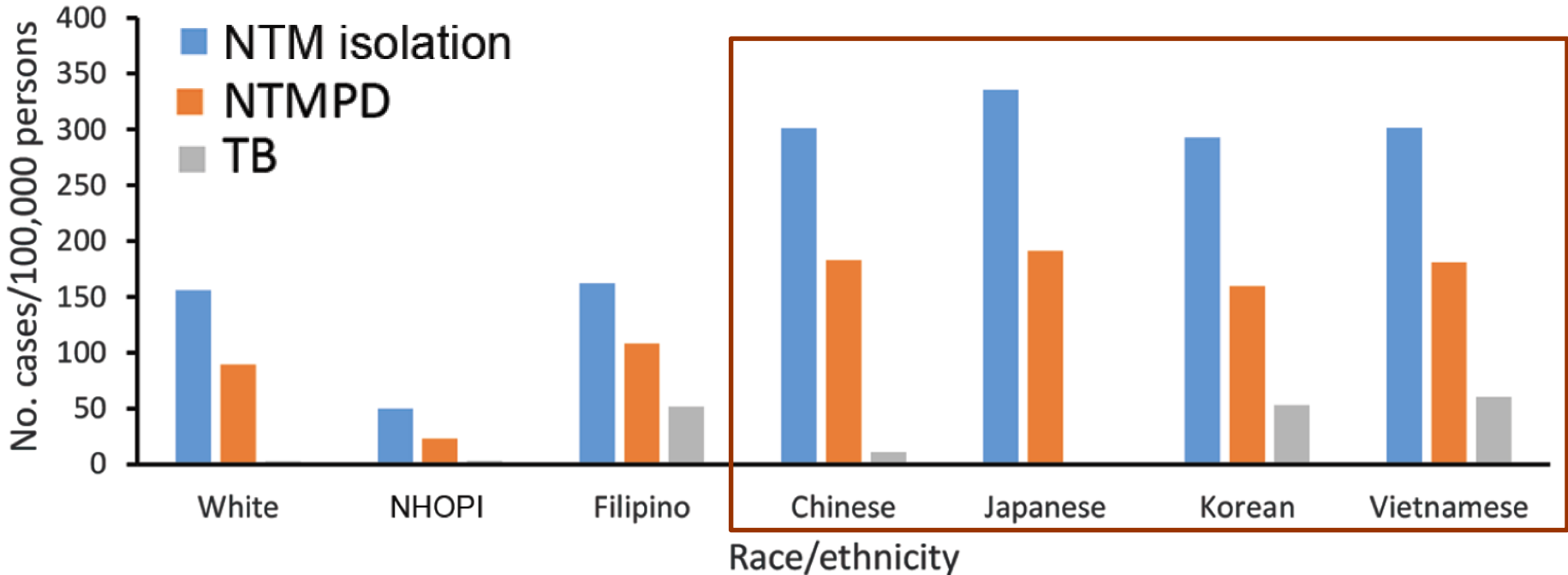
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Conflict of Interest

- I have received a consultation fee from Insmmed Inc.
for the Insmmed Advisory Board Meeting
which was held on May 18, 2018 in San Diego, USA.

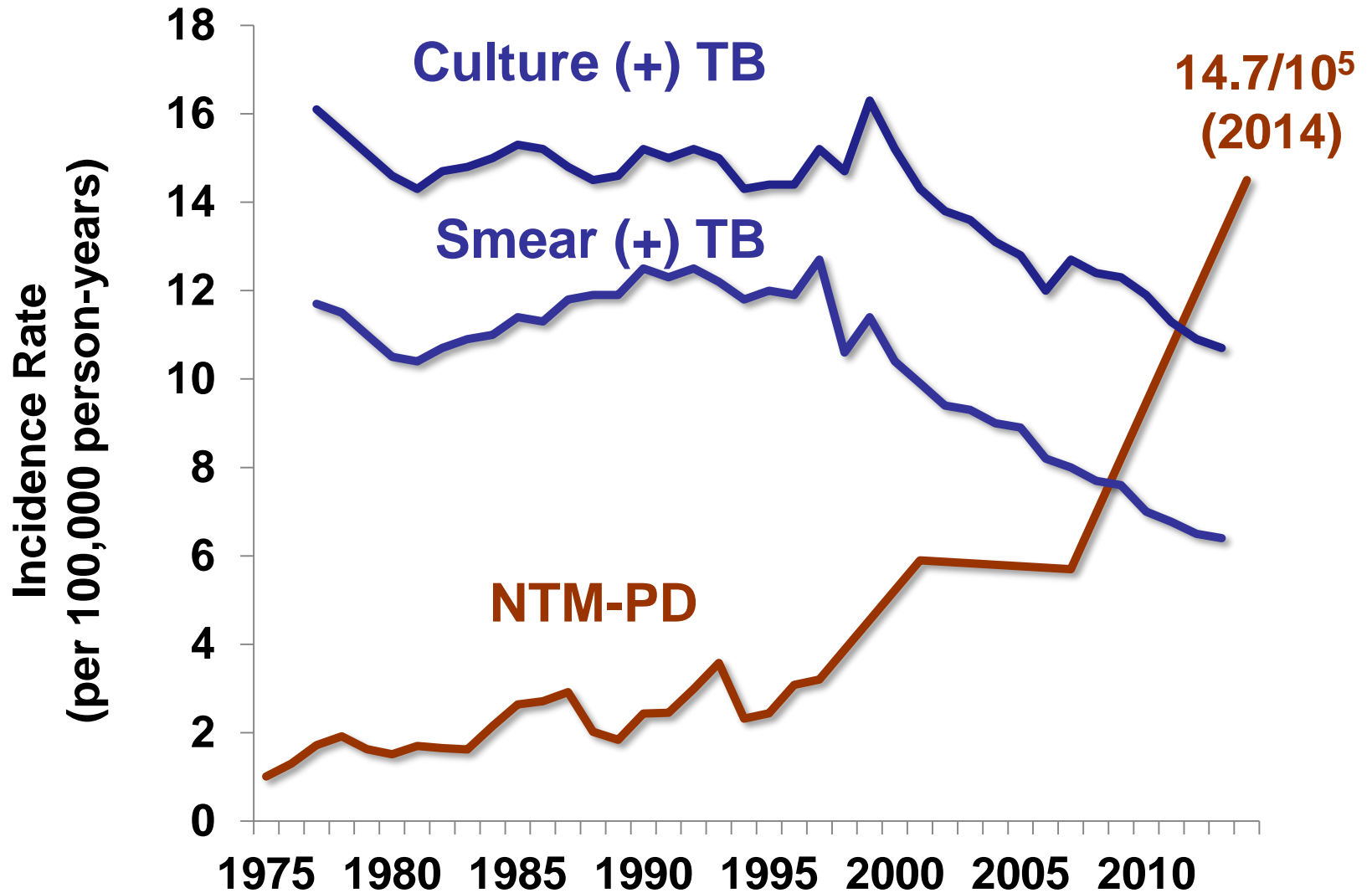
Asians Are More Susceptible to NTM?

- Hawaii (2005-2013)
- Overall period prevalence of pulmonary NTM isolation, NTM-PD and TB



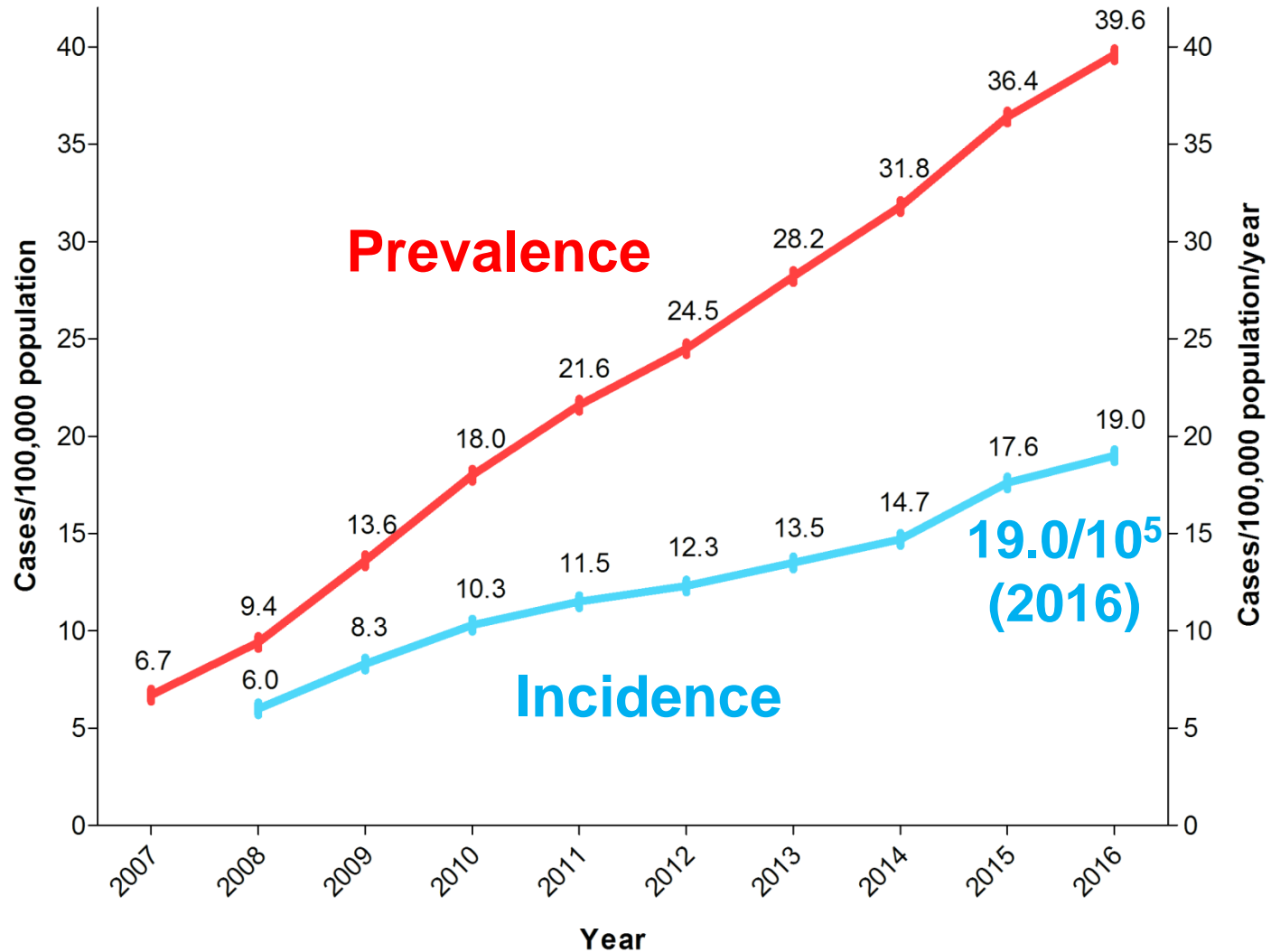
* NHOPI: native Hawaiians and other pacific islanders

Incidence of NTM-PD in Japan (1975-2015)



(Namkoong H, et al. Emerg Infect Dis 2016;22:1116)

NTM Infection in South Korea National Health Insurance Data (2007-2016)



(Lee H, et al. Emerg Infect Dis 2019;25:569)

Etiologic Organisms of NTM-PD

Continent	Country	<i>M. avium</i> complex	<i>M. abscessus</i>
North America	USA	80-85%	4-12%
	Canada	64-69%	3%
Europe	UK	45%	-
	France	48%	9%
	Netherlands	49%	-
Australia & New Zealand	Australia	67-74%	5-7%
	New Zealand	83%	9%
East Asia	Japan	93%	3%
	South Korea	75%	22%
	China	45%	20%
	Taipei, Taiwan	40%	30%

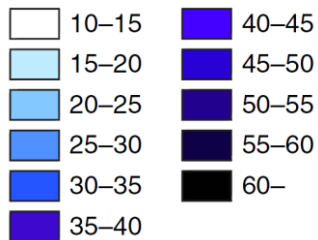
(Prevots DR, et al. Clin Chest Med 2015;36:13)
(Yu X, et al. J Infect 2016;73:558)

(Morimoto K, et al. Ann Am Thorac Soc 2017;14:49)
(Ko RE, et al. J Korean Med Sci. 2018;33:e65)

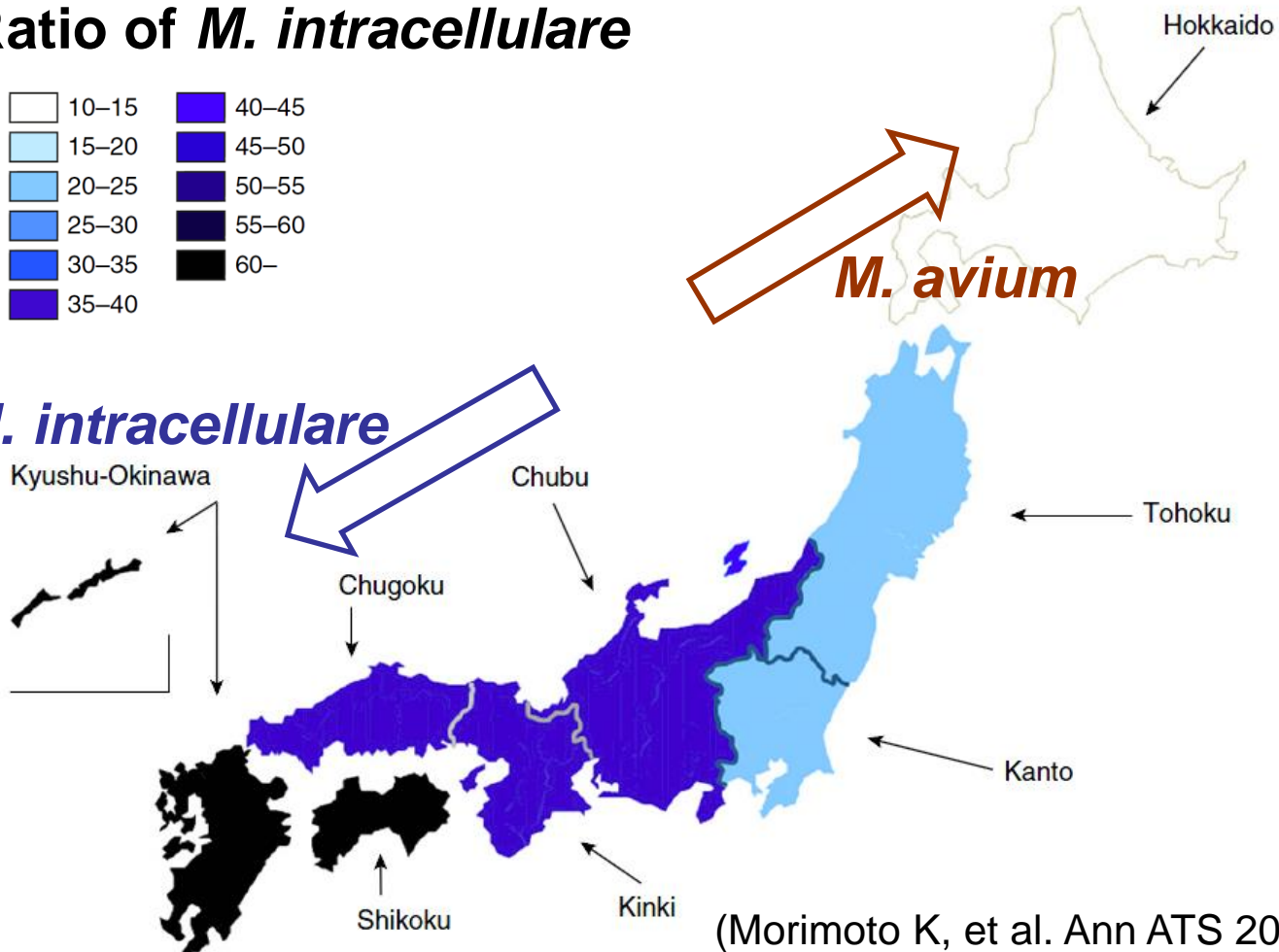
MAC: *M. avium* vs. *M. intracellulare* (Japan)

M. avium 64%, *M. intracellulare* 32%, others (mixed, etc) 4%

Ratio of *M. intracellulare*

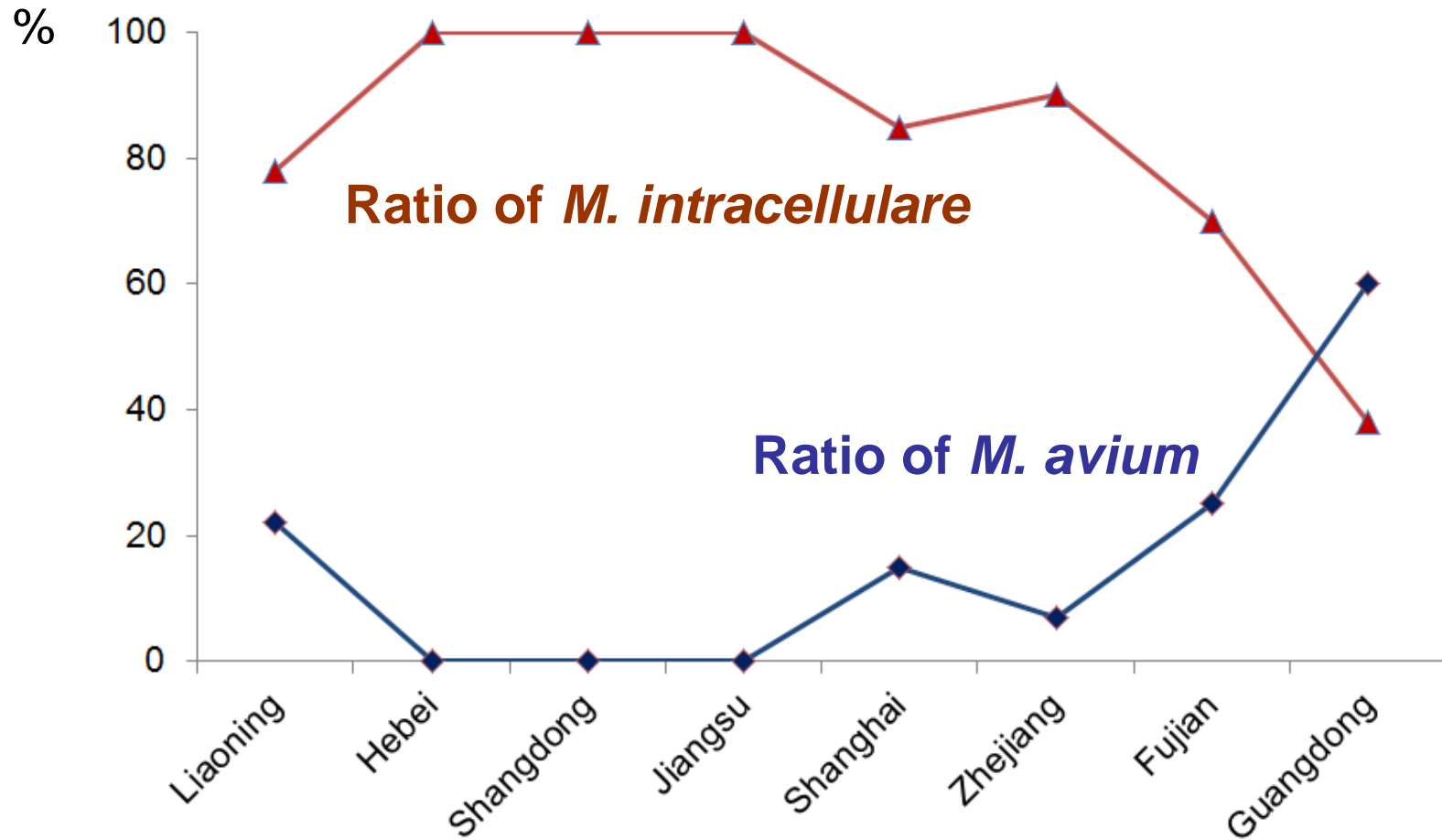


M. intracellulare



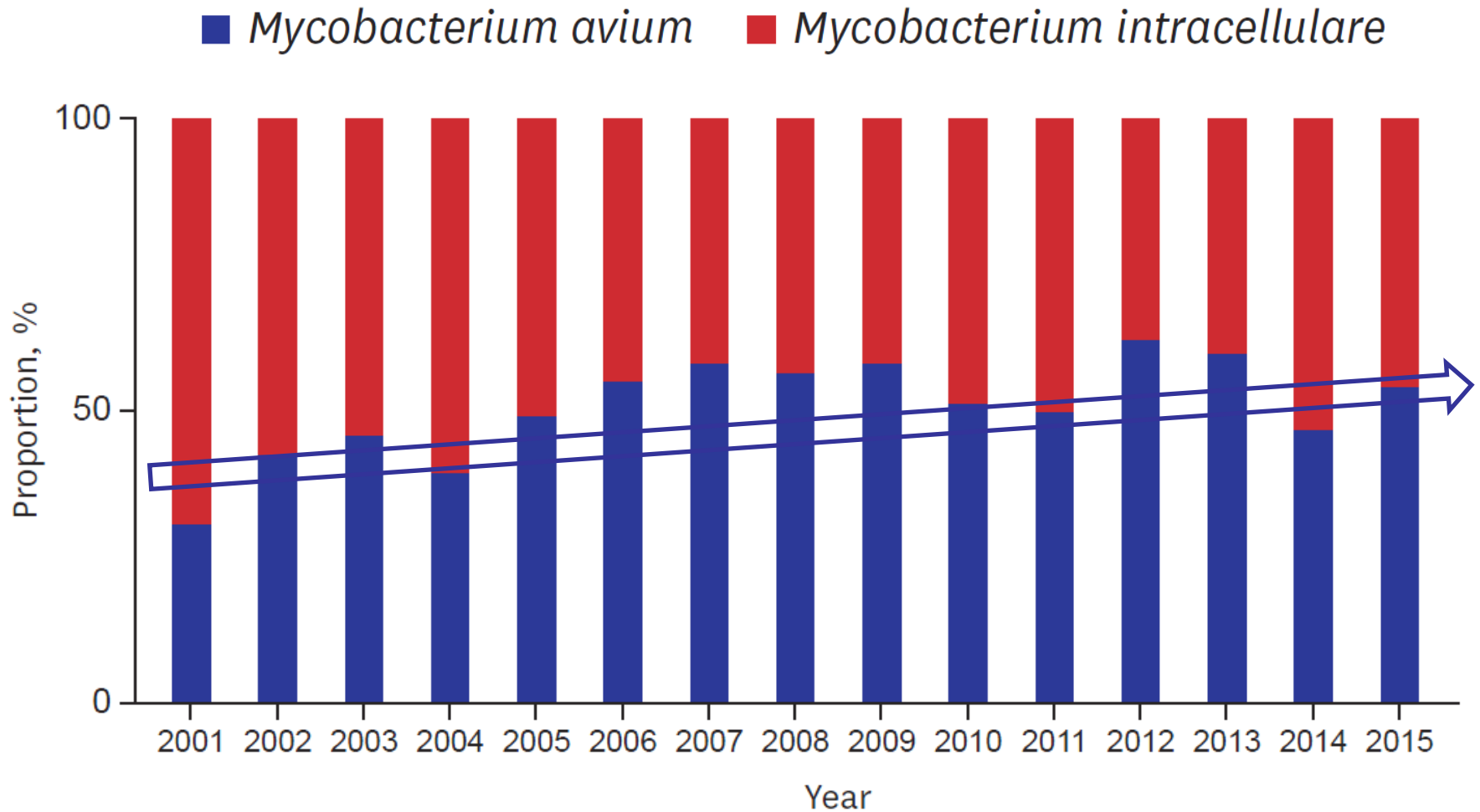
(Morimoto K, et al. Ann ATS 2017;14:49)

MAC: *M. avium* vs. *M. intracellulare* (China)



North ← Province along the coast → **South**

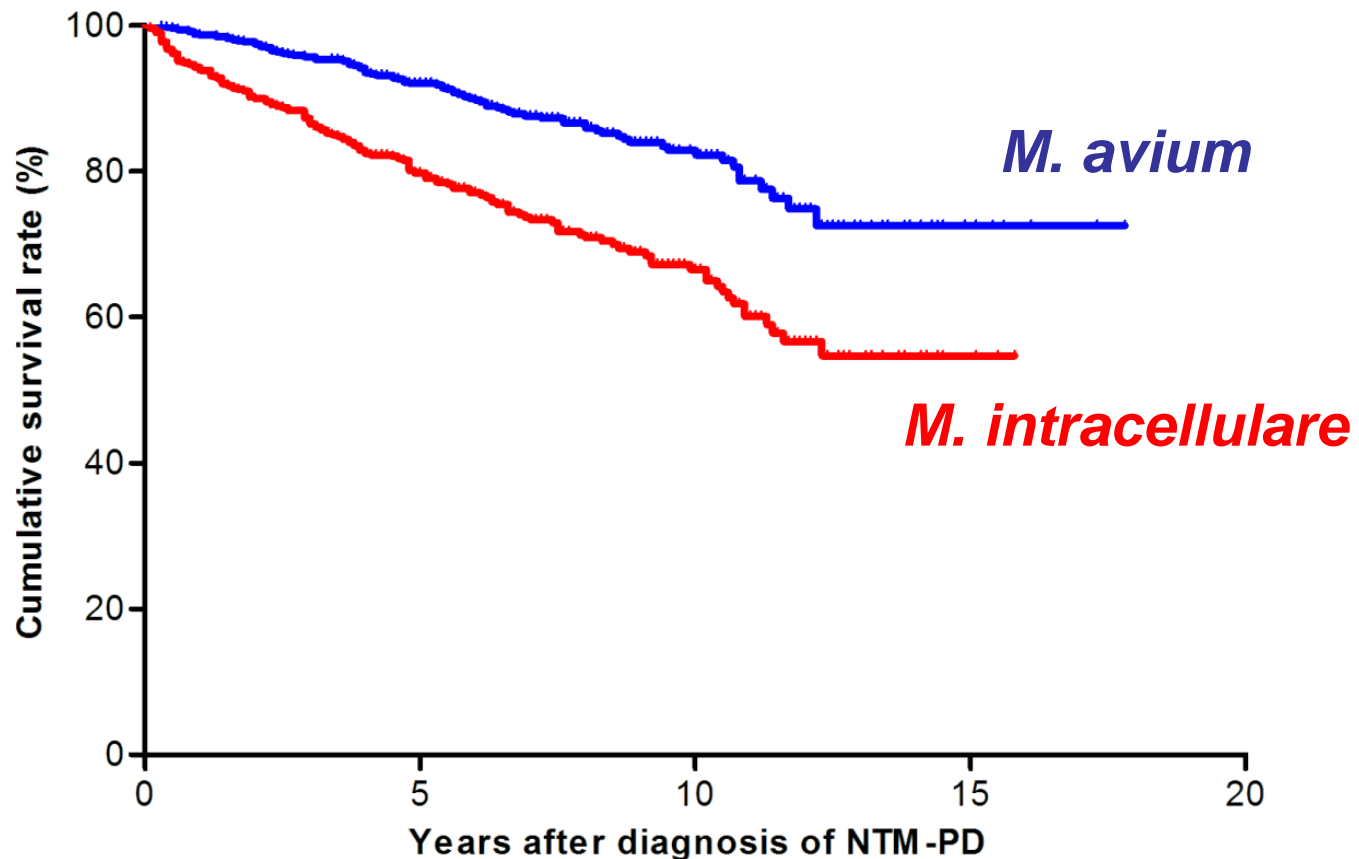
MAC: *M. avium* vs. *M. intracellulare* (Korea)



(Ko RE, et al. J Korean Med Sci 2018;33:e65)

MAC-PD: Survival Rates

- 1,142 patients, Samsung Medical Center, Seoul, South Korea



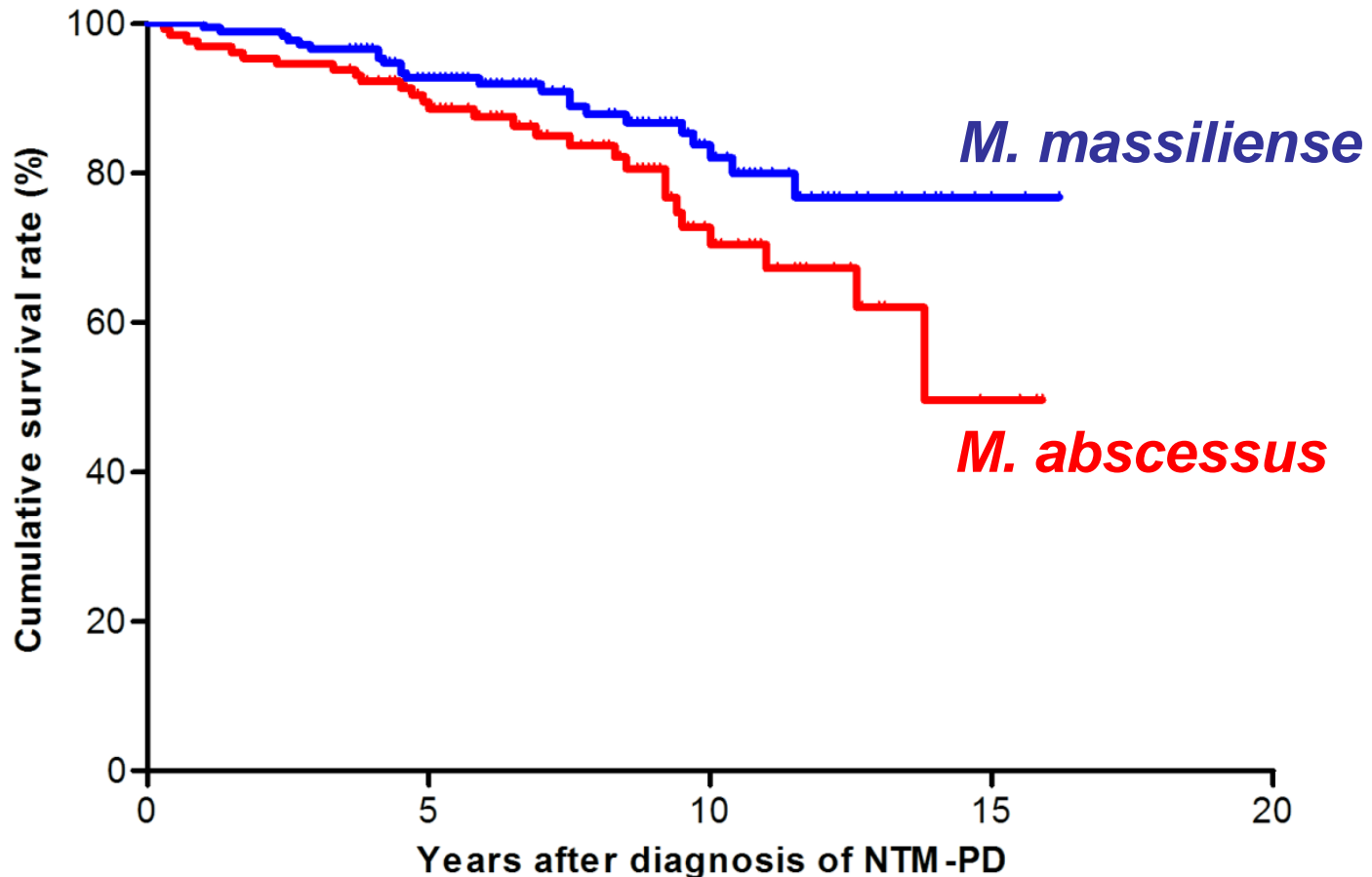
Proportions of *M. abscessus*, *M. massiliense*, and *M. bolletii*

Author (yr)	Country	No.	<i>M. abscessus</i>	<i>M. massiliense</i>	<i>M. bolletii</i>
Zelazny (2009)	USA	40	67.5%	27.5%	5%
van Ingen (2009)	Netherlands	39	64%	21%	15%
Roux (2009)	France	50	60%	22%	18%
Harada (2012)	Japan	102	71%	26%	3%
Yoshida (2013)	Japan	143	63%	35%	2%
Nakanaga (2014)	Japan	115	60%	37%	3%
Morimoto (2018)	Japan	121	56%	44%	0%
Tan (2018)	China	246	59%	41%	0%
Huang (2013)	Taiwan	79	43%	56%	1%
Kim (2008)	Korea	126	53%	45%	2%
Koh (2011)	Korea	158	44%	55%	1%
Lee (2014)	Korea	404	50%	49%	1%

(Koh WJ, et al. Int J Tuberc Lung Dis 2014;18:1141)
(Morimoto K, et al. Respir Med 2018;145:14)
(Tan Y, et al BMC Pulm Med 2018;18:168)

M. abscessus-PD: Survival Rates

- 303 patients, Samsung Medical Center, Seoul, South Korea



NTM-PD in East Asia

- The incidence and prevalence of NTM-PD are rapidly increasing in East Asian countries.
- MAC is the most common etiologic organism.
 - different proportions of *M. avium* and *M. intracellulare*
- *M. abscessus* and *M. massiliense* are relatively common.
 - high proportion of *M. massiliense*
- Prognosis in patients with NTM-PD is different according to etiologic organisms.
 - *M. avium* vs. *M. intracellulare*
 - *M. abscessus* vs. *M. massiliense*