

# SUMMARY OF **PENANG CANCER** REGISTRY REPORT **2012-2016**



## **PENANG CANCER REGISTRY PENANG STATE HEALTH DEPARTMENT**

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Dato' Dr. Asmayani Binti Khalib

**DEPUTY DIRECTOR (PUBLIC HEALTH) OF PENANG STATE HEALTH DEPARTMENT**

Dr. Marina Binti Kamaruddin, Public Health Medicine Specialist

### **ADVISOR**

Datin Dr. Azizah Binti Ab. Manan, Public Health Medicine Specialist  
North-East District Health Officer

### **STAFF MEMBERS OF THE REGISTRY:**

#### **HEAD OF PENANG CANCER REGISTRY**

Dr. Farzaana Binti Adam, Public Health Medicine Specialist

#### **MEDICAL OFFICERS**

Dr. Nadia Salwa Binti Mustafar Ramdzuan  
Dr. Siti Maisarah Binti Shekh Jaafar

#### **CHIEF NURSE**

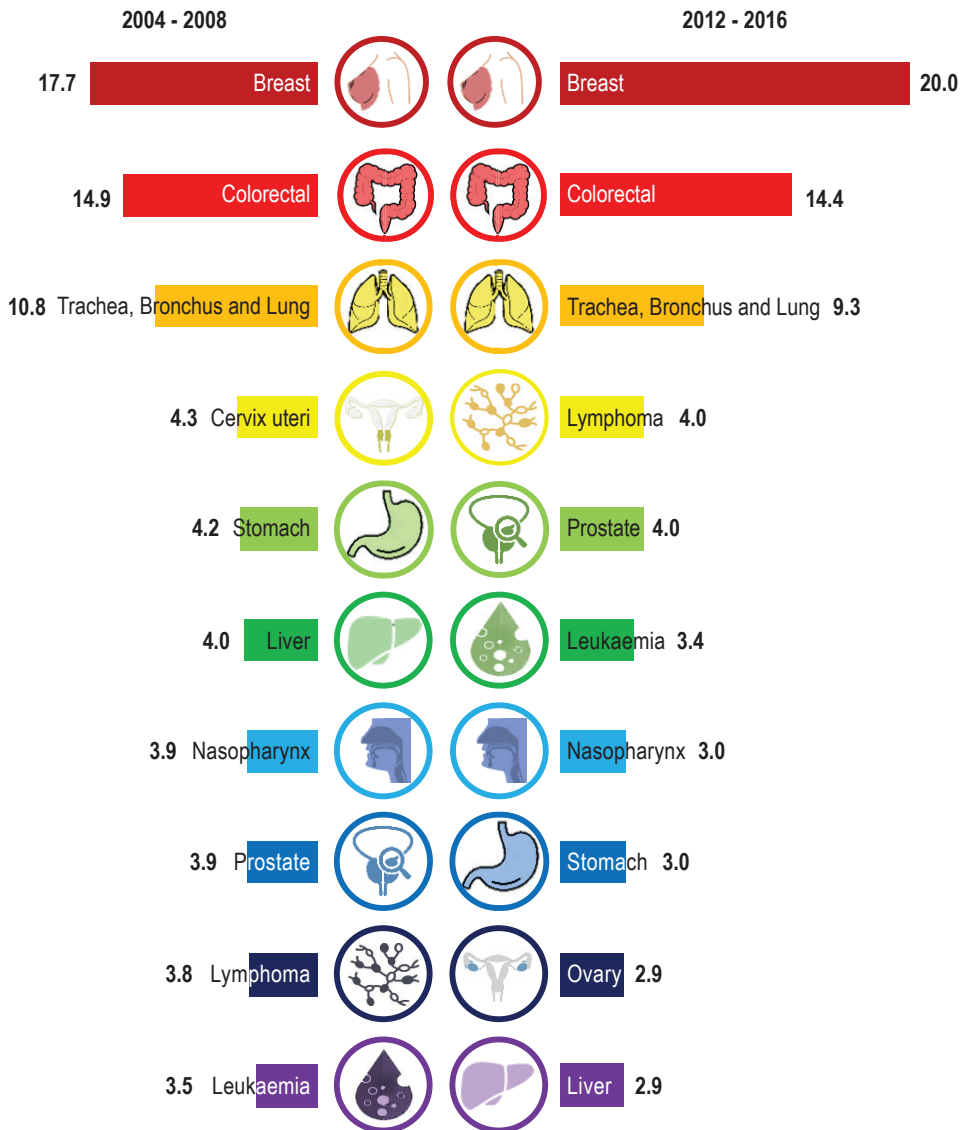
Puan Noor Hayati Binti Abu Bakar

#### **ASSISTANT ADMINISTRATORS**

Cik Norshahida Binti Amran  
Puan Siti Rafiqhaq Binti Rusli

# TEN MOST COMMON CANCERS IN PENANG

(PERCENTAGES)



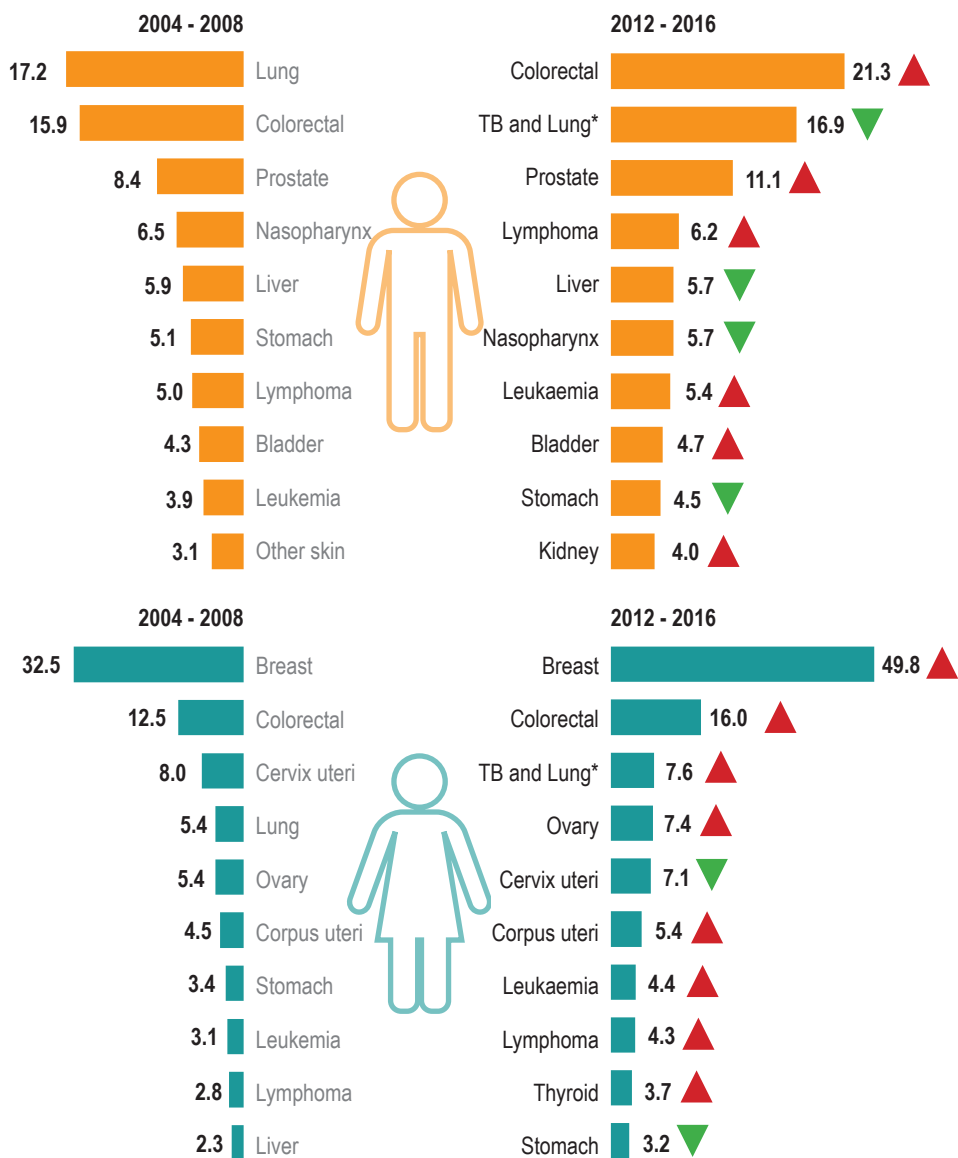
## TEN MOST COMMON CANCERS IN PENANG BY SEX, 2012 - 2016

MALE					
ICD (10 <sup>th</sup> )	Sites	NO.	%	CR	ASR
C18.21	Colorectal	858	17.8	22.7	21.3
C33-34	Trachea, Bronchus and Lung	676	14.0	17.9	16.9
C61	Prostate	428	8.9	11.3	11.1
C81-85,C96	Lymphoma	251	5.2	6.7	6.2
C11	Nasopharynx	240	5.0	6.4	5.7
C22	Liver	230	4.8	6.1	5.7
C91-95	Leukaemia	198	4.1	5.3	5.4
C67	Bladder	188	3.9	5.0	4.7
C16	Stomach	179	3.7	4.7	4.5
C64	Kidney	162	3.4	4.3	4.0
	Others	1415	29.3		
<b>Total</b>		<b>4825</b>	<b>100.0</b>	<b>127.9</b>	<b>121.1</b>

FEMALE					
ICD (10 <sup>th</sup> )	Sites	NO.	%	CR	ASR
C50	Breast	2137	35.8	56.5	49.8
C18-21	Colorectal	693	11.6	18.3	16.0
C33-34	Trachea, Bronchus and Lung	326	5.5	8.6	7.6
C56	Ovary	316	5.3	8.4	7.4
C53	Cervix uteri	307	5.1	8.1	7.1
C54	Corpus uteri	230	3.8	6.1	5.4
C81-85,C96	Lymphoma	178	3.0	4.7	4.3
C91-95	Leukaemia	166	2.8	4.4	4.4
C73	Thyroid	157	2.6	4.2	3.7
C16	Stomach	140	2.3	3.7	3.2
	Others	1326	22.2		
<b>Total</b>		<b>5976</b>	<b>100.0</b>	<b>158.0</b>	<b>140.3</b>

## COMPARISON OF INCIDENCE RATE (ASR) FOR TEN MOST COMMON CANCERS IN PENANG BY SEX AND YEAR



(AGE STANDARDISED RATE (WORLD) PER 100,000 POPULATION)





\*TB and Lung = Trachea, Bronchus and Lung

**Definition of Age-Standardised Rate (ASR) :** ASR is a summary measure, indicating the incidence rate that a population would have if it had a standard age structure.

## COMPARISON OF INCIDENCE RATES (ASR) FOR TEN MOST COMMON CANCERS IN PENANG BY SEX, MAJOR ETHNIC GROUPS AND YEAR

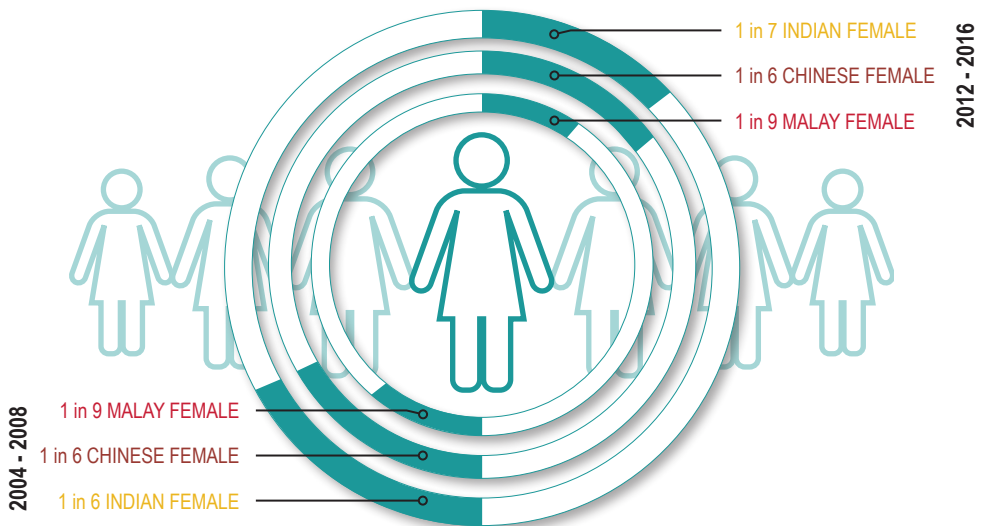
2004 - 2008				2012 - 2016			
Sites 	ASR per 100,000 population			Sites 	ASR per 100,000 population		
	Malay	Chinese	Indian		Malay	Chinese	Indian
TB and Lung*	20.6	32.7	17.8	Colorectal	12.5	26.5	13.7
Colorectal	15.4	31.1	20.7	TB and Lung*	11.0	20.9	10.4
Prostate	8.8	18.2	12.7	Prostate	7.4	12.6	12.0
Nasopharynx	3.1	13.4	2.5	Lymphoma	6.2	6.4	5.3
Liver	4.8	11.8	4.3	Nasopharynx	1.7	9.1	0.6
Stomach	4.1	10.4	7.5	Liver	2.4	7.8	2.8
Lymphoma	6.4	7.5	5.9	Leukemia	5.3	6.0	1.5
Bladder	7.2	6.8	8.1	Bladder	4.2	4.8	5.7
Leukemia	6.2	4.7	5.1	Stomach	1.3	5.9	5.3
Other skin	2.0	6.4	2.5	Kidney	2.1	4.9	4.5

2004 - 2008				2012 - 2016			
Sites 	ASR per 100,000 population			Sites 	ASR per 100,000 population		
	Malay	Chinese	Indian		Malay	Chinese	Indian
Breast	31.0	57.3	52.5	Breast	39.7	56.5	39.9
Colorectal	10.8	24.2	11.8	Colorectal	9.9	19.0	9.9
Cervix uteri	7.4	14.5	12.6	TB and Lung*	4.0	9.9	3.1
TB and Lung*	4.7	10.8	5.4	Ovary	7.4	7.4	7.4
Ovary	6.8	7.9	10.4	Cervix uteri	4.5	8.7	7.2
Corpus uteri	5.8	6.3	14.3	Corpus uteri	5.2	5.2	5.8
Stomach	2.0	6.4	7.0	Lymphoma	4.9	3.6	4.0
Leukemia	4.0	5.4	4.7	Leukemia	4.1	4.6	3.2
Lymphoma	3.7	4.6	2.7	Thyroid	4.2	3.0	4.4
Liver	2.3	4.2	4.7	Stomach	1.1	3.9	3.1

\*TB and lung = Trachea, Bronchus and Lung

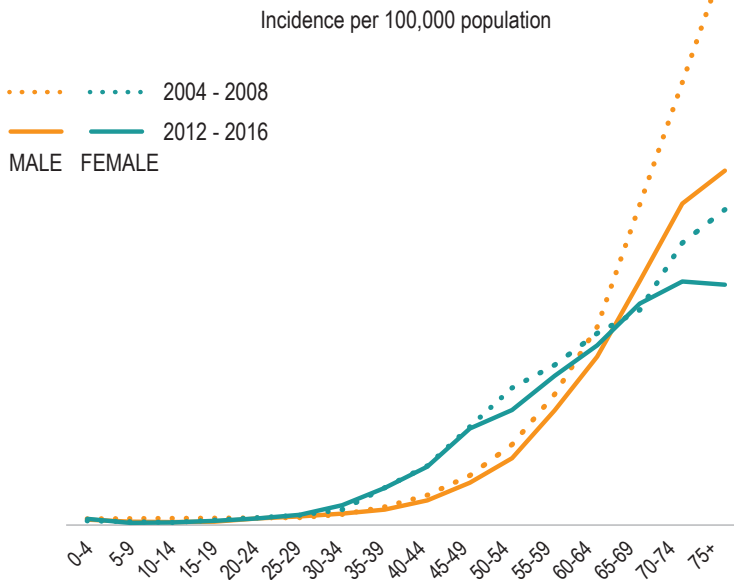
## LIFETIME RISK

IN 2012-2016, THE LIFETIME RISK FOR BOTH MALE AND FEMALE WAS 1 IN 7 SLIGHTLY LOWER RISK COMPARE TO 2004-2008 REPORT, WHICH WAS 1 IN 6.

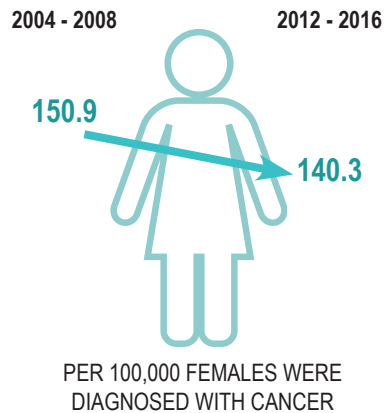
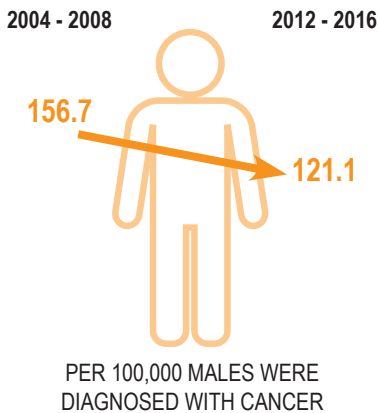


**Definition of Lifetime Risk:** The probability that an individual will develop the cancer before the age of 75 in the absence of other causes of death

## COMPARISON OF AGE- SPECIFIC INCIDENCE RATE FOR ALL CANCERS BY YEAR

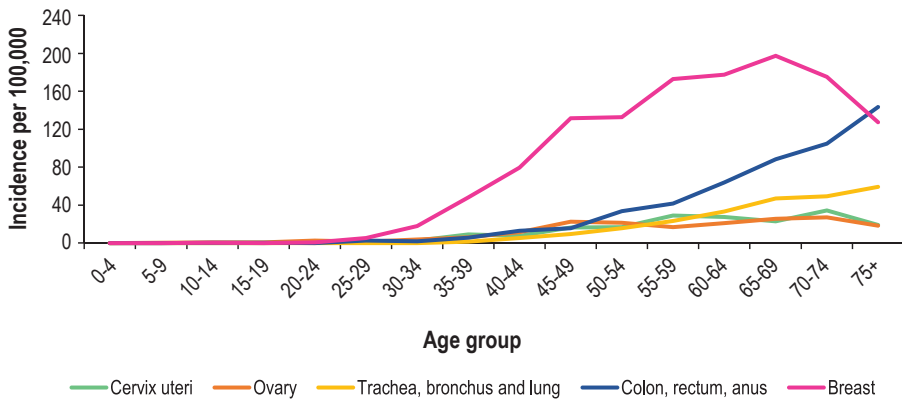
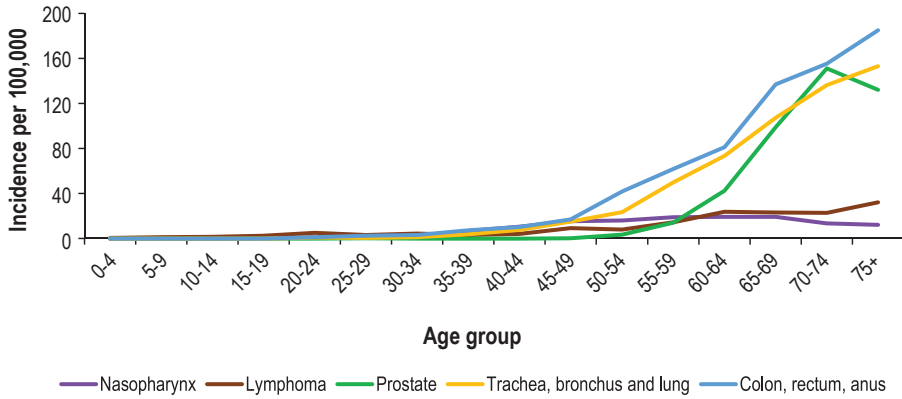


The incidence of cancer increased for both male and female after the age of 30 years.  
 The incidence rate in male exceeded the rate in female after the age 65 years.



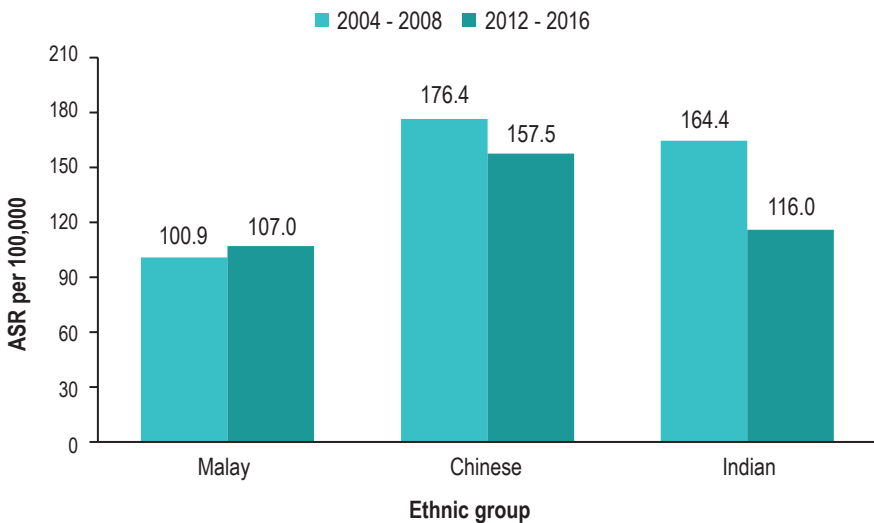
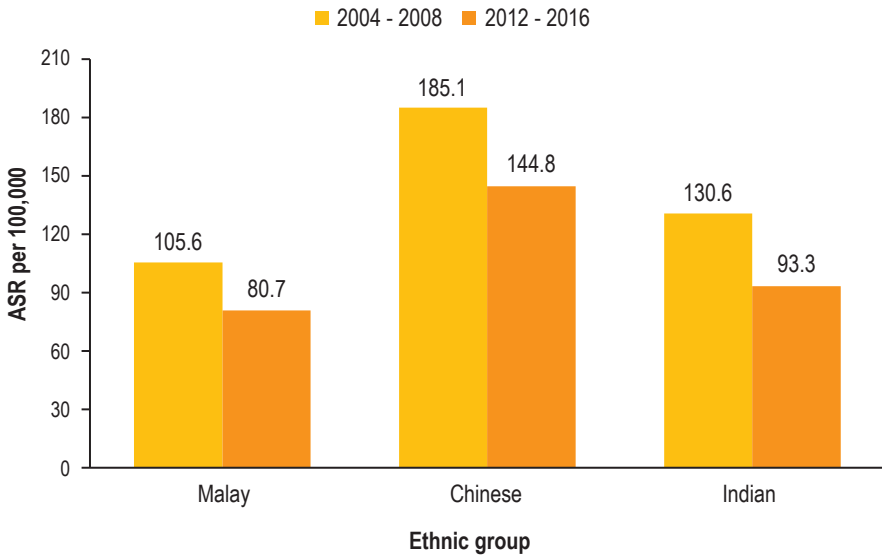
**Definition of Age-specific Rate (AR):** AR is the incidence rate in a specific age group.

## AGE-SPECIFIC INCIDENCE RATE FOR TOP FIVE CANCERS BY SEX, PENANG, 2012 - 2016





## COMPARISON OF INCIDENCE RATE (ASR) BY MAJOR ETHNIC GROUPS AND YEAR





11  
**SELECTED  
CANCERS  
BY GENDER**



**Breast**



**Colorectal**



**Trachea, Bronchus, Lung**



**Lymphoma**



**Prostate**



**Leukaemia**



**Nasopharynx**



**Stomach**



**Ovary**



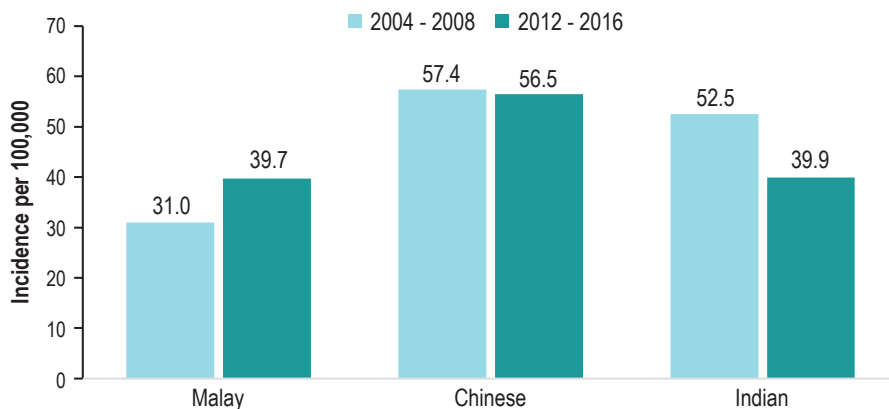
**Cervix Uteri**



**Liver**

## 1. FEMALE BREAST CANCER

COMPARISON OF AGE-STANDARDISED RATE BY YEAR AND MAJOR ETHNIC GROUP



### INCIDENCE SUMMARY BY YEAR

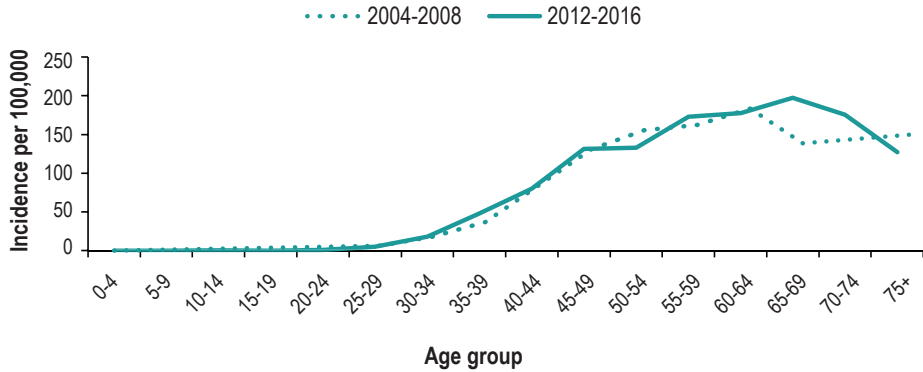
Year	Female				
	No.	CR	ASR	(95%CL)	CumR
2012-2016	2137	56.5	49.8	(47.68,51.93)	5.5
2004-2008	1699	48.0	48.0	(45.67,50.29)	5.1
2012	420	55.5	48.6	(43.98,53.32)	5.3
2013	412	53.8	46.8	(42.23,51.30)	5.3
2014	398	51.4	43.6	(39.34,47.95)	5.0
2015	485	61.9	51.5	(46.90,56.12)	5.6
2016	422	53.3	43.4	(39.20,47.52)	4.7

### INCIDENCE SUMMARY BY DISTRICT AND YEAR

District	2004-2008			2012-2016		
	No.	CR	ASR	No.	CR	ASR
Timur Laut	853	73.6	66.9	925	72.9	56.0
Barat Daya	197	41.0	44.7	287	58.2	56.4
Seb. Perai Utara	229	32.2	34.9	345	46.4	43.3
Seb. Perai Tengah	328	39.4	39.6	405	46.8	43.9
Seb. Perai Selatan	92	26.2	24.9	175	42.3	40.7

## FEMALE BREAST CANCER

AGE SPECIFIC INCIDENCE RATE



Breast cancer was the **most common** cancer in Penang. The incidence was **highest among Chinese** followed by Indian and Malay. Most of the cases presented at the age of 40-69 years old and reduced after the age of 70 years old. The trend of incidence in 2012-2016 was similar to 2004-2008.

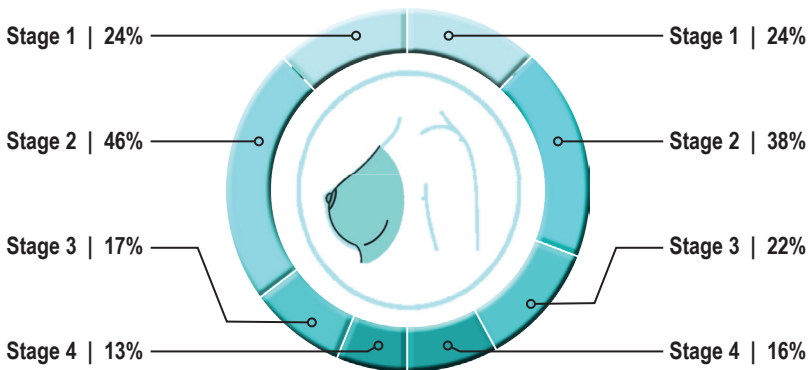
### THE LIFETIME RISK:

2004-2008: 1 in 20 for all females, 1 in 32 Malay, 1 in 16 Chinese, 1 in 17 Indian  
 2012-2016: 1 in 18 for all females, 1 in 23 Malay, 1 in 16 Chinese, 1 in 21 Indian

### STAGING

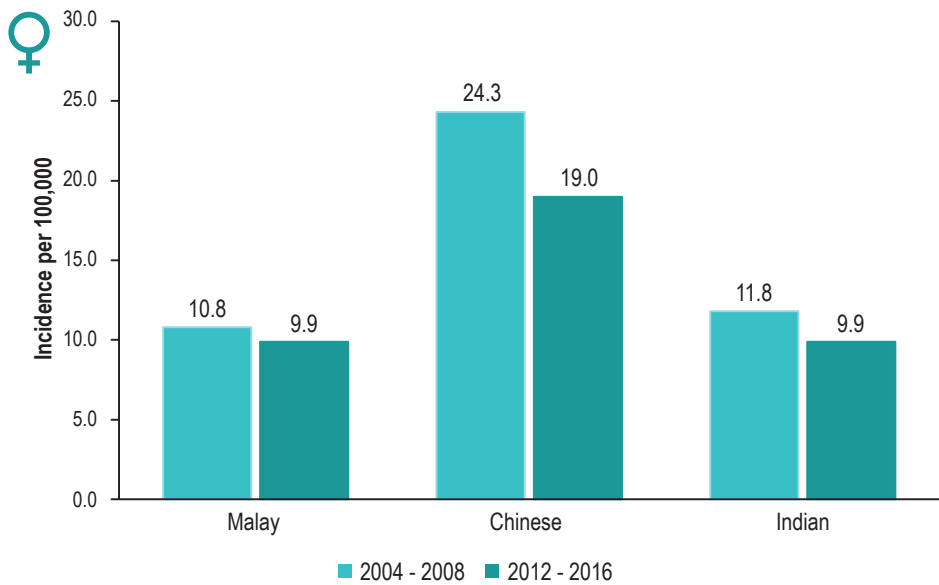
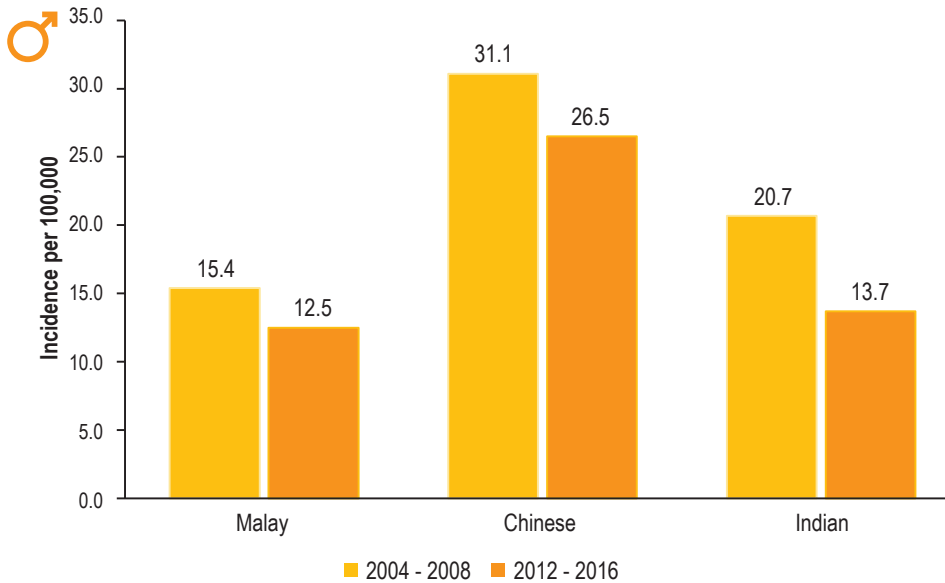
2004-2008 (n=1091)

2012-2016 (n=1,208)



## 2. COLORECTAL CANCER

COMPARISON OF AGE-STANDARDISED RATE BY YEAR AND MAJOR ETHNIC GROUP



## COLORECTAL CANCER

### INCIDENCE SUMMARY BY SEX AND YEAR

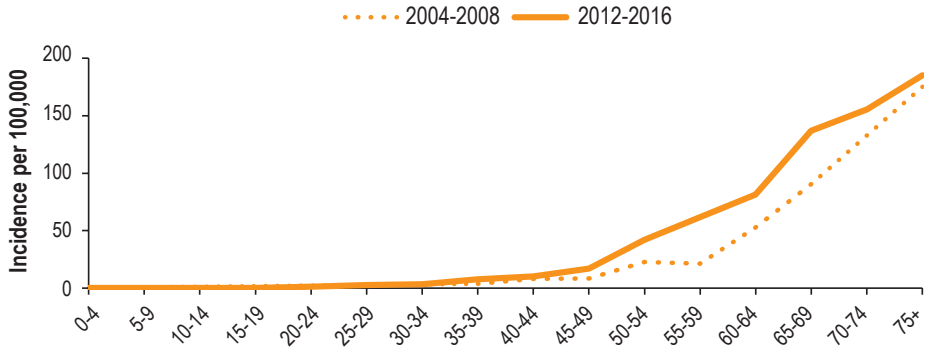
Year	Male					Female				
	No.	CR	ASR	(95%CL)	CumR	No.	CR	ASR	(95%CL)	CumR
2012-2016	858	22.7	21.3	(19.91,22.77)	2.6	693	18.3	16.0	(14.78,17.18)	1.8
2004-2008	711	20.3	25.6	(23.64,27.46)	3.0	652	18.4	19.2	(17.74,20.72)	2.3
2012	161	21.3	20.1	(16.99,23.22)	2.4	121	15.9	13.7	(11.26,16.19)	1.4
2013	163	21.3	19.4	(16.42,22.41)	2.4	128	16.7	14.3	(11.79,16.78)	1.7
2014	159	20.5	18.0	(15.17,20.78)	2.1	121	15.6	12.9	(10.62,15.27)	1.6
2015	198	25.3	21.3	(18.35,24.31)	2.5	149	19.0	15.2	(12.73,17.65)	1.8
2016	177	22.3	18.4	(15.71,21.16)	2.3	174	21.9	17.1	(14.54,19.67)	2.0

### INCIDENCE SUMMARY BY SEX, DISTRICT AND YEAR

District	Male						Female					
	2004-2008			2012-2016			2004-2008			2012-2016		
	No.	CR	ASR	No.	CR	ASR	No.	CR	ASR	No.	CR	ASR
Timur Laut	352	31.5	34.8	401	32.8	24.8	69	14.8	21.9	329	25.9	18.7
Barat Daya	94	13.2	18.7	103	20.7	22.5	142	16.9	21.9	85	17.2	16.6
Seb. Perai Utara	54	15.0	18.9	121	16.5	16.5	316	27.3	25.0	103	13.9	13.0
Seb. Perai Tengah	65	13.5	16.2	158	17.7	18.6	81	11.4	13.0	127	14.7	14.2
Seb. Perai Selatan	145	17.4	18.4	75	17.5	20.5	45	12.8	13.5	49	11.8	11.8

## MALE COLORECTAL CANCER

AGE SPECIFIC INCIDENCE RATE



Colorectal cancer was **the commonest cancer among male in Penang**. The trend of incidence in 2012-2016 was higher compared to 2004-2008. The rates increased after the age of 50 years.

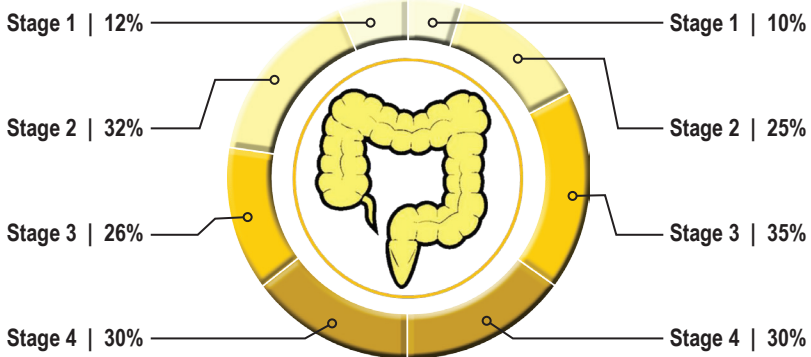
### THE LIFETIME RISK:

2004-2008: 1 in 33 for all males, 1 in 55 Malay, 1 in 28 Chinese, 1 in 41 Indian  
 2012-2016: 1 in 39 for all males, 1 in 61 Malay, 1 in 32 Chinese, 1 in 54 Indian

### STAGING

2004-2008 (n=329)

2012-2016 (n=425)

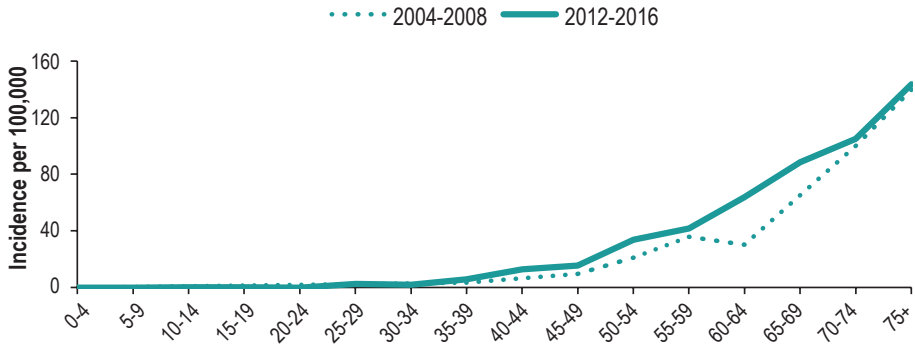


In 2012-2016, the percentage diagnosed at late stage (Stage 3 & 4) increased to 65%.



## FEMALE COLORECTAL CANCER

AGE SPECIFIC INCIDENCE RATE



Among female, colorectal cancer was **ranked second** after breast cancer. The trend of incidence in 2012-2016 was similar to 2004-2008 with the increased rates were seen after the age of 55 years.

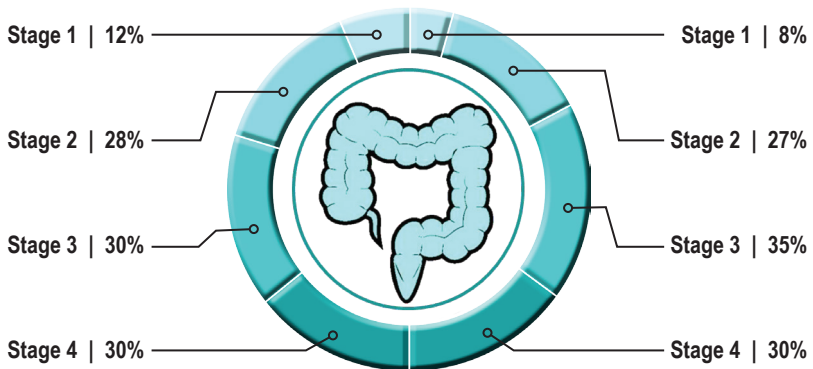
### THE LIFETIME RISK:

2004-2008: 1 in 70 for all females, 1 in 61 Malay, 1 in 36 Chinese, 1 in 67 Indian  
 2012-2016: 1 in 54 for all females, 1 in 23 Malay, 1 in 44 Chinese, 1 in 74 Indian

### STAGING

2004-2008 (n=313)

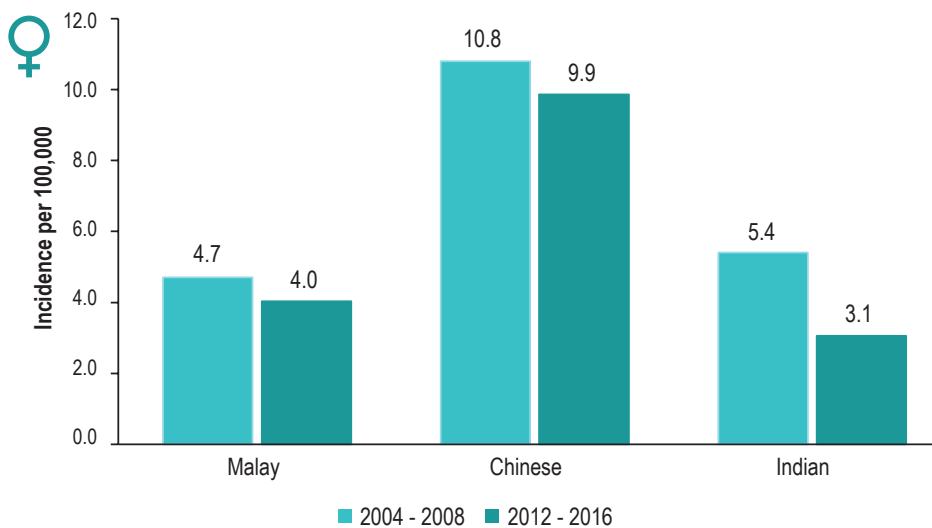
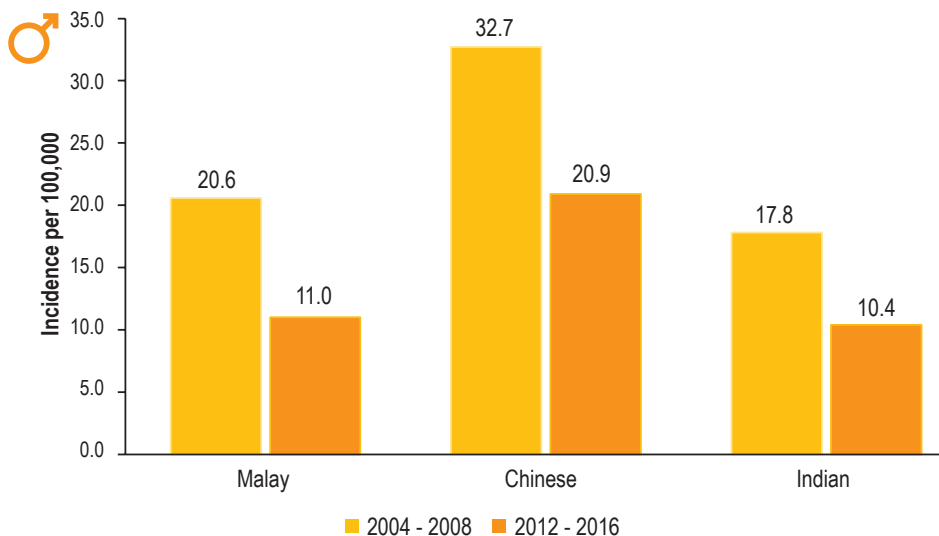
2012-2016 (n=693)



In 2012-2016, the percentage diagnosed at late stage (Stage 3 & 4) increased to 65%.

### 3. TRACHEA, BRONCHUS AND LUNG CANCER

COMPARISON OF AGE-STANDARDISED RATE BY YEAR AND MAJOR ETHNIC GROUP



## TRACHEA, BRONCHUS AND LUNG CANCER

### INCIDENCE SUMMARY BY SEX AND YEAR

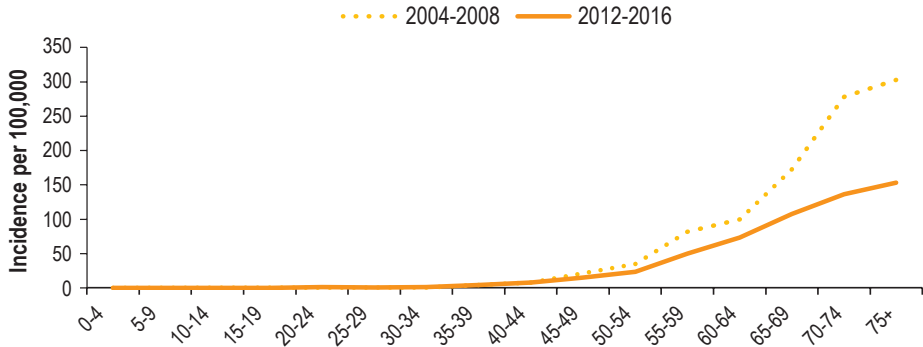
Year	Male					Female				
	No.	CR	ASR	(95%CL)	CumR	No.	CR	ASR	(95%CL)	CumR
2012-2016	676	17.9	16.9	(15.64,18.20)	2.1	326	8.6	7.6	(6.75,8.41)	0.9
2004-2008	767	21.9	28.0	(25.94,29.96)	3.5	281	8.0	8.5	(7.46,9.46)	1.0
2012	140	18.5	17.3	(14.40,20.15)	2.1	75	9.9	8.7	(6.69,10.64)	1.0
2013	154	20.2	18.4	(15.51,21.35)	2.3	68	8.8	7.6	(5.78,9.42)	1.0
2014	152	19.6	17.5	(14.73,20.32)	2.4	64	8.3	6.9	(5.23,8.65)	0.9
2015	97	12.4	10.6	(8.47,12.70)	1.2	59	7.5	6.1	(4.52,7.64)	0.8
2016	133	16.8	13.8	(11.42,16.12)	1.6	60	7.6	5.9	(4.38,7.39)	0.7

### INCIDENCE SUMMARY BY SEX, DISTRICT AND YEAR

District	Male						Female					
	2004-2008			2012-2016			2004-2008			2012-2016		
	No.	CR	ASR	No.	CR	ASR	No.	CR	ASR	No.	CR	ASR
Timur Laut	346	31.0	34.7	309	25.3	19.2	146	12.6	11.8	162	12.7	9.3
Barat Daya	95	20.4	31.2	103	20.7	23.6	30	6.2	7.6	46	9.3	9.2
Seb. Perai Utara	111	15.5	22.0	93	12.7	12.9	43	6.0	7.1	30	4.0	3.7
Seb. Perai Tengah	155	18.4	23.7	121	13.5	14.7	49	5.9	6.4	56	6.5	6.3
Seb. Perai Selatan	60	16.7	21.8	50	11.7	13.5	13	3.7	4.1	32	7.7	8.4

## MALE TRACHEA, BRONCHUS AND LUNG CANCER

AGE SPECIFIC INCIDENCE RATE



These cancers were the **second most common** cancer among male. The trend of incidence was higher in 2004-2008 compared to 2012-2016. The rate peaked at the age of 60-74 years old. However, reduced rate was seen in most age groups.

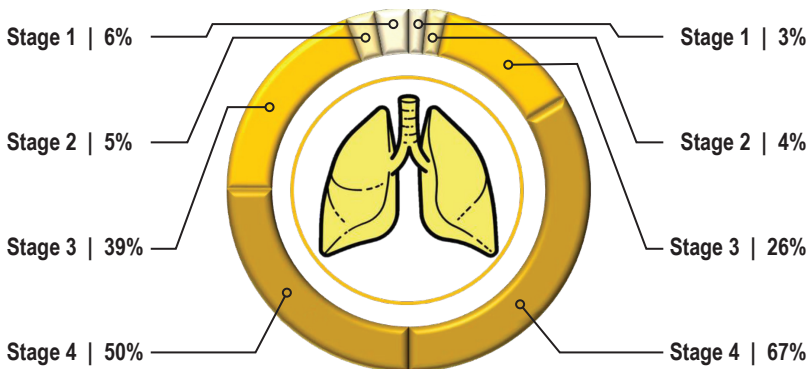
### THE LIFETIME RISK:

2004-2008: 1 in 29 for all males, 1 in 41 Malay, 1 in 24 Chinese, 1 in 56 Indian  
 2012-2016: 1 in 48 for all males, 1 in 70 Malay, 1 in 40 Chinese, 1 in 82 Indian

### STAGING

2004-2008 (n=431)

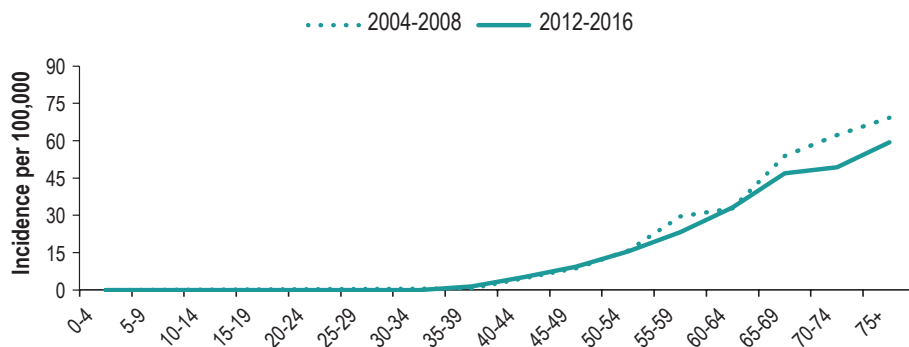
2012-2016 (n=419)



In 2012-2016, extremely high percentages of the lung, trachea and bronchus cancer cases were still diagnosed at late stage (Stage 3 & 4). It increased to 93%.

## FEMALE TRACHEA, BRONCHUS AND LUNG CANCER

AGE SPECIFIC INCIDENCE RATE



These cancers were **the third most common** cancer among female. The incidence trend in 2012-2016 was similar to 2004-2008.

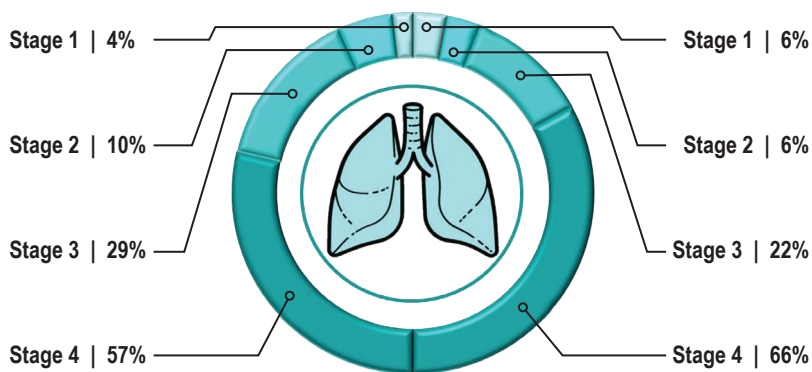
### THE LIFETIME RISK:

2004-2008: 1 in 96 for all females, 1 in 198 Malay, 1 in 73 Chinese, 1 in 160 Indian  
 2012-2016: 1 in 109 for all females, 1 in 214 Malay, 1 in 80 Chinese, 1 in 241 Indian

### STAGING

2004-2008 (n=162)

2012-2016 (n=217)



Percentage diagnosed at late stage (Stage 3 & 4) remained around 86-88% in 2004-2008 and 2012-2016.

## 4. LYMPHOMA

## INCIDENCE SUMMARY BY SEX AND YEAR

Year	Male					Female				
	No.	CR	ASR	(95%CL)	CumR	No.	CR	ASR	(95%CL)	CumR
2012-2016	251	6.65	6.2	(5.47,7.03)	1	178	4.71	4.3	(3.64,4.90)	0.5
2004-2008	225	6.40	7.2	(6.27,8.20)	0.7	144	4.1	4.1	(3.45,4.82)	0.5
2012	47	6.23	5.9	(4.21,7.62)	0	29	3.83	3.5	(2.19,4.72)	0.4
2013	49	6.41	5.9	(4.29,7.61)	1	47	6.14	5.5	(3.89,7.03)	0.5
2014	43	5.56	5.0	(3.47,6.48)	0	42	5.42	4.7	(3.30,6.18)	0.5
2015	65	8.3	7.3	(5.50,9.08)	1	25	3.19	2.8	(1.70,3.94)	0.3
2016	47	5.93	5.2	(3.73,6.76)	1	35	4.43	3.7	(2.46,4.93)	0.5

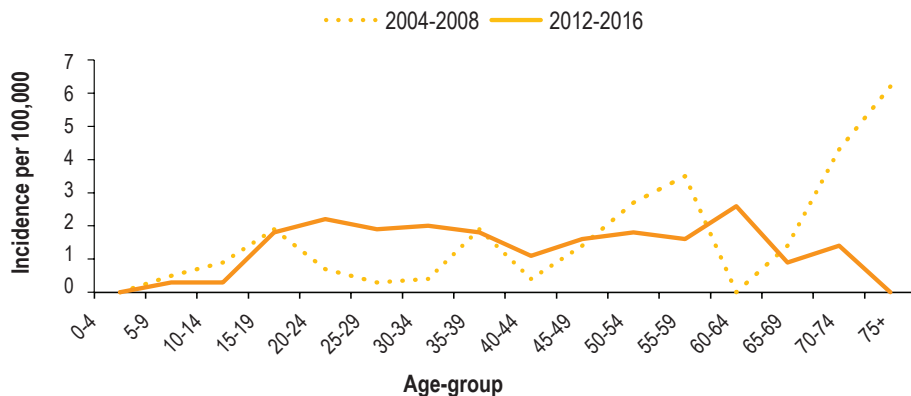
## INCIDENCE SUMMARY BY SEX, DISTRICT AND YEAR

District	Male						Female					
	2004-2008			2012-2016			2004-2008			2012-2016		
	No.	CR	ASR	No.	CR	ASR	No.	CR	ASR	No.	CR	ASR
Timur Laut	108	9.7	10.2	104	8.50	6.9	33	7.1	8.0	76	5.99	4.7
Barat Daya	33	4.6	5.2	33	6.65	6.7	35	4.2	4.7	34	6.90	6.8
Seb. Perai Utara	16	4.5	5.3	41	5.59	5.5	67	5.8	5.3	28	3.77	3.6
Seb. Perai Tengah	17	3.5	4.2	49	5.49	5.5	22	3.1	3.4	22	2.54	2.4
Seb. Perai Selatan	27	3.2	3.2	24	5.61	5.8	11	3.1	3.2	18	4.35	4.3

## MALE LYMPHOMA

### AGE SPECIFIC INCIDENCE RATE

#### HODGKIN LYMPHOMA



#### NON-HODGKIN LYMPHOMA



Lymphoma was the **fourth commonest** cancer in male. The trend of incidence in 2012-2016 for Non-Hodgkin lymphoma was similar to 2004-2008. However, the incidence rate of Hodgkin lymphoma reduced after the age of 64 years old unlike incidence in 2004-2008.

**THE LIFETIME RISK:**  
 2004-2008: 1 in 131 for all males  
 2012-2016: 1 in 157 for all males

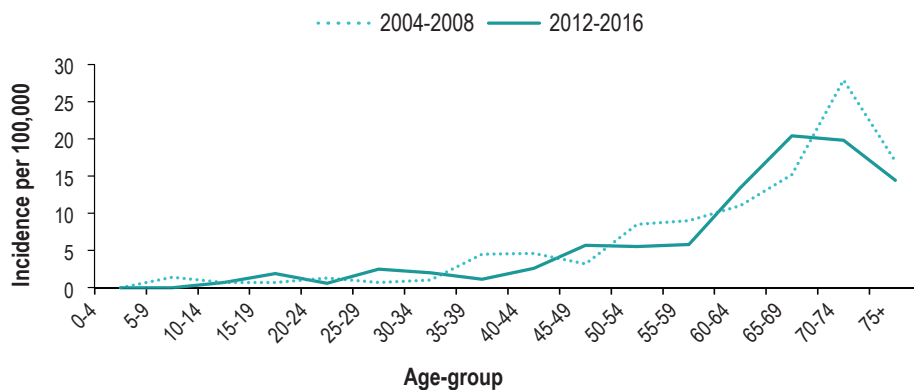
## FEMALE LYMPHOMA

### AGE SPECIFIC INCIDENCE RATE

#### HODGKIN LYMPHOMA



#### NON-HODGKIN LYMPHOMA



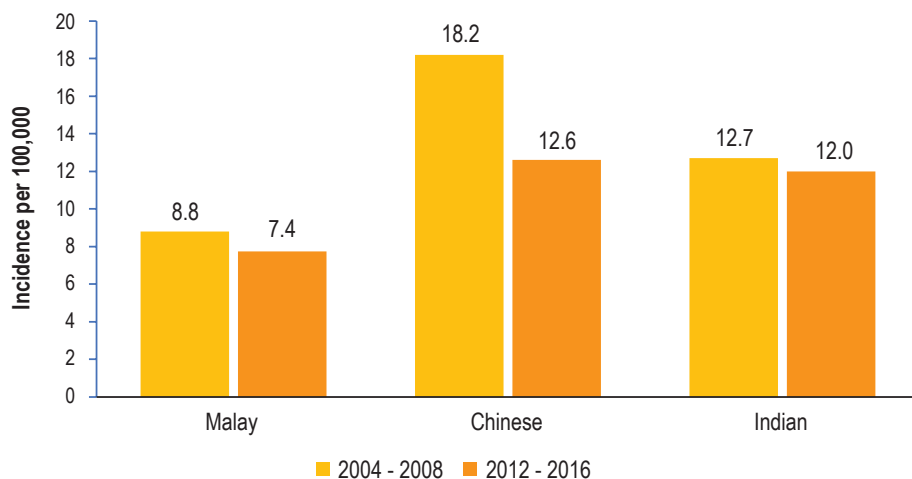
Lymphoma was **the seventh commonest** among females. The trend of incidence in 2012-2016 almost similar to 2004-2008. The rate of Hodgkin lymphoma for 2012-2016 was increased in most of the age groups.

**THE LIFETIME RISK:**  
 2004-2008: 1 in 210 for all females  
 2012-2016: 1 in 210 for all females



## 5. PROSTATE CANCER

COMPARISON OF AGE-STANDARDISED RATE BY YEAR AND MAJOR ETHNIC GROUP



### INCIDENCE SUMMARY BY YEAR

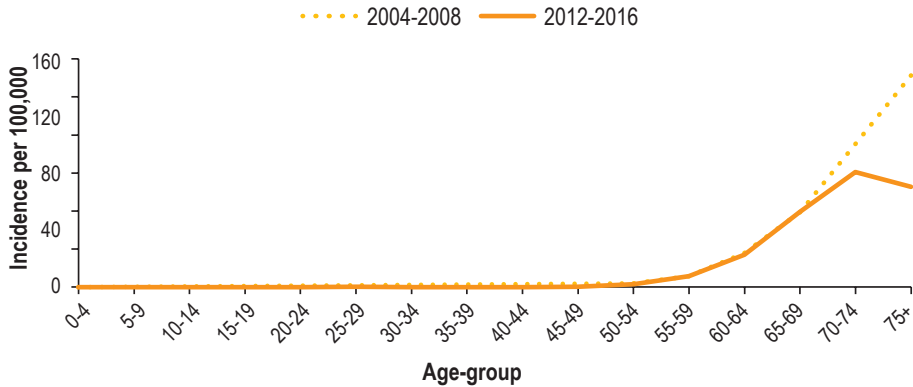
Year	Male				
	No.	CR	ASR	(95%CL)	CumR
2012-2016	428	11.3	11.1	(10.08,12.20)	1.5
2004-2008	376	10.7	15.1	(13.55,16.61)	1.8
2012	77	10.2	9.9	(7.64,12.06)	1.4
2013	68	8.9	8.2	(6.28,10.22)	1.0
2014	97	12.5	11.4	(9.12,13.68)	1.7
2015	97	12.4	10.7	(8.54,12.80)	1.5
2016	89	11.2	9.2	(7.30,11.15)	1.3

### INCIDENCE SUMMARY BY DISTRICT AND YEAR

District	2004-2008			2012-2016		
	No.	CR	ASR	No.	CR	ASR
Timur Laut	195	17.5	21.2	218	17.8	13.5
Barat Daya	37	7.9	13.7	48	9.7	12.0
Seb. Perai Utara	56	7.8	12.3	49	6.7	6.9
Seb. Perai Tengah	72	8.6	12.4	78	8.7	9.8
Seb. Perai Selatan	16	4.5	6.6	35	8.2	10.3

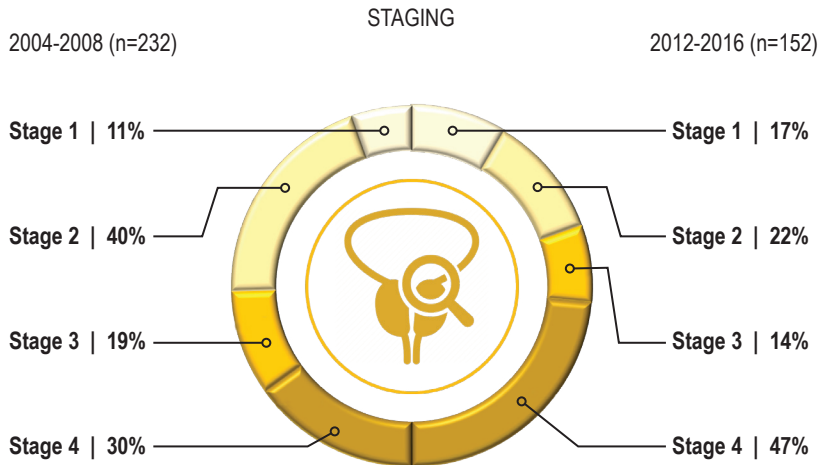
## PROSTATE CANCER

### AGE SPECIFIC INCIDENCE RATE



Prostate cancer was **third commonest** cancer in male. The incidence increased at the age of 55 years and mostly diagnosed after the age of 65 years old.

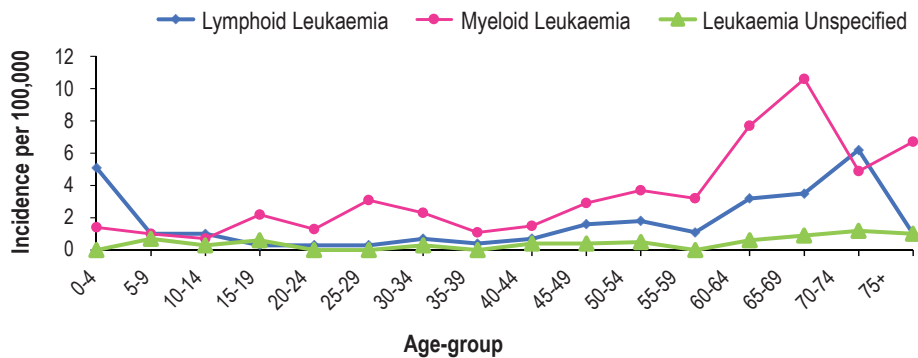
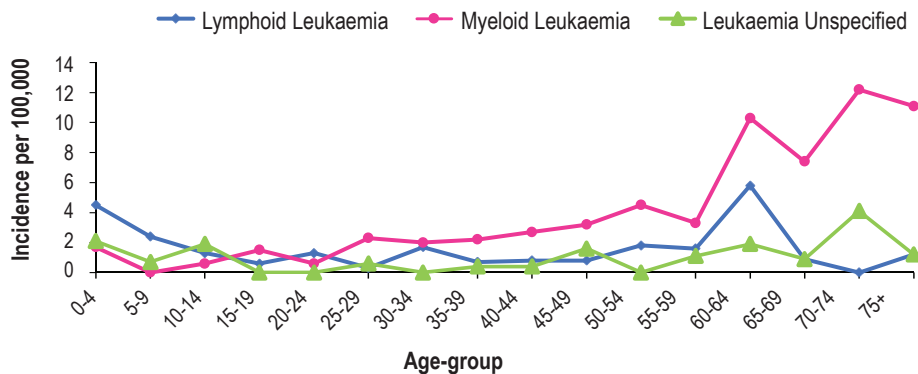
**THE LIFETIME RISK:**  
 1 in 65 for all males, 1 in 96 Malay, 1 in 56 Chinese, 1 in 69 Indian



In 2012-2016, the percentage diagnosed at late stage (Stage 3 & 4) increased to 61%.

## 6. LEUKAEMIA

AGE SPECIFIC INCIDENCE RATE, 2012-2016

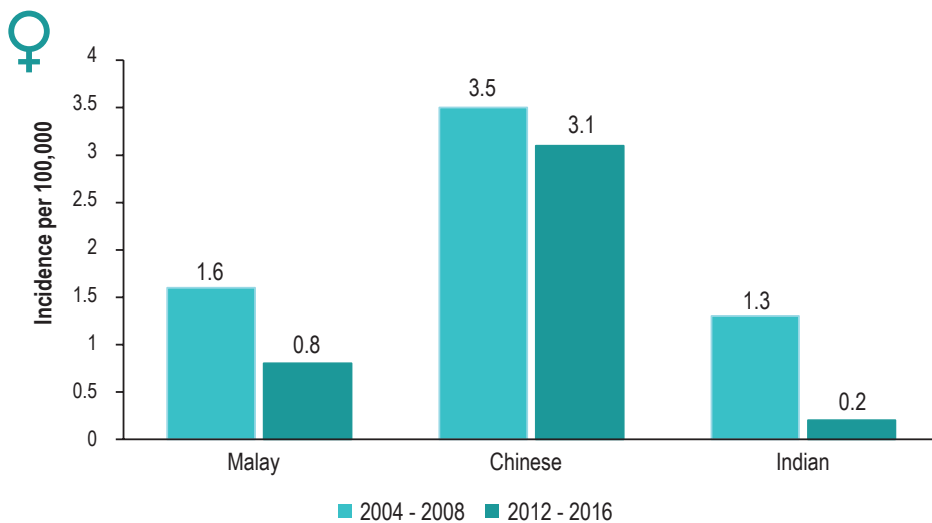
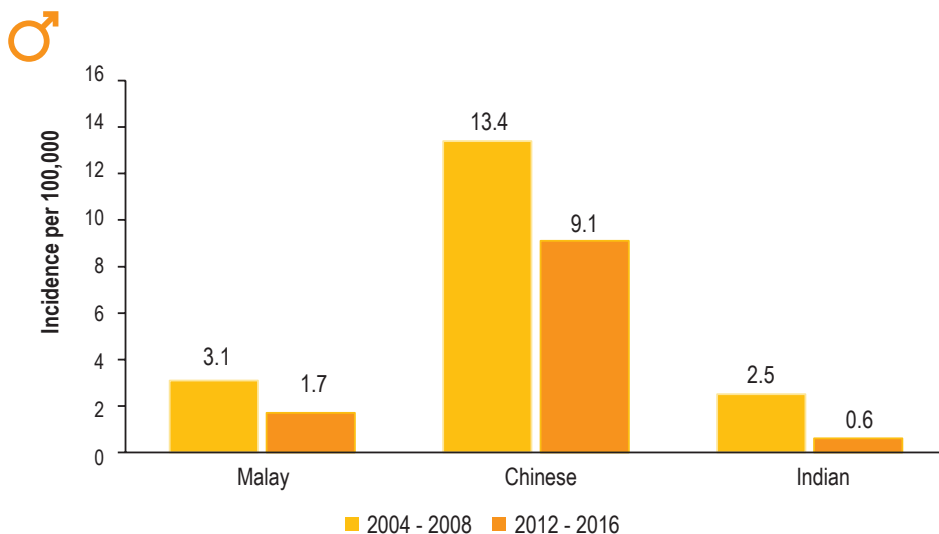


Leukemia was **sixth most common** cancer in Penang. Chinese males had the highest incidence rate with ASR 6.0, followed by Malay male (ASR 5.3) and Chinese female (ASR 4.6).

THE LIFETIME RISK:  
1 in 212 for all males  
1 in 248 for all females

## 7. NASOPHARYNGEAL CANCER

COMPARISON OF AGE-STANDARDISED RATE BY YEAR AND MAJOR ETHNIC GROUP



## NASOPHARYNGEAL CANCER

### INCIDENCE SUMMARY BY SEX AND YEAR

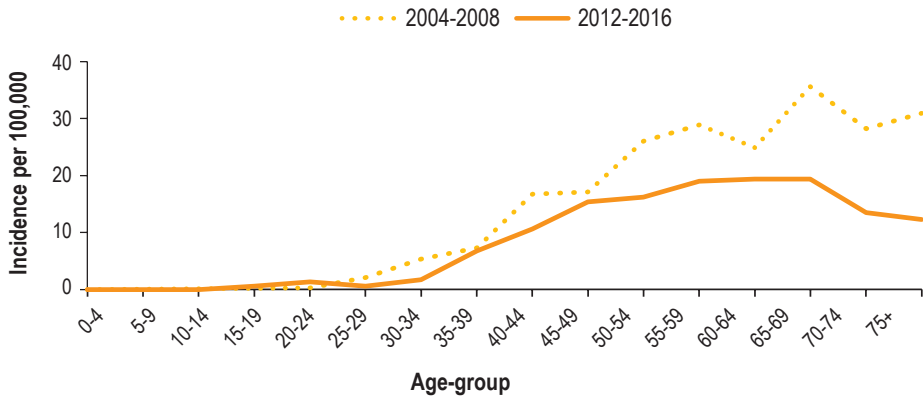
Year	Male					Female				
	No.	CR	ASR	(95%CL)	CumR	No.	CR	ASR	(95%CL)	CumR
2012-2016	240	6.4	5.7	(5.00,6.45)	0.6	82	2.2	1.9	(1.52,2.36)	0.2
2004-2008	289	8.3	8.7	(7.71,9.77)	0.9	92	2.6	2.6	(2.08,3.16)	0.3
2012	52	6.9	6.2	(4.49,7.86)	0.7	15	1.9	1.8	(0.88,2.70)	0.2
2013	45	5.9	5.2	(3.69,6.75)	0.5	17	2.2	1.9	(1.02,2.87)	0.2
2014	42	5.4	4.7	(3.28,6.14)	0.5	16	2.1	1.9	(0.96,2.81)	0.2
2015	58	7.4	6.3	(4.69,7.95)	0.7	20	2.5	2.1	(1.16,2.99)	0.3
2016	43	5.4	4.6	(3.24,6.01)	0.6	14	1.8	1.5	(0.71,2.31)	0.1

### INCIDENCE SUMMARY BY SEX, DISTRICT AND YEAR

District	Male						Female					
	2004-2008			2012-2016			2004-2008			2012-2016		
	No.	CR	ASR	No.	CR	ASR	No.	CR	ASR	No.	CR	ASR
Timur Laut	123	11	10.6	106	8.7	6.7	42	3.6	3.3	32	2.5	2.0
Barat Daya	35	7.5	9.1	29	5.8	5.7	14	2.9	3.3	14	2.8	2.6
Seb. Perai Utara	41	5.7	7.1	35	4.7	4.6	9	1.3	1.3	12	1.6	1.5
Seb. Perai Tengah	58	6.9	7.4	47	5.3	4.9	15	1.8	1.9	15	1.7	1.7
Seb. Perai Selatan	32	8.9	8.4	23	5.4	5.2	12	3.4	3.7	9	2.2	2.1

## MALE NASOPHARYNGEAL CANCER

AGE SPECIFIC INCIDENCE RATE



Nasopharyngeal cancer was the **fifth commonest** cancer in male. The trend of incidence in 2012-2016 lower compared to 2004-2008. The rate increased at the age of 35 and reduced at the age of 65 years for male.

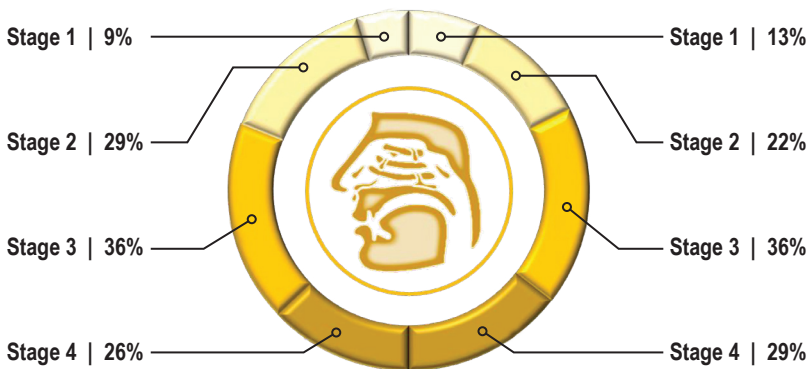
### THE LIFETIME RISK:

2004-2008: 1 in 104 for all males, 1 in 69 Chinese  
 2012-2016: 1 in 161 for all males, 1 in 103 Chinese

### STAGING

2004-2008 (n=182)

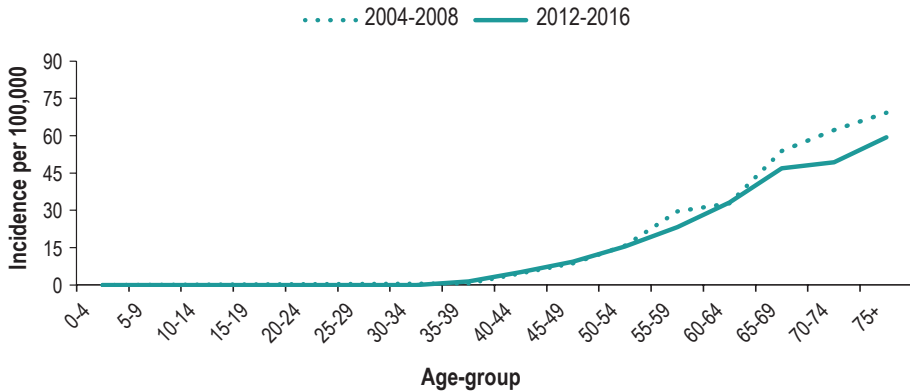
2012-2016 (n=131)



Percentage diagnosed at late stage (Stage 3 & 4) remained around 62-65% in 2004-2008 and 2012-2016.

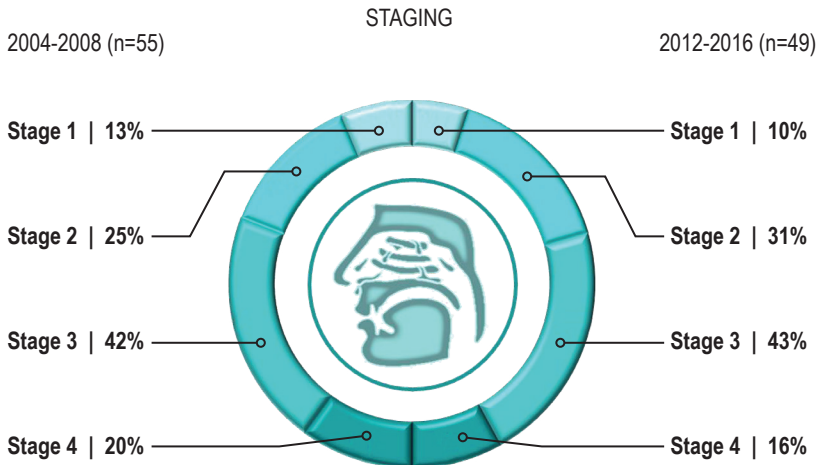
## FEMALE NASOPHARYNGEAL CANCER

AGE SPECIFIC INCIDENCE RATE



In females, the incidence in 2012-2016 **lower** compared to 2004-2008. In 2012-2016, the highest incidence was in the age group 65-69 years old.

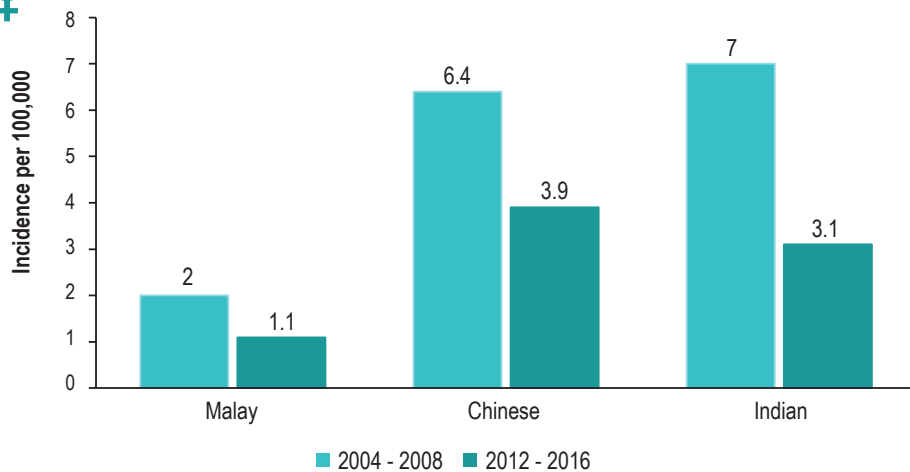
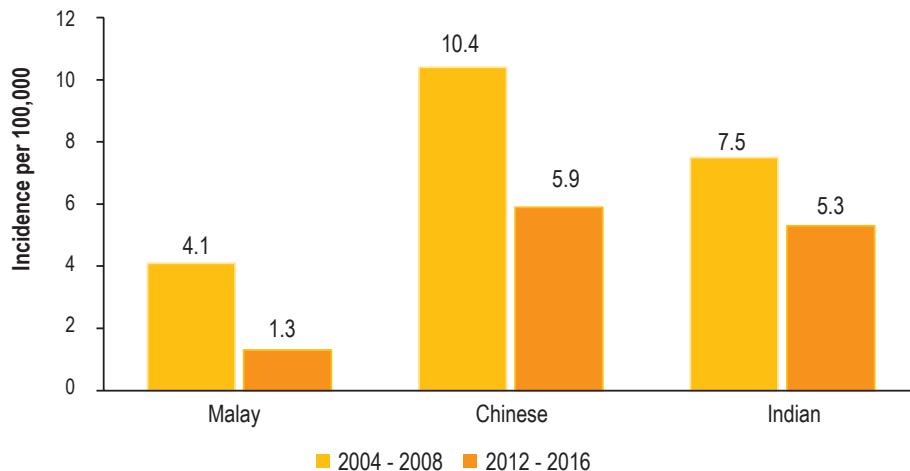
**THE LIFETIME RISK:**  
 2004-2008: 1 in 340 for all females  
 2012-2016: 1 in 456 for all females



In 2012-2016, the percentage diagnosed at late stage (Stage 3 & 4) reduced to 59%.

## 8. STOMACH CANCER

COMPARISON OF AGE-STANDARDISED RATE BY YEAR AND MAJOR ETHNIC GROUP





## STOMACH CANCER

## INCIDENCE SUMMARY BY SEX AND YEAR

Year	Male					Female				
	No.	CR	ASR	(95%CL)	CumR	No.	CR	ASR	(95%CL)	CumR
2012-2016	179	4.74	4.5	(3.81,5.12)	0.5	140	3.70	3.2	(2.63,3.68)	0.3
2004-2008	228	6.5	8.3	(7.22,9.42)	1.0	176	5.0	5.1	(4.33,5.86)	0.6
2012	45	6.0	5.7	(4.00,7.32)	0.6	36	4.8	3.9	(2.63,5.22)	0.4
2013	32	4.2	3.8	(2.46,5.08)	0.3	29	3.8	3.2	(2.02,4.37)	0.4
2014	32	4.1	3.7	(2.38,4.93)	0.5	17	2.2	1.8	(0.93,2.64)	0.2
2015	36	4.6	3.8	(2.55,5.05)	0.4	25	3.2	2.5	(1.50,3.47)	0.3
2016	34	4.3	3.5	(2.30,4.64)	0.4	33	4.2	3.1	(2.06,4.23)	0.3

## INCIDENCE SUMMARY BY SEX, DISTRICT AND YEAR



District

District	2004-2008			2012-2016		
	No.	CR	ASR	No.	CR	ASR
Timur Laut	130	11.7	13.0	96	7.8	5.9
Barat Daya	23	3.2	4.5	22	4.4	4.8
Seb. Perai Utara	13	3.6	5.2	21	2.9	2.8
Seb. Perai Tengah	18	3.8	4.5	25	2.8	3.0
Seb. Perai Selatan	27	3.2	3.4	15	3.5	4.0

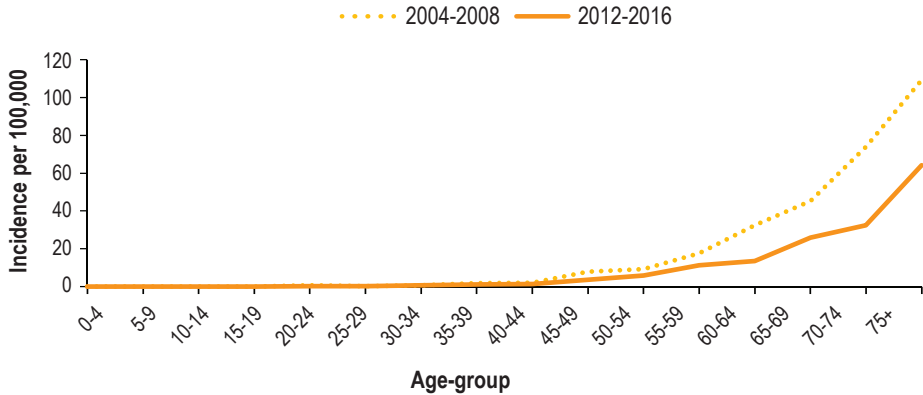


District

District	2004-2008			2012-2016		
	No.	CR	ASR	No.	CR	ASR
Timur Laut	22	4.7	7	74	5.8	4.1
Barat Daya	40	4.8	6.3	21	4.3	4.0
Seb. Perai Utara	94	8.1	7.3	14	1.9	1.8
Seb. Perai Tengah	24	3.4	3.8	21	2.43	2.4
Seb. Perai Selatan	13	3.7	3.6	10	2.42	2.4

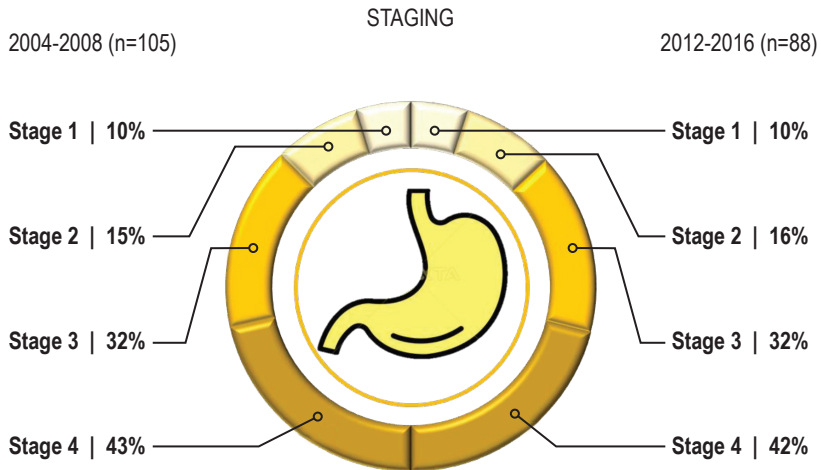
## MALE STOMACH CANCER

AGE SPECIFIC INCIDENCE RATE



Stomach cancer was the **ninth commonest** cancer among males in Penang. The trend of incidence in 2012-2016 similar to 2004-2008. However, reduced rate seen in most age group.

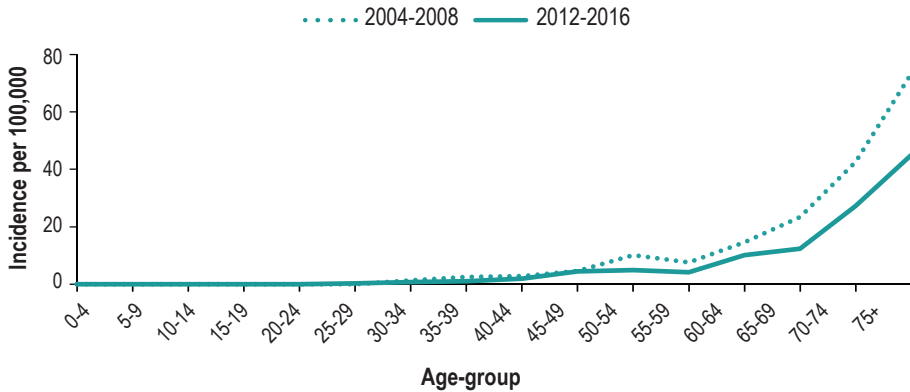
**THE LIFETIME RISK:**  
 2004-2008: 1 in 105 for all males  
 2012-2016: 1 in 207 for all males



Percentage diagnosed at late stage (Stage 3 & 4) remained around 74-75% in 2004-2008 and 2012-2016.

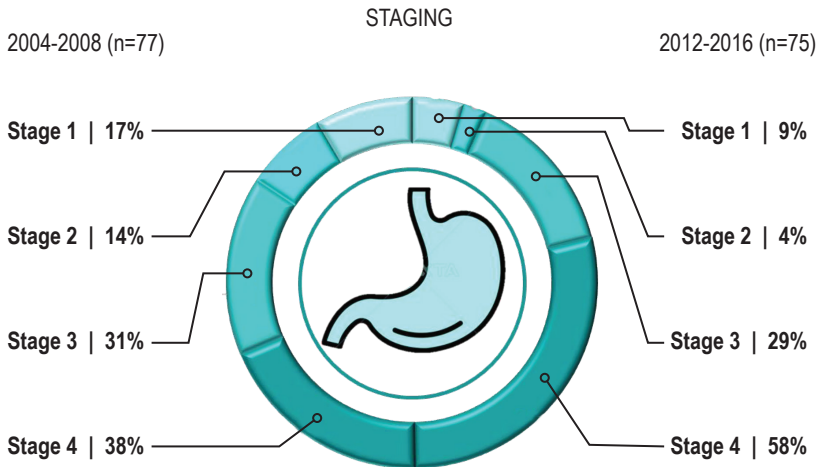
## FEMALE STOMACH CANCER

AGE SPECIFIC INCIDENCE RATE



Stomach cancer was the **tenth commonest** cancer among females in Penang. The trend of incidence in 2012-2016 similar to 2004-2008. However, reduced rate seen in most age group.

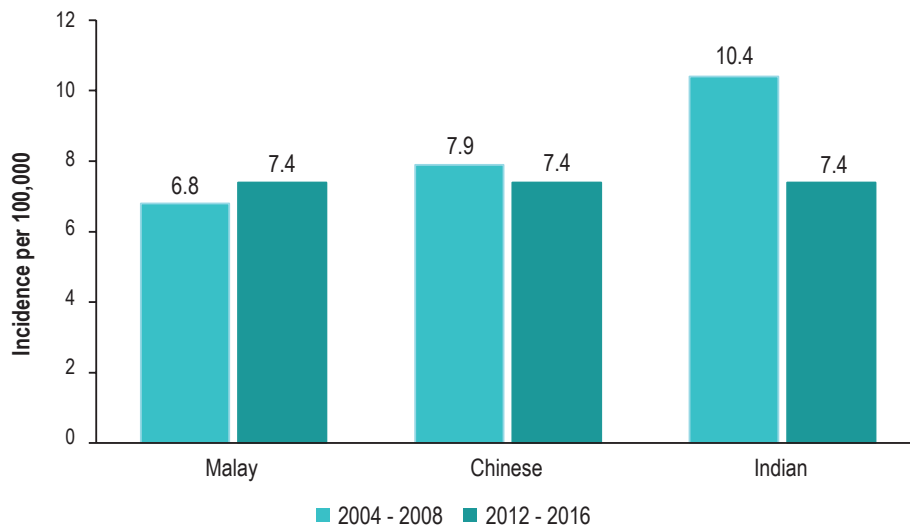
**THE LIFETIME RISK:**  
 2004-2008: 1 in 183 for all females  
 2012-2016: 1 in 297 for all females



In 2012-2016, extremely high percentage of stomach cancer cases were diagnosed at late stage (stage 3 & 4). It increased to 87% compared to 69% in 2004-2008.

## 9. OVARIAN CANCER

COMPARISON OF AGE-STANDARDISED RATE BY YEAR AND MAJOR ETHNIC GROUP



### INCIDENCE SUMMARY BY YEAR

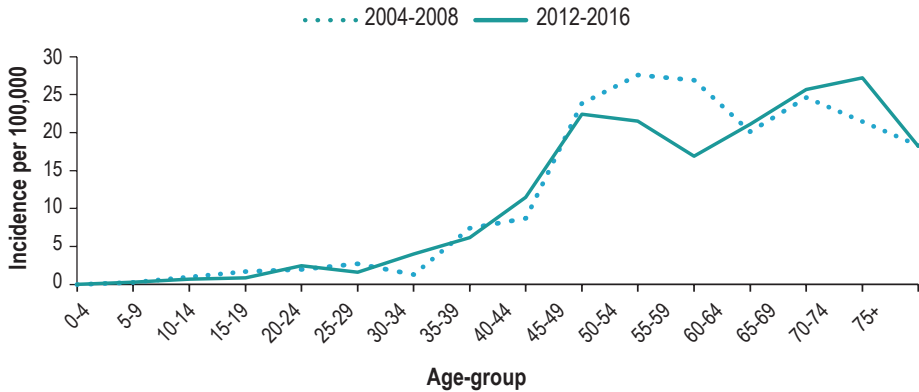
Year	Female				
	No.	CR	ASR	(95%CL)	CumR
2012-2016	316	8.4	7.4	(6.60,8.25)	0.8
2004-2008	280	7.9	7.9	(6.95,8.82)	0.9
2012	55	7.3	6.5	(4.76,8.19)	0.7
2013	54	7.1	6.2	(4.54,7.87)	0.6
2014	71	9.2	7.8	(5.97,9.61)	0.9
2015	59	7.5	6.4	(4.73,7.99)	0.7
2016	77	9.7	8.2	(6.32,9.98)	0.9

### INCIDENCE SUMMARY BY DISTRICT AND YEAR

District	2004-2008			2012-2016		
	No.	CR	ASR	No.	CR	ASR
Timur Laut	130	11.2	10.2	129	10.2	8.1
Barat Daya	32	6.7	7.5	45	9.1	9.0
Seb. Perai Utara	51	7.2	7.7	47	6.3	5.9
Seb. Perai Tengah	44	5.3	5.4	66	7.6	7.1
Seb. Perai Selatan	23	6.5	6.4	29	7.0	7.0

# OVARIAN CANCER

## AGE SPECIFIC INCIDENCE RATE



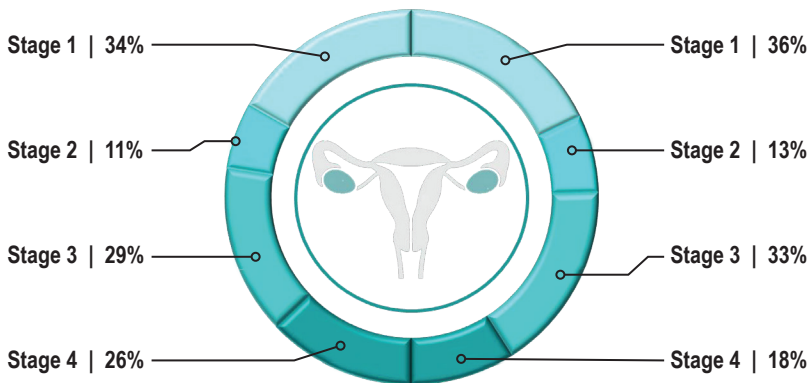
Ovarian cancer was the **fourth most common** cancer in female. The trend of incidence in 2012-2016 was similar to 2004-2008. It increased at the age of 30 years and peak between 45-69 years old and reducing trend after age of 70 years.

**THE LIFETIME RISK:**  
 2004-2008: 1 in 119 for all females  
 2012-2016: 1 in 124 for all females

### STAGING

2004-2008 (n=167)

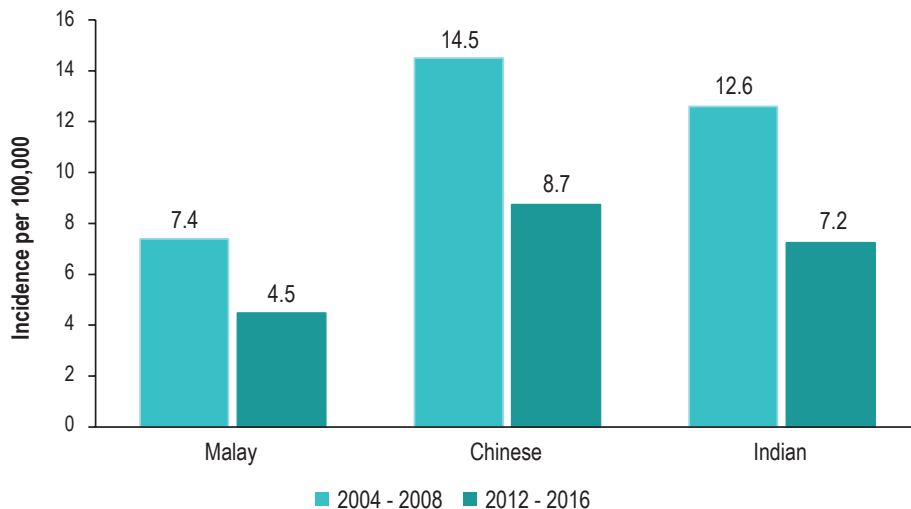
2012-2016 (n=238)



In 2012-2016, the percentage diagnosed at late stage (Stage 3 & 4) reduced to 51%.

## 10. CERVIX UTERI CANCER

COMPARISON OF AGE-STANDARDISED RATE BY YEAR AND MAJOR ETHNIC GROUP



### INCIDENCE SUMMARY BY YEAR

Year	No.	CR	Female		
			ASR	(95%CL)	CumR
2012-2016	307	8.1	7.1	(6.33,7.93)	0.8
2004-2008	418	11.8	11.8	(10.68,12.98)	1.4
2012	51	6.7	6.0	(4.33,7.62)	0.7
2013	62	8.1	6.9	(5.15,8.59)	0.8
2014	64	8.3	7.0	(5.28,8.72)	0.9
2015	64	8.2	6.8	(5.15,8.52)	0.8
2016	66	8.3	6.8	(5.17,8.48)	0.7

### INCIDENCE SUMMARY BY DISTRICT AND YEAR

District	2004-2008			2012-2016		
	No.	CR	ASR	No.	CR	ASR
Timur Laut	189	16.3	14.7	128	10.1	7.9
Barat Daya	53	11.0	12.0	38	7.7	7.1
Seb. Perai Utara	62	8.7	10.0	44	5.9	5.4
Seb. Perai Tengah	76	9.1	9.2	66	7.6	7.4
Seb. Perai Selatan	38	10.8	10.8	31	7.5	7.3

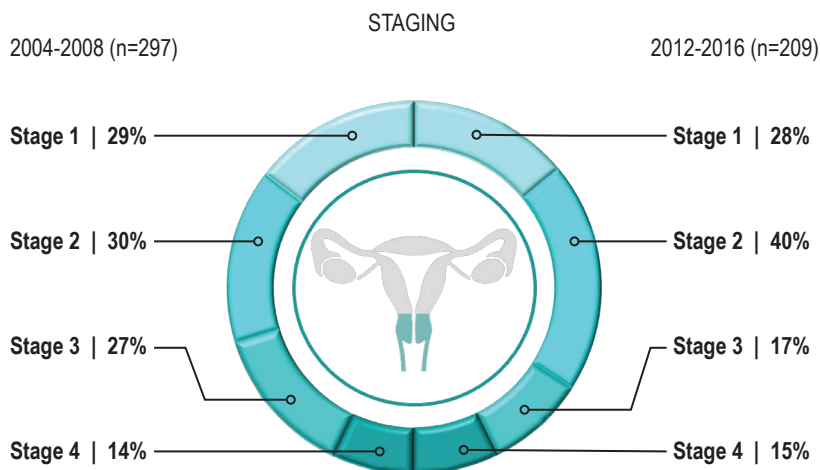
## CERVIX UTERI CANCER

AGE SPECIFIC INCIDENCE RATE



Cervical cancer was the fifth most common cancer in female. The trend of incidence in 2012-2016 was similar to 2004-2008. However, reduced rate seen in most age group. The incidence increased at the age of 35 years and peak between 55-74 years old and reducing trend after age of 70 years.

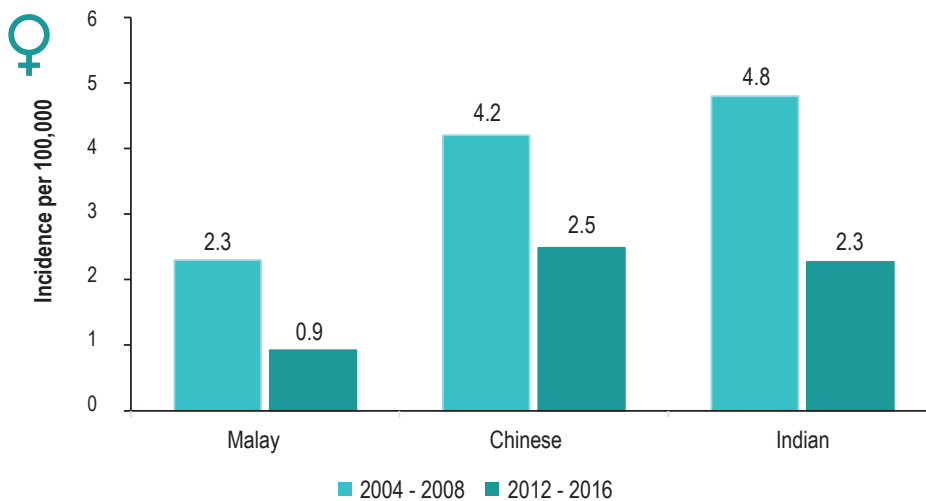
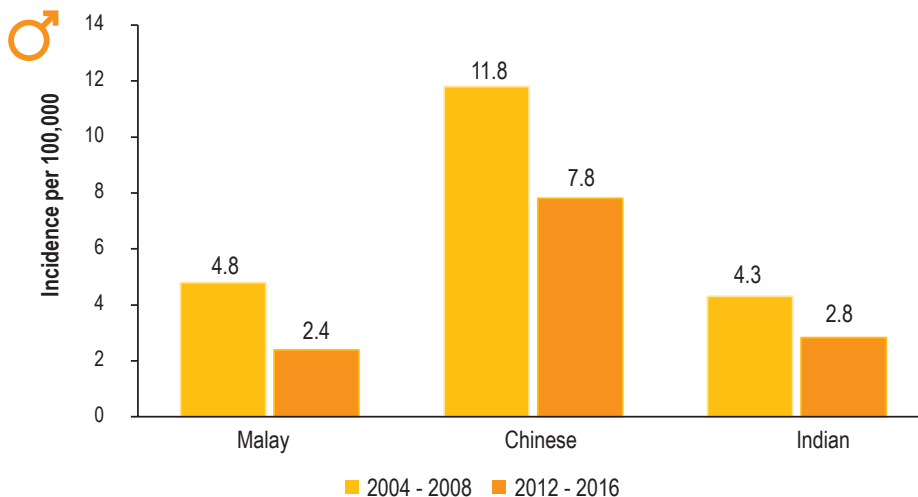
**THE LIFETIME RISK:**  
 2004-2008: 1 in 74 for all females  
 2012-2016: 1 in 119 for all females



In 2012-2016, the percentage diagnosed at late stage (Stage 3 & 4) reduced to 32%.

## 11. LIVER CANCER

COMPARISON OF AGE-STANDARDISED RATE BY YEAR AND MAJOR ETHNIC GROUP





## LIVER CANCER

## INCIDENCE SUMMARY BY SEX AND YEAR

Year	Male					Female				
	No.	CR	ASR	(95%CL)	CumR	No.	CR	ASR	(95%CL)	CumR
2012-2016	230	6.09	5.7	(4.97,6.46)	0.72	85	2.25	2.0	(1.59,2.48)	0.21
2004-2008	263	7.5	9.0	(7.89,10.11)	1.10	121	3.4	3.7	(3.01,4.33)	0.44
2012	50	6.6	6.2	(4.48,7.94)	0.83	8	1.1	1.0	(0.28,1.74)	0.10
2013	52	6.8	6.1	(4.47,7.82)	0.83	16	2.1	1.8	(0.92,2.76)	0.25
2014	48	6.2	5.6	(3.97,7.14)	0.70	21	2.7	2.1	(1.20,3.02)	0.21
2015	33	4.2	3.5	(2.27,4.63)	0.41	21	2.7	2.2	(1.23,3.09)	0.22
2016	47	5.9	5.0	(3.58,6.49)	0.57	19	2.4	2.2	(1.13,3.23)	0.20

## INCIDENCE SUMMARY BY SEX, DISTRICT AND YEAR



District

District	2004-2008			2012-2016		
	No.	CR	ASR	No.	CR	ASR
Timur Laut	131	11.7	12.6	106	8.7	6.5
Barat Daya	39	5.5	7.4	36	7.3	7.9
Seb. Perai Utara	21	5.8	6.9	28	3.8	3.9
Seb. Perai Tengah	14	2.9	3.5	39	4.4	4.6
Seb. Perai Selatan	25	3.0	3.3	21	4.9	5.3

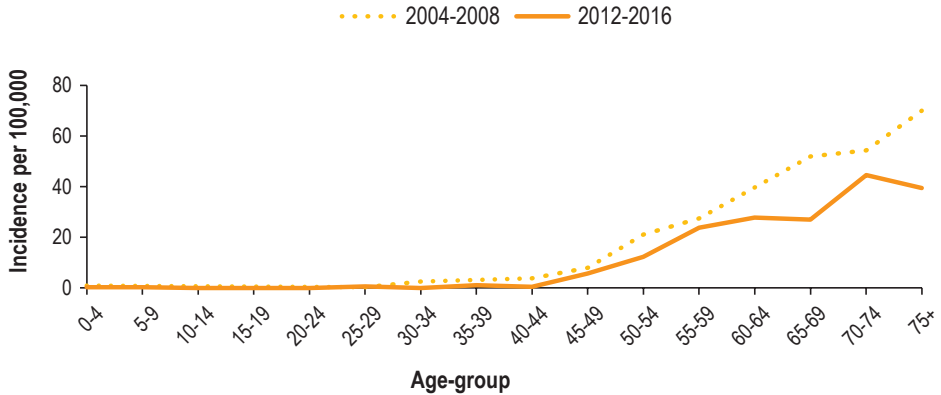


District

District	2004-2008			2012-2016		
	No.	CR	ASR	No.	CR	ASR
Timur Laut	31	6.7	9.2	40	3.2	2.2
Barat Daya	41	4.9	5.7	8	1.6	1.7
Seb. Perai Utara	62	5.4	5.0	15	2.0	2.0
Seb. Perai Tengah	13	1.8	2.1	15	1.7	1.8
Seb. Perai Selatan	7	2.0	2.3	7	1.7	1.9

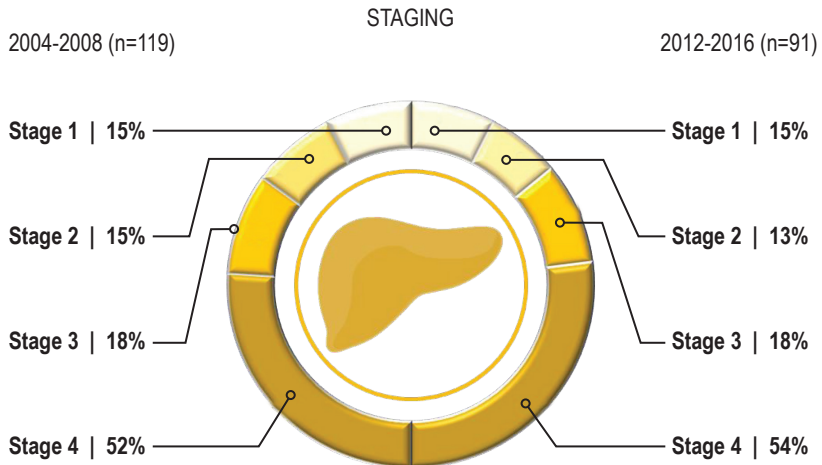
## MALE LIVER CANCER

### AGE SPECIFIC INCIDENCE RATE



Liver cancer was **sixth most common** cancer among males. The trend of incidence in 2012-2016 was almost similar to 2004-2008. However, reduced rate seen in most age group. The highest incidence was at the age of 70-74 years.

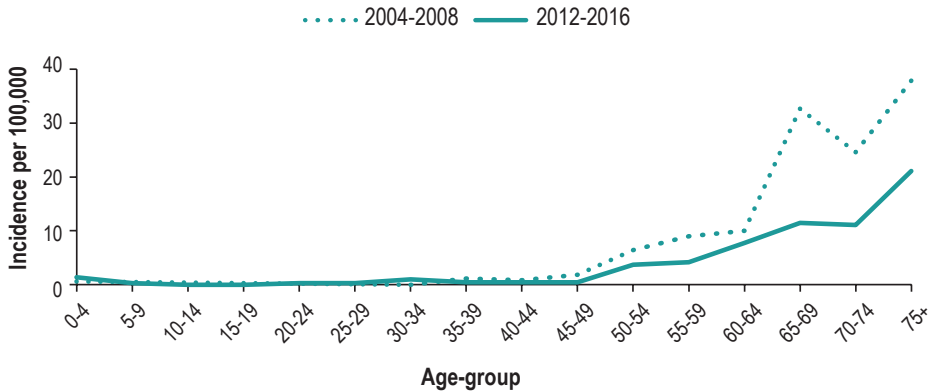
**THE LIFETIME RISK:**  
 2004-2008: 1 in 94 for all males  
 2012-2016: 1 in 148 for all males



In 2012-2016, the percentage diagnosed of late stage (Stage 3 & 4) increased to 72%.

## FEMALE LIVER CANCER

AGE SPECIFIC INCIDENCE RATE



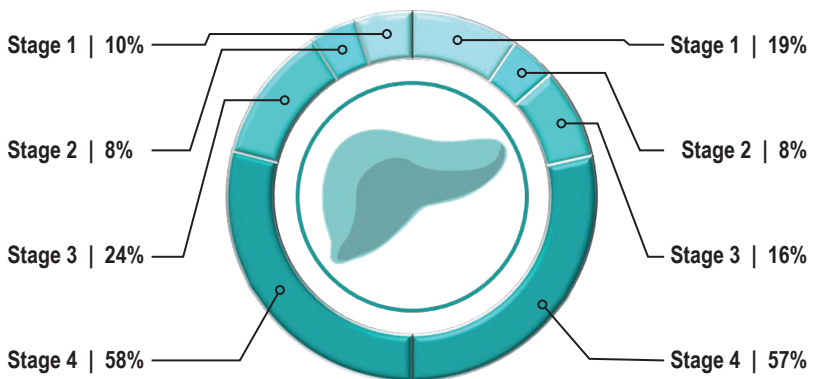
In females, the incidence rate in 2012-2016 reduced compared to 2004-2008 in most of age group.

**THE LIFETIME RISK:**  
 2004-2008: 1 in 228 for all females  
 2012-2016: 1 in 302 for all females

### STAGING

2004-2008 (n=50)

2012-2016 (n=37)



In 2012-2016, the percentage diagnosed at late stage (Stage 3 & 4) reduced to 73%.

## INCIDENCE SUMMARY TABLES

Comparison of Incidence Summary by Sex and Year.

Year	Male					Female				
	No.	CR	ASR	CumR	Lifetime risk	No.	CR	ASR	CumR	Lifetime risk
2012-2016	4,825	127.9	121.1	13.4	1 in 7	5,976	157.9	140.3	14.7	1 in 7
2004-2008	4,467	127.5	156.7	16.7	1 in 6	5,225	147.7	150.9	15.6	1 in 6

Incidence Summary by Major Ethnic Groups and Sex, 2012 - 2016

Ethnicity	Male					Female				
	No.	CR	ASR	CumR	Lifetime risk	No.	CR	ASR	CumR	Lifetime risk
Malay	1,063	64.5	80.7	9.1	1 in 11	1,615	97.5	107.0	11.0	1 in 9
Chinese	3,373	197.6	144.8	15.8	1 in 6	3,750	219.9	157.5	16.8	1 in 6
Indian	353	89.6	93.3	10.3	1 in 10	559	119.8	116	13.8	1 in 7

Incidence Summary by Year and Sex

Year	Male					Female				
	No.	CR	ASR	(95%CL)	CumR	No.	CR	ASR	(95%CL)	CumR
2012	942	124.8	117.8	(110.2,125.3)	12.9	1138	150.4	132.8	(125.0,140.6)	13.6
2013	951	124.4	114	(114.0,106.7)	12.8	1142	149.1	129.6	(129.6,121.9)	13.8
2014	973	125.7	112.5	(105.3,119.5)	13.1	1172	151.3	128.7	(121.2,136.1)	13.7
2015	960	122.6	105.6	(98.8,112.3)	11.3	1250	159.5	133.1	(125.6,140.5)	14.1
2016	998	125.9	106.9	(100.1,113.5)	11.9	1274	160.7	131.4	(124.0,138.6)	13.5

Incidence Summary by Districts and Sex, 2012 - 2016

District	Male			Female		
	No.	CR	ASR	No.	CR	ASR
Timur Laut	2204	180.1	139.6	2618	206.3	158.3
Barat Daya	636	128.1	140.8	801	162.5	157.4
Seb. Perai Utara	687	93.6	93.9	925	124.5	117.0
Seb. Perai Tengah	891	99.8	105.1	1112	128.5	123.5
Seb. Perai Selatan	407	95.2	107.6	520	125.6	125.1

**Definition of Crude Incidence Rate (CR):** The number of new cancer cases (incidence cases) observed in the population during a defined period, divided by the number population at risk in the same period. It is usually expressed per 100,000.

**Definition of Cumulative Risk (CumR):** Cumulative risk is defined as a probability that an individual would develop cancer during a certain age period, in the absence of any competing cause of death. The age period over which the risk is accumulated in this report is 0-74 years.