



Gen Re Dread Disease Survey 2004-2008

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Singapore 8 November 2012



- > Background of Gen Re's Dread Disease Survey
- > The 2004-2008 Survey results
 - Market Survey and Product Features
 - Claims Analysis
 - Incidence Rates Analysis
- > Summary

Expanding Scope of the Survey



	Survey	Regions	Companies	Claims	Lives In-force
1	1990–1994	3		4,600	
2	1993–1997	3		7,000	3 million
3	1996–2000	3	31	16,000	4 million
4	2000–2004	6	48	263,000	41 million
5	2004–2008 *	10	95	750,000	> 70 million

Number of participating companies



Hong Kong
17 (16)

Malaysia
11 (7)

Singapore
7 (6)

Thailand
5
(new)

Indonesia
4 *(new)*

Korea
3 *(new)*

China
25 (12)

UK
4 (4)

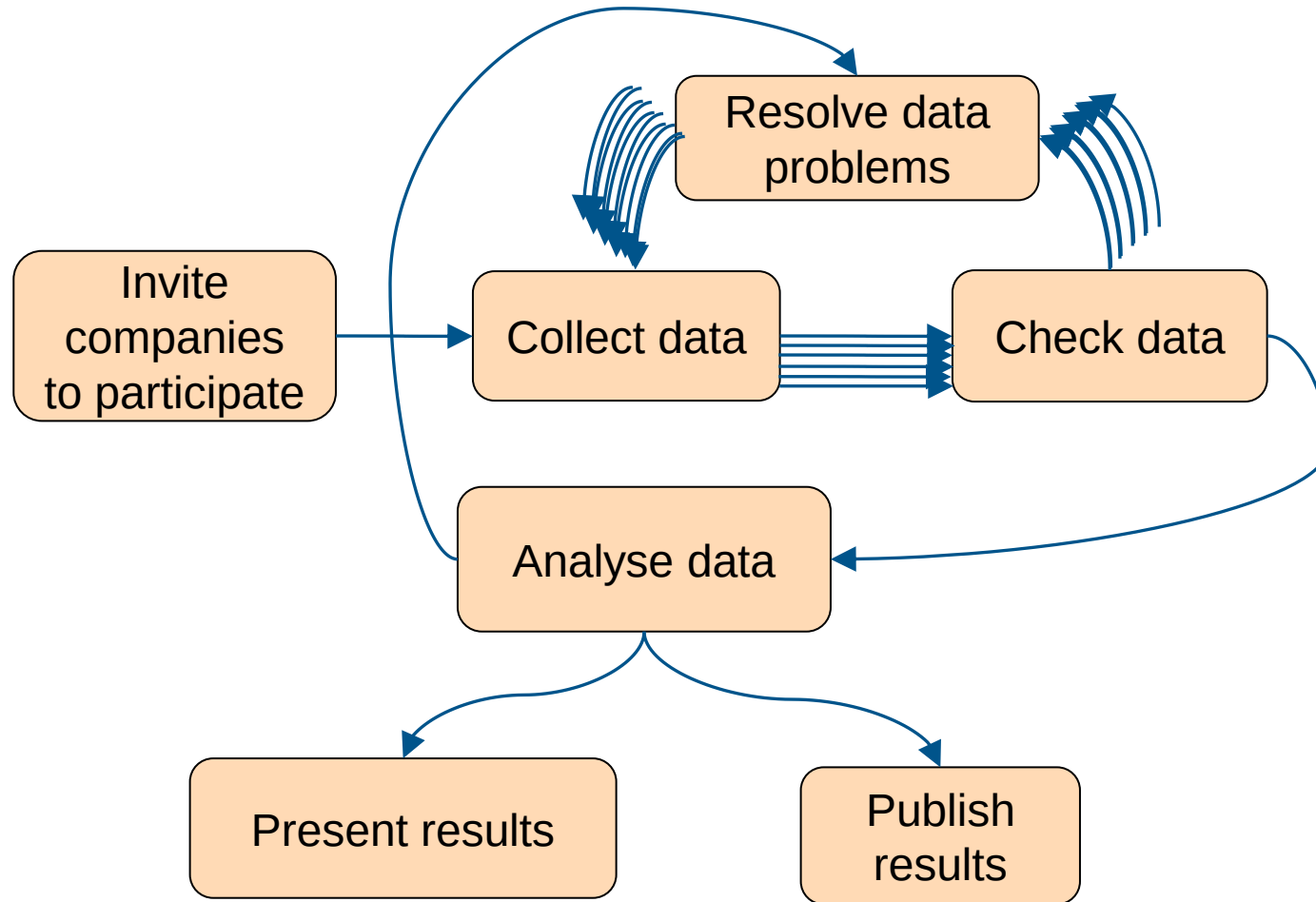
Australia
10 *(new)*

New Zealand
11 *(new)*

South Africa
0 (3)

**95 companies in the Gen
Re Dread Disease Survey
2004-2008**

How Does The Survey Work?





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Distribution of In-Force Policies by Product Type

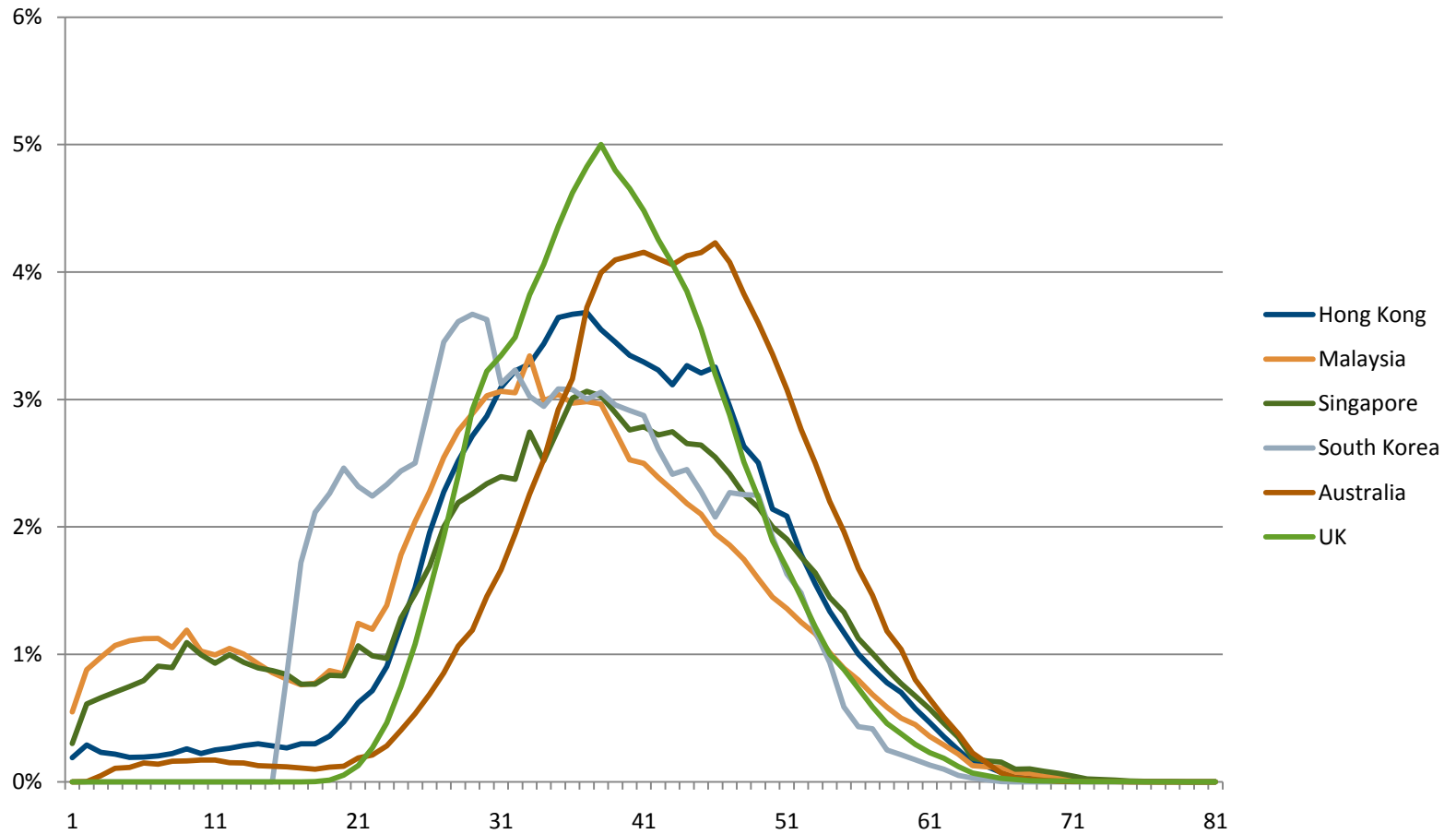


	Total	China	Hong Kong	Malaysia	Singapore	Korea	Australia	UK
Traditional	65,881,831	56,518,249	1,301,874	3,240,367	1,159,556	1,094,701	573,521	1,993,563
Juvenile	1,917,749	1,788,851	76,908	8,713	42,785	0	492	0
Cancer	650,960	625,527	1,987	23,384	62	0	0	0
Female	545,635	206,543	144,768	162,351	31,973	0	0	0
Male	3,661	0	3,362	0	299	0	0	0
Total	68,999,836	59,139,170	1,528,899	3,434,815	1,234,675	1,094,701	574,013	1,993,563

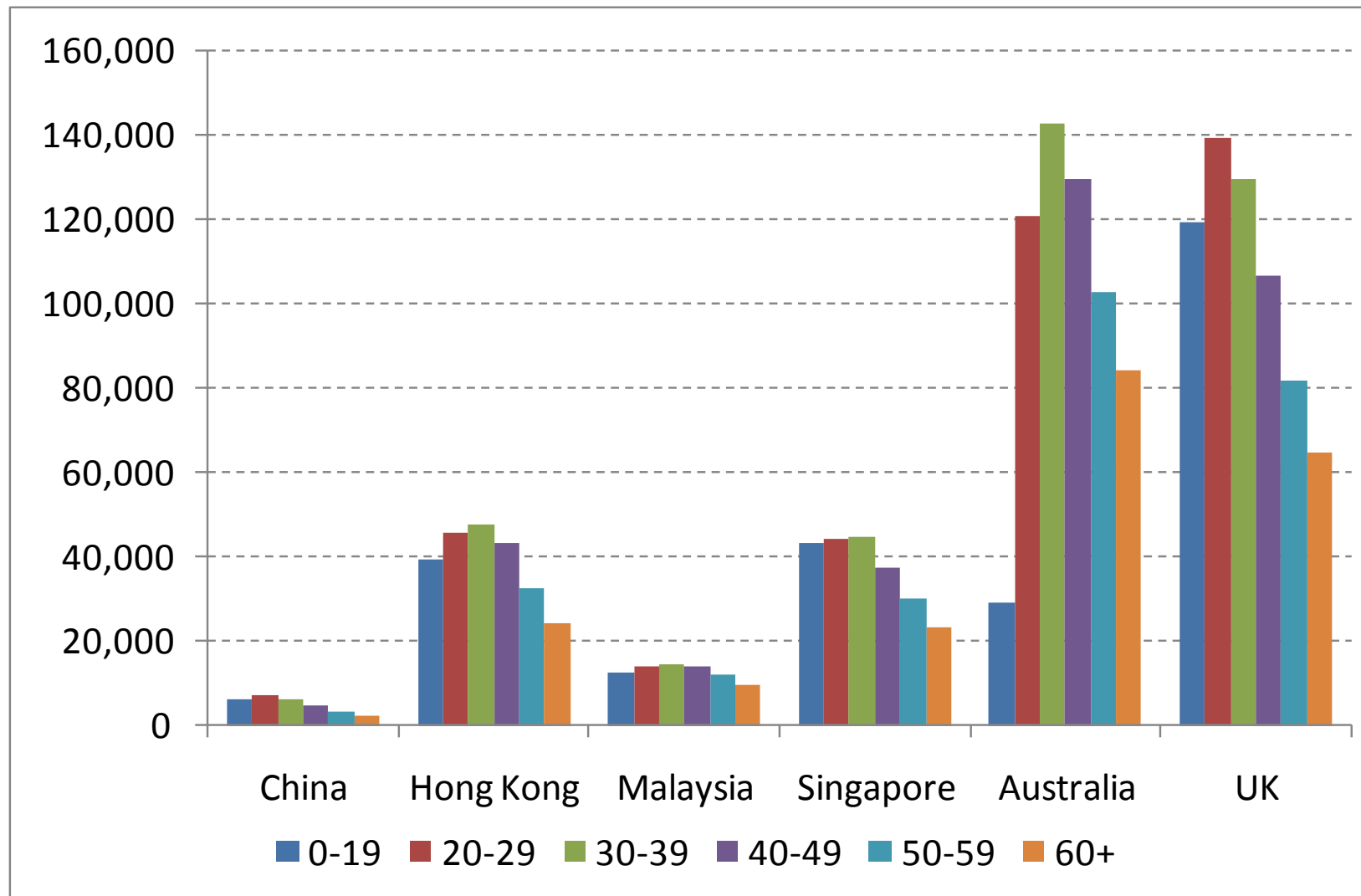
Distribution of In-force Policies by Age



By Market



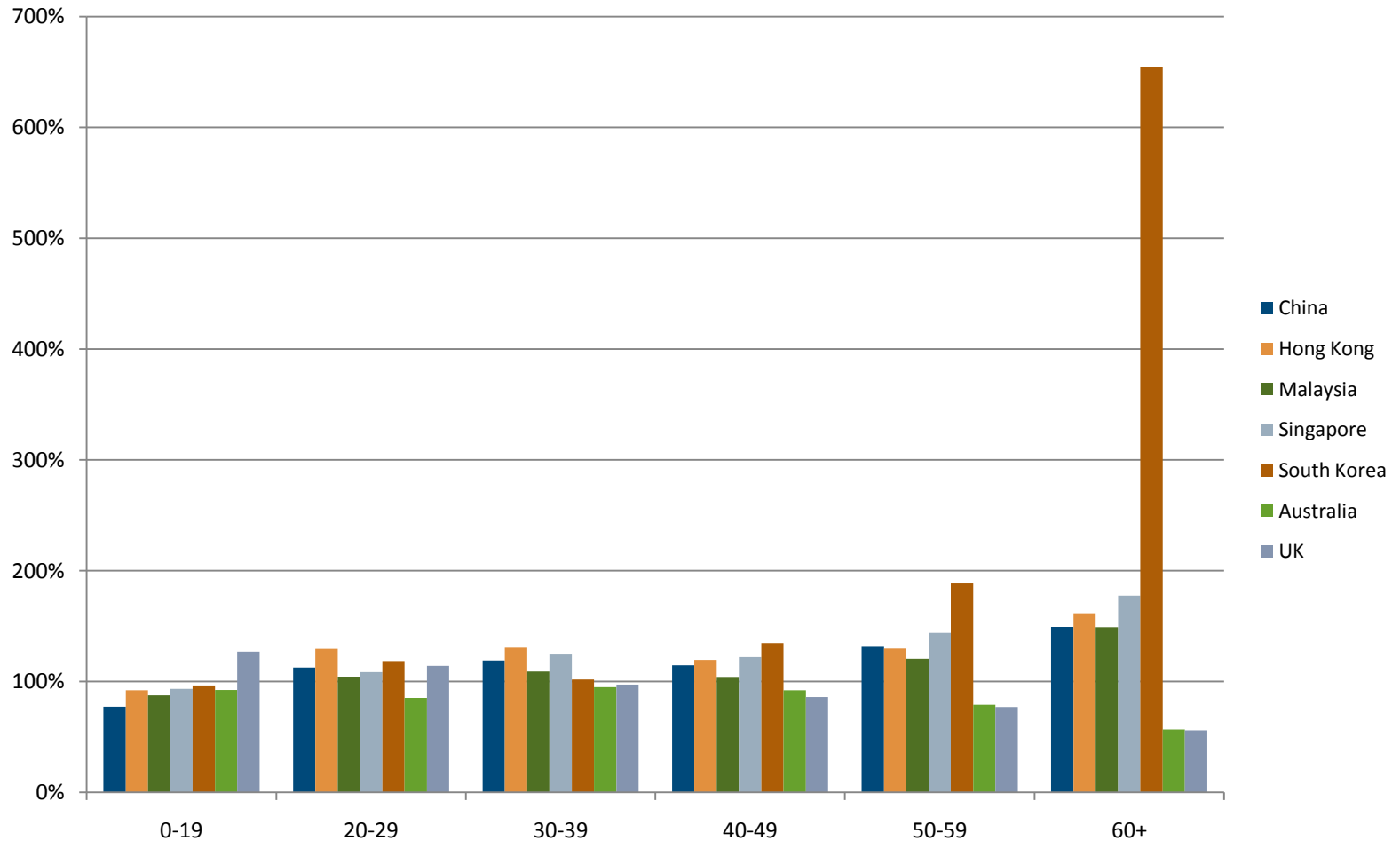
Average Sum Insured (US\$) of In-Force Policies by Age Band



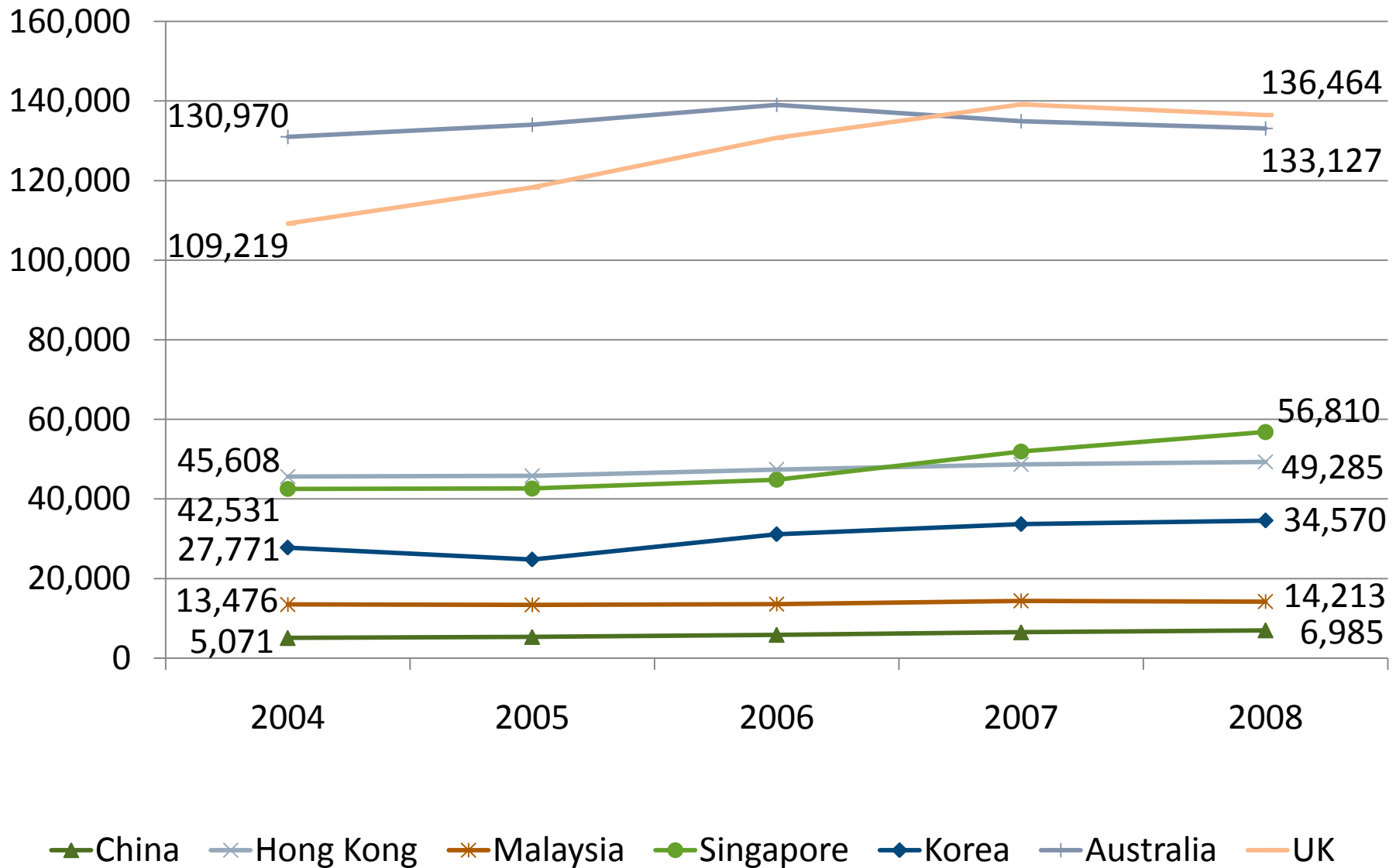
Female / Male Ratio of In-force Policies by Age Group



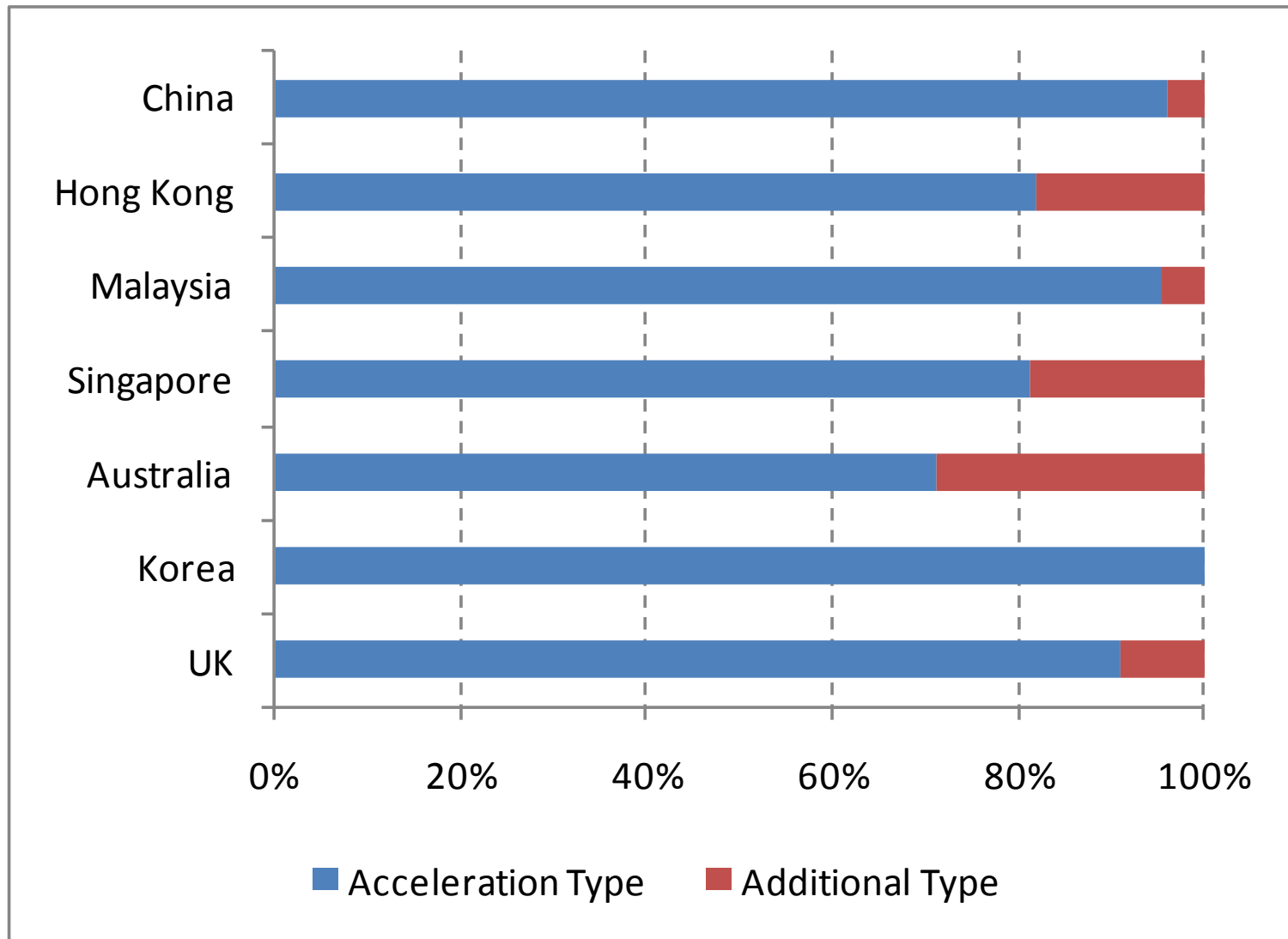
By Market



Average Sum Insured (US\$) for New Business



Benefit Type





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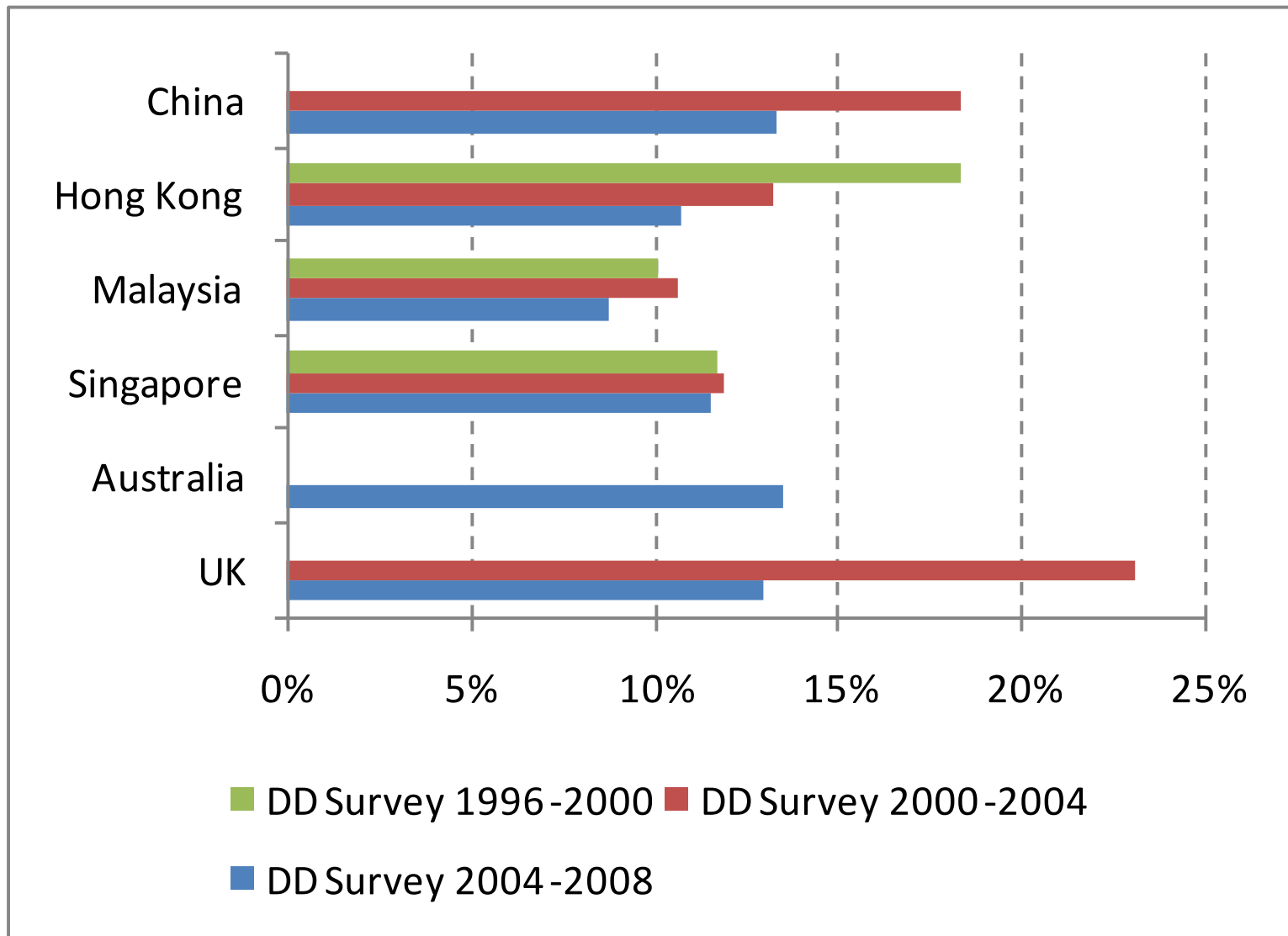
Number of Claims by Market



All claims collected

	Total	China	Hong Kong	Malaysia	Singapore	Australia	Korea	UK	New Zealand
DD	452,870	377,524	11,808	21,354	9,049	7,870	5,428	16,360	3,477
Death	294,427	276,095	1,646	8,934	1,284	906	1,823	3,162	577
Total	747,297	653,619	13,454	30,288	10,333	8,776	7,251	19,522	4,054

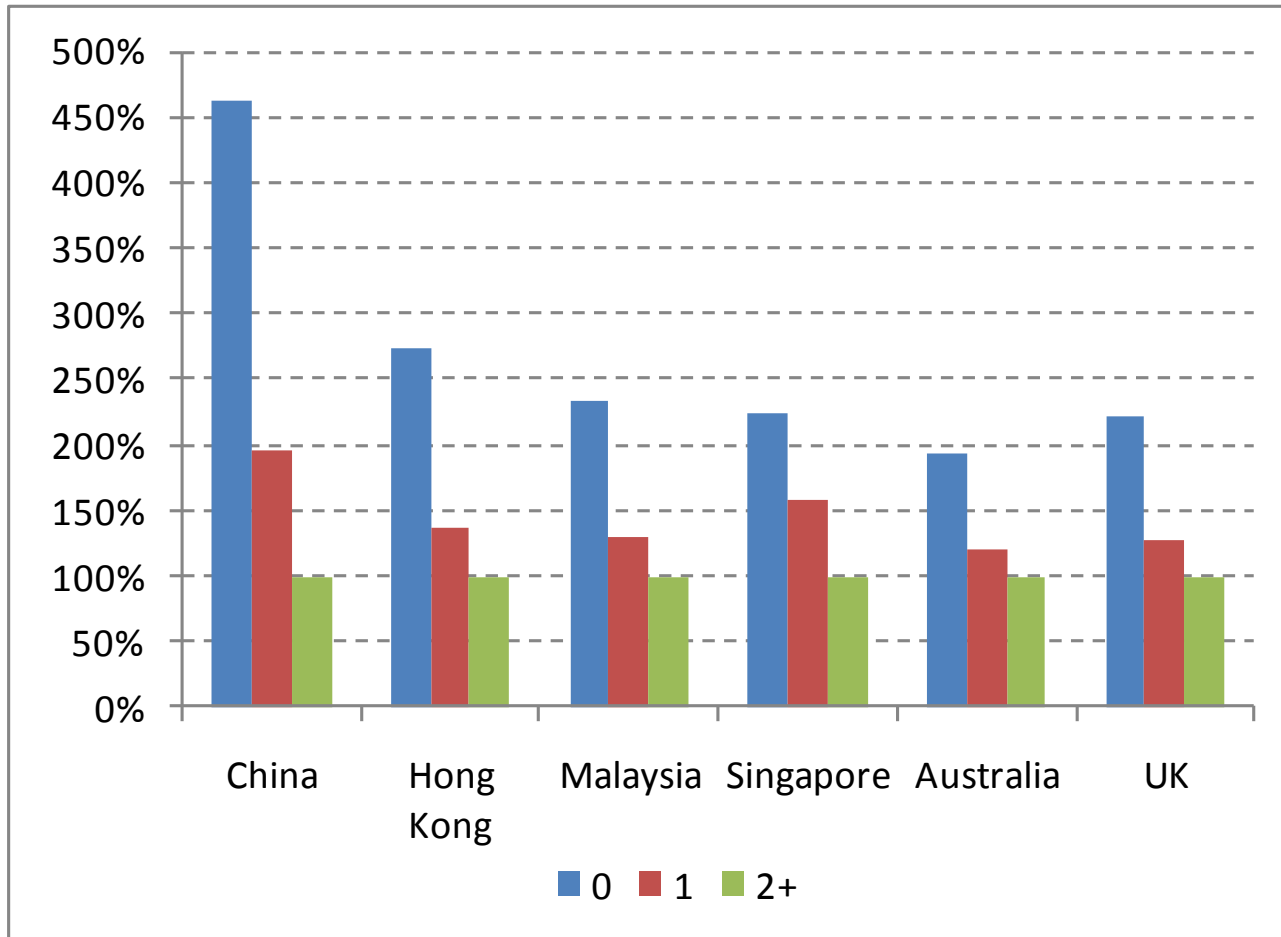
Declinature Rate by Market



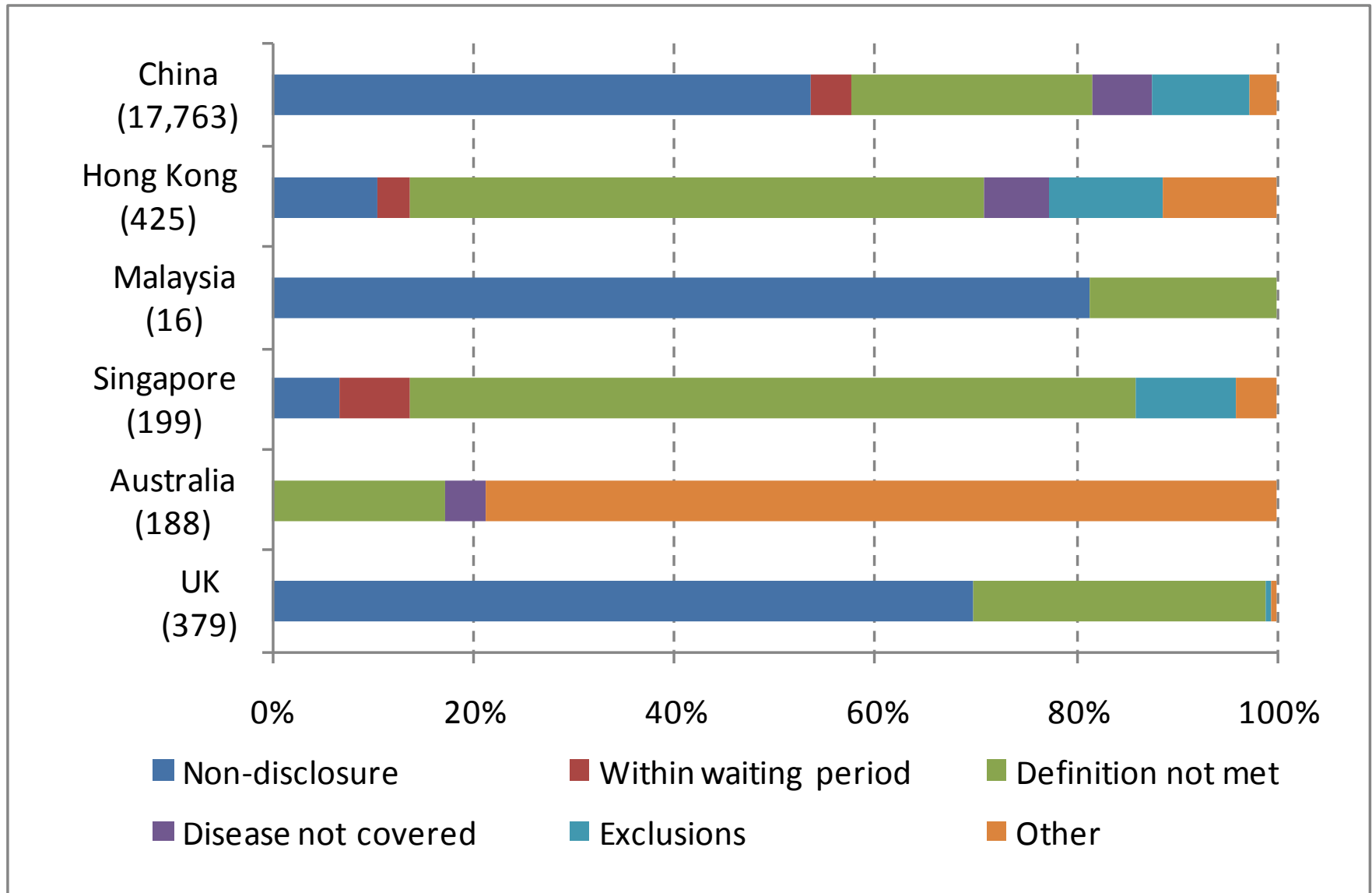
Declinature Rate by Duration



Declinature rate for duration 0 & 1 claims as % of declinature rate for duration 2+ claims



Reasons for Declinature



Claims Settlement Delay



		Diagnosis to Notification	Notification to Benefit Payment	Diagnosis to Benefit Payment
All Admitted Claims	China	76	37	109
	Hong Kong	69	36	104
	Malaysia	98	38	126
	Singapore	84	20	102
	Korea	N/A	N/A	43
	Australia	87	91	167
	New Zealand	79	48	122
	UK	95	113	188
Claims Occurred in First Policy Year	China	85	50	133
	Hong Kong	79	83	158
	Malaysia	104	85	182
	Singapore	89	60	148
	Korea	N/A	N/A	59
	Australia	84	140	226
	New Zealand	80	56	135
	UK	96	124	211



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- > Include all claims for
 - Standard lives
 - Traditional type products
 - Some products may cover more diseases than other, range from 5 to 49, most cover 25-35 diseases, all products cover at least cancer, heart attack and stroke
- > All products are treated as 100% acceleration, i.e. exposed to risk ceases when a claim occurs, either as Dread Disease Claim or as Death Claims
- > Only include exposure and claims after waiting period
- > Actual over Expected Ratios (A/E)
 - Number of expected claims are calculated using the graduated incidence rates from the DD survey 2000-2004

A/E Ratios by Calendar Year (Death with DD



Acceleration, Dur 2+)

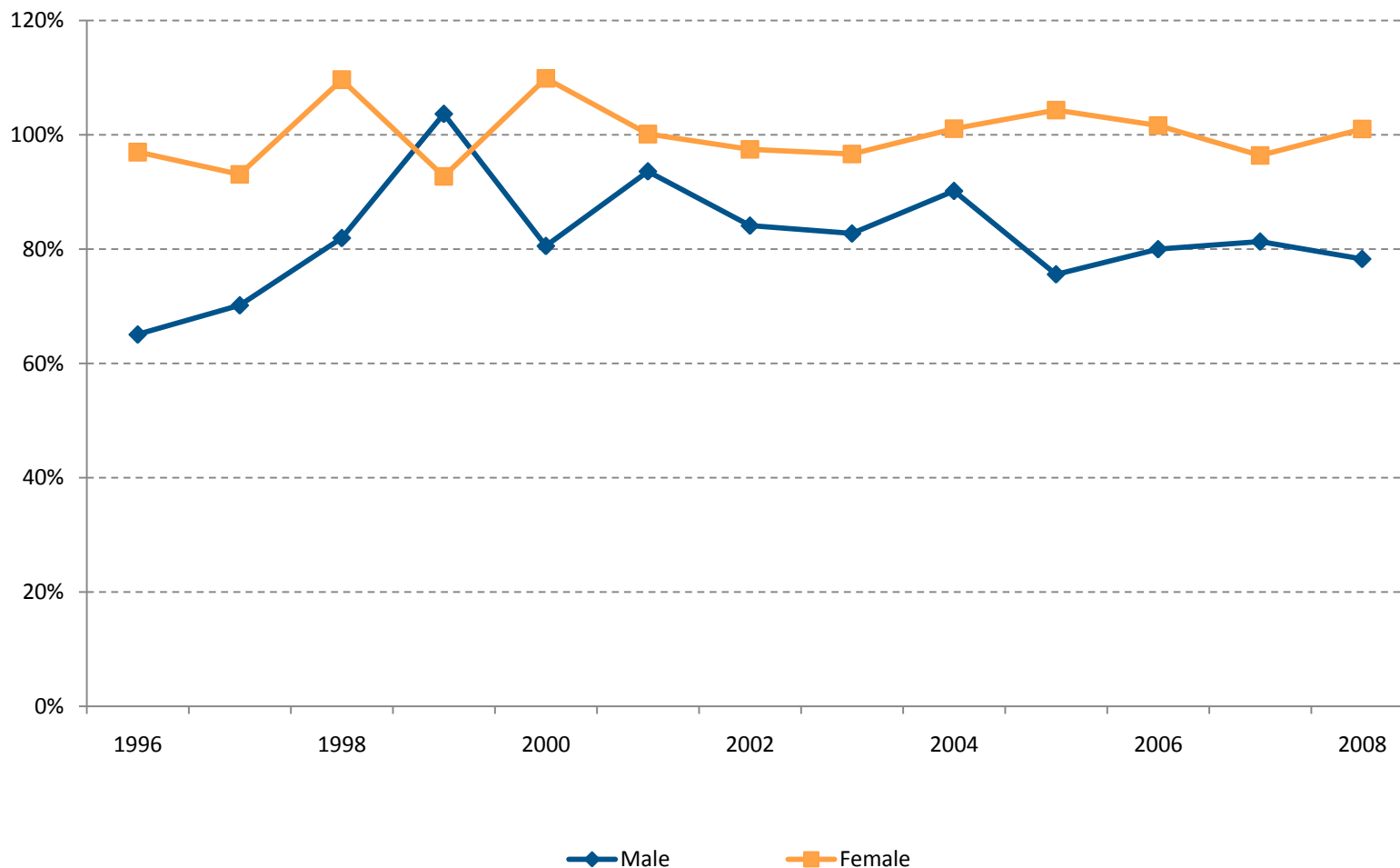
Year			2004	2005	2006	2007	2008	2004-2008	2000-2004
China	Male	No. of claims	22,604	30,824	38,674	46,516	56,930	195,548	12,050
		A/E	113%	117%	118%	117%	120%	118%	85%
	Female	No. of claims	19,818	26,956	33,490	40,080	48,429	168,773	13,078
		A/E	91%	96%	98%	100%	100%	98%	84%
Hong Kong	Male	No. of claims	544	503	583	660	671	2,961	1,958
		A/E	90%	76%	80%	81%	78%	81%	84%
	Female	No. of claims	629	721	775	823	915	3,863	2,399
		A/E	101%	104%	102%	96%	101%	101%	99%
Malaysia	Male	No. of claims	1,505	1,899	2,108	2,243	2,384	10,139	4,123
		A/E	105%	115%	111%	106%	104%	108%	116%
	Female	No. of claims	1,330	1,597	1,825	1,941	2,095	8,788	3,376
		A/E	99%	103%	102%	98%	97%	99%	99%
Singapore	Male	No. of claims	246	539	557	567	597	2,506	987
		A/E	77%	77%	74%	71%	70%	73%	83%
	Female	No. of claims	414	790	855	856	933	3,848	1,522
		A/E	105%	96%	98%	93%	96%	97%	103%
Australia	Male	No. of claims	469	464	486	554	464	2,437	
		A/E	98%	90%	89%	97%	80%	91%	
	Female	No. of claims	305	337	365	384	324	1,715	
		A/E	88%	90%	91%	91%	75%	87%	
UK	Male	No. of claims	836	1,105	1,273	1,450	1,312	5,976	2,551
		A/E	103%	97%	90%	92%	78%	90%	106%
	Female	No. of claims	607	876	1,182	1,261	1,124	5,050	1,742
		A/E	100%	101%	108%	104%	86%	99%	102%

A/E Ratios by Duration (Death with DD Acceleration)

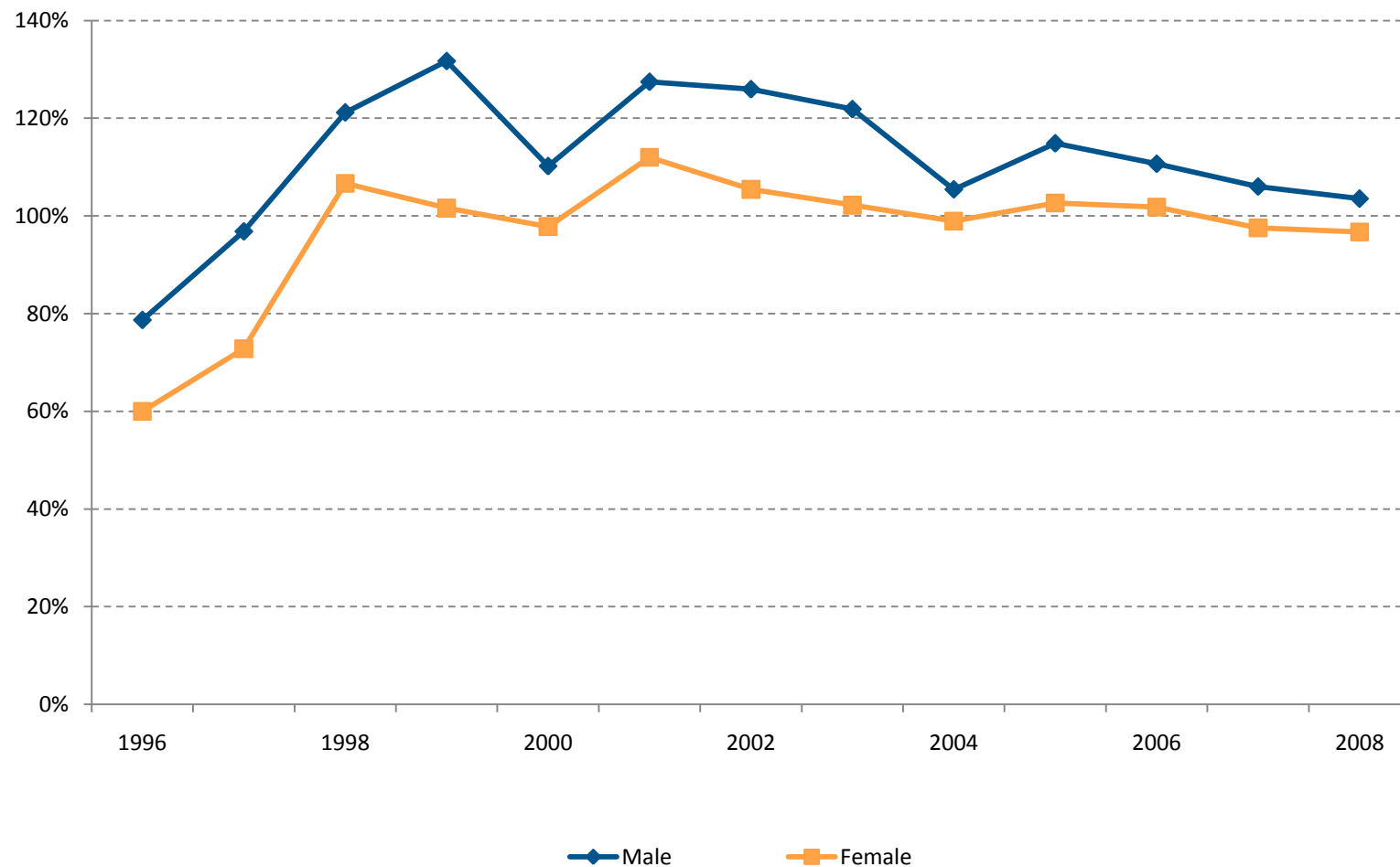


Market	Duration	Male		Female	
		No. Of Claims	A/E	No. of Claims	A/E
China	0	28,747	158%	20,481	120%
	1	40,294	129%	32,359	103%
	2+	195,548	118%	168,773	98%
Hong Kong	0	189	62%	256	79%
	1	276	77%	351	92%
	2+	2,961	81%	3,863	101%
Malaysia	0	713	90%	514	80%
	1	969	105%	730	93%
	2+	10,139	108%	8,788	99%
Singapore	0	57	54%	80	81%
	1	76	55%	101	75%
	2+	2,506	73%	3,848	97%
Australia	0	189	78%	140	86%
	1	273	91%	180	87%
	2+	2,437	91%	1,715	87%
UK	0	1,011	72%	878	82%
	1	1,145	75%	1,111	93%
	2+	5,976	90%	5,050	99%
New Zealand	0	173	91%	122	90%
	1	200	86%	152	91%
	2+	1,229	104%	846	97%

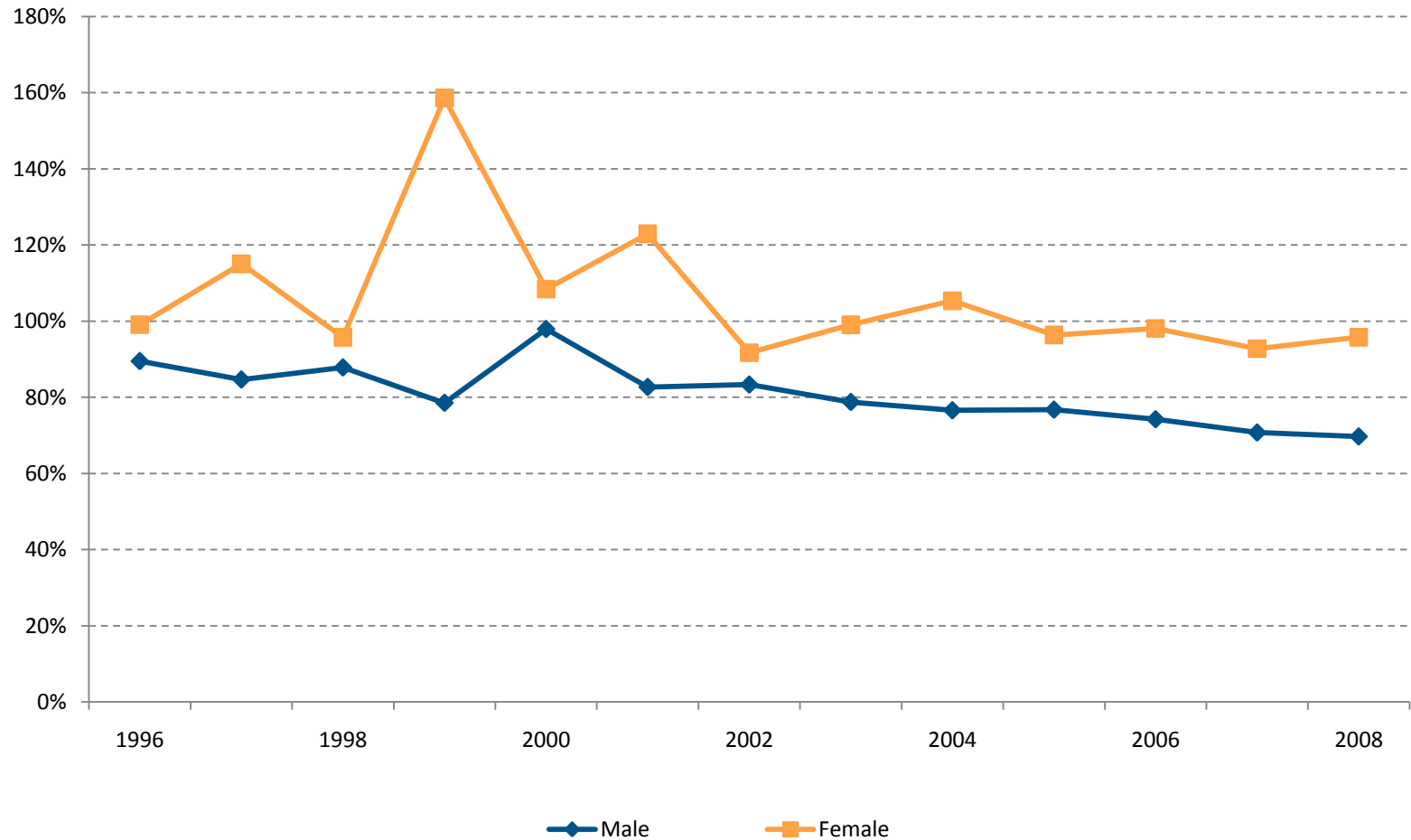
A/E Ratio by Calendar Year, Duration 2+, Hong Kong



A/E Ratio by Calendar Year, Duration 2+, Malaysia



A/E Ratio by Calendar Year, Duration 2+, Singapore



A/E Ratios by Smoking Status (Death with DD Acceleration, Dur 2+)



Market	Smoking Status	Male			Female		
		Exposure	Claims	A/E	Exposure	Claims	A/E
Hong Kong	NS	79%	1,165	65%	94%	2,185	96%
	S	21%	515	111%	6%	118	114%
		S/NS differential		170%	S/NS differential		119%
Malaysia	NS	70%	2,615	95%	97%	3,522	102%
	S	30%	1,817	163%	3%	119	154%
		S/NS differential		171%	S/NS differential		151%
Singapore	NS	81%	460	58%	96%	910	83%
	S	19%	193	93%	4%	51	103%
		S/NS differential		159%	S/NS differential		123%
Australia	NS	90%	1,809	83%	92%	1,346	84%
	S	10%	278	154%	8%	132	106%
		S/NS differential		184%	S/NS differential		127%
UK	NS	310%	4,105	82%	322%	3,744	96%
	S	70%	1,387	136%	58%	830	124%
		S/NS differential		167%	S/NS differential		130%

A/E Ratios per Sum Insured (Death with DD Acceleration, Dur 2+)

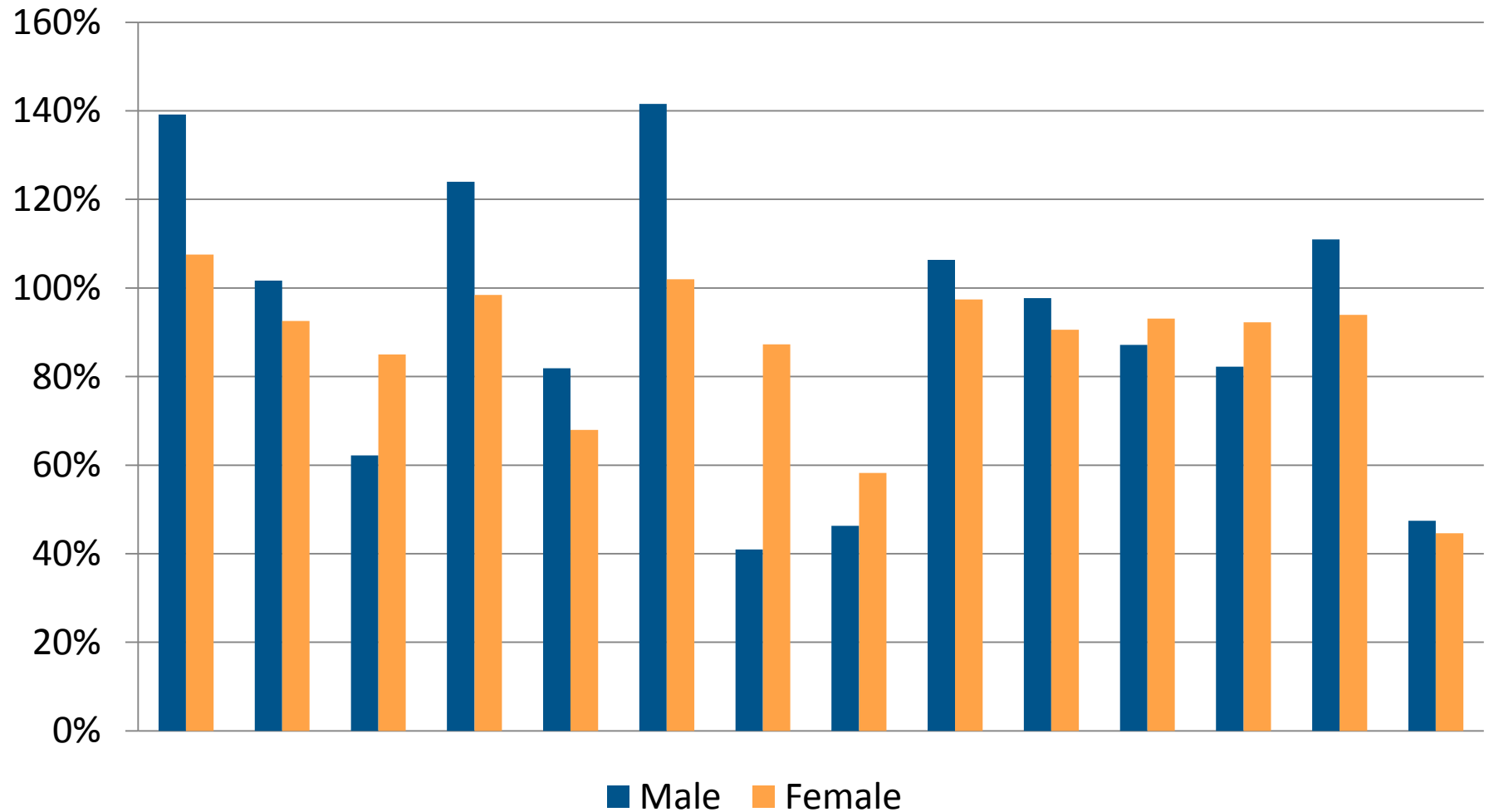


	Male		Female	
	Per life	Per SA	Per life	Per SA
China	118%	114%	98%	100%
Hong Kong	81%	78%	101%	103%
Malaysia	108%	98%	99%	92%
Singapore	73%	71%	97%	95%
Australia	91%	85%	87%	89%
Korea	113%	115%	145%	160%
UK	90%	91%	99%	105%

A/E Ratios by Company (Death with DD Acceleration, Dur 2+)



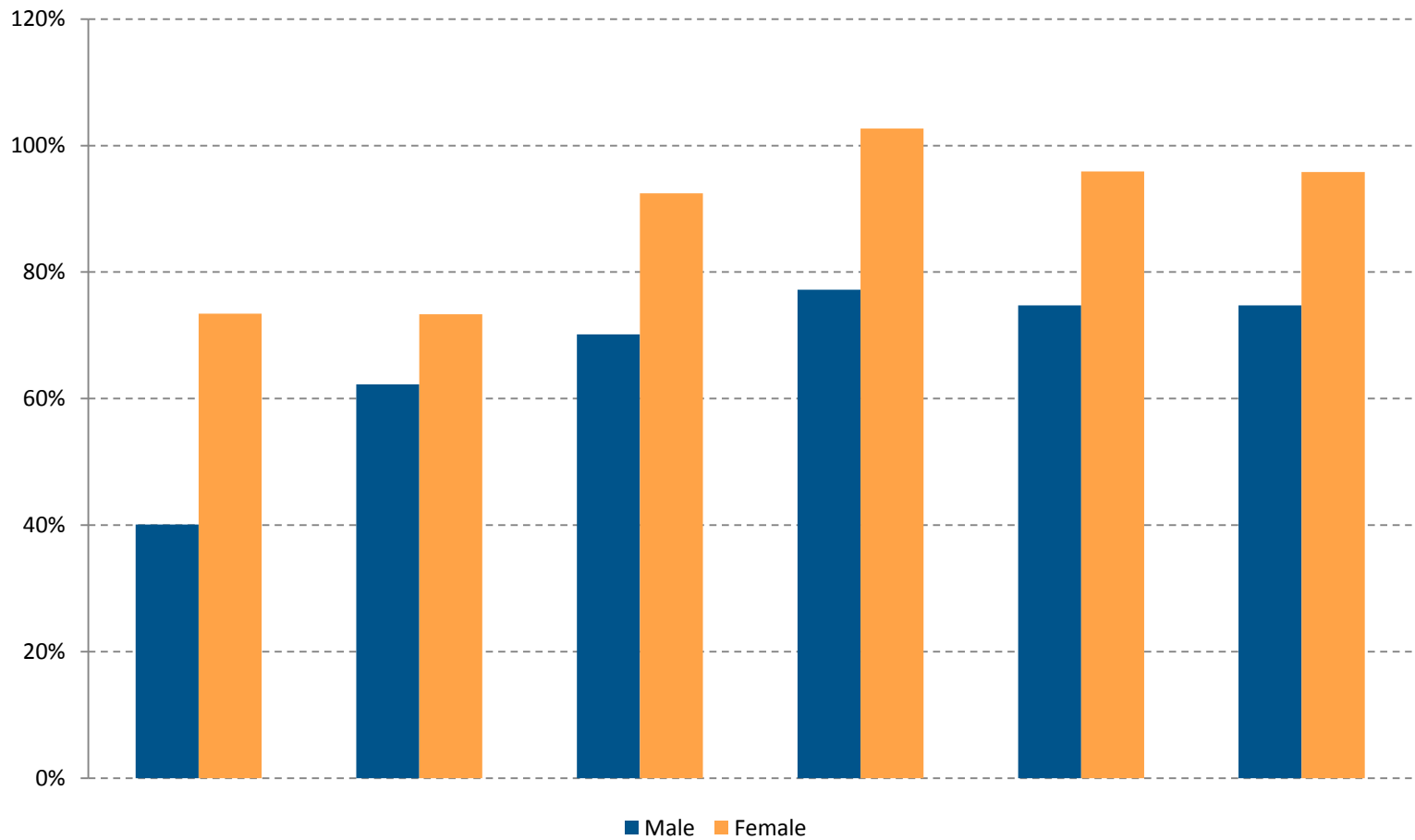
China



Comparison of A/E Ratio among Companies in Singapore



A/E Ratio for Death + Accelerating DD (Duration 2+)



Ten Leading Causes of Claim - Males



Cause of Claim		China %	Hong Kong %	Malaysia %	Singapore %	Australia %	Korea %	UK %	New Zealand %
Cancer	1	60.0%	1 70.0%	1 44.0%	1 54.5%	1 60.5%	1 80.7%	1 50.0%	1 54.4%
Ischemic Heart Disease	2	16.8%	2 11.8%	2 34.9%	2 29.9%	2 24.9%	2 10.1%	2 27.0%	2 31.1%
Stroke	3	10.1%	3 8.1%	3 7.3%	3 7.0%	3 5.2%	3 3.3%	3 7.9%	3 4.8%
Kidney Failure	4	4.8%	4 2.5%	4 4.2%	4 2.1%	0.3%	5 2.1%	9 0.7%	8 0.8%
Heart Surgeries	5	2.1%	6 1.3%	6 1.6%	5 1.7%	4 2.9%	4 2.9%	7 2.2%	4 2.7%
Paralysis	6	1.7%	0.1%	10 0.5%	8 0.3%	10 0.4%	0.0%	0.3%	5 1.3%
Chronic Liver Failure	7	0.9%	10 0.3%	0.2%	0.1%	0.1%	6 0.7%	0.0%	0.0%
Benign Brain Tumour	8	0.8%	5 2.2%	7 1.4%	6 1.7%	6 0.8%	0.0%	5 2.4%	0.0%
Major Burns	9	0.4%	0.1%	0.3%	0.1%	0.3%	7 0.1%	0.0%	0.0%
Fulminant Viral Hepatitis	10	0.4%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Major Organ Transplant		0.3%	7 0.7%	0.1%	0.2%	0.2%	0.0%	0.4%	0.2%
Total Permanent Disability		0.0%	8 0.4%	0.1%	0.0%	0.0%	0.0%	6 2.3%	0.0%
Brain Surgery		0.0%	9 0.4%	5 1.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Coma		0.0%	10 0.3%	8 0.9%	0.1%	0.2%	0.0%	0.5%	0.3%
Full Blown AIDS		0.0%	0.0%	9 0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Parkinson's Disease		0.1%	0.1%	10 0.5%	7 0.7%	8 0.5%	0.0%	8 1.3%	7 0.9%
Motor Neurone Disease		0.0%	0.2%	0.1%	9 0.2%	0.1%	0.0%	# 0.6%	8 0.8%
Multiple Sclerosis		0.0%	0.1%	0.1%	9 0.2%	9 0.4%	0.0%	4 3.4%	10 0.5%
Cardiomyopathy		0.1%	0.1%	0.0%	0.0%	5 1.4%	0.0%	0.1%	11 0.4%
Major Head Trauma		0.2%	0.2%	0.2%	0.1%	7 0.8%	0.0%	0.0%	6 1.1%
Total of top 10		98.1%	98.0%	97.4%	98.5%	97.8%	100.0%	97.9%	98.4%
Other than top 10		1.9%	2.0%	2.6%	1.5%	2.2%	0.0%	2.1%	1.6%
Unknown		2.5%	1.1%	4.9%	3.6%	11.1%	0.1%	4.3%	10.1%
Total number of claims		146,878	3,327	8,154	2,782	3,402	1,414	7,388	1,840

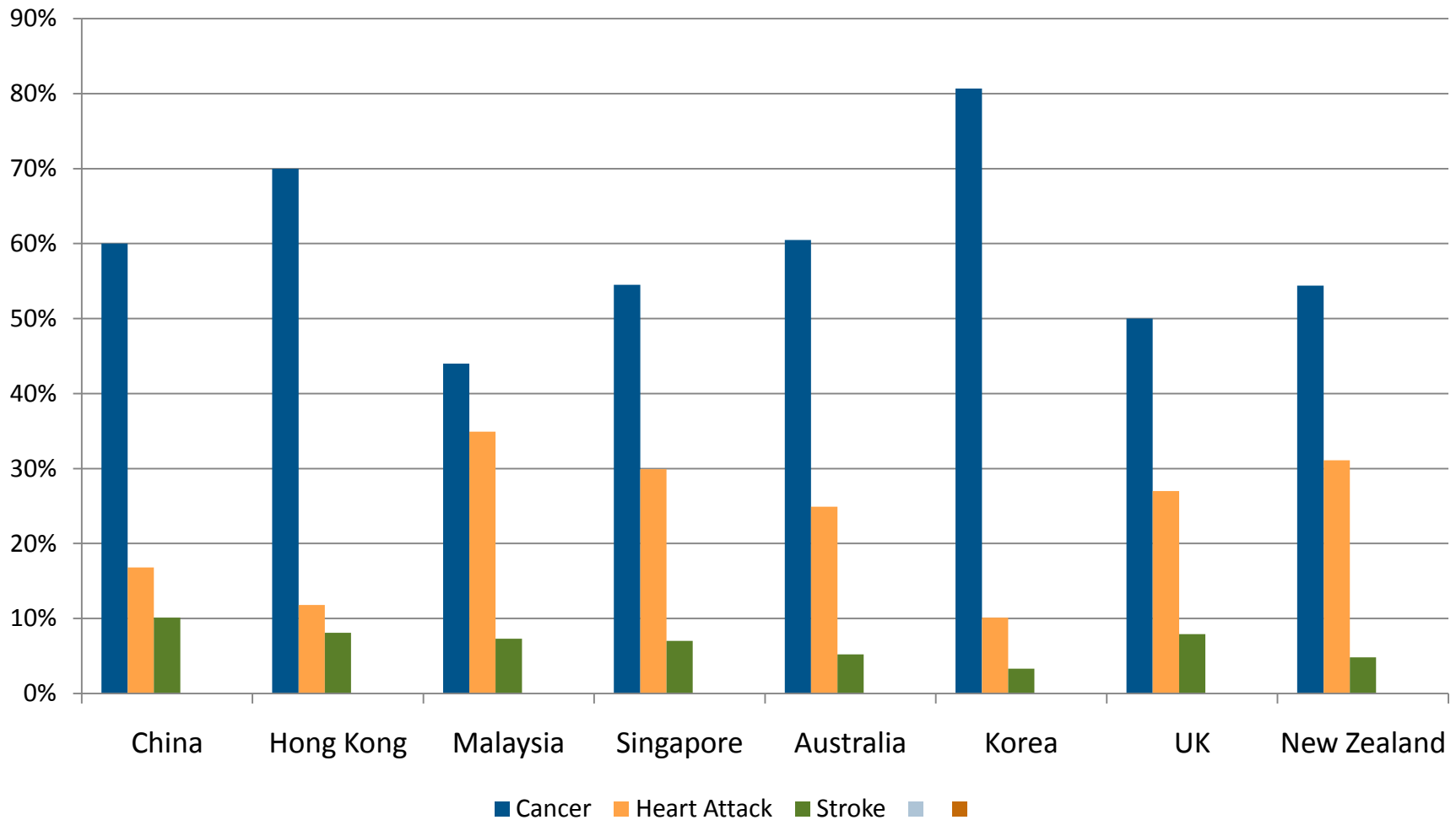
Gen Re DD Survey 2004 - 2008 - 8 November 2012

Ten Leading Causes of Claim - Females

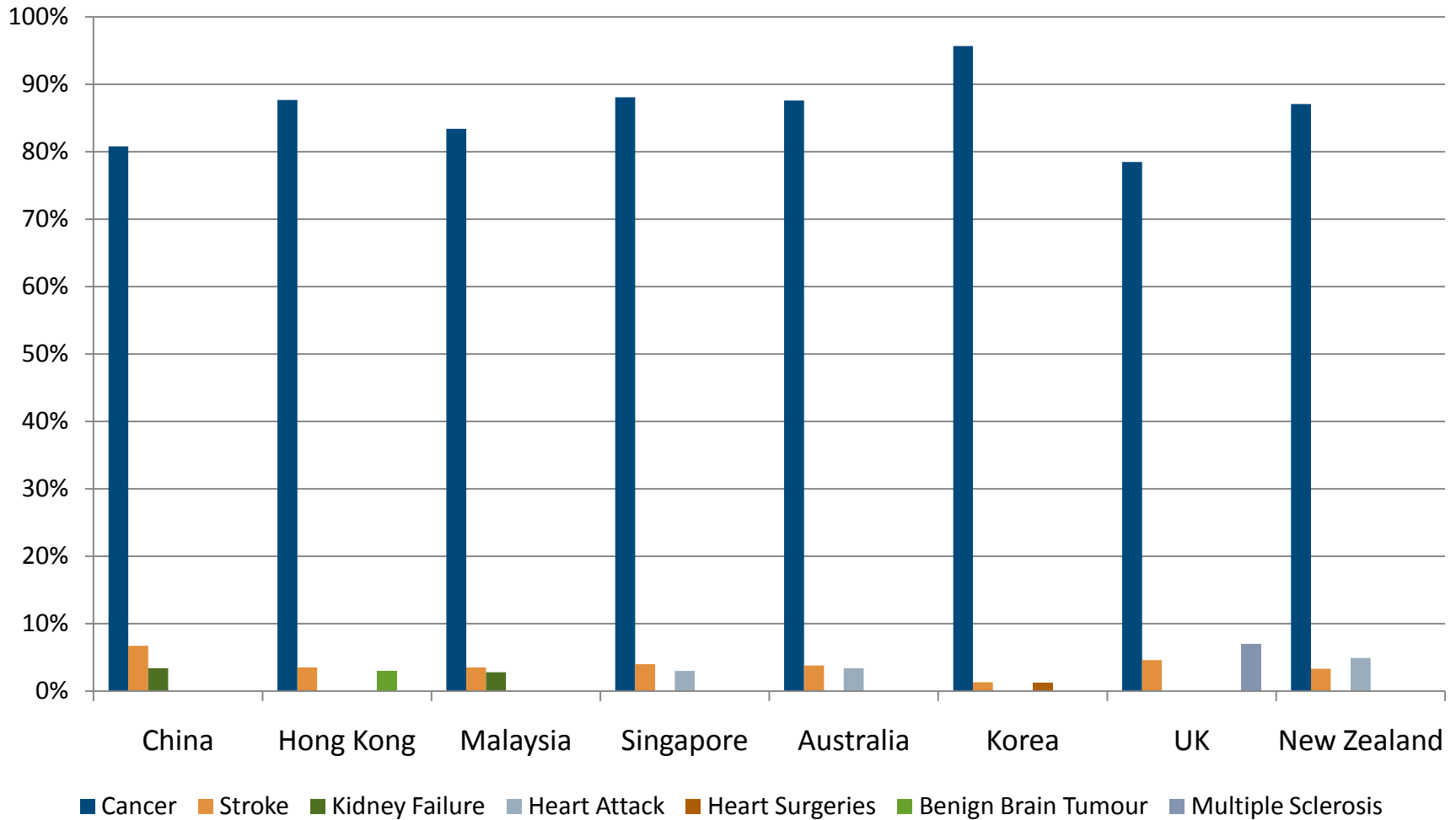


Cause of Claim		China %	HongKong %	Malaysia %	Singapore %	Australia %	Korea %	UK %	New Zealand %
Cancer	1	80.8%	1 87.7%	1 83.4%	1 88.1%	1 87.6%	1 95.7%	1 78.5%	1 87.1%
Stroke	2	6.7%	2 3.5%	2 3.5%	2 4.0%	2 3.8%	2 1.3%	3 4.6%	3 3.3%
Kidney Failure	3	3.4%	4 1.7%	3 2.8%	4 1.2%	8 0.3%	5 0.8%	9 0.4%	0.1%
Ischemic Heart Disease	4	2.8%	6 0.7%	4 2.8%	3 3.0%	3 3.4%	4 0.9%	4 3.3%	2 4.9%
Heart Surgeries	5	2.1%	5 0.8%	7 0.9%	6 0.5%	6 0.6%	3 1.2%	7 0.6%	5 0.8%
Benign Brain Tumour	6	1.2%	3 2.9%	5 1.7%	5 1.1%	5 0.8%	0.0%	5 2.0%	0.0%
Paralysis	7	1.0%	0.1%	0.2%	0.2%	0.0%	0.0%	0.2%	8 0.3%
SLE	8	0.3%	9 0.2%	10 0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Aplastic Anaemia	9	0.2%	10 0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.1%
Chronic Liver Disease	10	0.2%	0.1%	0.1%	0.0%	0.1%	6 0.2%	0.0%	0.0%
Major Organ Transplant		0.1%	7 0.4%	0.1%	10 0.2%	0.1%	0.0%	0.1%	10 0.2%
Brain Surgery		0.0%	8 0.3%	6 1.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Parkinson's Disease		0.1%	0.1%	8 0.3%	7 0.3%	10 0.2%	0.0%	8 0.4%	8 0.3%
Multiple Sclerosis		0.1%	10 0.2%	9 0.3%	8 0.2%	4 1.7%	0.0%	2 6.9%	4 1.1%
Motor Neurone Disease		0.0%	0.1%	0.1%	8 0.2%	0.0%	0.0%	0.2%	10 0.2%
Coma		0.0%	0.1%	0.2%	10 0.2%	0.0%	0.0%	10 0.3%	0.0%
Cardiomyopathy		0.0%	0.0%	0.0%	0.0%	7 0.4%	0.0%	0.0%	7 0.4%
Major Head Trauma		0.1%	0.1%	0.2%	0.0%	8 0.3%	0.0%	0.0%	5 0.8%
Major Burns		0.2%	0.0%	0.1%	0.0%	0.0%	7 0.1%	0.0%	0.0%
Total Permanent Disability		0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	6 2.0%	0.0%
Alzheimer's Disease						10 0.2%			
Total of top 10		98.8%	98.7%	97.7%	99.2%	99.2%	100.0%	98.9%	99.3%
Other than top 10		1.2%	1.3%	2.3%	0.8%	0.8%	0.0%	1.1%	0.7%
Total number of claims		164,542	5,095	8,836	4,462	2,506	3,111	7,219	1,462

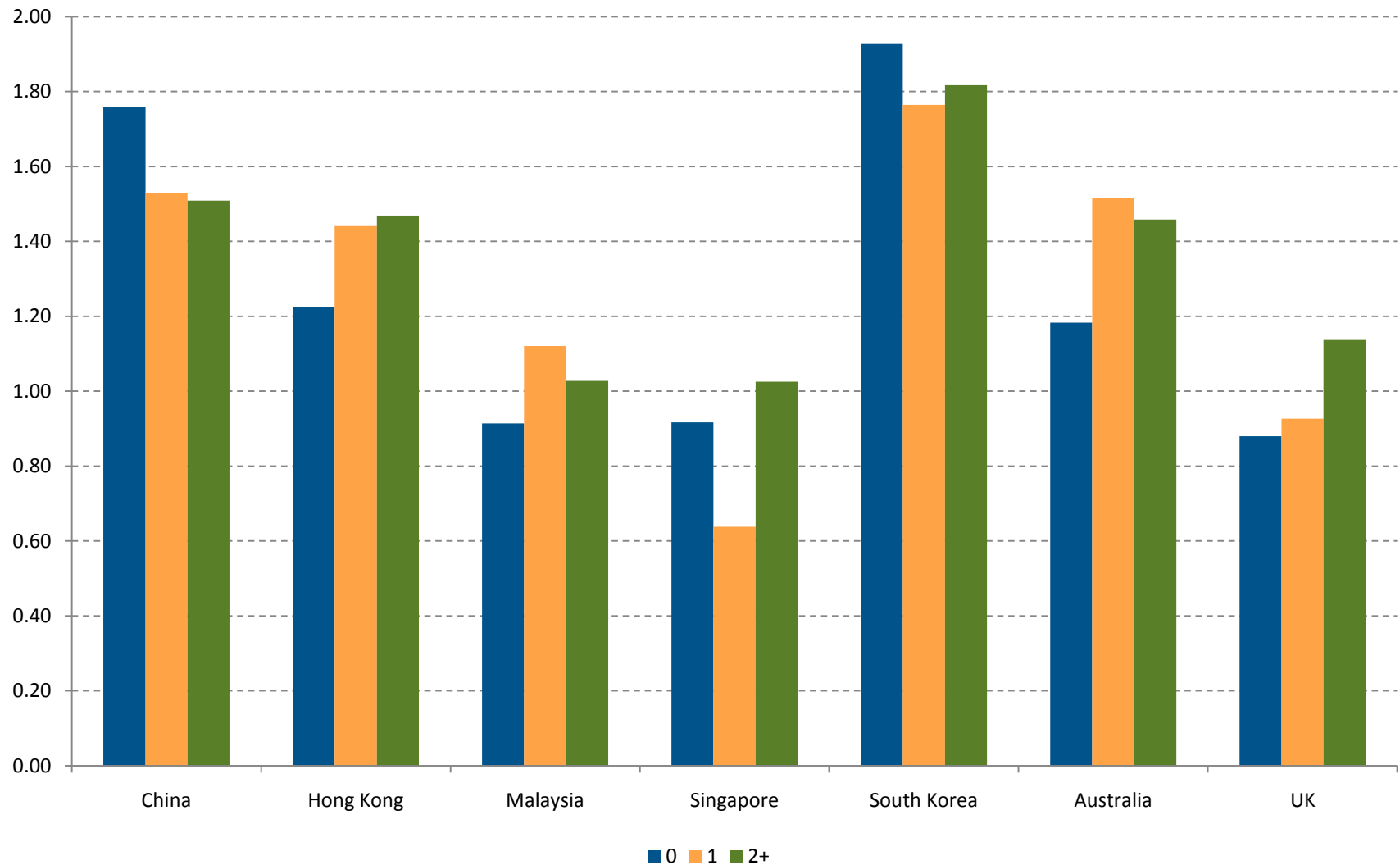
3 leading Claim Causes - Males



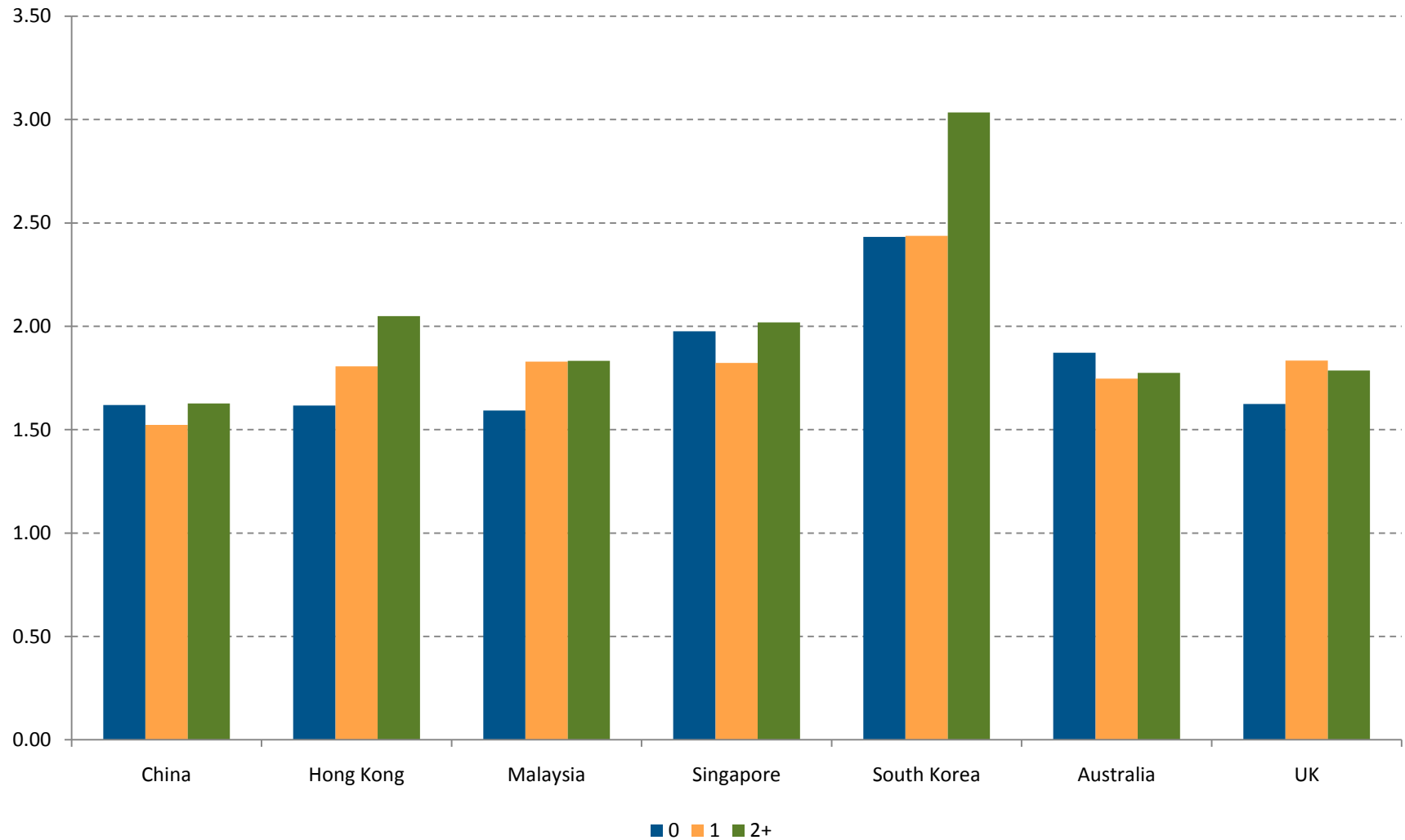
3 leading Claim Causes - Females



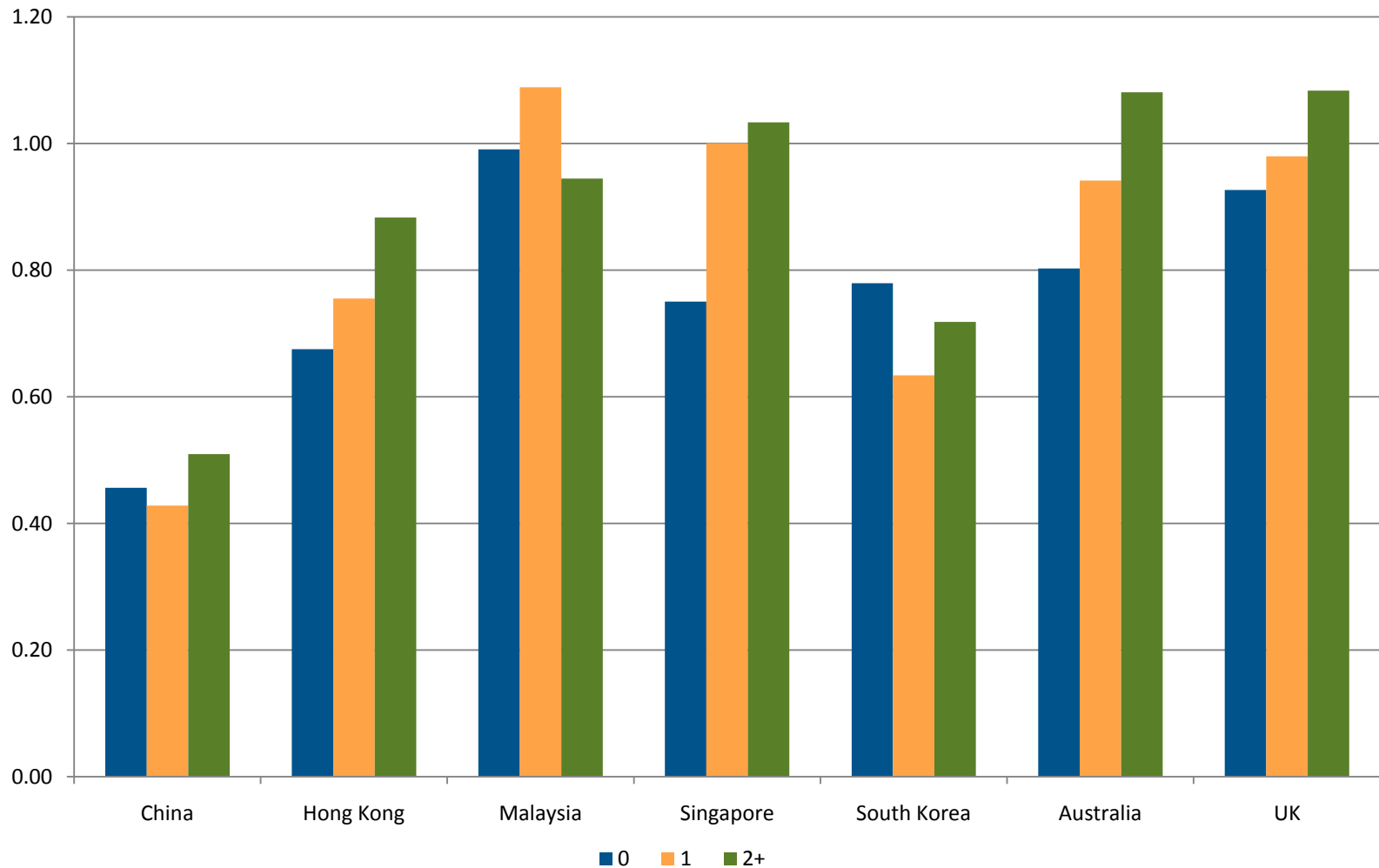
Age Standardised Cancer Incidence Rate per 1,000 by Market & Duration – Males



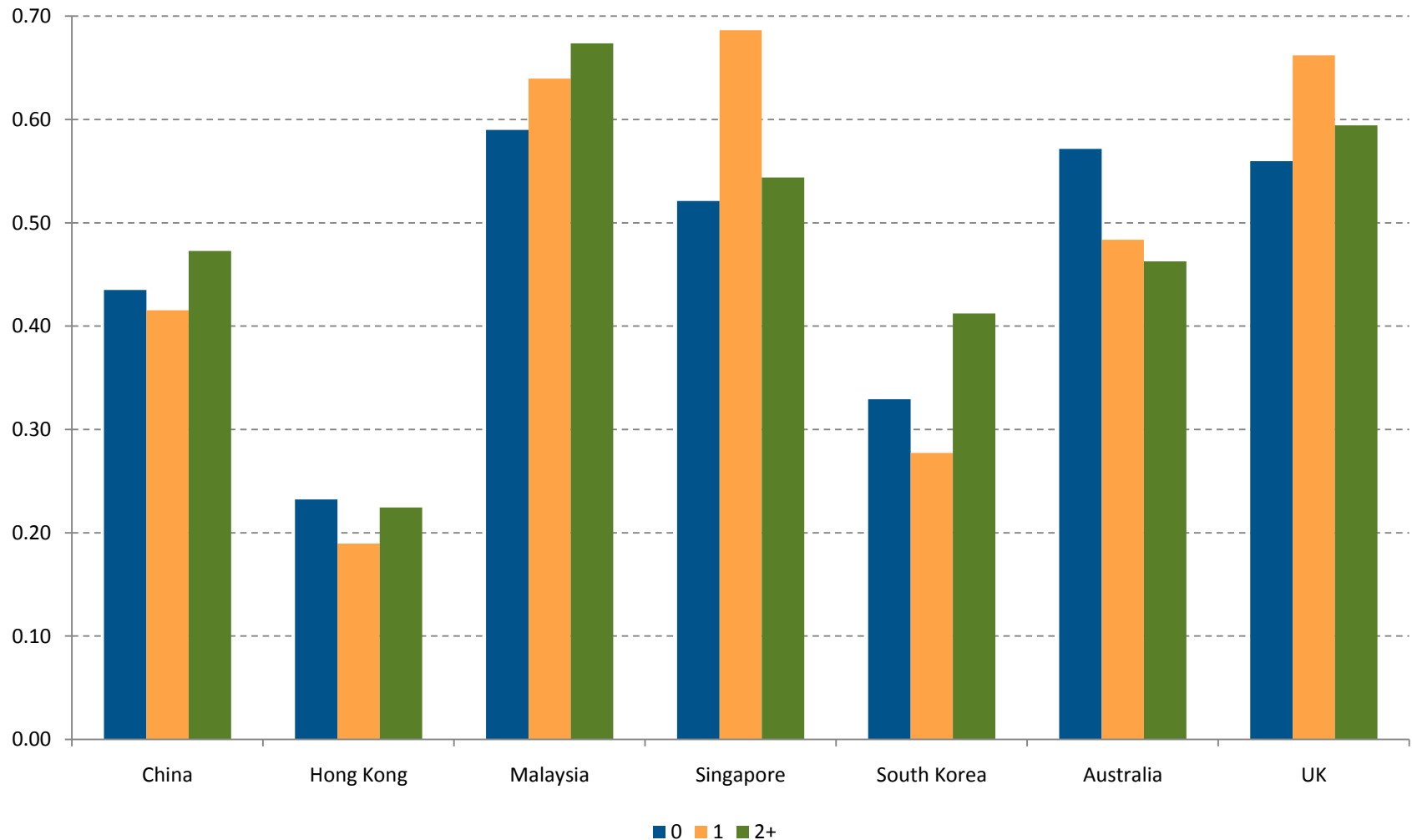
Age Standardised Cancer Incidence Rate per 1,000 by Market & Duration – Females



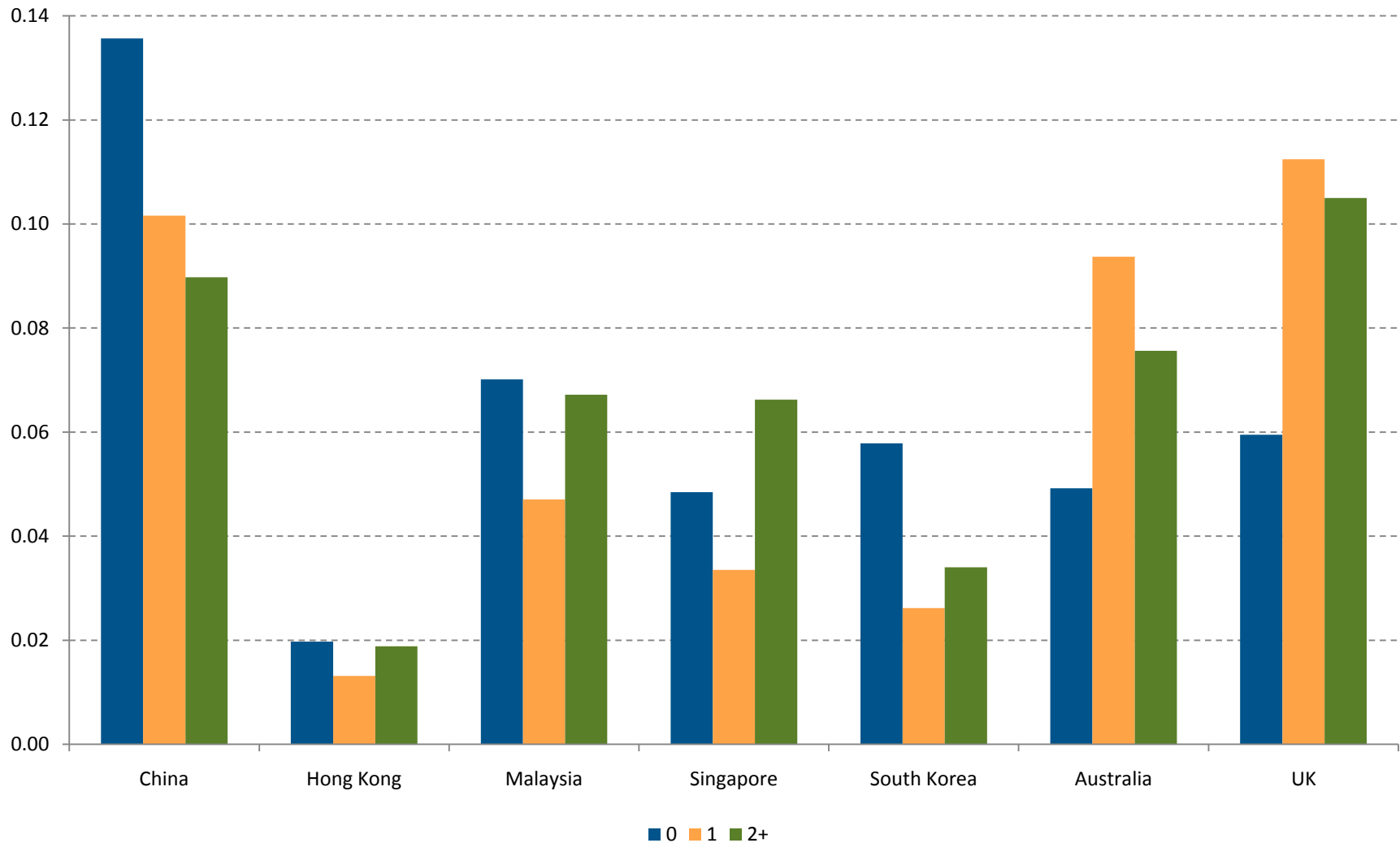
Age Standardised Female Breast Cancer Incidence Rate per 1,000 by Market & Duration



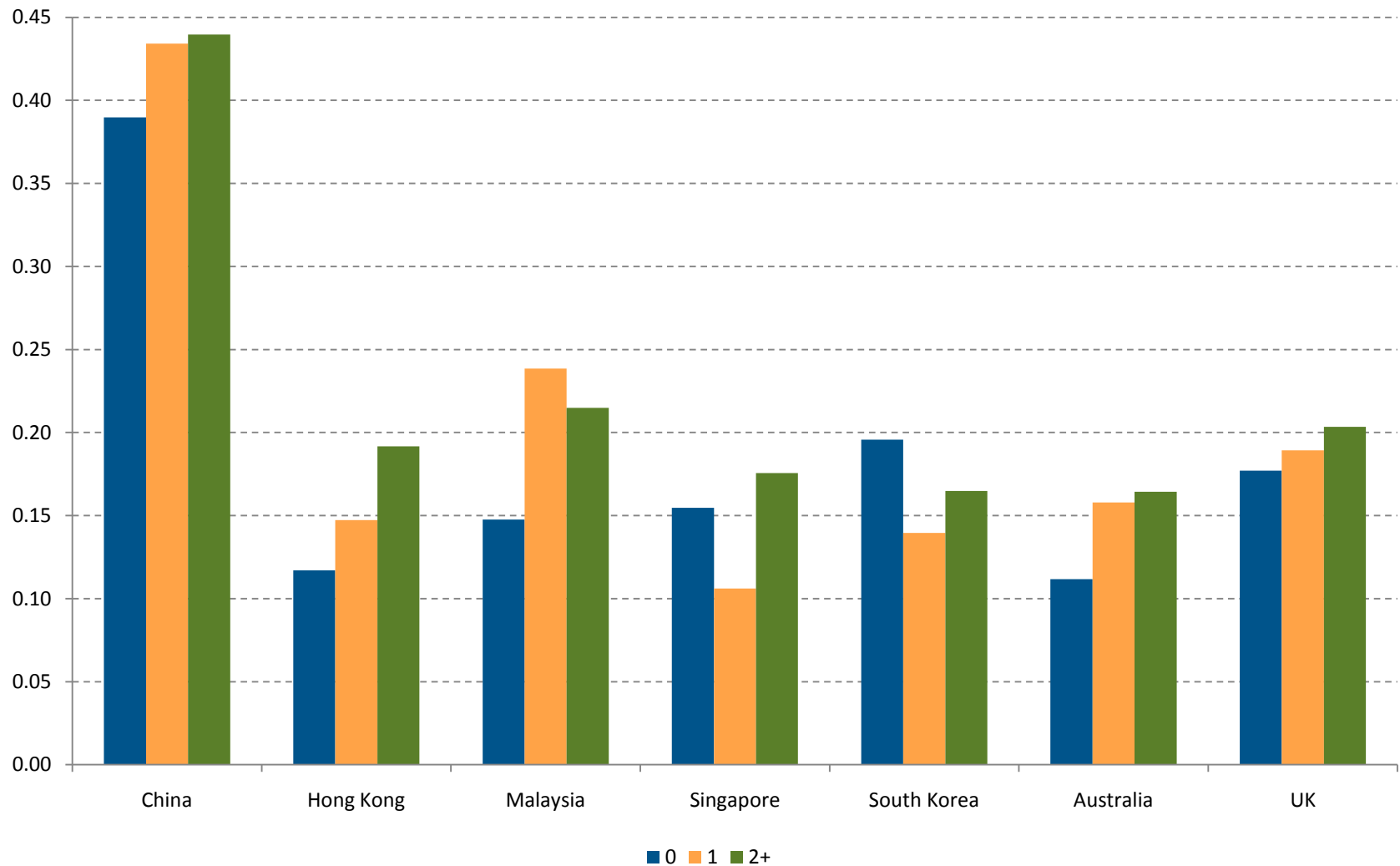
Age Standardised Heart Attack Incidence Rate per 1,000 by Market & Duration – Males



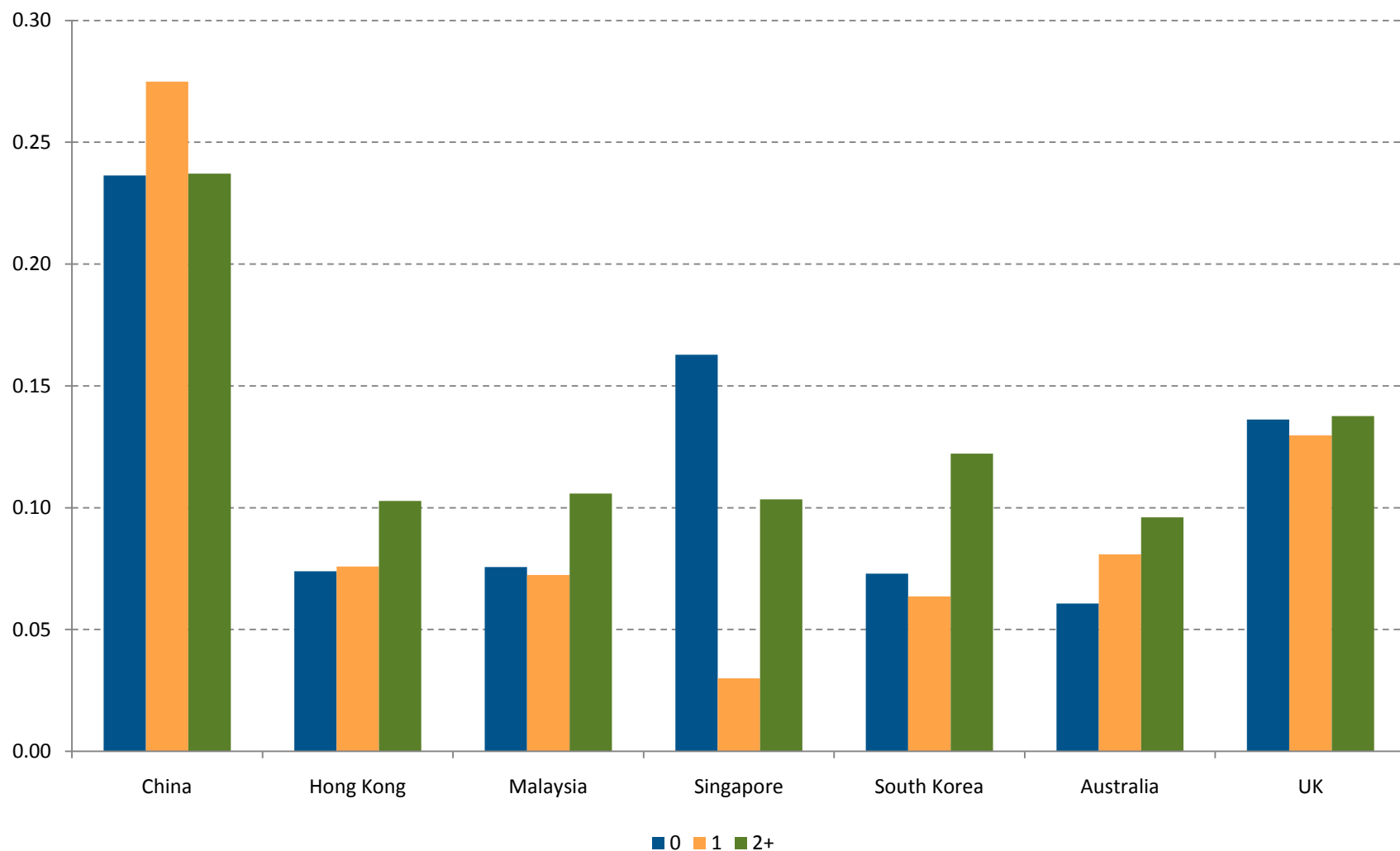
Age Standardised Heart Attack Incidence Rate per 1,000 by Market & Duration – Females



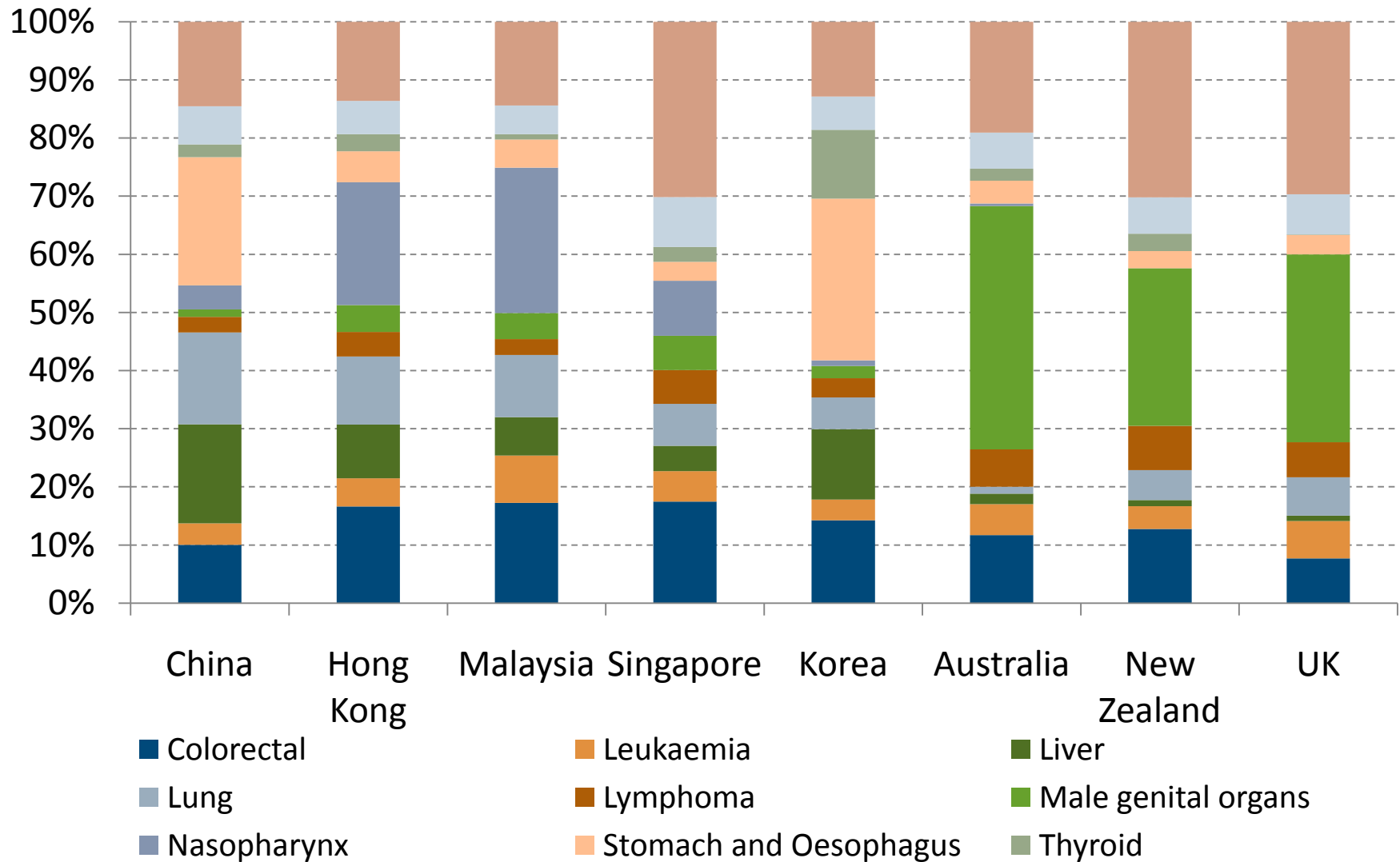
Age Standardised Stroke Incidence Rate per 1,000 by Market & Duration – Males



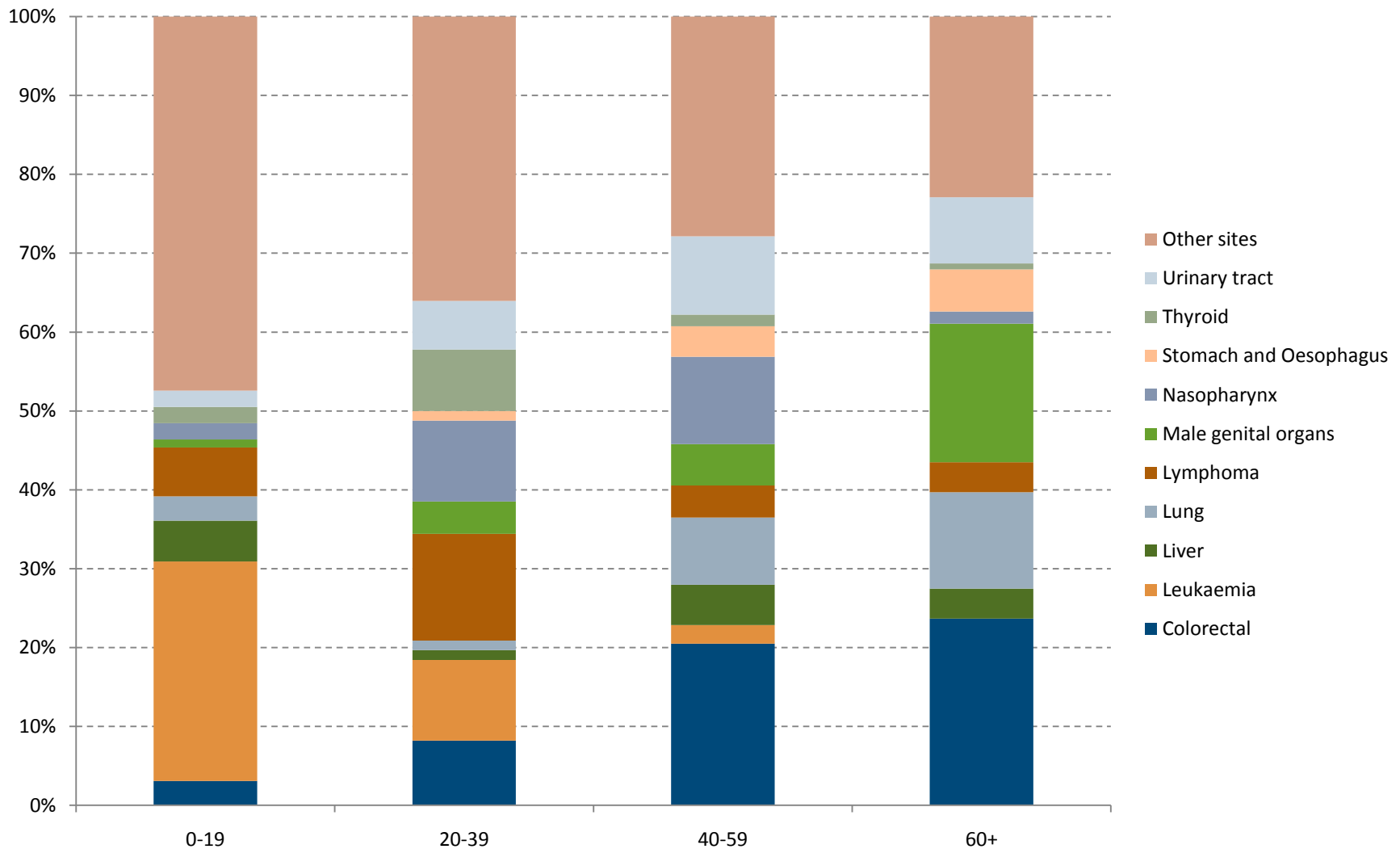
Age Standardised Stroke Incidence Rate per 1,000 by Market & Duration – Females



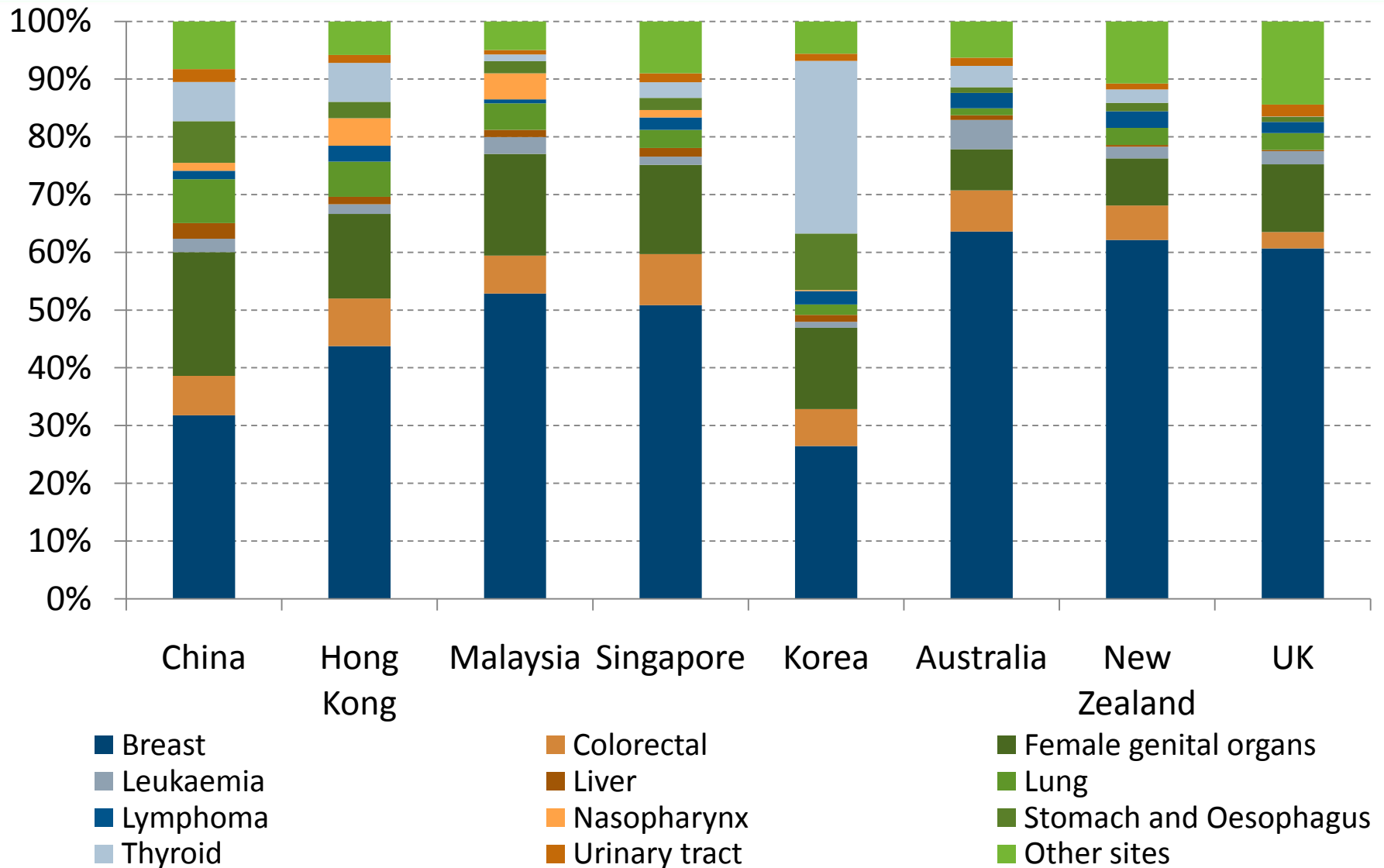
Cancer Site Distribution by Market – Males



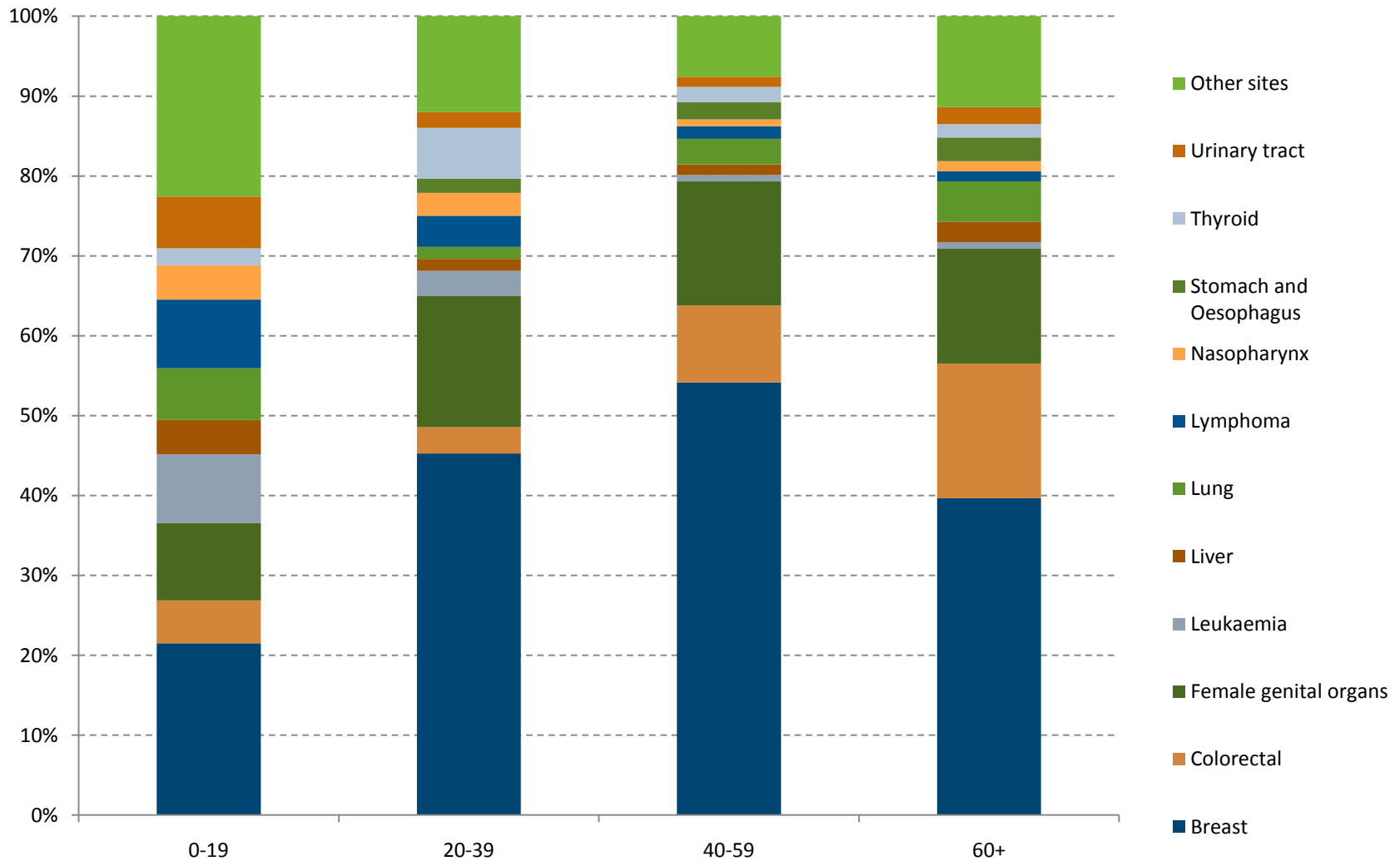
Cancer Site Distribution by Age Band for Singapore - Males



Cancer Site Distribution by Market – Females

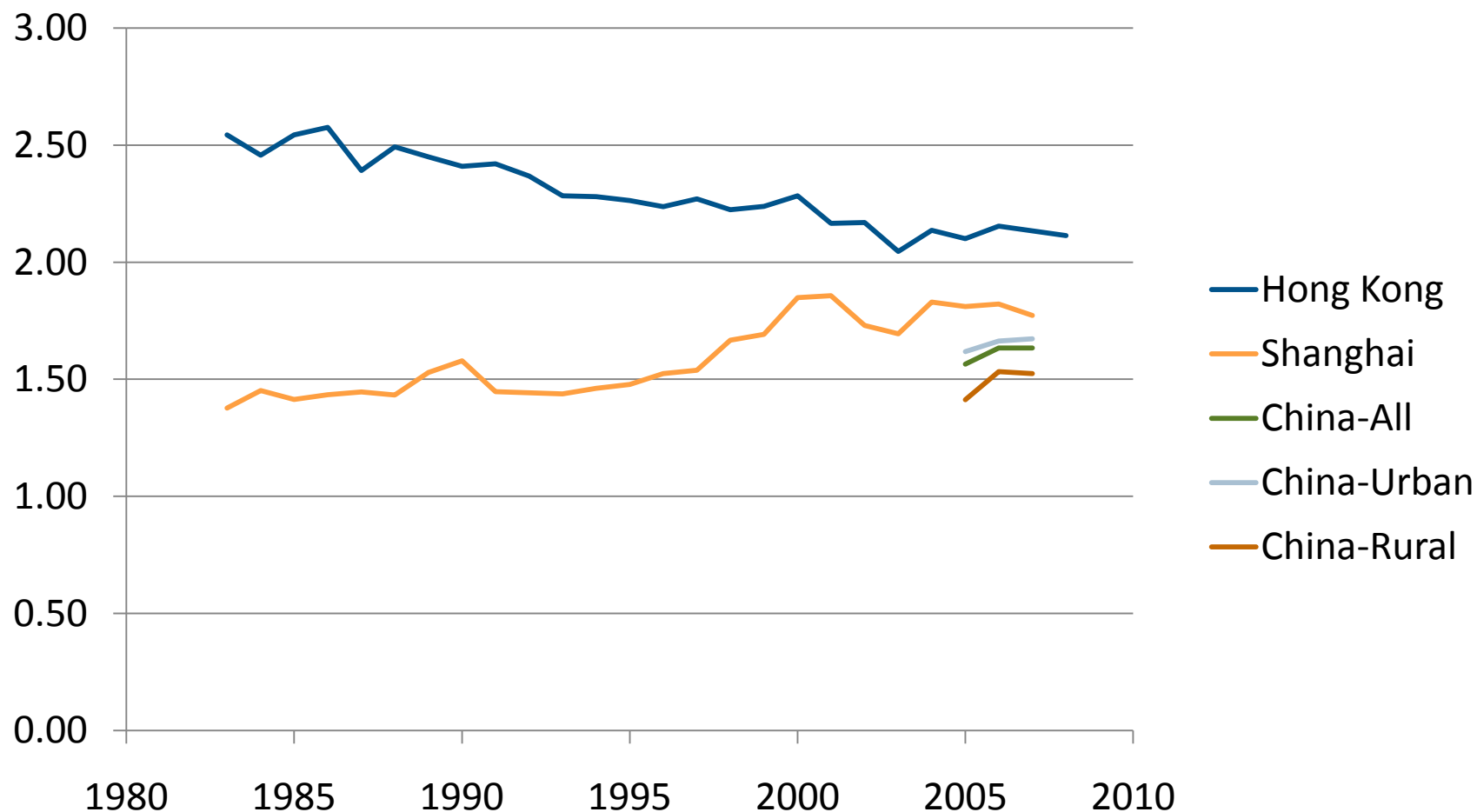


Cancer Site Distribution by Age Band for Singapore - Males



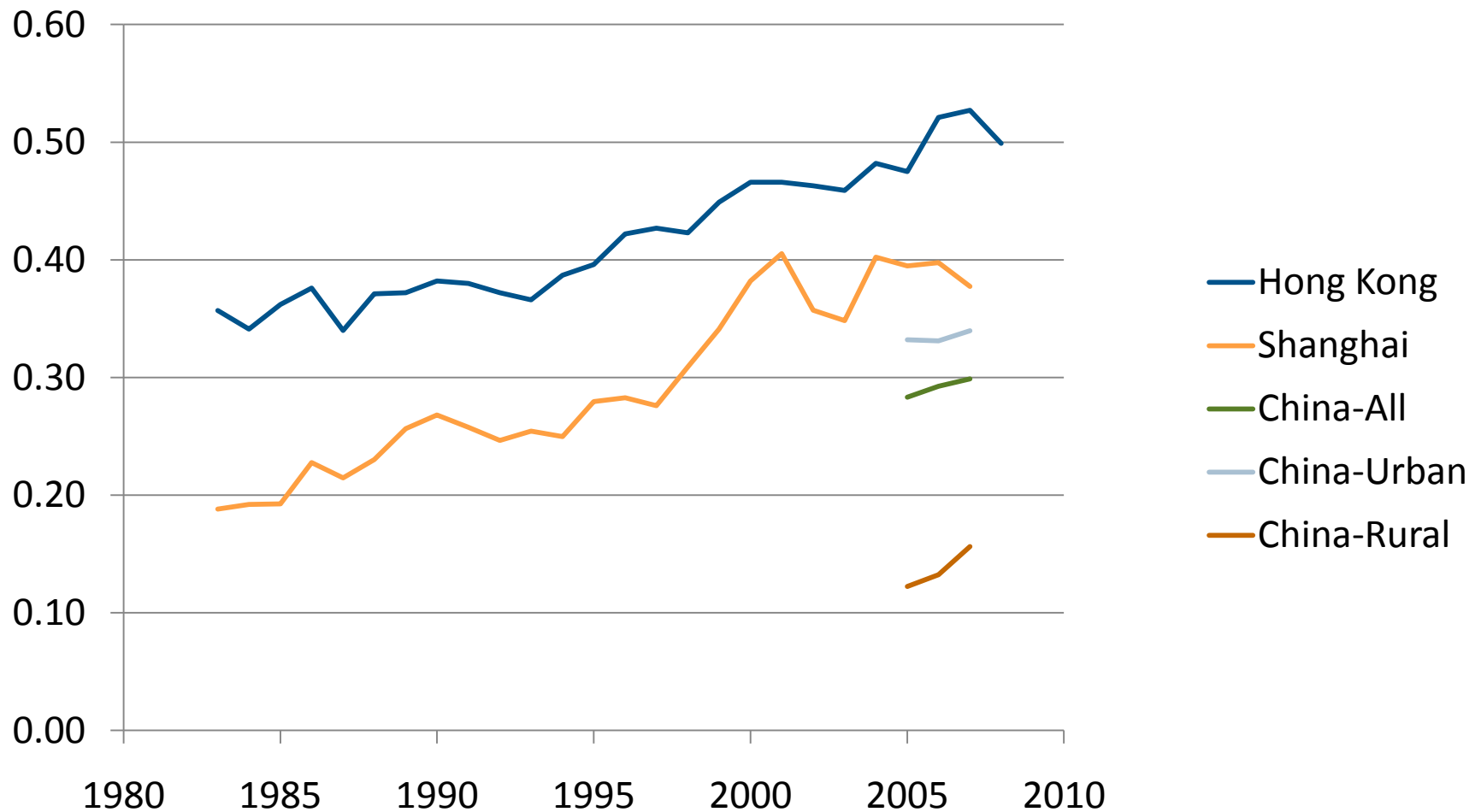


All sites

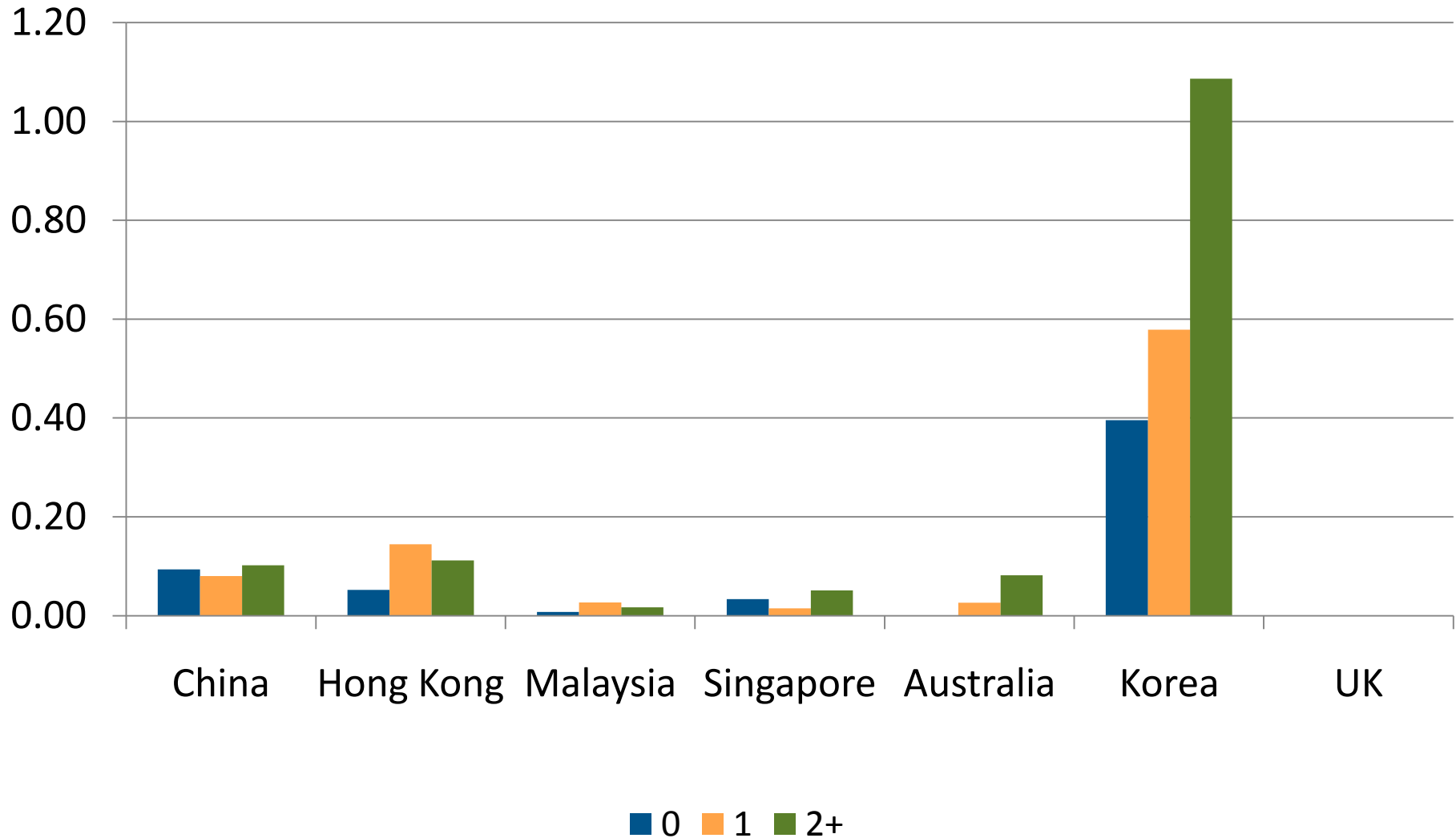




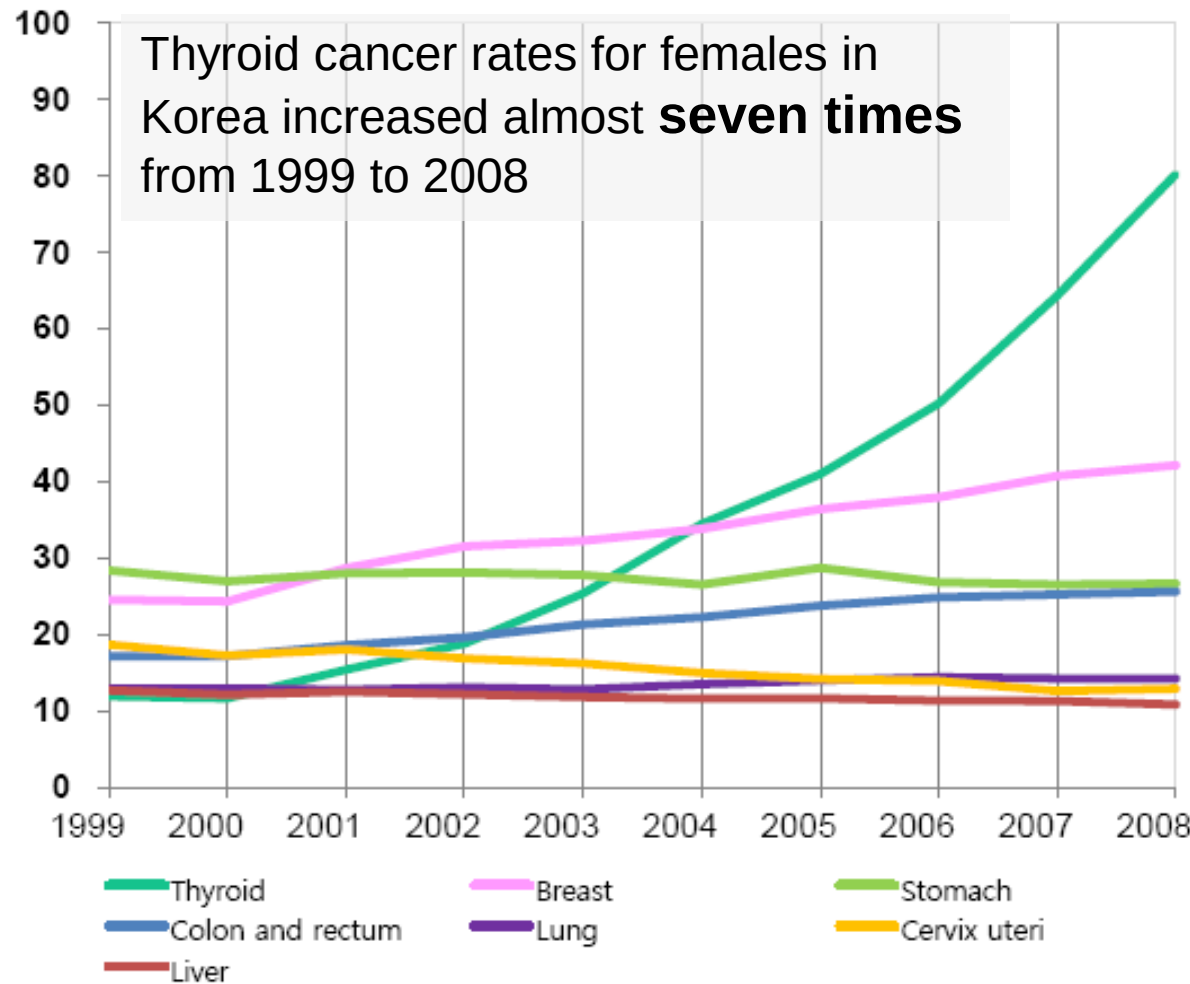
Breast



Female Thyroid Cancer Incidence per 1,000



Thyroid cancer experience in Korea



Site	Year		Annual Percent Change (%)
	1999	2008	
Thyroid	11.9	80.2	25.7*
Breast	24.5	42.1	6.5*
Stomach	28.3	26.6	-0.5
Colon and rectum	17.1	25.6	5.2*
Lung	12.9	14.2	1.5*
Cervix uteri	18.6	12.9	-4.4*
Liver	12.6	10.8	-1.5*

* P < .05

Age-standardized incidence Rate(ASR) uses "mid-year population in 2000" as standard population.

Source: National Cancer Registration & Statistics 2008, the Korea Central Cancer Registry



- > No indication that the increase of the thyroid cancer diagnosis rates has been stabilising
 - Further increases should occur in particular in minor conditions of thyroid cancer
- > Age distribution of currently insured portfolios of an obligatory Critical Illness rider is similar to the age structure of newly diagnosed thyroid cancers
 - Companies should hence experience the impact of the deterioration of rates already at this stage
- > In South Korea, thyroid cancer makes up a significant proportion of critical illness claims. Mortality from papillary thyroid cancer is very low, but prevalence is approximately 10% (based on post-mortem studies). People are having ultrasounds after buying a critical illness policy and then claiming.

Robjohns et al, Exploring The Critical Path, A report from the Critical Illness Trends Research Group



Product perspective

- > 100% of sum insured needs to be paid for any cancer - benefit does not distinguished between minor cancers and severe cancers, company pays 100% of sum insured in both cases.

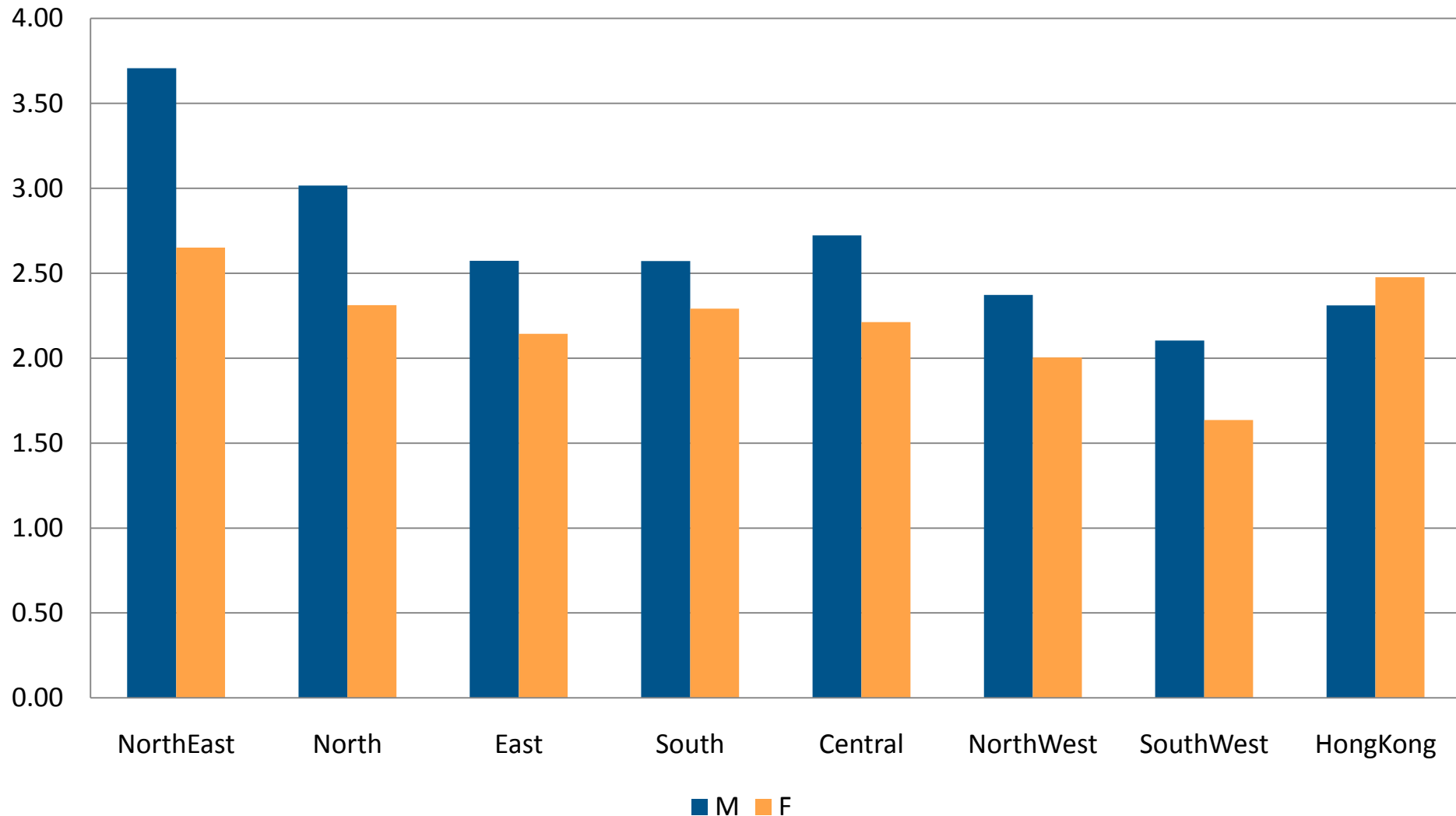
Medical environment

- > Medical technology improvement
- > There is a good national health system in Korea
- > Medical check up
 - Regular medical check-up is popular
 - Doctors intensively do diagnostic activities such as ultrasonography for thyroid cancer



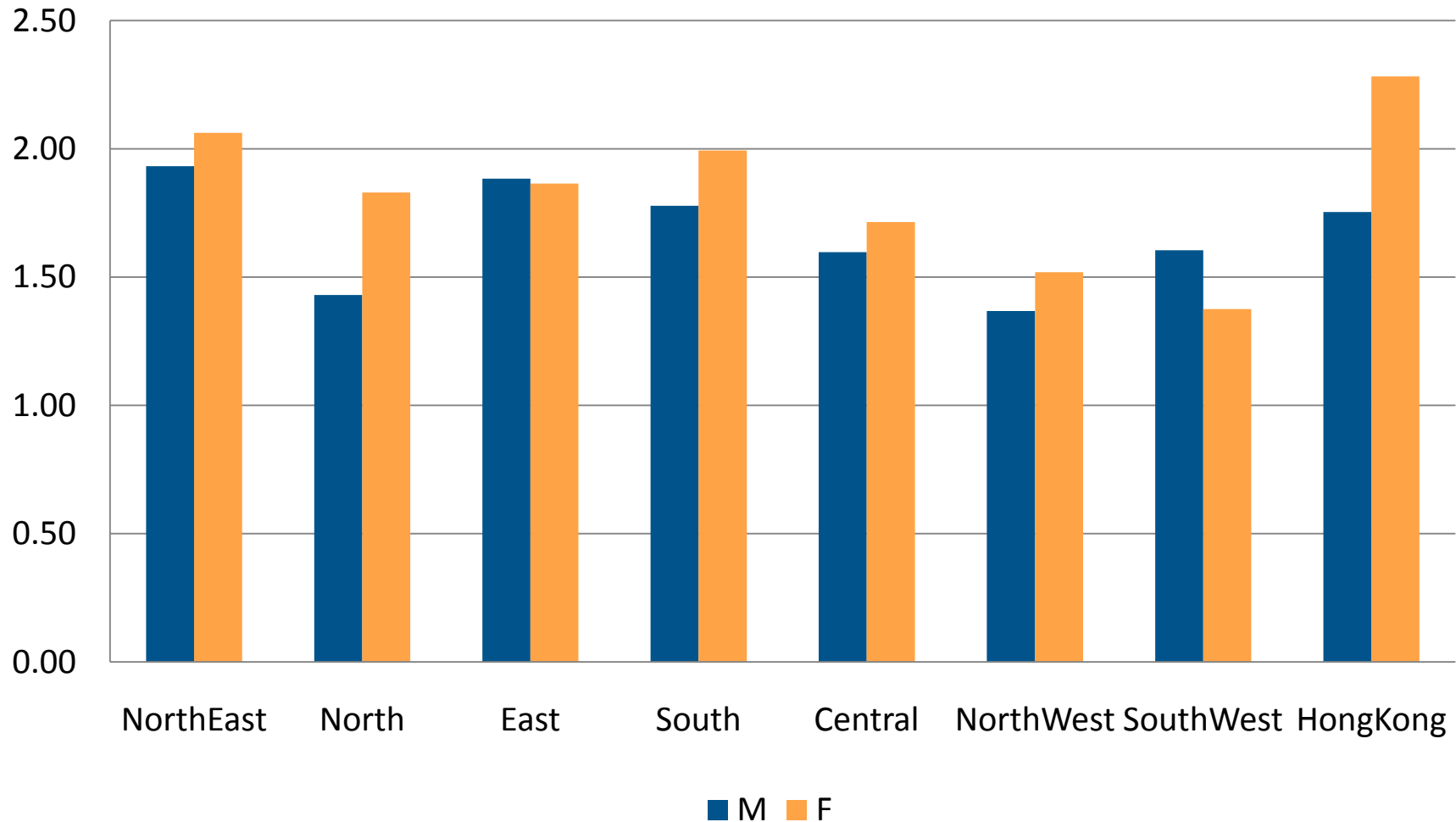


Incidence Rate By Region - Cancer + Stroke + Heart Attack + Kidney Failure





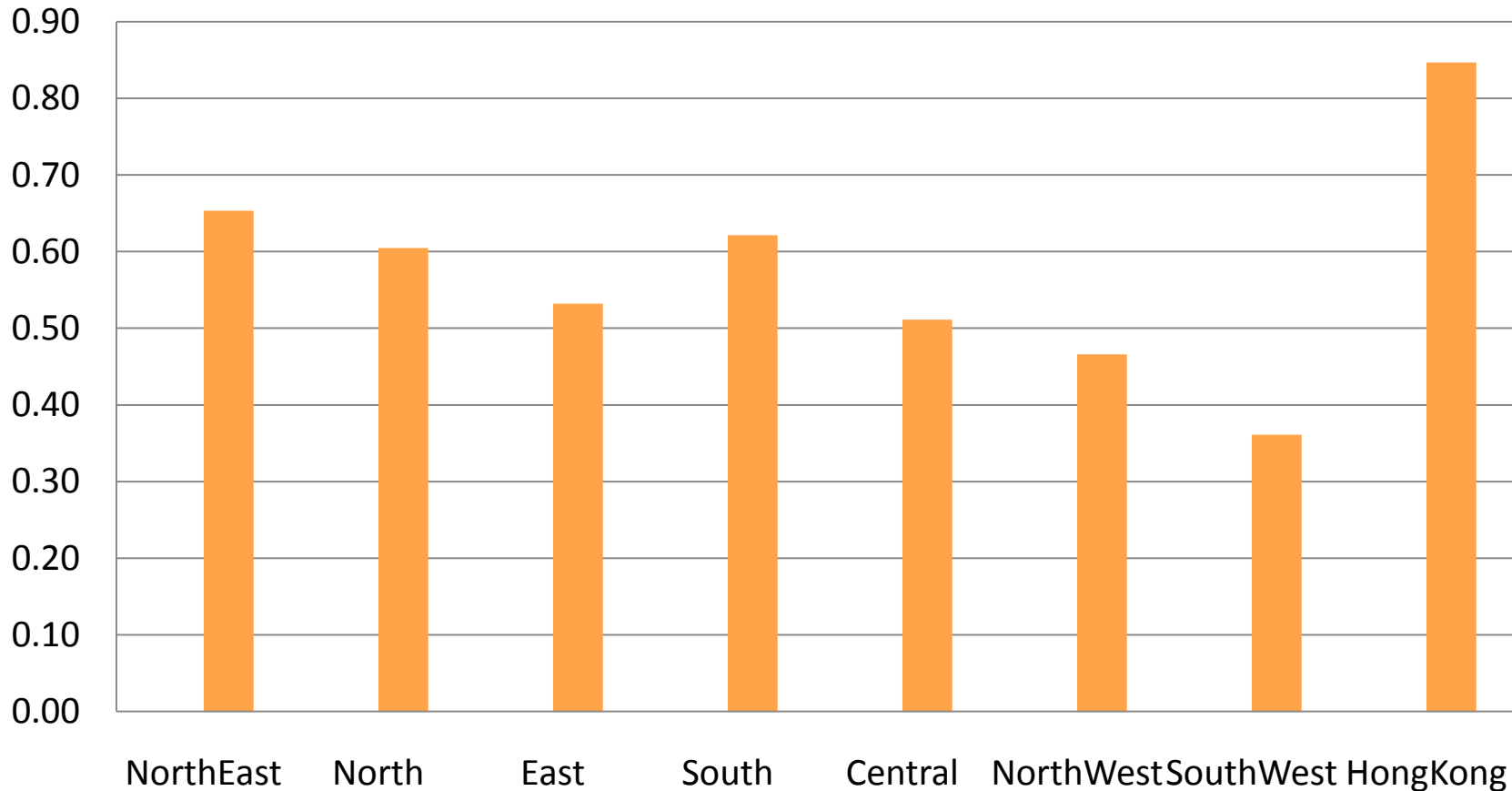
Incidence Rate By Region - Cancer



Dur 2+, Age 30-59, Age Adjusted using WHO 2000 Standard Population, Per 1000



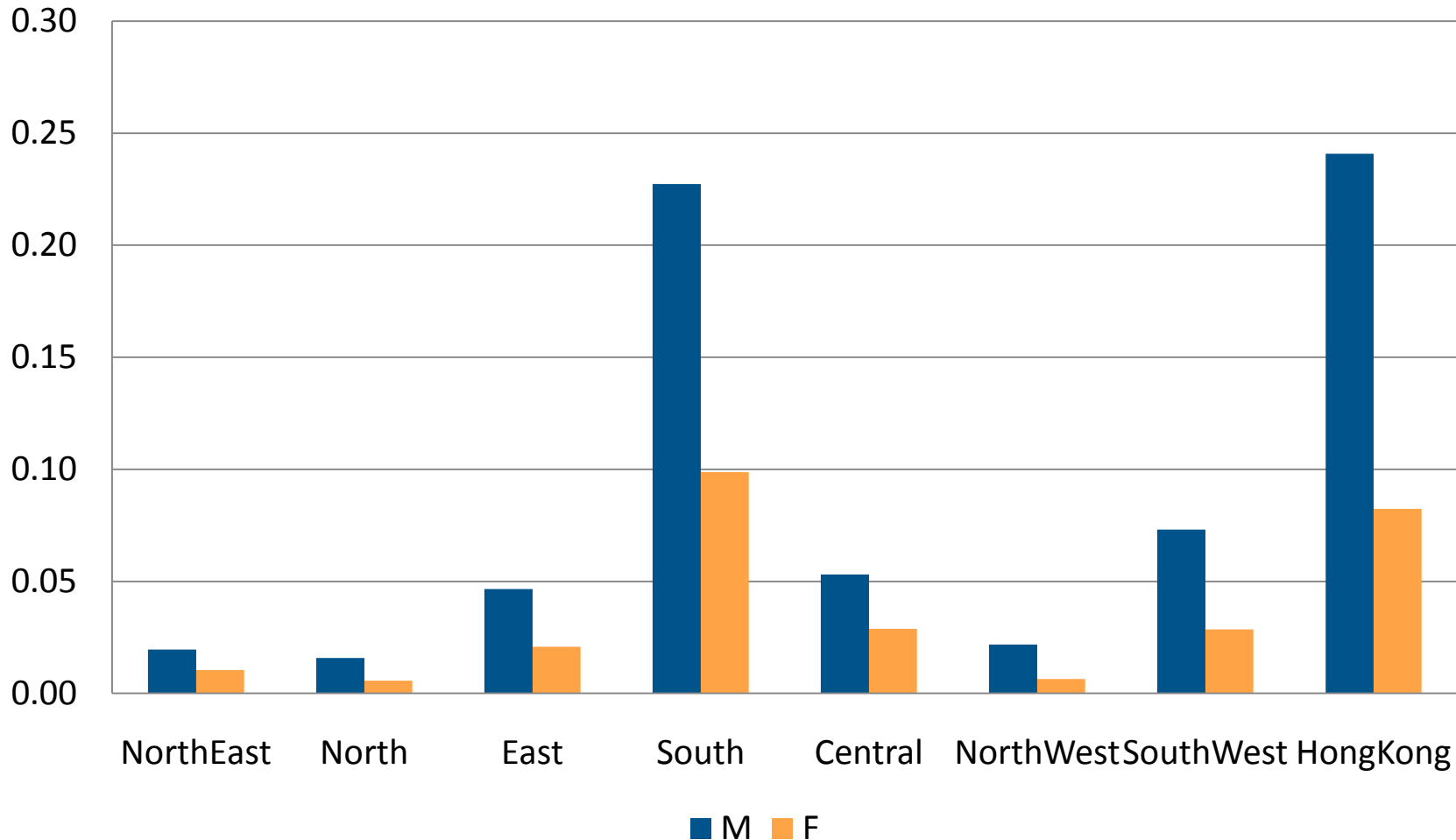
Incidence Rate By Region – Female Breast Cancer



Dur 2+, Age 30-59, Age Adjusted using WHO 2000 Standard Population, Per 1000



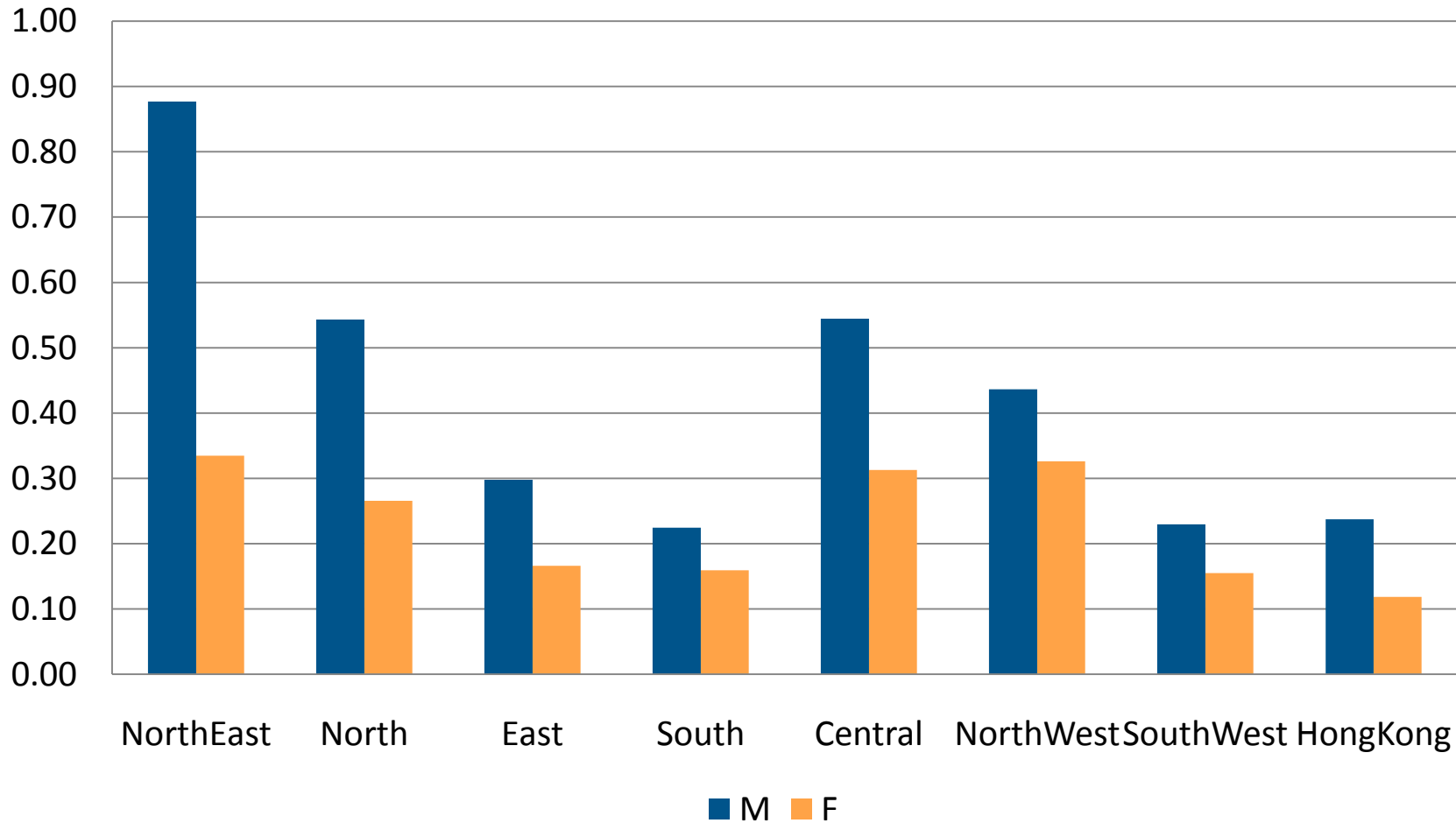
Incidence Rate By Region - Nasopharyngeal Cancer



Dur 2+, Age 30-59, Age Adjusted using WHO 2000 Standard Population, Per 1000



Incidence Rate By Region - Stroke



Dur 2+, Age 30-59, Age Adjusted using WHO 2000 Standard Population, Per 1000



- > Background of Gen Re's Dread Disease Survey
- > The 2004-2008 Survey results
 - Market Survey and Product Features
 - Claims Analysis
 - Incidence Rates Analysis
- > Summary



- > Dread Disease products continue to sell well
- > Sold mainly to 30-40 and children
- > Still relatively high declinature rates
- > Stable incidence rates in HKMS
- > Increasing incidence rates in China
- > Significant difference among companies and among regions



Q & A



THANK YOU !



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