Breast Cancer Epidemiology in Asia

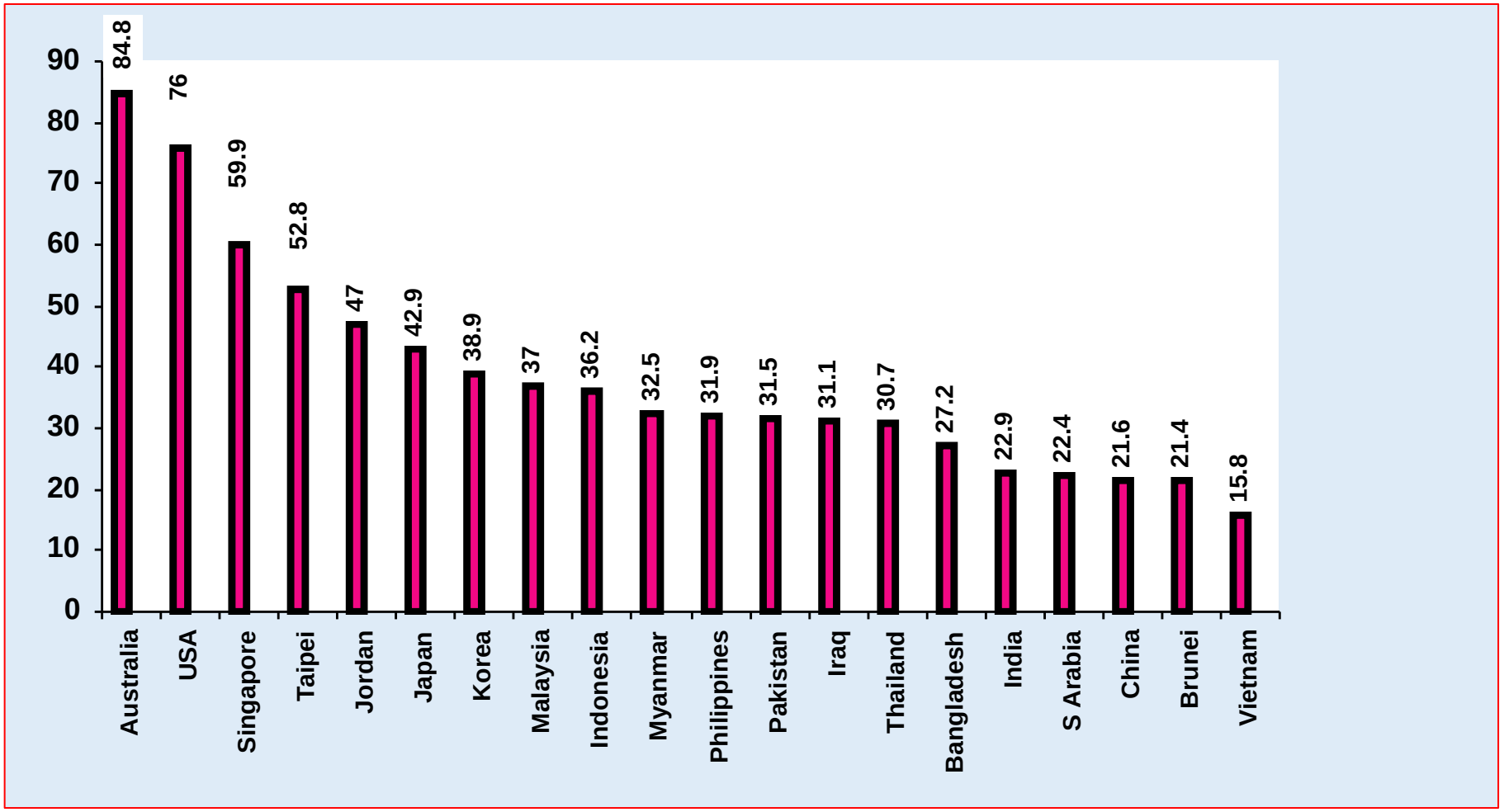
Masakazu Toi, M.D., Ph.D.
Breast Cancer Unit, Kyoto University Hospital
Kyoto University Graduate School of Medicine

SINGAPORE 2015 ESMO ASIA 18-21 DECEMBER SINGAPORE

Disclosure slide

- I have nothing to declare

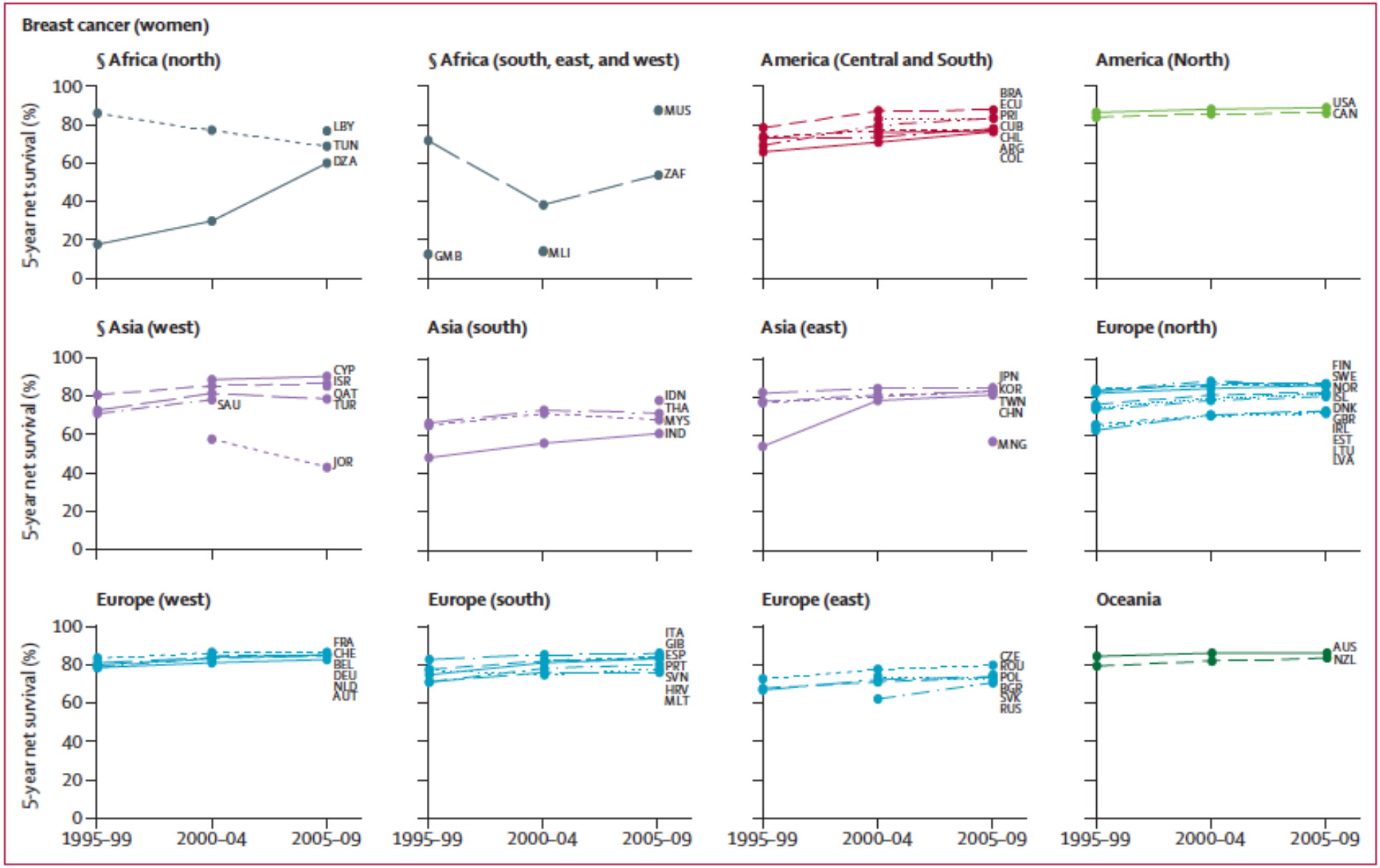
Trends in Breast Cancer Incidence



Per/100,000

http://globocan.iarc.fr/factsheets/cancers/breast.asp

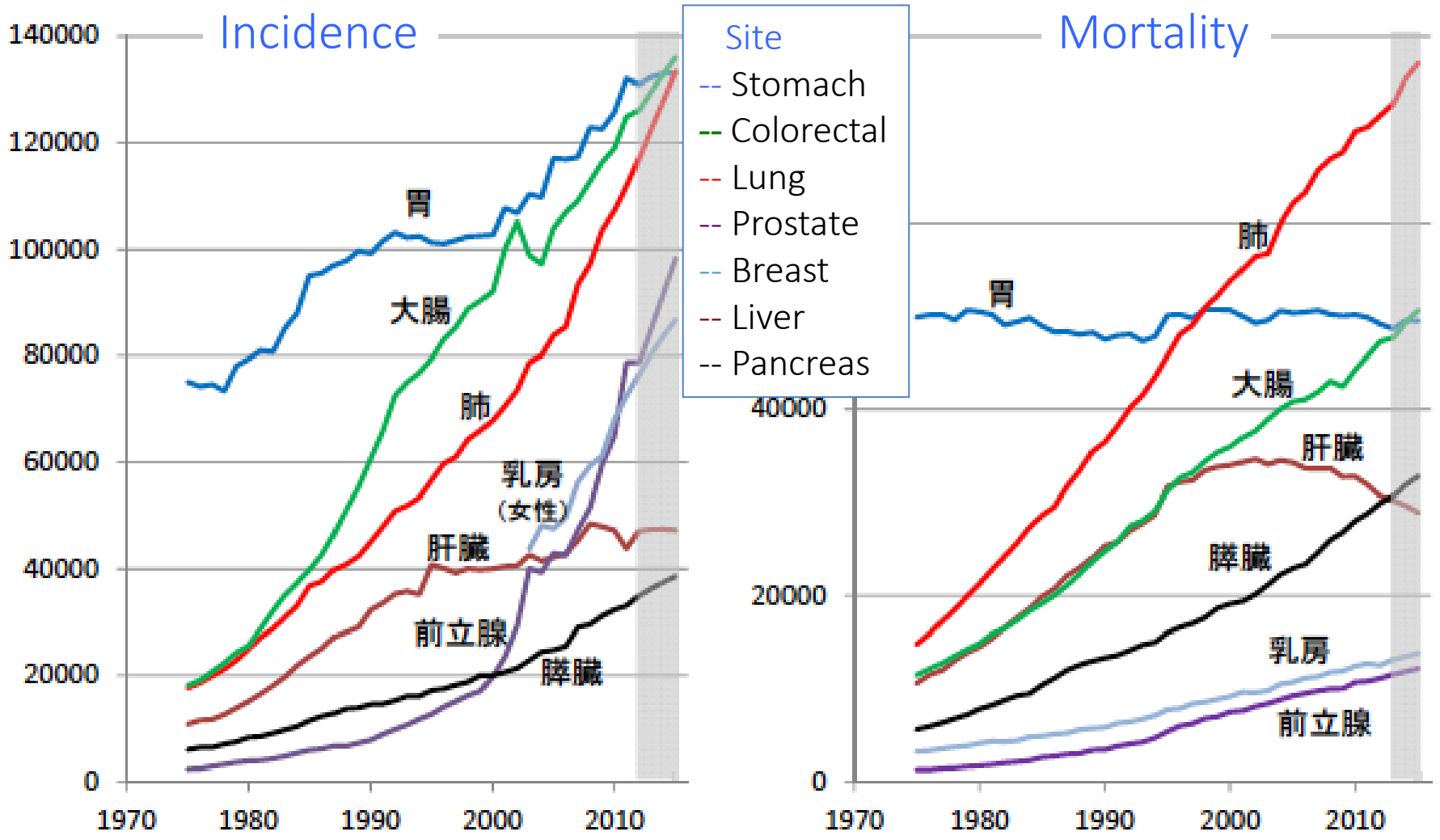
Trends in age-standardised 5-year net survival by region and country



Claudia Allemani, et al. Lancet 2015; 385: 977–1010

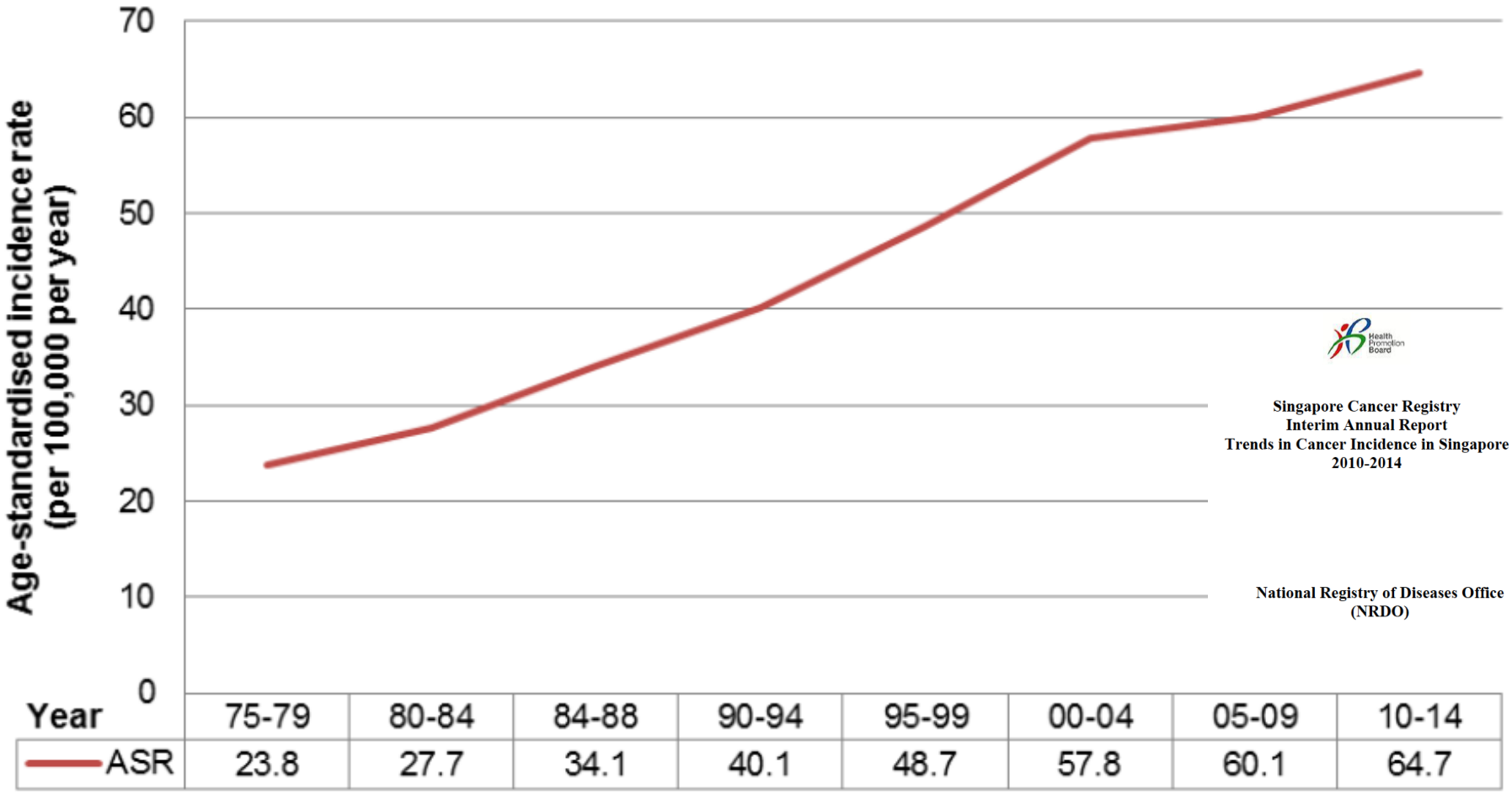
Estimated Cancer Incidence and Mortality 2015

National Cancer Center : ganjoho.jp 28/04/2015



Singapore

Figure 6.1.1: Age-Standardised Incidence Rates for Female Breast Cancer, 1975-2014



Year	75-79	80-84	84-88	90-94	95-99	00-04	05-09	10-14
ASR	23.8	27.7	34.1	40.1	48.7	57.8	60.1	64.7

Overview of 2012 Hong Kong Cancer Statistics

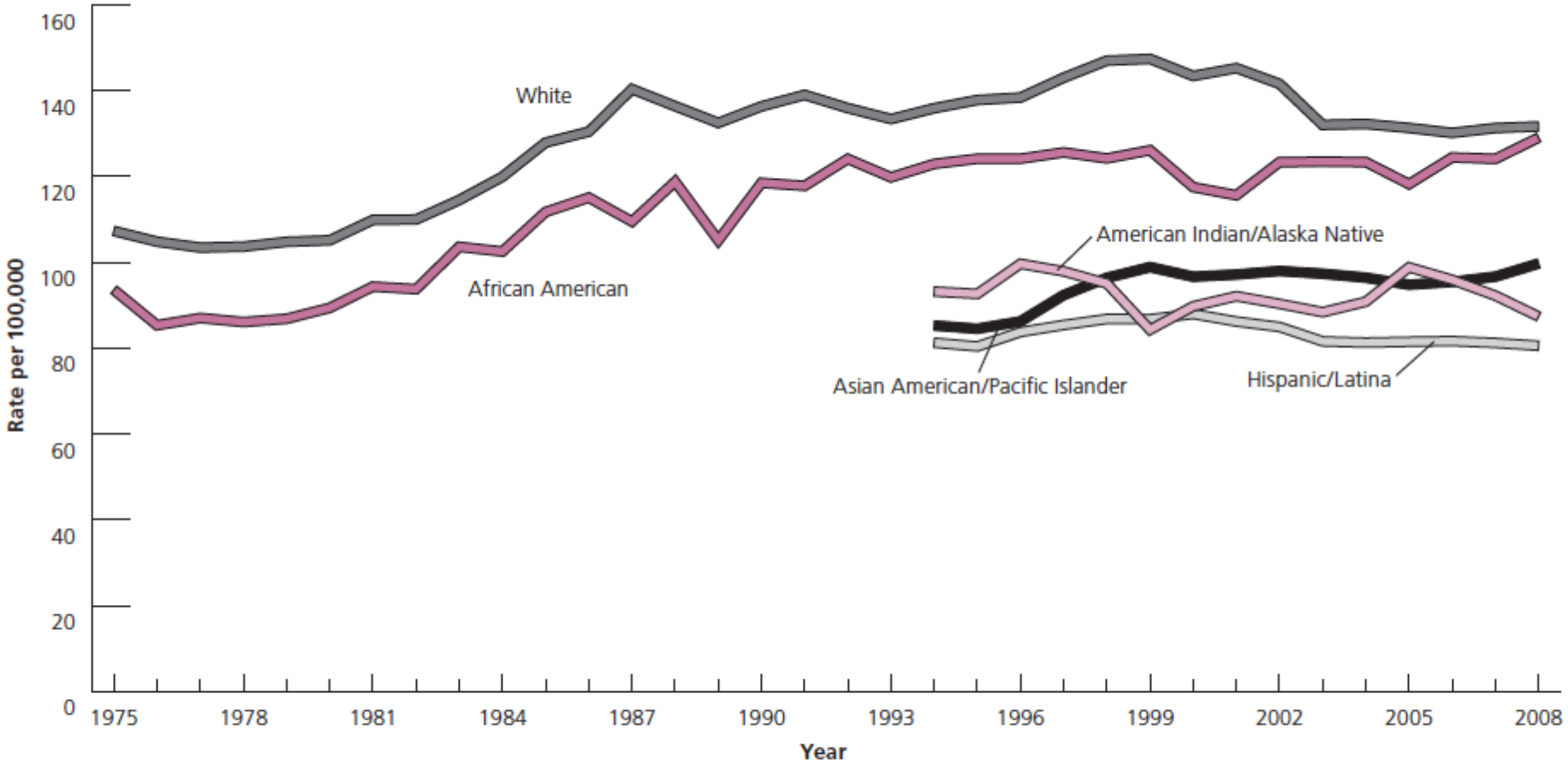
Leading cancer types *(both genders combined)*

Rank	Site	No. in 2012	No. in 2002 *(rank)*
	All sites	**27,848**	**21,861**
1	Lung	4,610	3,941 *(1)*
2	Colorectum	4,563	3,519 *(2)*
3	Breast	3,522	2,076 *(3)*
4	Liver	1,790	1,576 *(4)*
5	Prostate	1,631	912 *(7)*

Cancer Registration in Hong Kong
Courtesy to Dr. Chow, WC

USA

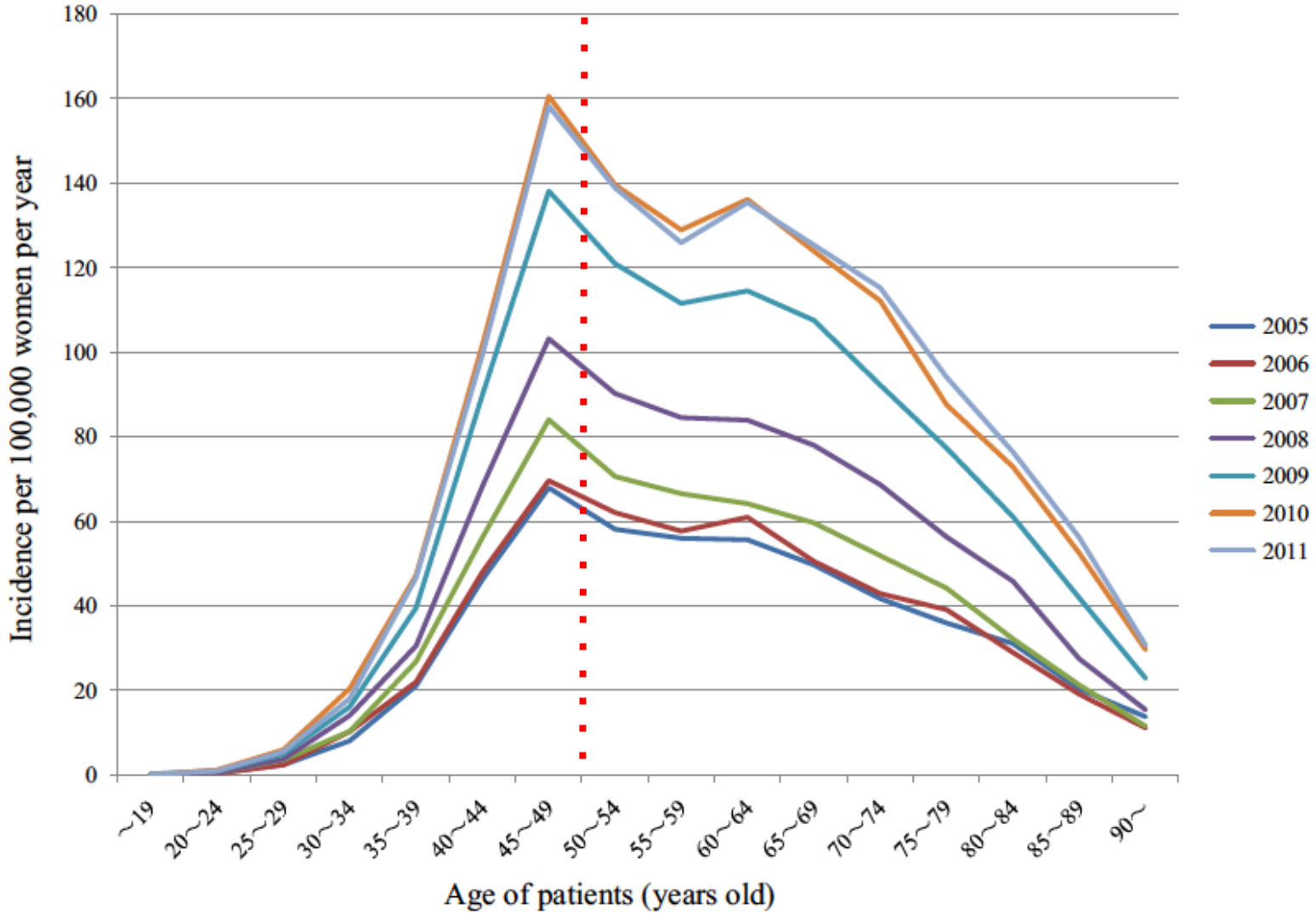
Figure 5a. Trends in Female Breast Cancer Incidence Rates* by Race and Ethnicity, US, 1975-2008



*Rates are age adjusted to the 2000 US standard population. Rates for Asain American/Pacific Islanders, Hispanic/Latinos, and American Indian/Alaska Natives are 3-year moving averages.

Source: Surveillance, Epidemiology, and End Results (SEER) Program, National Cancer Institute. Data for whites and African Americans are from the 9 SEER registries and were adjusted for reporting delays. Data for other races/ethnicities are from the 13 SEER registries. For Hispanics, incidence data do not include cases from the Alaska Native Registry. Incidence data for American Indians/Alaska Natives are based on Contract Health Service Delivery Area (CHSDA) counties.

Age-specific breast cancer incidence in Japan

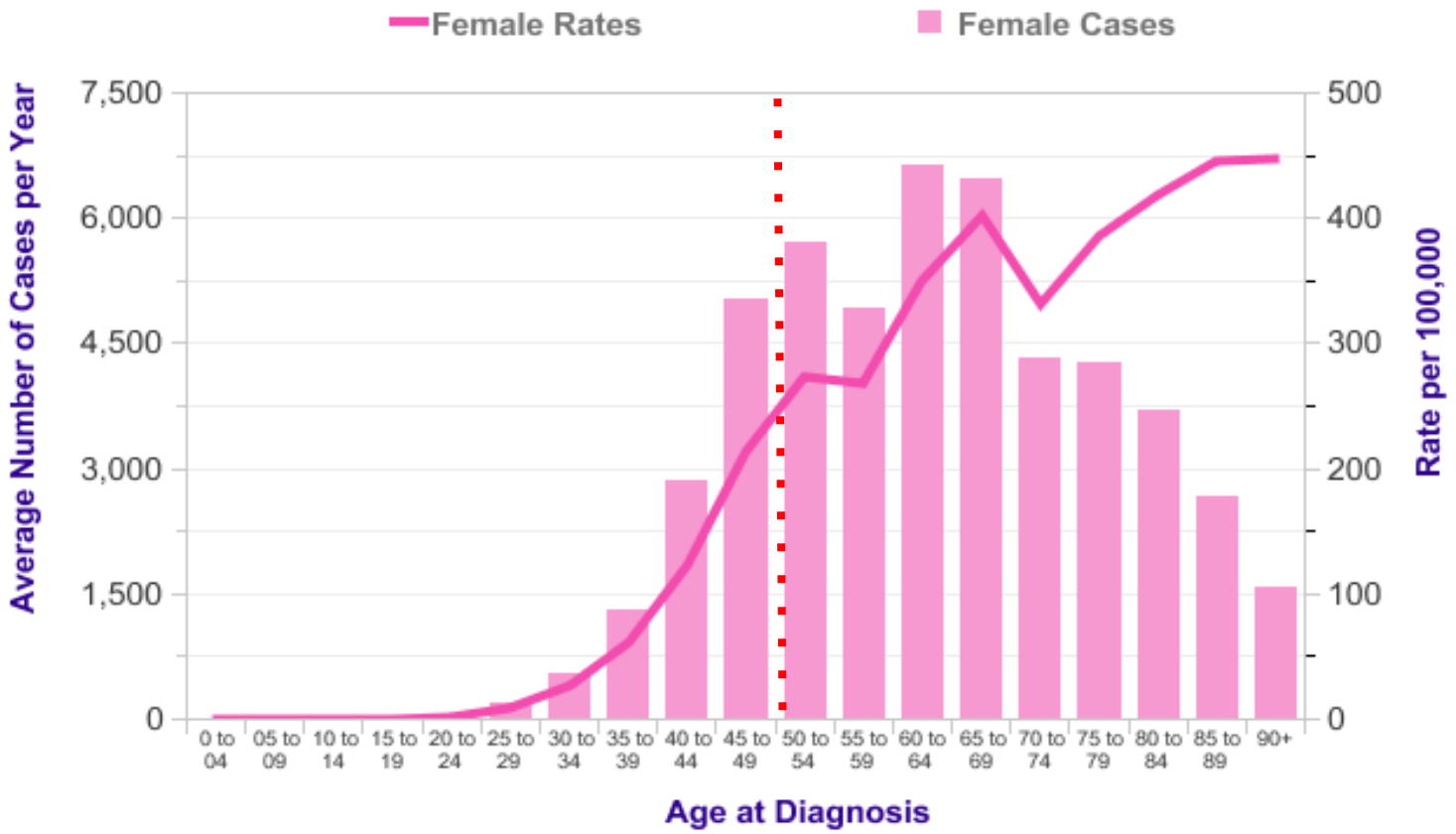


Kurebayashi J et al. Breast Cancer (2015) 22:235–244

Breast Cancer (C50): 2010-2012

Average Number of New Cases Per Year and Age-Specific Incidence Rates per 100,000 Population, Females, UK

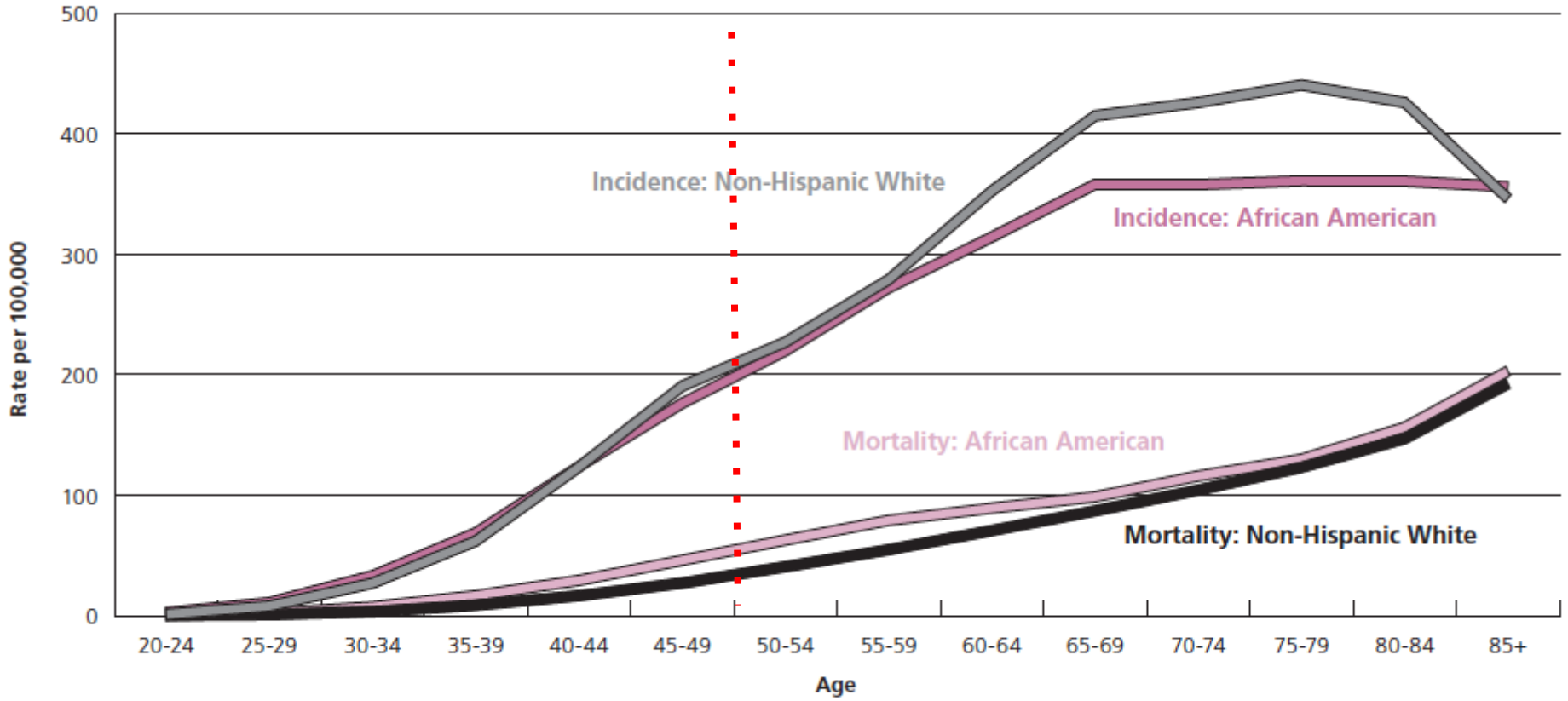
Age-specific breast cancer incidence in UK



CANCER RESEARCH UK

Age-specific breast cancer incidence in USA

Figure 1. Age-specific Female Breast Cancer Incidence (2004-2008) and Mortality (2003-2007) Rates

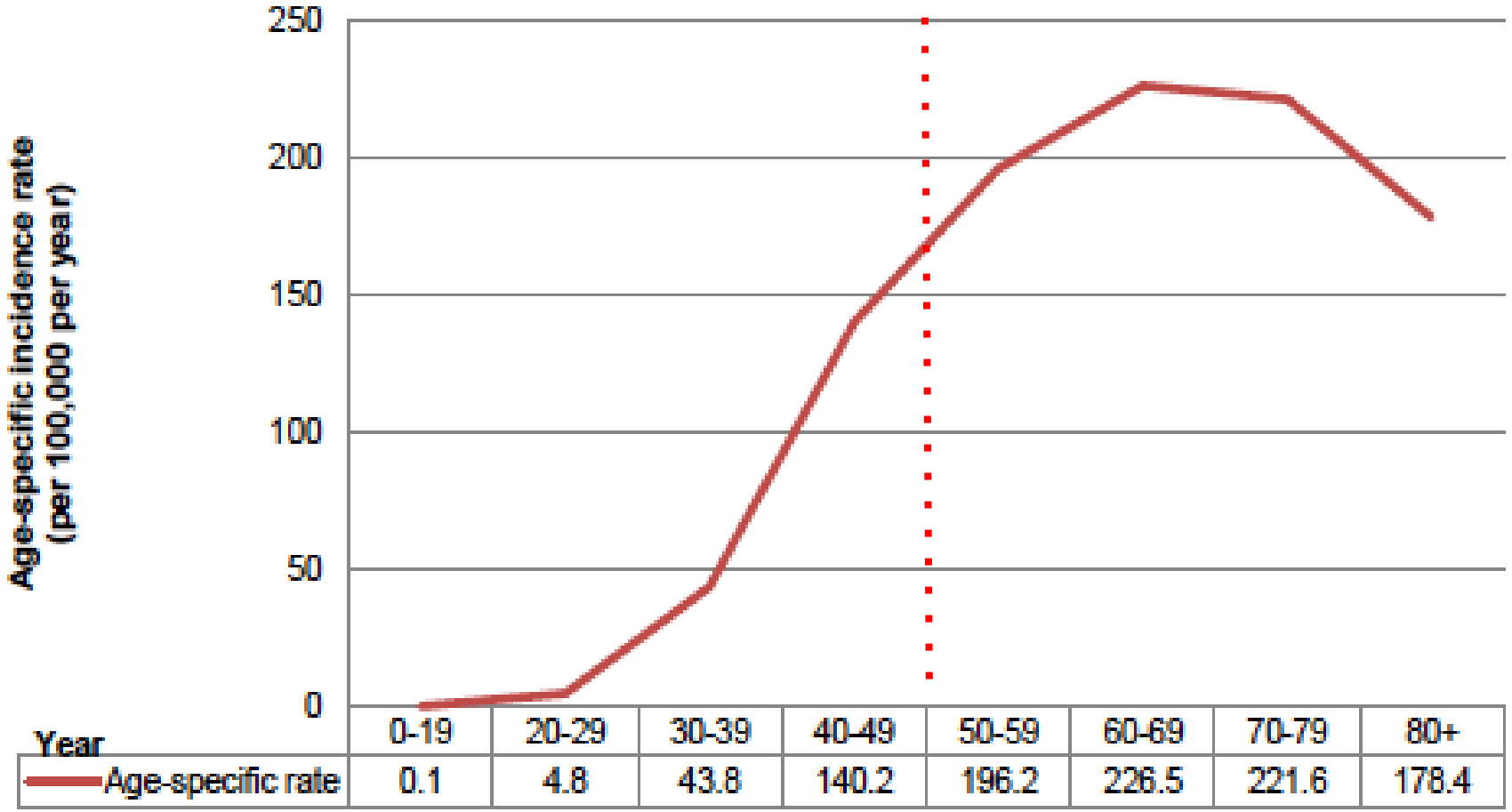


Sources: Incidence: North American Association of Central Cancer Registries. Mortality: National Center for Health Statistics, Centers for Disease Control and Prevention, as provided by the Suveillance, Epidemiology, and End Results Program, National Cancer Institute.

American Cancer Society, Surveillance Research, 2011

Age-specific breast cancer incidence in Singapore

Figure 6.1.2: Age-Specific Incidence Rates for Female Breast Cancer, 2010-2014



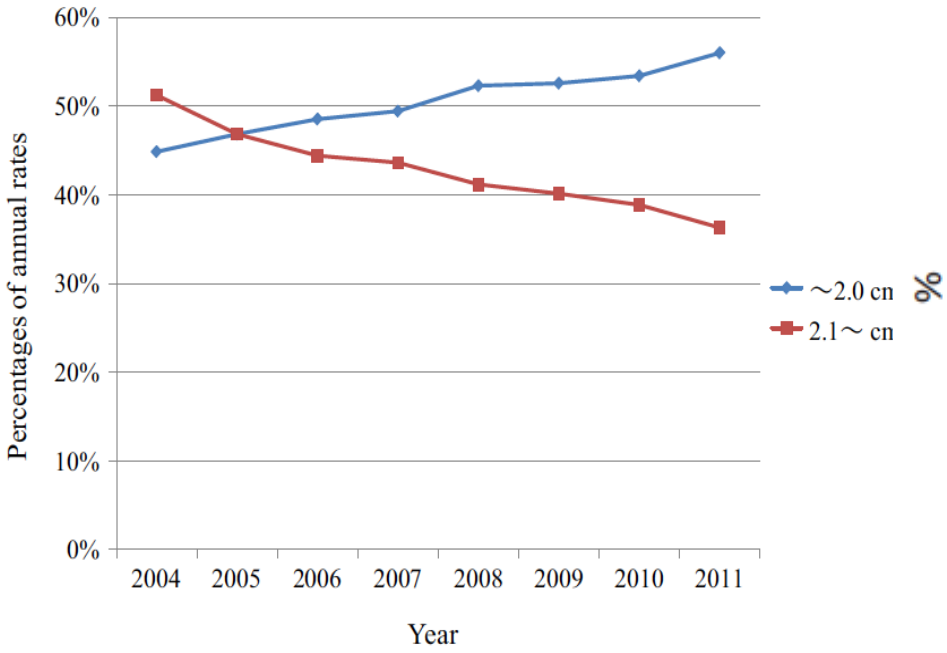
Year	0-19	20-29	30-39	40-49	50-59	60-69	70-79	80+
Age-specific rate	0.1	4.8	43.8	140.2	196.2	226.5	221.6	178.4

Singapore Cancer Registry
Interim Annual Report
Trends in Cancer Incidence in Singapore
2010-2014

National Registry of Diseases Office (NRDO)

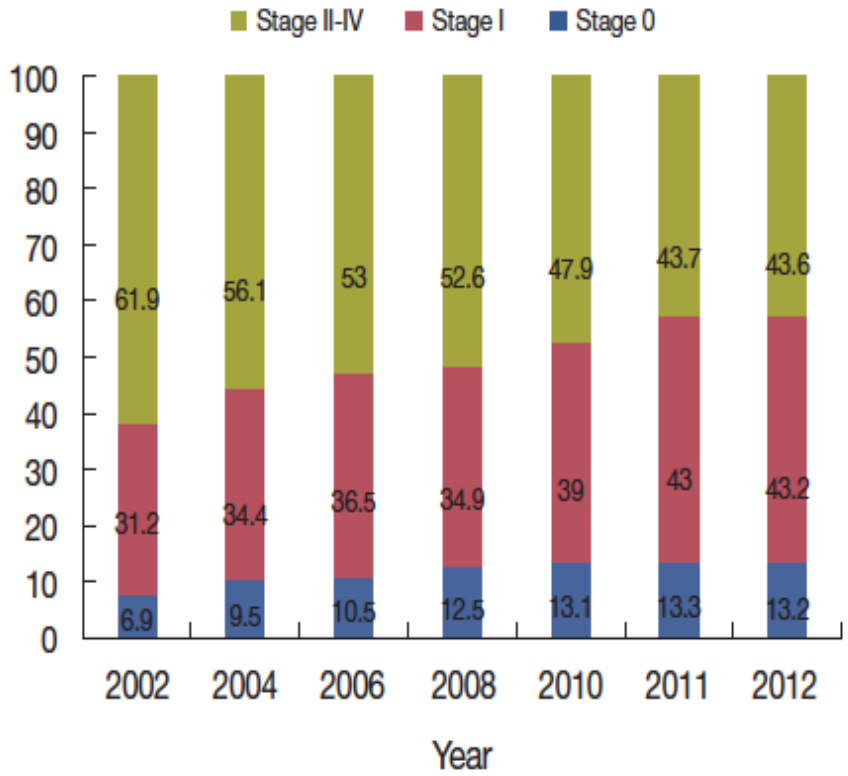
Changes in breast cancer incidence according to stage

Japan



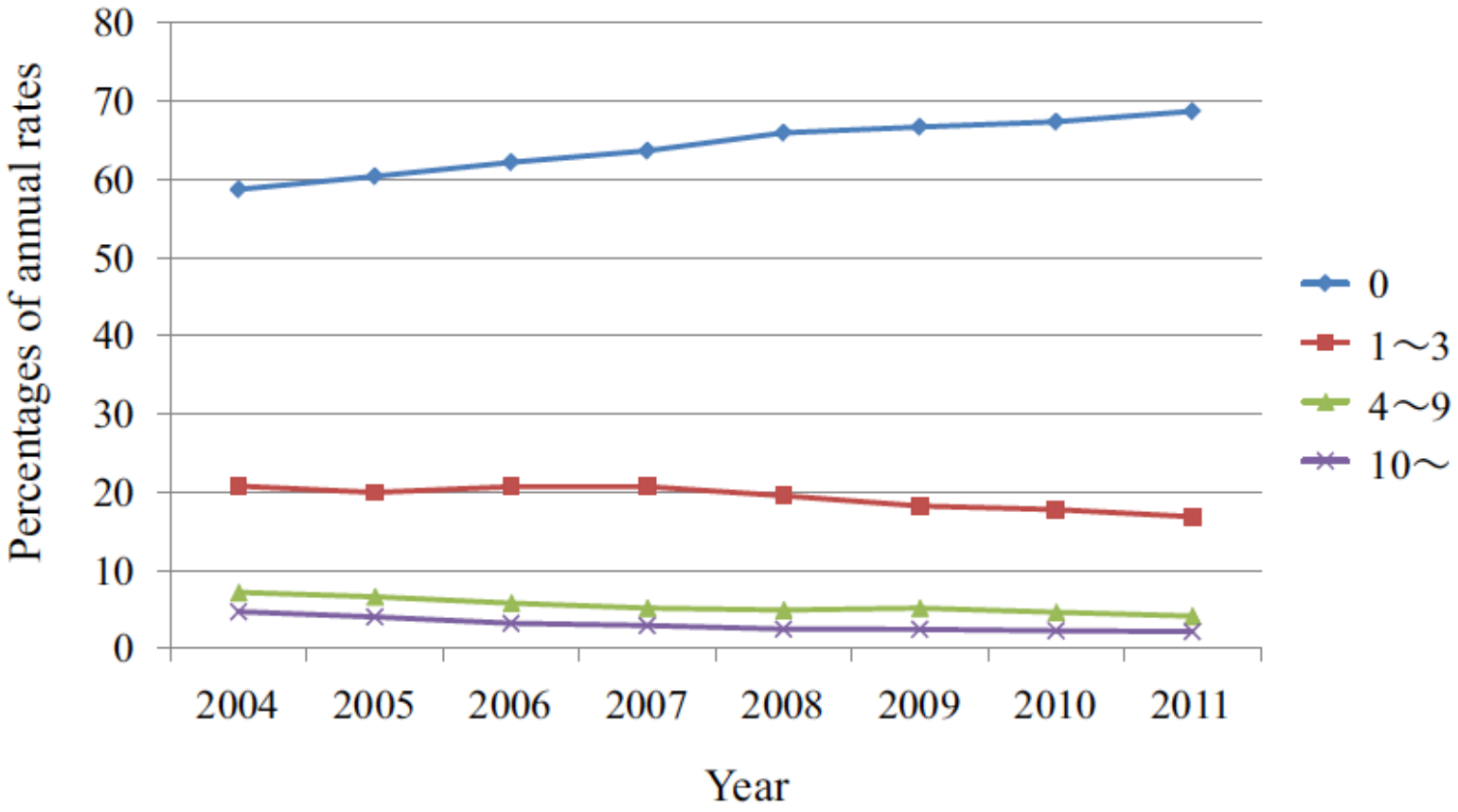
Kurebayashi J et al. Breast Cancer (2015) 22:235–244

Korea



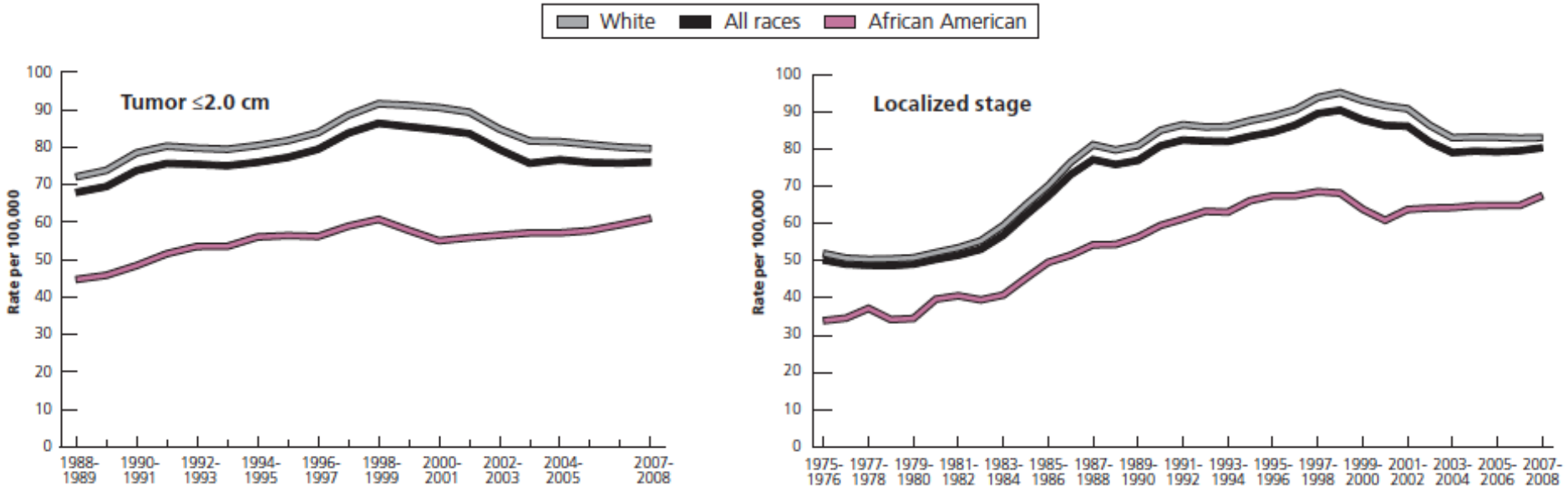
Zisun Kim et al. J Breast Cancer 2015 June; 18(2): 103-111 €i0

Changes in breast cancer incidence according to nodal status: Japan



Kurebayashi J et al. Breast Cancer (2015) 22:235–244

Breast cancer incidence according to stage: USA

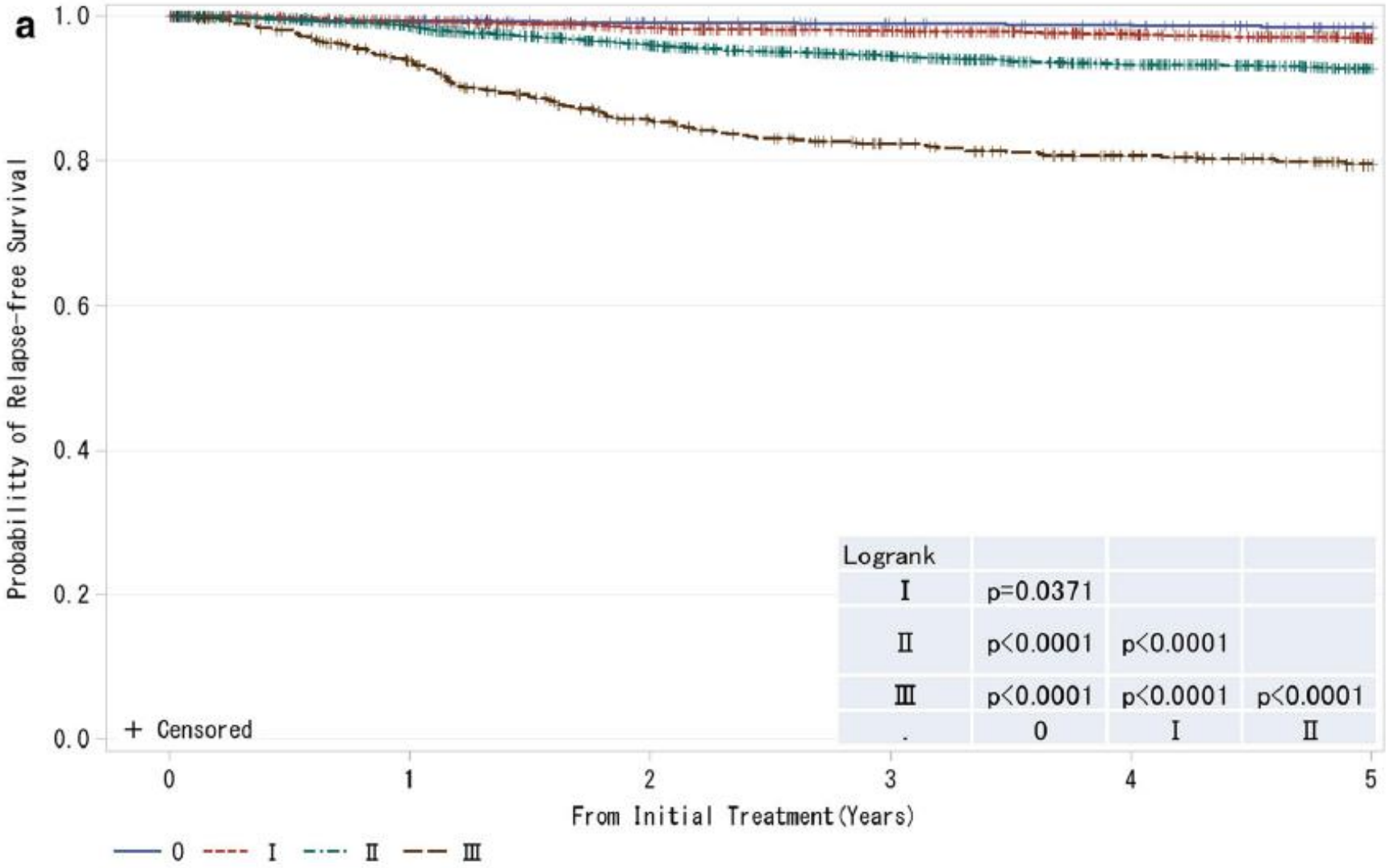


*Rates are two-year moving averages and age adjusted to the 2000 US standard population.

Data source: Surveillance, Epidemiology, and End Results (SEER) Program, 9 SEER Registries, National Cancer Institute.

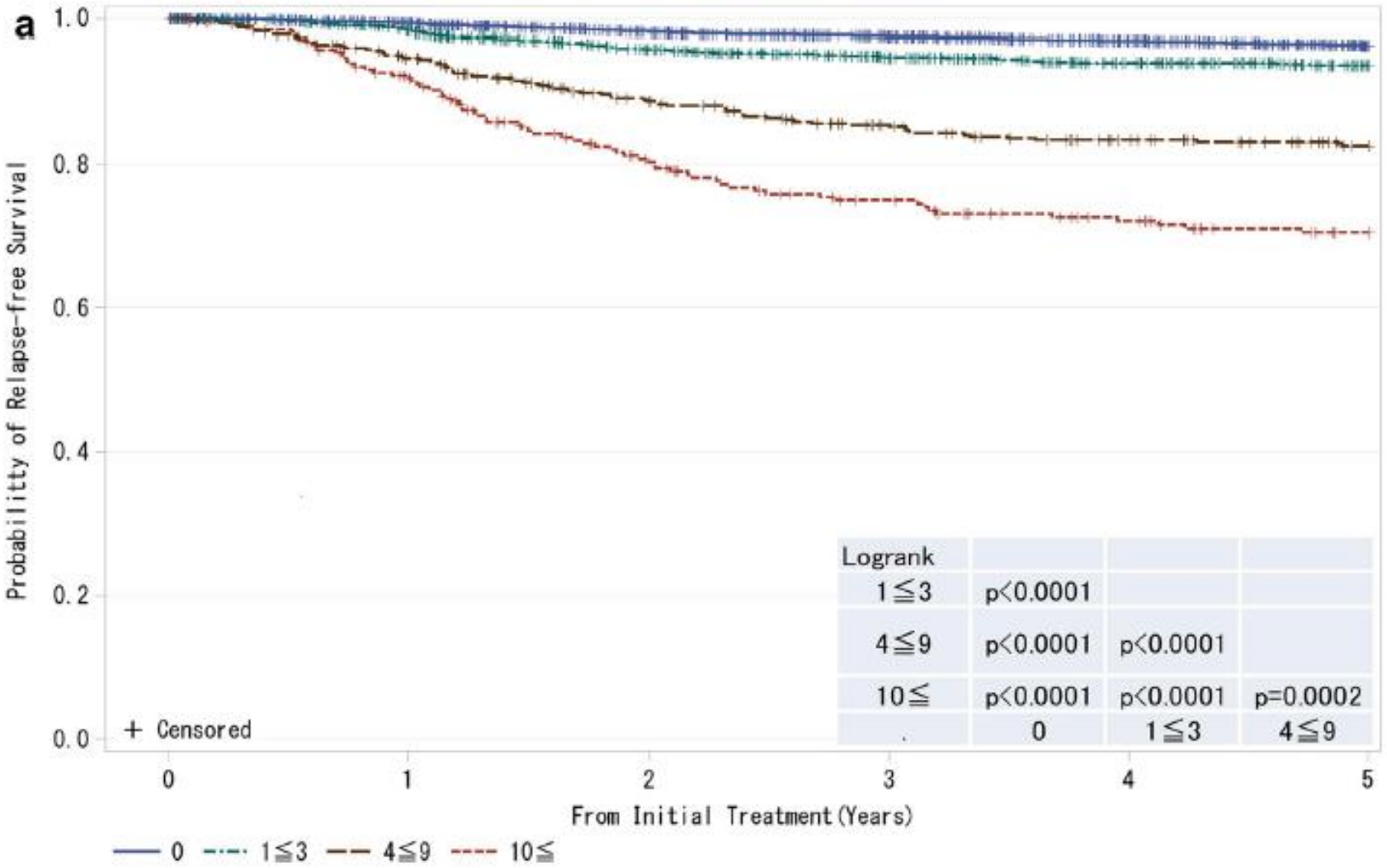
American Cancer Society, Surveillance Research, 2011

RFS stratified by Stage: Japan



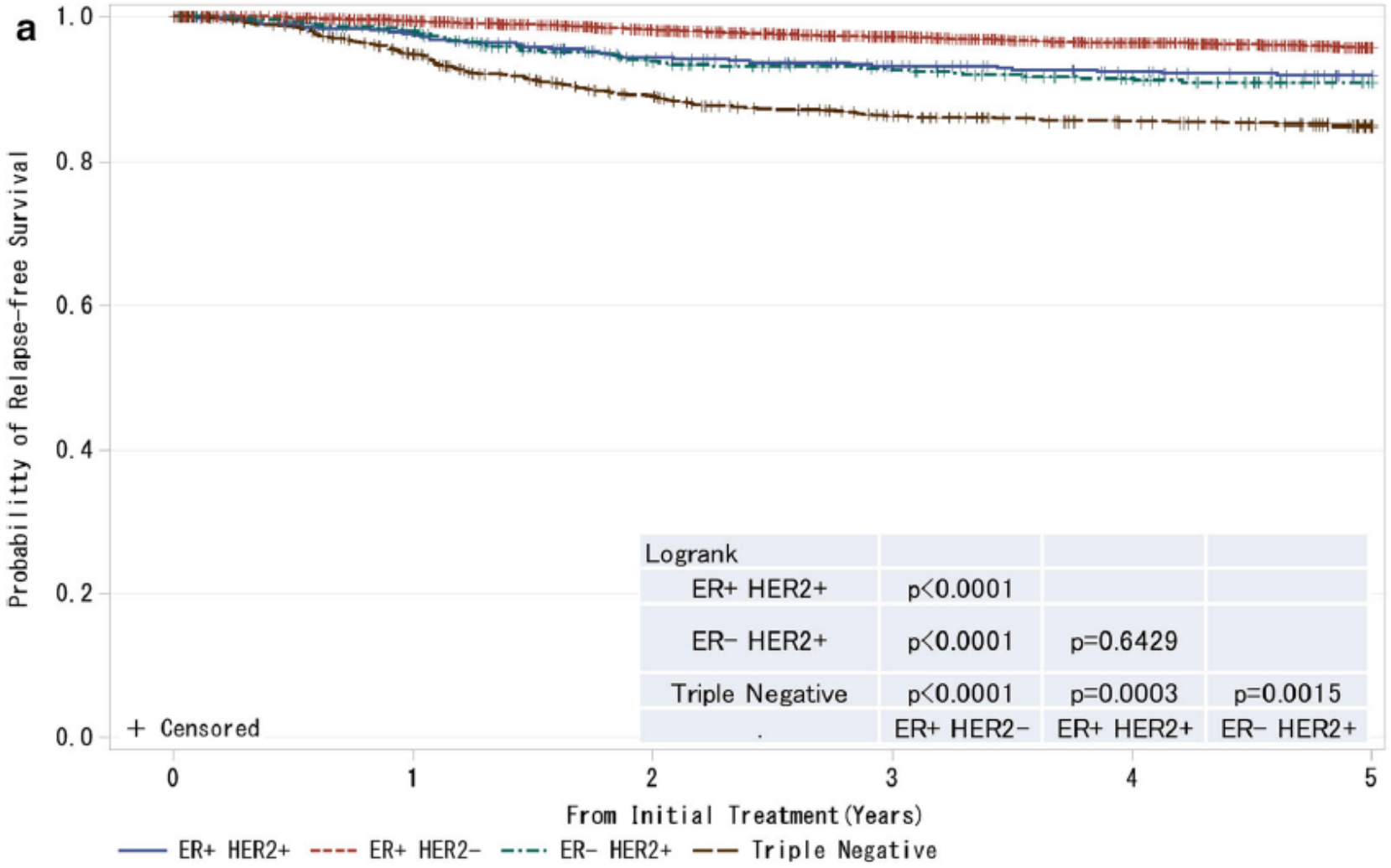
Takayuki Iwamoto et al. Breast Cancer 2015 October

RFS stratified by nodal status: Japan



Takayuki Iwamoto et al. Breast Cancer 2015 October

RFS stratified by ER/HER2: Japan



Takayuki Iwamoto et al. Breast Cancer 2015 October

Issues

- US mass screening (Dense breast)
- Risk factors: Soy Isoflavones, Exercise..

Sensitivity and specificity of mammography and adjunctive ultrasonography to screen for breast cancer in the Japan Strategic Anti-cancer Randomized Trial (J-START): a randomised controlled trial

US for Mass-screening

- Between July, 2007, and March, 2011, women aged 40–49 years
- 42 study sites Nationwide in Japan
- Randomized : MMG + US vs MMG twice in 2 years
- PE: Sensitivity, specificity, cancer detection rate
- 72 998 women enrolled

Noriaki Ohuchi et al. Published Online November 4, 2015
http://dx.doi.org/10.1016/

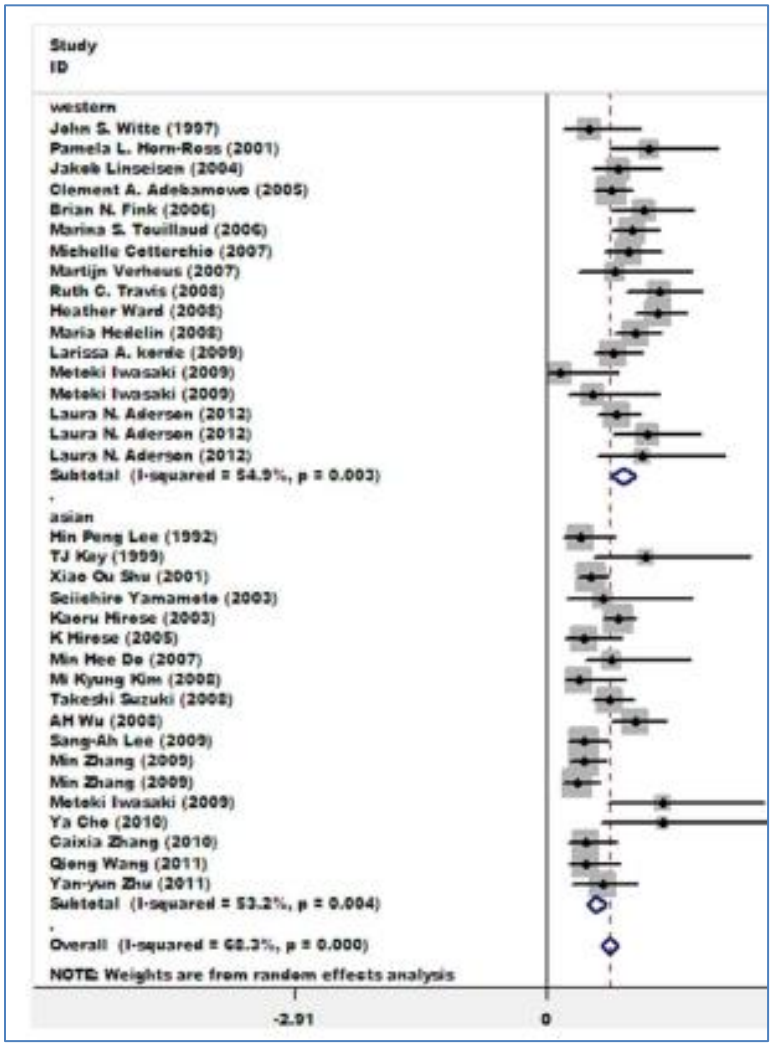
J-START Results

- Sensitivity was significantly higher in the intervention group (91.1% vs 77.0%, p=0.0004), whereas specificity was lower (87.7%vs 91.4% p<0.0001)
- More cancers were detected in the intervention group (184 [0.50%] vs 117 [0.32%], p=0.0003) and were more frequently stage 0 and I (144 [71.3%] vs 79 [52.0%], p=0.0194)
- Adjunctive ultrasonography increases sensitivity and detection rate of early cancers

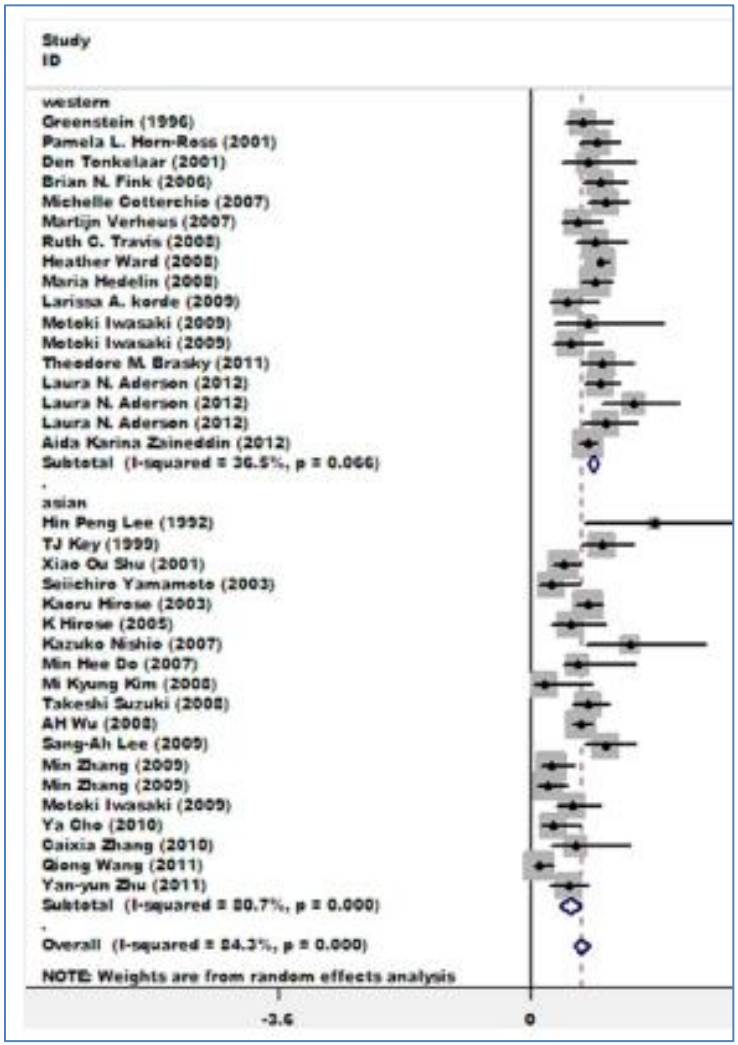
Noriaki Ohuchi et al. Published Online November 4, 2015
http://dx.doi.org/10.1016/

Soy Isoflavone Intake and Breast Cancer Risk: Meta-analysis

Premenopausal



Postmenopausal



Meinan Chen et al. PLOS ONE 2014 | Volume 9 | Issue 2 | e89288

Conclusions

- BC incidence is increasing rapidly in Asia
- Postmenopausal BCs are less frequent in Asia
- Early stage BCs (Stage 0/I) are increasing
- Survival has been improved in each subtype
- Mass screening with US increases the sensitivity and detection rate compared with MMG alone
- Isoflavones intake may be lowering BC incidence in Asia

THANK YOU