



# **Brunei Darussalam Cancer Trends 2004-2013**

**Brunei Darussalam Cancer Registry (BDCR)  
Training Workshop 26 Jan 2016**

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Describing  
occurrence



Supporting  
implementation

Education  
and  
training

Establishing  
causes



Evaluating  
prevention



International Agency for Research on Cancer

The background features abstract, overlapping blue geometric shapes, primarily triangles and polygons, in various shades of blue, creating a modern and professional look.

# **CANCER REGISTRATION PROCESS BRUNEI DARUSSALAM CANCER REGISTRY (BDCR)**

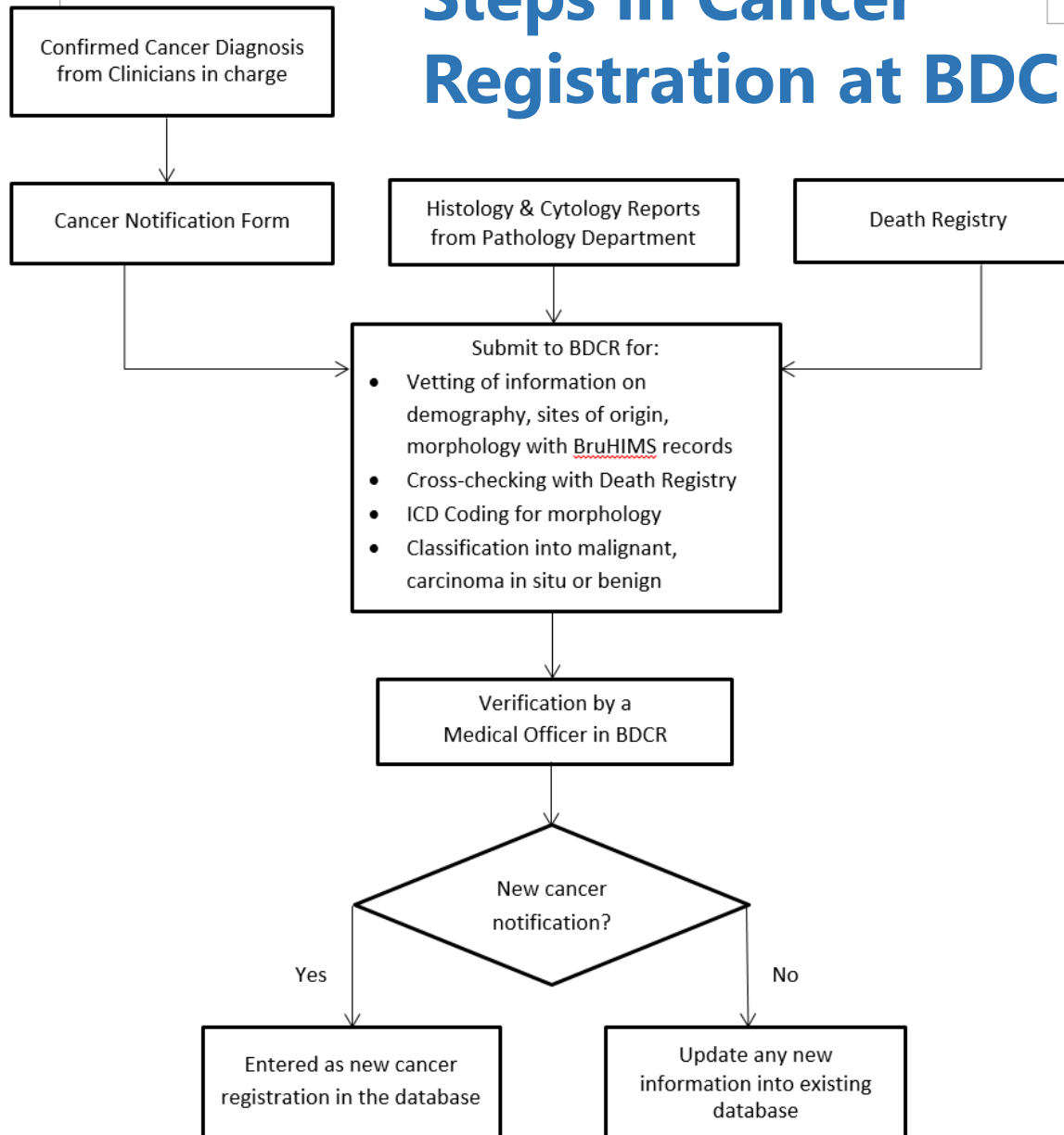
# Brunei Darussalam Cancer Registry (BDCR)

- ▶ Started in 2002
- ▶ Population-based cancer registry

Key components:

- ▶ Sources of cancer notification
- ▶ Data for cancer notification
- ▶ Verification of data
- ▶ Coding of data
- ▶ Cancer data entry in electronic database
- ▶ Data analysis and monitoring

# Steps in Cancer Registration at BDCR



[illegible]

Please notify all new cases (Bruneians and Non-Bruneians) of cancer once it has been confirmed. Tick in the ( ) where appropriate and mark "2" where information is not available

If the patient is under 12 years of age, record the **birth certificate number**. For patients over 12 years of age, whether civilian or uniformed personnel (army/police/custom/immigration) record the **IC number** or **passport number**.

If the full data is not available from the IC, enter the year and month of birth, if at all possible.

This is the patient's usual residence in which the patient resides most of the time.

This is the first date on which a definitive diagnosis of neoplasm was made or assumed to have been made in the absence of other information. For example, the date of diagnosis of an in-situ tumour will not be amended if the tumour is subsequently found to be malignant. Similarly, if a second tumour is the first to be diagnosed, with the primary diagnosed at a later date, the date of diagnosis is the earlier date the diagnosis was made. Confirmation of the type or behaviour of the tumour at a later date will not alter the date of diagnosis.

## Specify, if possible, the site of the primary tumour / exact location / laterality (right or left).

The most definitive method of diagnosis should be recorded. There will not necessarily be agreement between date of diagnosis and method of diagnosis. For example, breast cancer is suggested by mammography, then the date of diagnosis is the date of surgery with biopsy and histological examination of the resected specimen and the method of diagnosis is histology.

This is applicable only to solid tumour and before definitive treatment begins.

Report whether the patient is known to be deceased or alive at the time of notification.

Patient may have died from original cancer as initially diagnosed or from cancer other than originally diagnosed or from non-cancer cause.

When the primary site is discovered at a later date for any secondary or uncertain site reported to the registry, a change of notification should be submitted. It should also be submitted if later information provides more specific or corrected information on the histological type of tumour or a change in diagnosis.

When there is more than one primary neoplasm at two different anatomical sites or two distinct morphological types, separate notification forms should be completed.

Any enquiries regarding the notification form, please contact 2385800 ext 214 or fax to 2384223 or e-mail to [bdcr.ncd@moh.gov.bn](mailto:bdcr.ncd@moh.gov.bn)



# Monthly pathology records

DECEMBER 2011							
SL	TEST NAME	REFERENCE	DATE	TIME	STATUS	REMARKS	REMARKS
1	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...
20	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...
23	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...
30	...	...	...	...	...	...	...
31	...	...	...	...	...	...	...

DECEMBER 2011							
SL	TEST NAME	REFERENCE	DATE	TIME	STATUS	REMARKS	REMARKS
1	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...
20	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...
23	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...
30	...	...	...	...	...	...	...
31	...	...	...	...	...	...	...

DECEMBER 2011							
SL	TEST NAME	REFERENCE	DATE	TIME	STATUS	REMARKS	REMARKS
1	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...
20	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...
23	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...
30	...	...	...	...	...	...	...
31	...	...	...	...	...	...	...

DECEMBER 2011							
SL	TEST NAME	REFERENCE	DATE	TIME	STATUS	REMARKS	REMARKS
1	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...
20	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...
23	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...
30	...	...	...	...	...	...	...
31	...	...	...	...	...	...	...

# Annual death records

NO.	NO. SUR KEMATI	TARIKH LAMU	TARIKH KEMATI	UMUR (TAHUN)	UMUR (BULAN)	JANTANA	KODI KEMATI
1	0001-01	01/01/2001	01/01/2001	01	01	01	01
2	0002-02	02/02/2002	02/02/2002	02	02	02	02
3	0003-03	03/03/2003	03/03/2003	03	03	03	03
4	0004-04	04/04/2004	04/04/2004	04	04	04	04
5	0005-05	05/05/2005	05/05/2005	05	05	05	05
6	0006-06	06/06/2006	06/06/2006	06	06	06	06
7	0007-07	07/07/2007	07/07/2007	07	07	07	07
8	0008-08	08/08/2008	08/08/2008	08	08	08	08
9	0009-09	09/09/2009	09/09/2009	09	09	09	09
10	0010-10	10/10/2010	10/10/2010	10	10	10	10
11	0011-11	11/11/2011	11/11/2011	11	11	11	11
12	0012-12	12/12/2012	12/12/2012	12	12	12	12
13	0013-13	13/13/2013	13/13/2013	13	13	13	13
14	0014-14	14/14/2014	14/14/2014	14	14	14	14
15	0015-15	15/15/2015	15/15/2015	15	15	15	15
16	0016-16	16/16/2016	16/16/2016	16	16	16	16
17	0017-17	17/17/2017	17/17/2017	17	17	17	17
18	0018-18	18/18/2018	18/18/2018	18	18	18	18
19	0019-19	19/19/2019	19/19/2019	19	19	19	19
20	0020-20	20/20/2020	20/20/2020	20	20	20	20
21	0021-21	21/21/2021	21/21/2021	21	21	21	21
22	0022-22	22/22/2022	22/22/2022	22	22	22	22
23	0023-23	23/23/2023	23/23/2023	23	23	23	23
24	0024-24	24/24/2024	24/24/2024	24	24	24	24
25	0025-25	25/25/2025	25/25/2025	25	25	25	25
26	0026-26	26/26/2026	26/26/2026	26	26	26	26
27	0027-27	27/27/2027	27/27/2027	27	27	27	27
28	0028-28	28/28/2028	28/28/2028	28	28	28	28
29	0029-29	29/29/2029	29/29/2029	29	29	29	29
30	0030-30	30/30/2030	30/30/2030	30	30	30	30
31	0031-31	31/31/2031	31/31/2031	31	31	31	31
32	0032-32	32/32/2032	32/32/2032	32	32	32	32
33	0033-33	33/33/2033	33/33/2033	33	33	33	33
34	0034-34	34/34/2034	34/34/2034	34	34	34	34
35	0035-35	35/35/2035	35/35/2035	35	35	35	35
36	0036-36	36/36/2036	36/36/2036	36	36	36	36
37	0037-37	37/37/2037	37/37/2037	37	37	37	37
38	0038-38	38/38/2038	38/38/2038	38	38	38	38
39	0039-39	39/39/2039	39/39/2039	39	39	39	39
40	0040-40	40/40/2040	40/40/2040	40	40	40	40
41	0041-41	41/41/2041	41/41/2041	41	41	41	41
42	0042-42	42/42/2042	42/42/2042	42	42	42	42
43	0043-43	43/43/2043	43/43/2043	43	43	43	43
44	0044-44	44/44/2044	44/44/2044	44	44	44	44
45	0045-45	45/45/2045	45/45/2045	45	45	45	45
46	0046-46	46/46/2046	46/46/2046	46	46	46	46
47	0047-47	47/47/2047	47/47/2047	47	47	47	47
48	0048-48	48/48/2048	48/48/2048	48	48	48	48
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50	0050-50	50/50/2050	50/50/2050	50	50	50	50
51	0051-51	51/51/2051	51/51/2051	51	51	51	51
52	0052-52	52/52/2052	52/52/2052	52	52	52	52
53	0053-53	53/53/2053	53/53/2053	53	53	53	53
54	0054-54	54/54/2054	54/54/2054	54	54	54	54
55	0055-55	55/55/2055	55/55/2055	55	55	55	55
56	0056-56	56/56/2056	56/56/2056	56	56	56	56
57	0057-57	57/57/2057	57/57/2057	57	57	57	57
58	0058-58	58/58/2058	58/58/2058	58	58	58	58
59	0059-59	59/59/2059	59/59/2059	59	59	59	59
60	0060-60	60/60/2060	60/60/2060	60	60	60	60
61	0061-61	61/61/2061	61/61/2061	61	61	61	61
62	0062-62	62/62/2062	62/62/2062	62	62	62	62
63	0063-63	63/63/2063	63/63/2063	63	63	63	63
64	0064-64	64/64/2064	64/64/2064	64	64	64	64
65	0065-65	65/65/2065	65/65/2065	65	65	65	65
66	0066-66	66/66/2066	66/66/2066	66	66	66	66
67	0067-67	67/67/2067	67/67/2067	67	67	67	67
68	0068-68	68/68/2068	68/68/2068	68	68	68	68
69	0069-69	69/69/2069	69/69/2069	69	69	69	69
70	0070-70	70/70/2070	70/70/2070	70	70	70	70
71	0071-71	71/71/2071	71/71/2071	71	71	71	71
72	0072-72	72/72/2072	72/72/2072	72	72	72	72
73	0073-73	73/73/2073	73/73/2073	73	73	73	73
74	0074-74	74/74/2074	74/74/2074	74	74	74	74
75	0075-75	75/75/2075	75/75/2075	75	75	75	75
76	0076-76	76/76/2076	76/76/2076	76	76	76	76
77	0077-77	77/77/2077	77/77/2077	77	77	77	77
78	0078-78	78/78/2078	78/78/2078	78	78	78	78
79	0079-79	79/79/2079	79/79/2079	79	79	79	79
80	0080-80	80/80/2080	80/80/2080	80	80	80	80
81	0081-81	81/81/2081	81/81/2081	81	81	81	81
82	0082-82	82/82/2082	82/82/2082	82	82	82	82
83	0083-83	83/83/2083	83/83/2083	83	83	83	83
84	0084-84	84/84/2084	84/84/2084	84	84	84	84
85	0085-85	85/85/2085	85/85/2085	85	85	85	85
86	0086-86	86/86/2086	86/86/2086	86	86	86	86
87	0087-87	87/87/2087	87/87/2087	87	87	87	87
88	0088-88	88/88/2088	88/88/2088	88	88	88	88
89	0089-89	89/89/2089	89/89/2089	89	89	89	89
90	0090-90	90/90/2090	90/90/2090	90	90	90	90
91	0091-91	91/91/2091	91/91/2091	91	91	91	91
92	0092-92	92/92/2092	92/92/2092	92	92	92	92
93	0093-93	93/93/2093	93/93/2093	93	93	93	93
94	0094-94	94/94/2094	94/94/2094	94	94	94	94
95	0095-95	95/95/2095	95/95/2095	95	95	95	95
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97	0097-97	97/97/2097	97/97/2097	97	97	97	97
98	0098-98	98/98/2098	98/98/2098	98	98	98	98
99	0099-99	99/99/2099	99/99/2099	99	99	99	99
100	0100-100	100/100/2100	100/100/2100	100	100	100	100

NO.	NO. SUR KEMATI	TARIKH LAMU	TARIKH KEMATI	UMUR (TAHUN)	UMUR (BULAN)	JANTANA	KODI KEMATI
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2	0002-02	02/02/2002	02/02/2002	02	02	02	02
3	0003-03	03/03/2003	03/03/2003	03	03	03	03
4	0004-04	04/04/2004	04/04/2004	04	04	04	04
5	0005-05	05/05/2005	05/05/2005	05	05	05	05
6	0006-06	06/06/2006	06/06/2006	06	06	06	06
7	0007-07	07/07/2007	07/07/2007	07	07	07	07
8	0008-08	08/08/2008	08/08/2008	08	08	08	08
9	0009-09	09/09/2009	09/09/2009	09	09	09	09
10	0010-10	10/10/2010	10/10/2010	10	10	10	10
11	0011-11	11/11/2011	11/11/2011	11	11	11	11
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16	0016-16	16/16/2016	16/16/2016	16	16	16	16
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18	0018-18	18/18/2018	18/18/2018	18	18	18	18
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21	0021-21	21/21/2021	21/21/2021	21	21	21	21
22	0022-22	22/22/2022	22/22/2022	22	22	22	22
23	0023-23	23/23/2023	23/23/2023	23	23	23	23
24	0024-24	24/24/2024	24/24/2024	24	24	24	24
25	0025-25	25/25/2025	25/25/2025	25	25	25	25
26	0026-26	26/26/2026	26/26/2026	26	26	26	26
27	0027-27	27/27/2027	27/27/2027	27	27	27	27
28	0028-28	28/28/2028	28/28/2028	28	28	28	28
29	0029-29	29/29/2029	29/29/2029	29	29	29	29
30	0030-30	30/30/2030	30/30/2030	30	30	30	30
31	0031-31	31/31/2031	31/31/2031	31	31	31	31
32	0032-32	32/32/2032	32/32/2032	32	32	32	32
33	0033-33	33/33/2033	33/33/2033	33	33	33	33
34	0034-34	34/34/2034	34/34/2034	34	34	34	34
35	0035-35	35/35/2035	35/35/2035	35	35	35	35
36	0036-36	36/36/2036	36/36/2036	36	36	36	36
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38	0038-38	38/38/2038	38/38/2038	38	38	38	38
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41	0041-41	41/41/2041	41/41/2041	41	41	41	41
42	0042-42	42/42/2042	42/42/2042	42	42	42	42
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46	0046-46	46/46/2046	46/46/2046	46	46	46	46
47	0047-47	47/47/2047	47/47/2047	47	47	47	47
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49	0049-49	49/49/2049	49/49/2049	49	49	49	49
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52	0052-52	52/52/2052	52/52/2052	52	52	52	52
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54	0054-54	54/54/2054	54/54/2054	54	54	54	54
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60	0060-60	60/60/2060	60/60/2060	60	60	60	60
61	0061-61	61/61/2061	61/61/2061	61	61	61	61
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64	0064-64	64/64/2064	64/64/2064	64	64	64	64
65	0065-65	65/65/2065	65/65/2065	65	65	65	65
66	0066-66	66/66/2066	66/66/2066	66	66	66	66
67	0067-67	67/67/2067	67/67/2067	67	67	67	67
68	0068-68	68/68/2068	68/68/2068	68	68	68	68
69	0069-69	69/69/2069	69/69/2069	69	69	69	69
70	0070-70	70/70/2070	70/70/2070	70	70	70	70
71	0071-71	71/71/2071	71/71/2071	71	71	71	71
72	0072-72	72/72/2072	72/72/2072	72	72	72	72
73	0073-73	73/73/2073	73/73/2073	73	73	73	73
74	0074-74	74/74/2074	74/74/2074	74	74	74	74
75	0075-75	75/75/2075	75/75/2075	75	75	75	75
76	0076-76	76/76/2076	76/76/2076	76	76	76	76
77	0077-77	77/77/2077	77/77/2077	77	77	77	77
78	0078-78	78/78/2078	78/78/2078	78	78	78	78
79	0079-79	79/79/2079	79/79/2079	79	79	79	79
80	0080-80	80/80/2080	80/80/2080	80	80	80	80
81	0081-81	81/81/2081	81/81/2081	81	81	81	81
82	0082-82	82/82/2082	82/82/2082	82	82	82	82
83	0083-83	83/83/2083	83/83/2083	83	83	83	83
84	0084-84	84/84/2084	84/84/2084	84	84	84	84
85	0085-85	85/85/2085	85/85/2085	85	85	85	85
86	0086-86	86/86/2086	86/86/2086	86	86	86	86
87	0087-87	87/87/2087	87/87/2087	87	87	87	87
88	0088-88	88/88/2088	88/88/2088	88	88	88	88
89	0089-89	89/89/2089	89/89/2089	89	89	89	89
90	0090-90	90/90/2090	90/90/2090	90	90	90	90
91	0091-91	91/91/2091	91/91/2091	91	91	91	91
92	0092-92	92/92/2092	92/92/2092	92	92	92	92
93	0093-93	93/93/2093	93/93/2093	93	93	93	93
94	0094-94	94/94/2094	94/94/2094	94	94	94	94
95	0095-95	95/95/2095	95/95/2095	95	95	95	95
96	0096-96	96/96/2096	96/96/2096	96	96	96	96
97	0097-97	97/97/2097	97/97/2097	97	97	97	97
98	0098-98	98/98/2098	98/98/2098	98	98	98	98
99	0099-99	99/99/2099	99/99/2099	99	99	99	99
100	0100-100	100/100/2100	100/100/2100	100	100	100	100



# Quality of death registry

- ▶ Completeness – all deaths captured, not just urban but also rural areas.
- ▶ Coverage – death registration cover every deaths in the country, not only citizens and permanents residents, but include foreigners and illegal immigrants.
- ▶ Cause of death – accurate underlying cause of death given by last attending medical practitioners and correct and well defined ICD code used.

# Quality of death data

Colin D. Mathers et al.

Assessment of global cause of death data

Table 4. Quality of cause of death information for WHO Member States supplying death registration data for most recent year (1990 or later) and with at least 50% completeness or coverage. (China and India are not included in this table, although their sample registration systems provide population-representative data)

Quality of data (No. of countries)	Criterion used	Countries
High (23)	ICD-9 or ICD-10 coding is used and completeness is > 90% and ill-defined codes appear on < 10% of registrations	Australia, Bahamas, Canada, Cuba, Estonia, Finland, Hungary, Iceland, <sup>a</sup> Ireland, Japan, Latvia, Lithuania, Malta, Mexico, New Zealand, Republic of Moldova, Romania, Singapore, Slovakia, Slovenia, United Kingdom, United States of America, Venezuela
Medium (55)	Completeness is 70–90% OR ill-defined codes appear on 10–20% of registrations OR non-ICD codes used although completeness is > 90% and ill-defined codes appear on < 10% of registrations	Antigua and Barbuda, <sup>a</sup> Austria, Azerbaijan, Barbados, Belarus, Belgium, <sup>a</sup> Belize, Brazil, Brunei Darussalam, Bulgaria, Chile, Colombia, <sup>a</sup> Cook Islands, Costa Rica, Croatia, Czech Republic, Denmark, <sup>a</sup> Dominica, El Salvador, <sup>a</sup> France, <sup>a</sup> Georgia, Germany, Grenada, <sup>a</sup> Guatemala, Guyana, <sup>a</sup> Israel, <sup>a</sup> Italy, Kazakhstan, Kuwait, Kyrgyzstan, Luxembourg, Malaysia, <sup>a</sup> Mauritius, Mongolia, Netherlands, Niue, Norway, Panama, the Philippines, <sup>a</sup> Republic of Korea, Russian Federation, Saint Kitts and Nevis, <sup>a</sup> Saint Lucia, Saint Vincent and the Grenadines, Serbia and Montenegro, Seychelles, Spain, Sweden, Switzerland, <sup>a</sup> former Yugoslav Republic of Macedonia, Trinidad and Tobago, <sup>a</sup> Turkmenistan, <sup>a</sup> Ukraine, Uruguay, Uzbekistan
Low (28)	Completeness < 70% OR ill-defined codes appear on > 20% of registrations	Albania, Argentina, Armenia, Bahrain, Bosnia and Herzegovina, <sup>a</sup> Cyprus, <sup>a</sup> Ecuador, Egypt, Fiji, Greece, <sup>a</sup> Jamaica, <sup>a</sup> Kiribati, Nicaragua, Oman, Paraguay, Peru, Poland, Portugal, Qatar, San Marino, South Africa, <sup>a</sup> Sri Lanka, <sup>a</sup> Suriname, <sup>a</sup> Syrian Arab Republic, Tajikistan, <sup>a</sup> Thailand, Tonga, <sup>a</sup> Tuvalu

# BruHIMS records

Menu

Primary Health Care Consultant / Specialist

- Diagnosis/Procedure Recoding
- Clinician Access
- Change Patient Details
- MEDICATION ADMINISTRATION
- OUTPATIENT
- FILE TRACKING
- MATERIAL MANAGEMENT
- PHARMACY MANAGEMENT
- SCHEDULE MANAGEMENT
- EPR REPORTS
- OUTPATIENT REPORTS
- BCP REPORTS
- LABEL/REPORTS REPRINT



## NOTIFICATION !!!

As of 4th January 2016, Bru-HIMS does not support Recording Diagnosis as "OTHERS".

In case you want to update from Previous Encounter Diagnosis by clicking "S"; please

- Use the previous encounter diagnosis with proper ICD CODE
- DONOT use previous encounter diagnosis that is already recorded as \*OTH

Record Diagnosis

Current Diagnosis Profile

	Set	Diagnosis/Problem	Diagnosis/Problem Description	Status
✓ S	ICD10	Z01.2	Dental examination	Active
✗ S	ICD10	*OTH	others	Active
	ICD10	E11	Type 2 diabetes mellitus	Active

<    Current Encounter    Problem    Differentials    View Linked Problems

Thank you for your full Cooperation in recording the appropriate diagnosis from the ICD-10 diagnosis scheme.



**For Any Enquiry, please call:**  
**During Office Hour: ext 8875 OR 8816**  
**After Office Hour : +6737209135**



# ICD-10 Topography code

- ▼ C00-C75 Malignant neoplasms, stated or presumed to be primary, of specified sites, except of lymphoid, haematopoietic and related tissue
  - ▶ C00-C14 Malignant neoplasms of lip, oral cavity and pharynx
  - ▼ C15-C26 Malignant neoplasms of digestive organs
    - ▶ C15 Malignant neoplasm of oesophagus
    - ▶ C16 Malignant neoplasm of stomach
    - ▶ C17 Malignant neoplasm of small intestine
    - ▼ C18 Malignant neoplasm of colon
      - C18.0 Malignant neoplasm: Caecum
      - C18.1 Malignant neoplasm: Appendix
      - C18.2 Malignant neoplasm: Ascending colon
      - C18.3 Malignant neoplasm: Hepatic flexure
      - C18.4 Malignant neoplasm: Transverse colon
      - C18.5 Malignant neoplasm: Splenic flexure
      - C18.6 Malignant neoplasm: Descending colon
      - C18.7 Malignant neoplasm: Sigmoid colon
      - C18.8 Malignant neoplasm: Overlapping lesion of colon
      - C18.9 Malignant neoplasm: Colon,

## C18.1 Appendix

## C18.2 Ascending colon

## C18.3 Hepatic flexure

## C18.4 Transverse colon

## C18.5 Splenic flexure

## C18.6 Descending colon

## C18.7 Sigmoid colon

Sigmoid (flexure)

**Excl.:** rectosigmoid junction ([C19](#))

## C18.8 Overlapping lesion of colon

[See note 5 at the beginning of this chapter]

## C18.9 Colon, unspecified

Large intestine NOS

## C19 Malignant neoplasm of rectosigmoid junction

**Incl.:** Colon with rectum  
Rectosigmoid (colon)

## C20 Malignant neoplasm of rectum

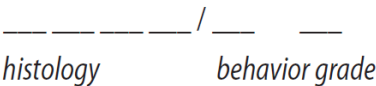
**Incl.:** Rectal ampulla

## C21 Malignant neoplasm of anus and anal canal

# ICD-O Morphology code

Morphology terms have five-digit codes ranging from 8000/0 to 9992/3. The first four digits indicate the specific histologic term (Table 8). The fifth digit, after the slash or stroke (/), is a behavior code, which indicates whether a tumor is malignant, benign, in situ, or uncertain whether malignant or benign (see section 4.3.3).

Table 8. **Structure of a morphology code**



Example: *well-differentiated adenocarcinoma*

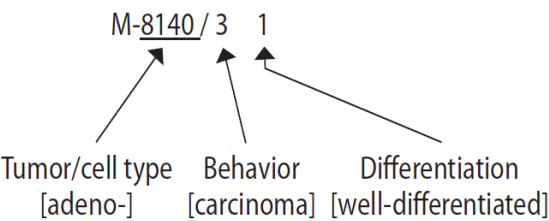


Table 10. **Examples of numerical list format**

Code	Term
<b>C07.9</b>	<b>Parotid gland</b> Parotid, NOS Stensen duct Parotid gland duct
<b>8290/3</b>	<b>Oxyphilic adenocarcinoma</b> Oncocytic adenocarcinoma Oncocytic carcinoma Hurthle cell carcinoma (C73.9) Hurthle cell adenocarcinoma (C73.9) Follicular carcinoma, oxyphilic cell (C73.9)

in bold type under a particular code, is the preferred term.

In this example, “parotid gland” would describe all cases coded to C07.9. The bold type indicates that this is the preferred (first) term. The synonym, “parotid, NOS”, is indented under “Parotid gland”. The non-indented terms, “Stensen duct” and “parotid gland duct”, are called equiva-



# Data entry Epi Info software

Ent... File Edit Options Help

1 Patient's Information  
2 Status

Next  
Save data  
Mark record as deleted  
Find

New

**BRUNEI DARUSSALAM CANCER REGISTRY**

SERIAL NO 000006317 CANCER REGISTRY 00006317

NAME SURNAME

DOB AGE (YRS) IC NO IC COLOUR IF GREEN, COUNTRY OF ORIGIN

M/F/FF/AF/TN/FP UNDER 12 YRS DATE OF ARRIVAL

BIRTH CERT NO OVER 12 YRS LENGTH OF STAY (YRS)

SEX RELIGION MARITAL RACE IF INDIGENOUS, PLS SPECIFY

IF OTHER RACE, PLS SPECIFY

ADDRESS KG MUKIM

OCCUPATION OCC CLASS POST CODE DISTRICT TEL NO

EMPLOYER'S ADD

SITE SITE CODE L OR R ICD-03

HISTOLOGY GRADE HIST CODE DUKE CLASS DATE OF ORIGINAL DIAGNOSIS

AGE DIAGNOSED (YRS)

EXTENT OF THE DISEASE AT DIAGNOSIS

HOSPITAL OTHER HOSPITAL/CLINIC MRN WARD NO

TREATMENT DATE ADMITTED DATE DISCHARGED

PREVIOUS OTHER TYPE OF CANCER PREVIOUS CA REG NO

METHOD OF DIAGNOSIS IF OTHERS PLEASE SPECIFY

PATIENT'S STATUS (AT TIME OF REGISTRATION)

NOTIFIER'S NAME NOTIFIER'S TEL

NOTIFIER'S ADDRESS

NOTIFICATION DATE BY HOSPITAL DATE OF REGISTRATION AT THE REGISTRY

REMARKS PRESENT TYPE OF REGISTRATION

Record 6317 New Record

<< < > >>

1:08 PM 1/21/2016

**Access**

**FILE HOME CREATE EXTERNAL DATA DATABASE TOOLS TABLE TOOLS FIELDS TABLE**

**View Paste Cut Copy Format Painter Filter Sort & Filter Records Find Window Text Formatting**

**Calibri 11 B I U A ab No Fill**

**All... Search...**

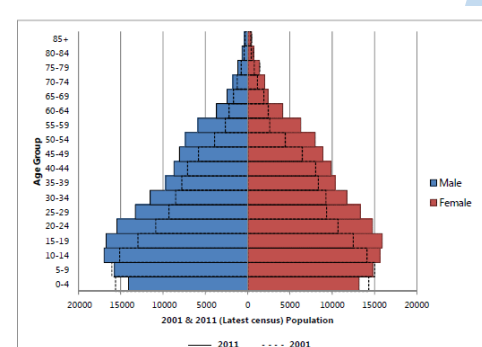
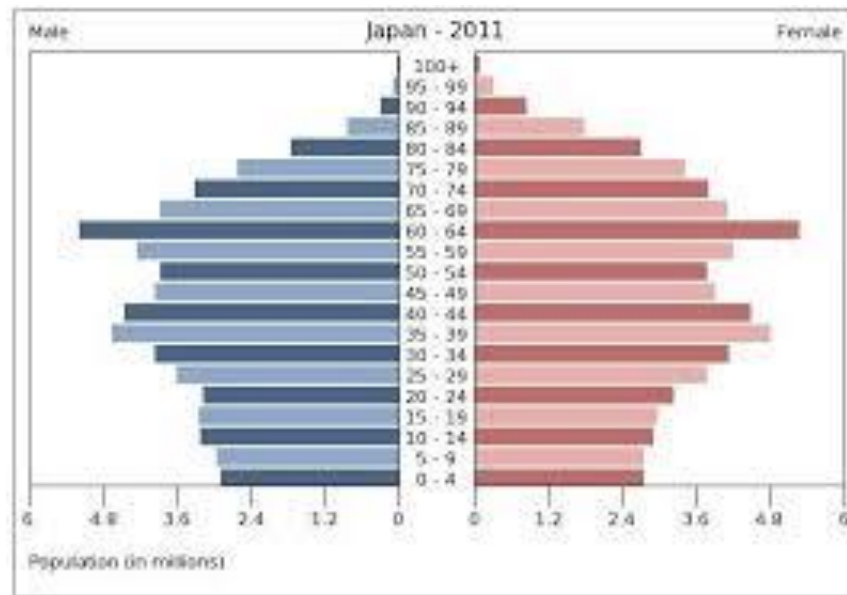
OCC	OCCCLASS	EMPLYADD	SITE	SITECODE	ICD03	LORR	DUKE	HISTGRAD	HISTCODE	DATEDIAG
TELECOM TECHI		JTB	URINARY BALDI	C67.9				NEUROENDOCR M8246/3		9/19/2
HOUSEWIFE			COLON,HEPATIC C	18.3		B		ADENOCARCINC M8140/3		10/19/2
IMAM			RECTUM	C20.9				ADENOCARCINC M8140/3		10/28/2
STORE KEEPER		JABATAN KERJA	LUNG	C34.9		R		ADENOCARCINC M8140/3		11/4/2
HOUSEWIFE			THYROID	C73.9				ANAPLASTIC AD M8021/3		11/12/2
			LOWER LOBE OF	C34.3		L		ADENOCARCINC M8140/3		11/19/2
HOUSEWIFE			CERVIX	C53.9				SQUAMOUS CEI M8070/3		11/15/2
HOUSEWIFE			BREAST	C50.9		R		INFILTRATING D M8500/3		10/30/2
			CERVIX	C53.9				SQUAMOUS CA M8070/3		11/25/2
LABOURER		AGRICULTURE C	THYROID	C73				PAPILARRY CA M8050/3		12/30/2
CUSTOM OFFICE		AIRPORT CARGO	BREAST	C50.4		L		TUBULAR CARCI M8211/3		10/19/2
RETIRED			UPPER LOBE OF	C34.1		L		SMALL CELL CAF M8041/3		12/12/2
			CA OF LIVER	C22.0				WELL DIFFEREN' 8170/31		9/23/2
RETIRED GARDE			LYMPHNODE	C84.4				PERIPHERAL T C M9590/3		10/22/2
HOUSEWIFE			ASCENDING COI	C18.2				MODERATELY D M8140/3		10/23/2
DRIVER			CA OF LUNG	C34.1				ADENOCARCINC M8140/3		11/9/2
SUPERVISOR		ROYAL BRUNEI	TRANVERSE COI	C18.4			C	ADENOCARCINC M8140/3		11/25/2
BUSINESSMAN			RETROPERITONI	C85.1				B CELL NON-HO M9590/3		11/20/2
			PROSTATE	C61				ADENOCARCINC M8140/3		7/8/2
SELF EMPLOYED			LUNG	C34.3		R		SQUAMOUS CA M8070/3		11/27/2
			OESOPHAGUS	C15.5				SQUAMOUS CA M8070/3		12/21/2
SELF EMPLOYED			BLADDER	C67.9				TRANSITIONAL (M8120/3		1/12/2
PROOF READER		HISTORY CENTR	CERVIX	C53.9				SQUAMOUS CEI M8070/3		12/28/2

Record: 16 of 6229 No Fill

# Data analysis

- **Number of cases**  
(for local trends monitoring)
- **Crude incidence rate**  
(for national trends monitoring)
- **Age standardized incidence rate**  
(for international trends monitoring)

# Japan Population 2011



Brunei population

# Data analysis

WHO World Standard Population  
Distribution (%),

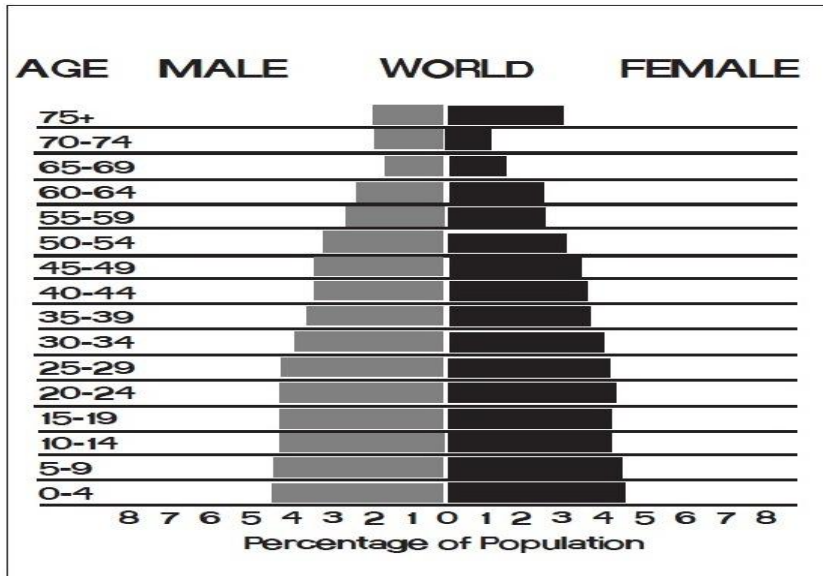
Age group	World Average 2000-2025
0-4	8.86
5-9	8.69
10-14	8.60
15-19	8.47
20-24	8.22
25-29	7.93
30-34	7.61
35-39	7.15
40-44	6.59
45-49	6.04
50-54	5.37
55-59	4.55
60-64	3.72
65-69	2.96
70-74	2.21
75-79	1.52
80-84	0.91
85-89	0.44
90-94	0.15
95-99	0.04
100+	0.005
Total	100

## Age-standardized rate calculation

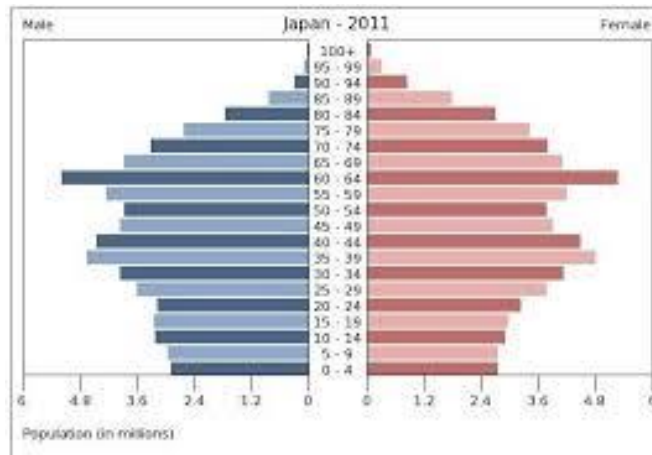
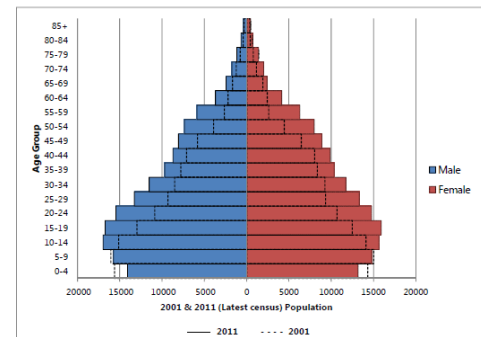
1. Calculate the age-specific rate for each age group strata =  $\text{Number/population} \times 100$
2. Calculate the age-standardized rate for each age group strata = Age specific rate  $\times$  weight in standard population
3. Sum the products across all age groupings to obtain overall age-standardized rate



# World Population



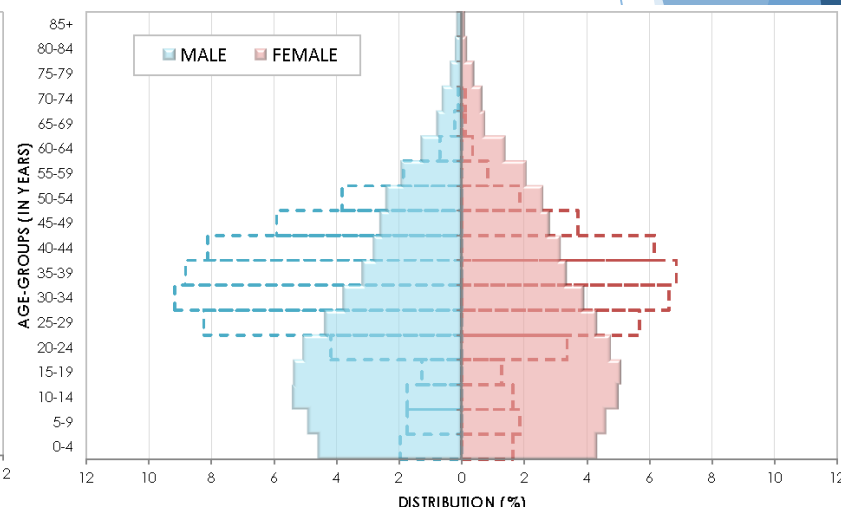
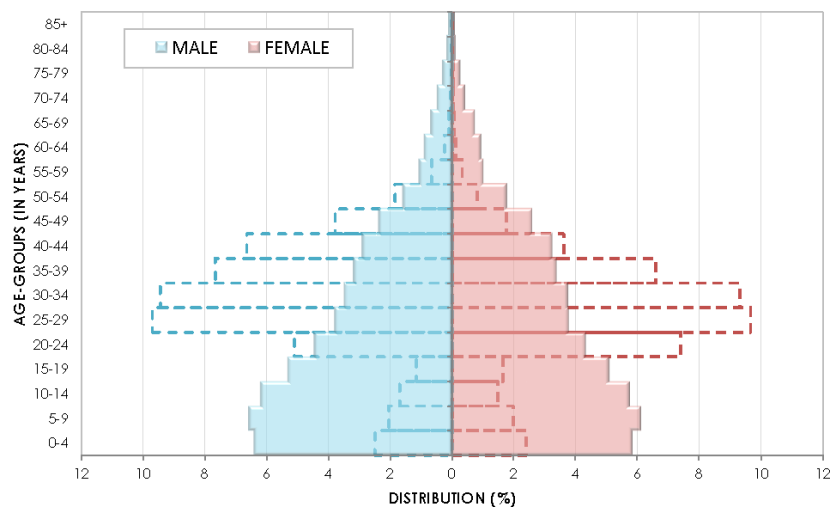
Brunei population



# Brunei population census

## 2001

## 2011



———— Citizens and Permanent Residents  
----- Temporary Residents

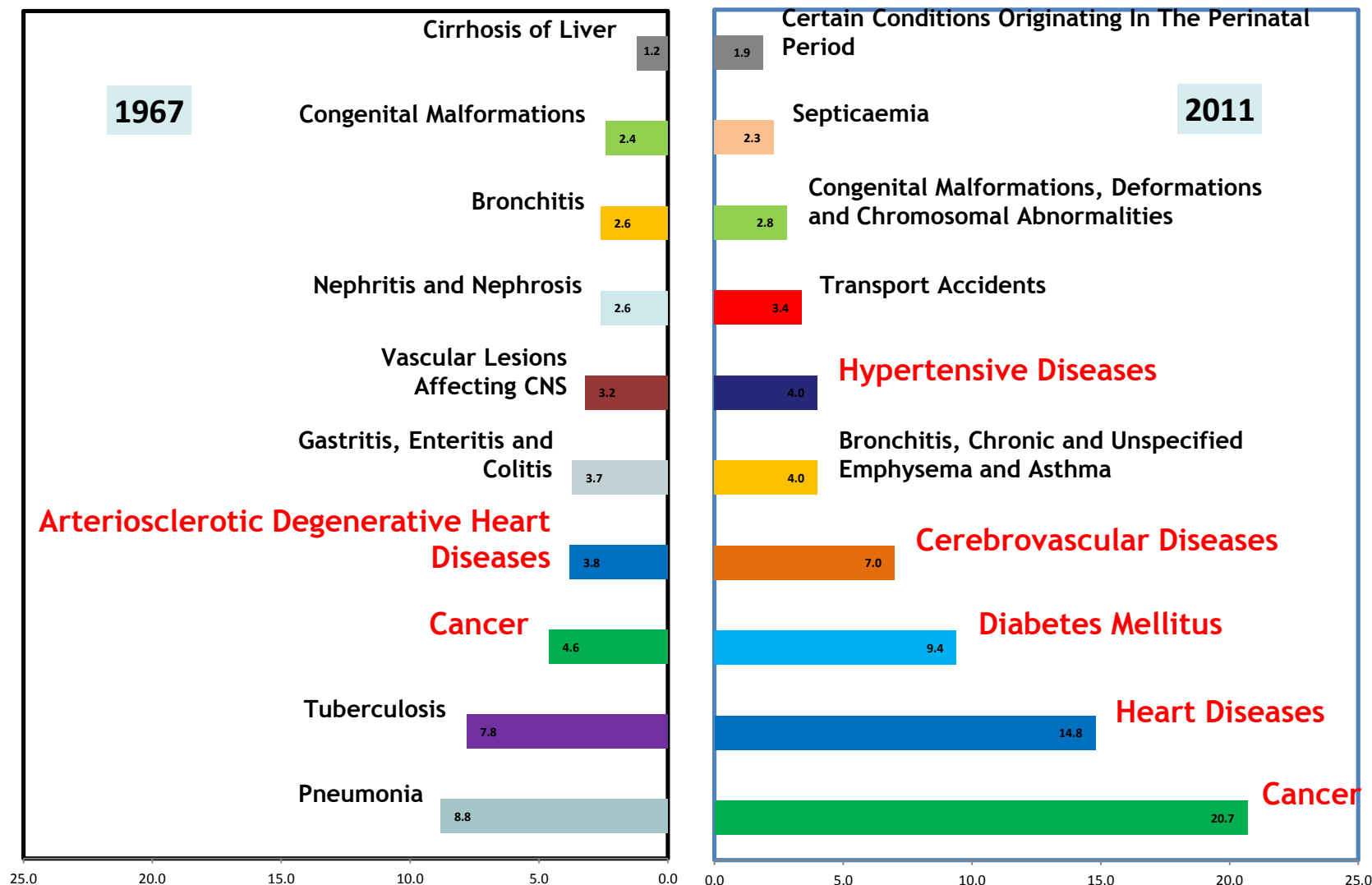
Source: Health Information Booklet 2012, MOH

The background features abstract, overlapping geometric shapes in various shades of blue, primarily on the right side, creating a modern and professional look.

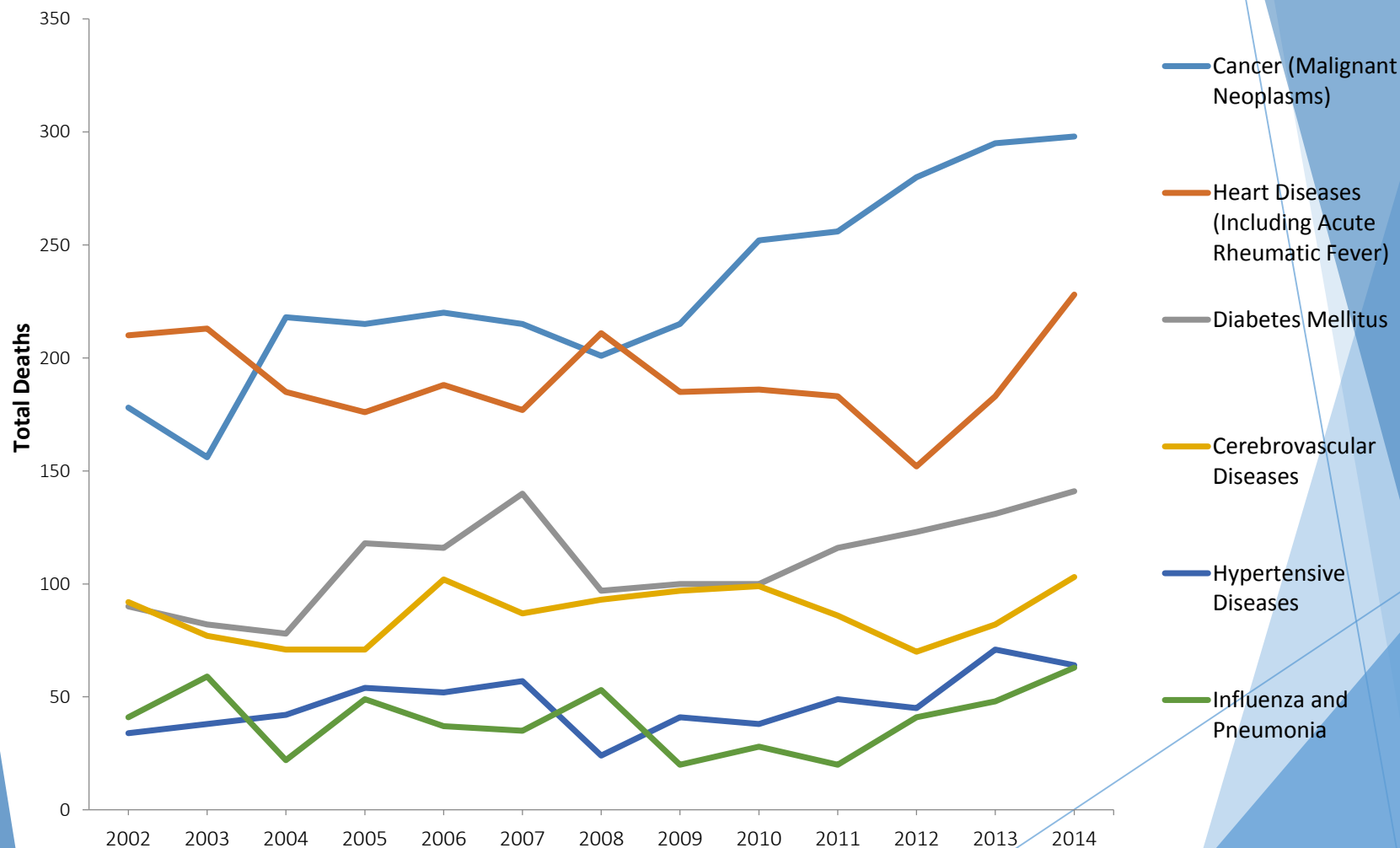
# **CANCER TRENDS 2004-2013**

## **BRUNEI DARUSSALAM**

# 10 Leading Causes of Deaths in Brunei



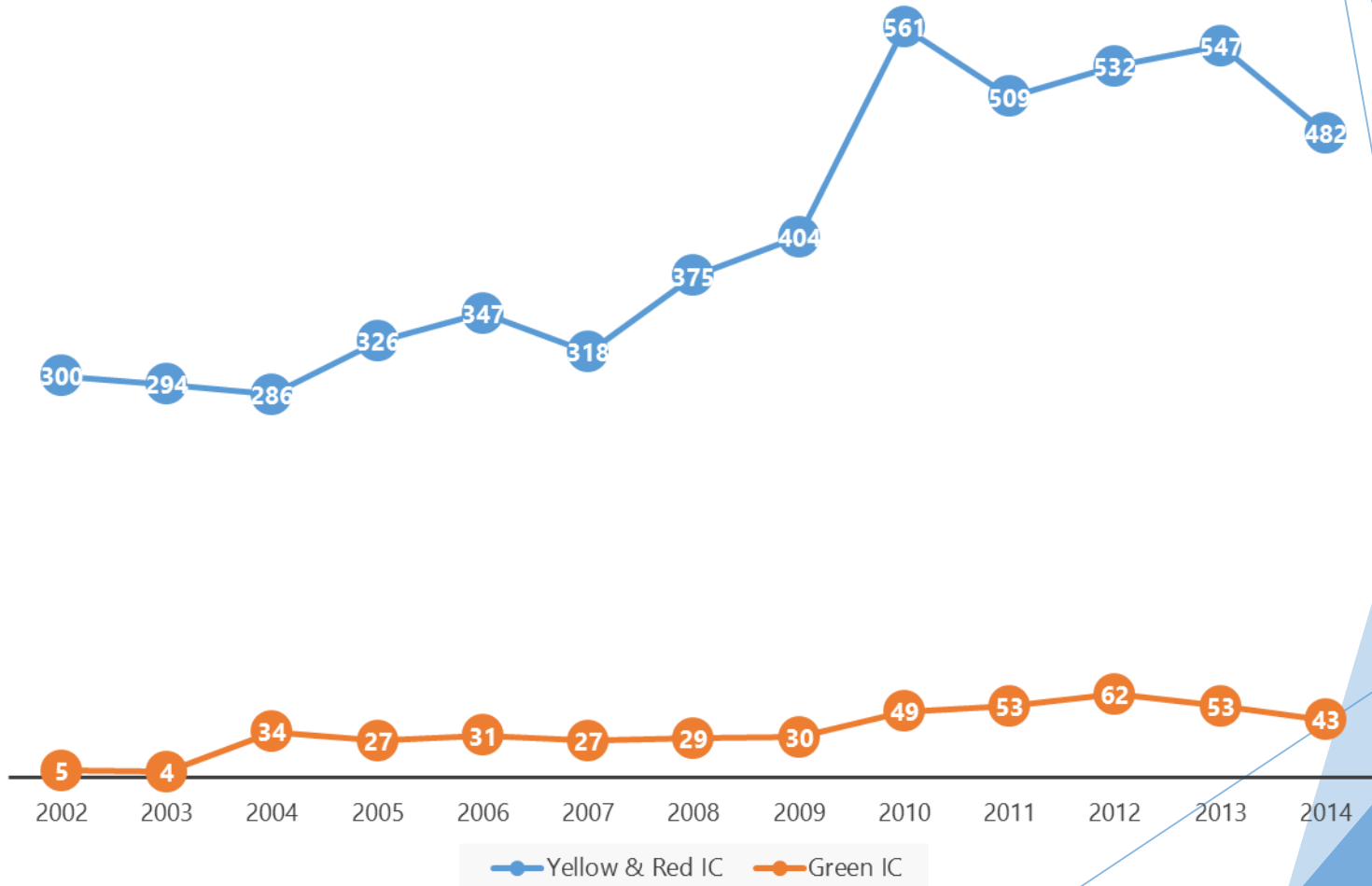
# Leading Causes of Deaths in Brunei Darussalam (2002-2014)



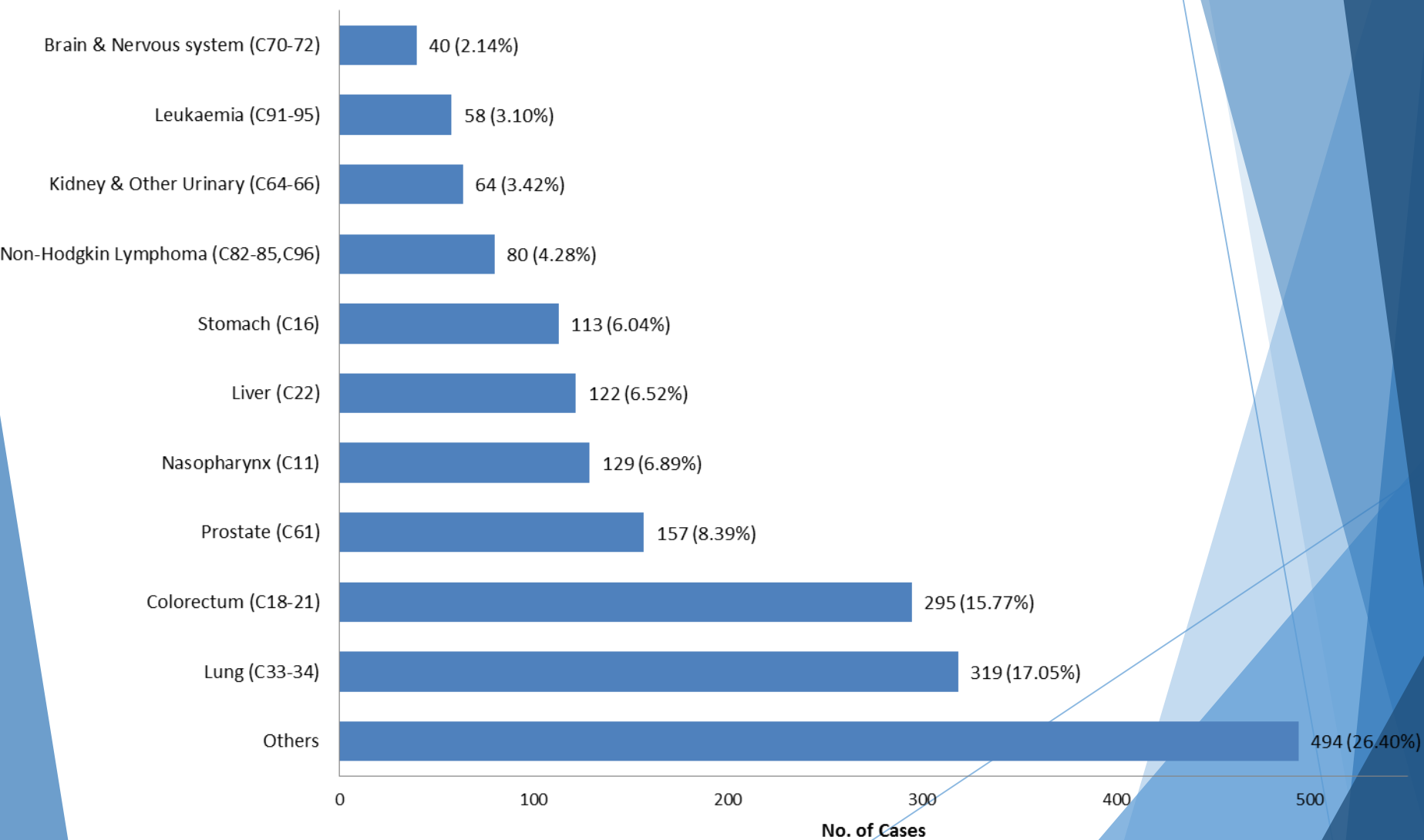
Source: Statistics Unit, Department of Policy & Planning, MOH



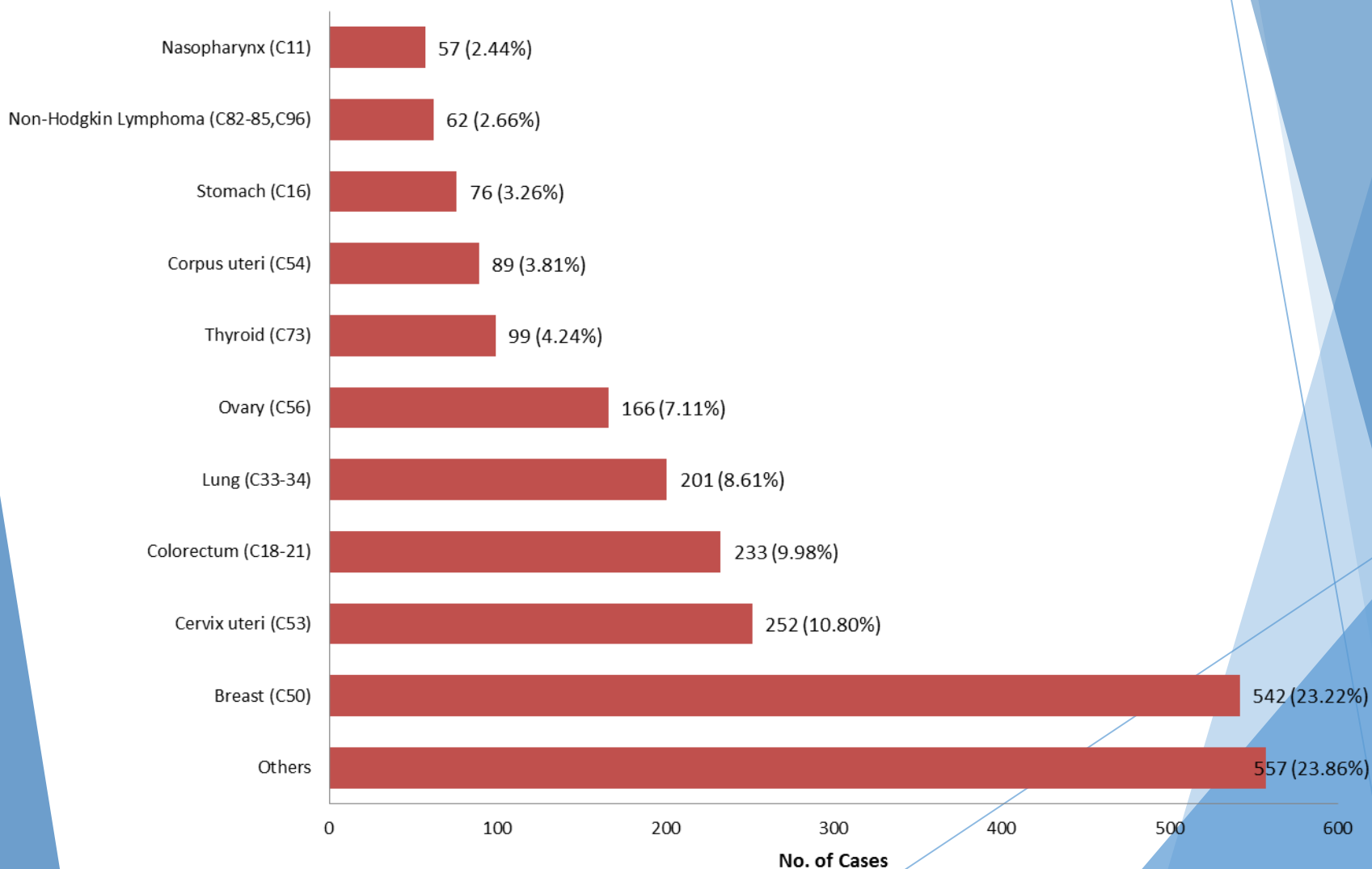
# Number of cancer cases by years



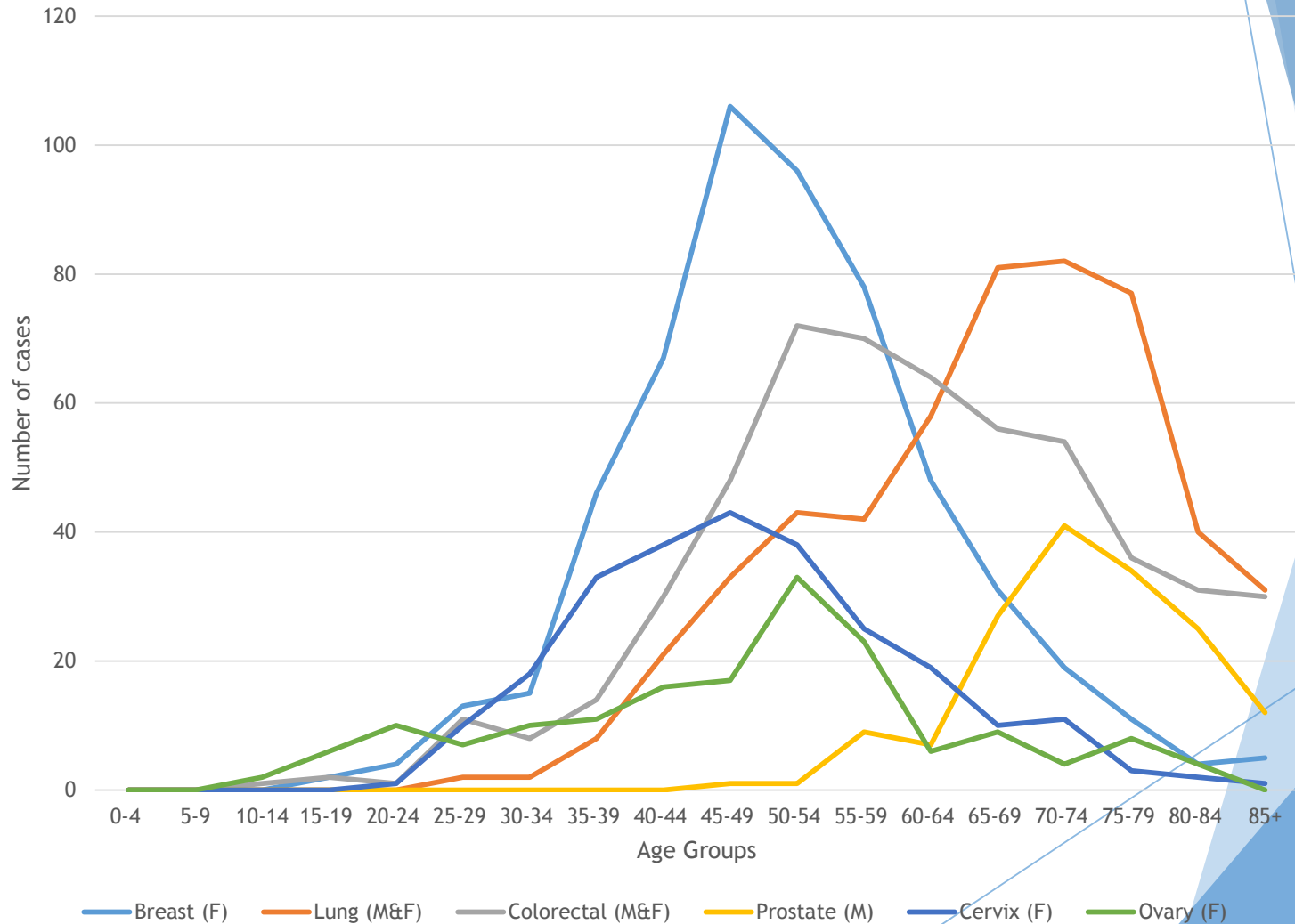
# 10 most common cancers among males 2004-2013



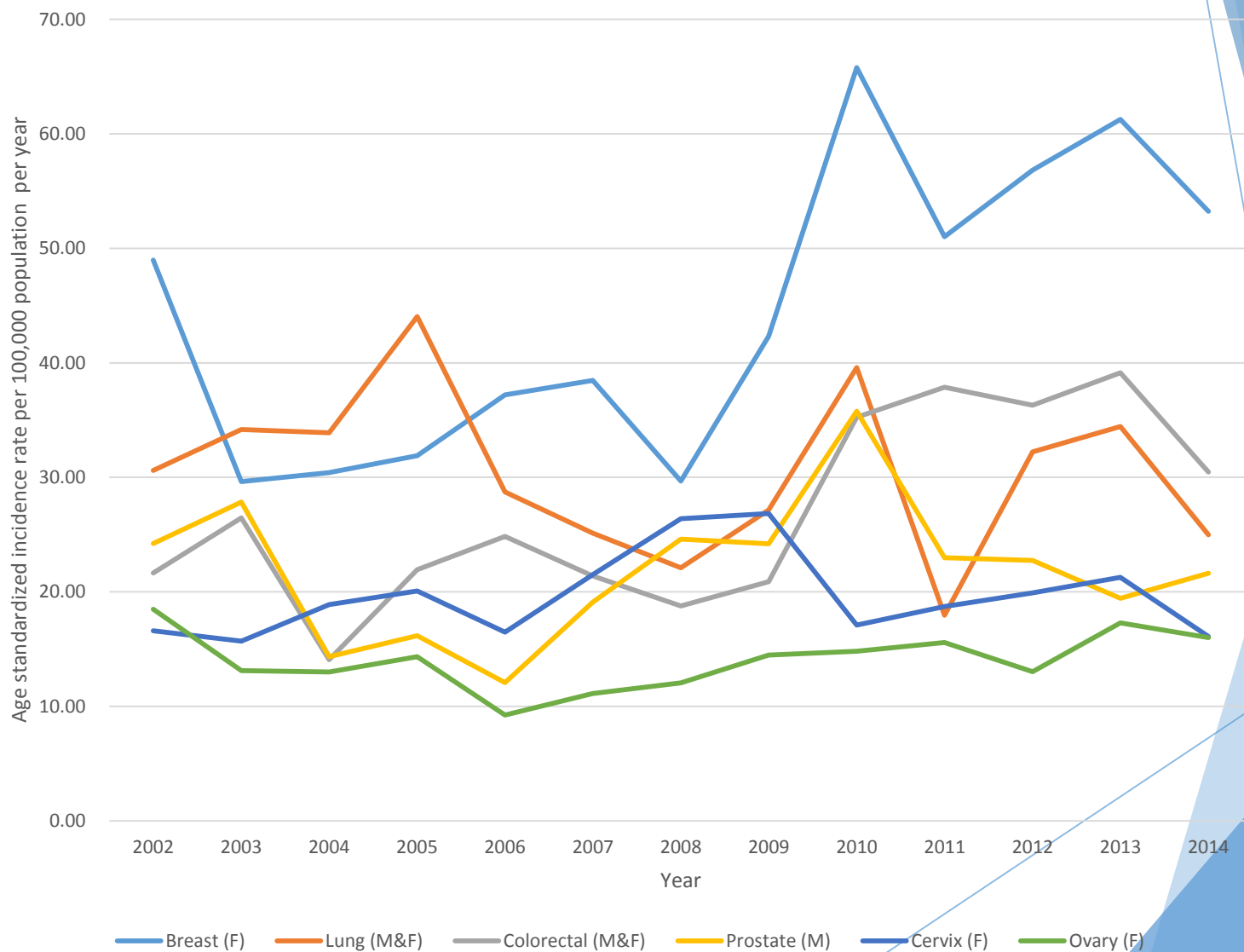
# 10 most common cancers among females 2004-2013



# Number of cases by age at diagnosis (10yrs)



# ASR incidence per 100,000 by year





# Incidences by cancer types, age gp

[illegible]

## ASR by cancer types, age gp

ICD 10	Site	Sex	Cases	%	Age group																		CR	ASR	
					0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+			
C23-24	Gallbladder and extrahepatic ducts	T	26	0.62	-	-	-	-	-	0.41	-	-	1.13	-	0.74	1.94	8.60	4.42	5.90	8.77	48.91	24.74	0.89	1.55	
		M	14	0.75	-	-	-	-	-	-	-	-	-	-	-	-	12.11	4.46	6.19	18.74	81.03	27.27	0.96	1.92	
		F	12	0.52	-	-	-	-	-	-	0.82	-	-	2.12	-	1.42	3.77	5.44	4.39	5.64	-	16.40	22.63	0.82	1.20
C25	Pancreas	T	71	1.70	-	-	0.31	0.32	-	-	-	1.05	0.56	3.17	3.70	7.76	12.90	26.54	32.45	26.30	57.07	37.10	2.43	4.05	
		M	37	1.99	-	-	0.60	-	-	-	-	2.16	-	5.34	4.65	9.98	9.08	17.85	43.34	18.74	64.82	54.54	2.54	4.28	
		F	34	1.46	-	-	-	0.67	-	-	-	-	1.06	1.21	2.84	5.66	16.33	35.10	22.54	32.96	49.21	22.63	2.33	3.85	
C32	Larynx	T	23	0.55	-	-	-	-	-	-	-	-	0.56	2.54	-	3.88	4.30	-	8.85	21.92	8.15	24.74	0.79	1.29	
		M	17	0.91	-	-	-	-	-	-	-	-	1.20	5.34	-	5.99	3.03	-	18.57	18.74	16.21	54.54	1.17	1.98	
		F	6	0.26	-	-	-	-	-	-	-	-	-	-	-	1.89	5.44	-	-	24.72	-	-	0.41	0.66	
C33-34	Trachea, bronchus and lung	T	520	12.37	-	-	-	-	-	0.82	0.91	4.19	11.83	20.95	31.86	40.71	83.14	179.17	241.90	337.55	326.09	383.40	17.83	30.33	
		M	319	17.05	-	-	-	-	-	1.63	1.86	6.49	16.82	26.70	40.27	37.91	93.87	218.60	346.68	430.92	421.35	599.97	21.87	39.18	
		F	201	8.62	-	-	-	-	-	-	-	-	2.03	7.42	15.74	24.15	43.37	73.49	140.39	146.52	255.43	229.66	203.68	13.79	22.25
C43	Melanoma of skin	T	15	0.36	-	-	-	0.32	0.36	-	-	1.05	0.56	-	0.74	3.88	2.87	4.42	2.95	-	-	-	0.51	0.69	
		M	9	0.48	-	-	-	0.63	-	-	-	1.08	1.20	-	1.55	3.99	3.03	4.46	6.19	-	-	-	0.62	0.86	
		F	6	0.26	-	-	-	-	0.73	-	-	1.01	-	-	-	3.77	2.72	4.39	-	-	-	-	0.41	0.54	
C46	Kaposi sarcoma	T	0	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		M	0	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		F	0	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C50	Breast	T	545	12.97	-	-	-	0.65	1.43	5.30	6.86	24.09	37.74	67.31	71.13	75.6	68.80	68.57	56.05	48.22	32.61	61.84	18.69	23.89	
		M	3	0.21	-	-	-	-	-	-	-	-	-	-	-	1.55	2.00	3.03	-	-	-	-	-	0.21	0.29
		F	542	23.24	-	-	-	1.33	2.92	10.60	13.49	46.66	71.05	128.34	134.94	145.18	127.92	136.01	107.07	90.64	65.62	113.16	37.18	45.68	
C53	Cervix uteri	T	252	6.02	-	-	-	-	0.36	4.08	8.23	17.28	21.41	27.30	28.16	24.23	27.23	22.12	32.45	13.15	16.30	12.37	8.64	10.70	
		M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

# Data quality and Comparability Criteria CI5 vol IX

A	B	C	Excluded
<p>Complete coverage</p> <p>Death reporting meet WHO recommendations</p> <p>%Unk, DCO, ill-defined site &lt;10%</p> <p>No abrupt trends, cases denominators OK</p> <p>MV% &gt; 80% (99-100% excluded)</p> <p>DCO 0.0 % (DCO:none)</p>	<p>No access to death certificates</p> <p>Official mortality data not available by cause or poor quality by cause</p> <p>10% &lt; %Unk, DCO, ill-defined site &lt;20%</p> <p>75% &lt; MV% &lt; 80%</p> <p>MV% but C22 MV% but C91-95</p>	<p>No Death Clearance as source of case finding</p> <p>No official mortality data</p> <p>No <i>ad hoc</i> study of completeness</p>	<p>DCO, Unk, ill-defined site &gt; 20%</p> <p>MV% too high (99-100%) or low for selected sites (overall MV% &lt; 75%)</p> <p>M/I threshold by site</p> <p>Implausible incidence rates</p> <p>Specialized registries e.g. childhood, mesothelioma</p> <p>Data with ≤2 years</p>

# Indices of BDCR Data Quality

ICD-10	Site	DCO %			MV %			M/I %		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
C00-08	Lip, oral cavity	3.2	0.0	8.3	96.8	100.0	91.7	0.23	0.21	0.25
C11	Nasopharynx	4.3	3.1	7.0	95.7	96.9	93.0	0.35	0.37	0.32
C09-10,C12-14	Other pharynx	5.9	9.1	0.0	94.1	90.9	100.0	0.41	0.27	0.67
C15	Oesophagus	0.0	0.0	0.0	100.0	100.0	100.0	0.62	0.58	0.71
C16	Stomach	1.6	1.8	1.3	98.4	98.2	98.7	0.57	0.56	0.59
C18-21	Colorectum	4.4	3.7	5.2	95.6	96.3	94.8	0.46	0.52	0.39
C22	Liver and intrahepatic bile ducts	13.9	16.4	7.8	86.1	83.6	92.2	0.78	0.83	0.67
C23-24	Gallbladder and extrahepatic ducts	3.8	0.0	8.3	96.2	100.0	91.7	0.77	0.79	0.75
C25	Pancreas	4.2	2.7	5.9	95.8	97.3	94.1	0.66	0.70	0.62
C32	Larynx	4.3	5.9	0.0	95.7	94.1	100.0	0.48	0.41	0.67
C33-34	Trachea, bronchus and lung	5.0	4.1	6.5	95.0	95.9	93.5	0.69	0.71	0.66
C43	Melanoma of skin	6.7	0.0	16.7	93.3	100.0	83.3	0.47	0.56	0.33
C46	Kaposi sarcoma	-	-	-	-	-	-	-	-	-
C50	Breast	3.3	0.0	3.3	96.5	100.0	96.5	0.22	0.67	0.22
C53	Cervix uteri	2.0	-	2.0	98.0	-	98.0	0.28	-	0.28
C54	Corpus uteri	1.1	-	1.1	98.9	-	98.9	0.10	-	0.10
C56	Ovary	3.6	-	3.6	95.8	-	95.8	0.37	-	0.37
C61	Prostate	5.7	5.7	-	94.3	94.3	-	0.47	0.47	-
C62	Testis	0.0	0.0	-	100.0	100.0	-	0.14	0.14	-
C64-66	Kidney, renal pelvis and ureter	4.4	4.7	3.8	95.6	95.3	96.2	0.36	0.31	0.46

## Confidence Intervals

Confidence intervals are calculated as:

$$\bar{x} \pm \frac{1.959964 \times s}{\sqrt{n}}$$

where

- $\bar{x}$  is the average value of the group
- $s$  is the sample standard deviation
- $n$  is the number of values in the group (Count)

The L95 value is the lower endpoint of the confidence interval.

The U95 value is the upper endpoint of the confidence interval.

## Standard Deviation

The standard deviation (StdDev),  $s$ , is an indication of how dispersed the probability distribution

$$s = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2}$$

where

- $\bar{x}$  is the average value of the group
- $n$  is the number of values in the group (Count)

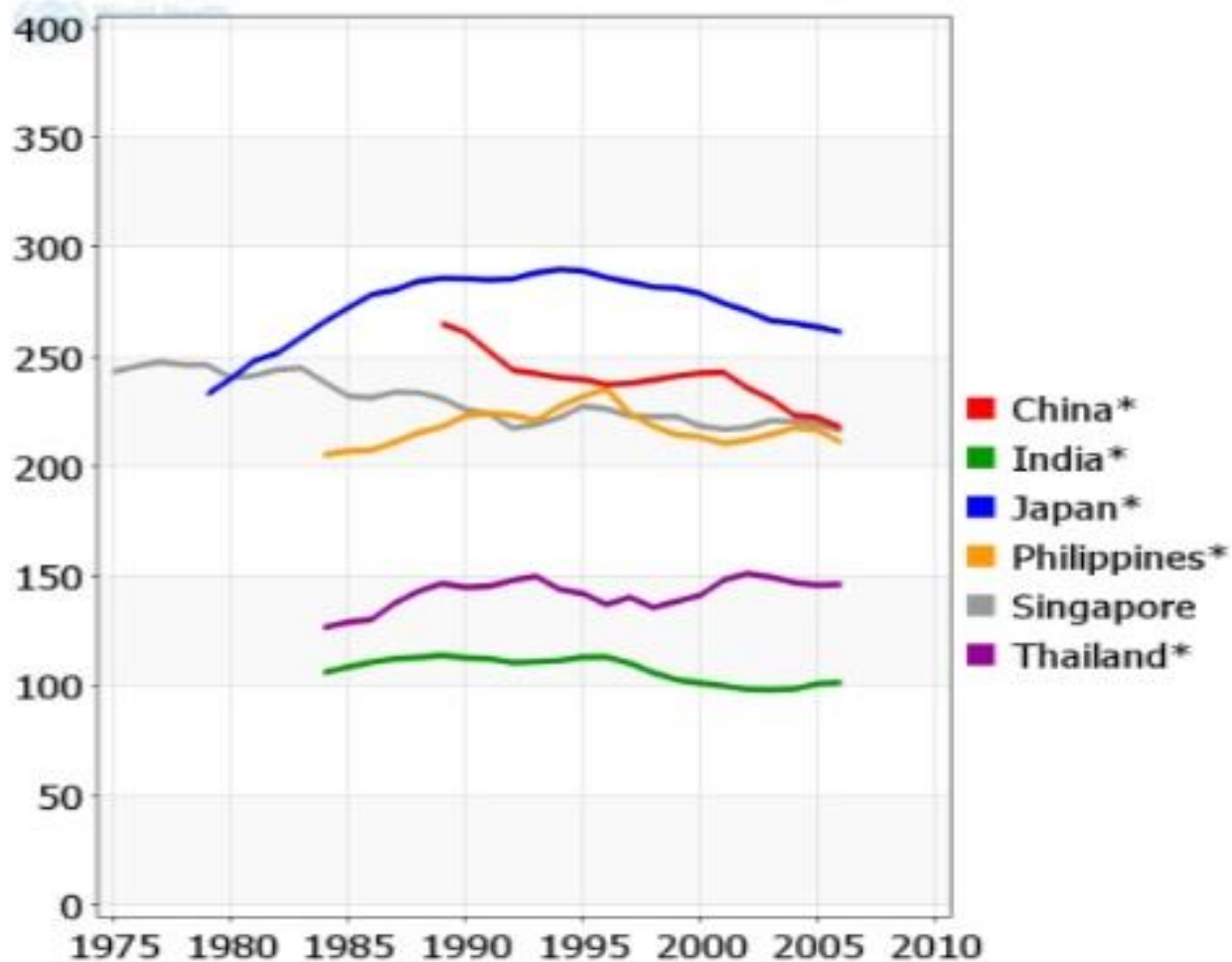
If the number of values ( $n$ ) is one, an error is returned.

# **GLOBAL CANCER SITUATION**



# ASR cancer incidence in the region

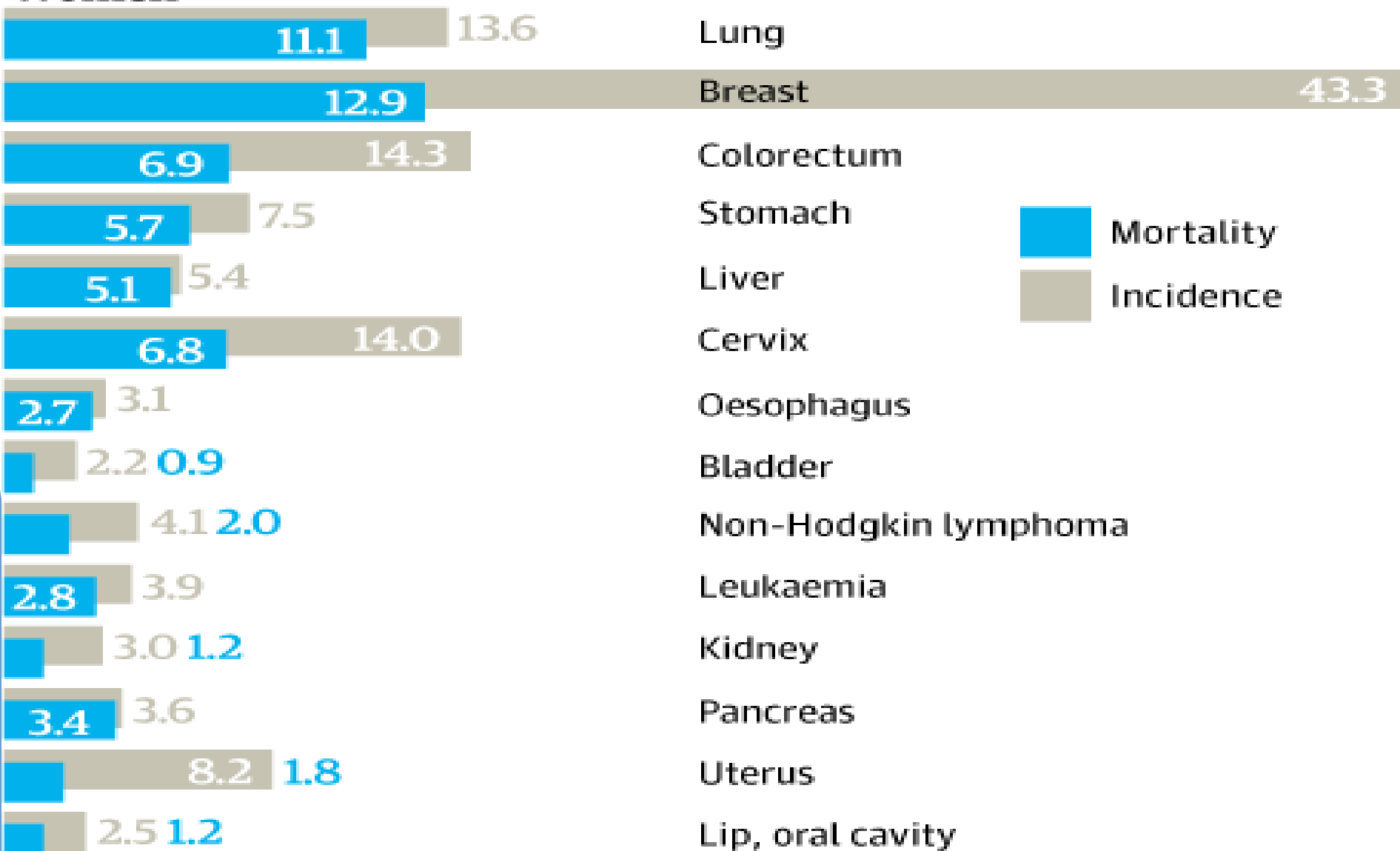
International Agency for Research on Cancer





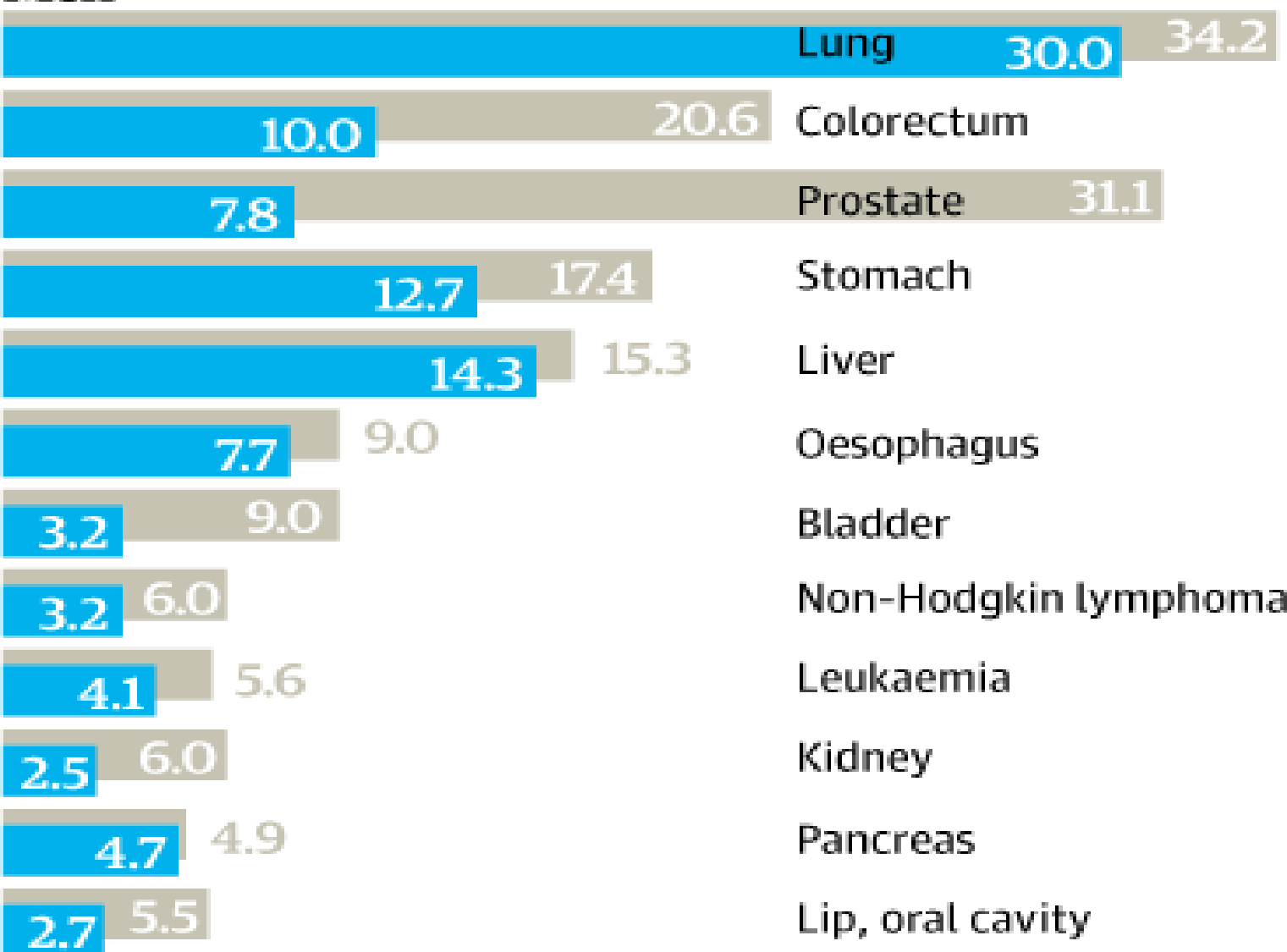
# Worldwide cancer rates per 100,000 population (women)

Women



# Worldwide cancer rates per 100,000 population (men)

Men



# Global burden and control of cancer

- ▶ Rising burden of cancer: estimates by 2025 19.3 million new cases per year compared to 14.1 million in 2012
- ▶ Majority of the increase in cancer burden expected in low- and middle-income countries (LMIC)
- ▶ **Prevention** is the single most effective response to these challenges, particularly in LMIC where health services are least able to meet the impending challenge
- ▶ Cancer prevention involve identifying the causes of human cancer and continuous education and advocacy to the public

# Cancer Prevention & Control

- ▶ Primary Prevention – reduce exposure to carcinogens
- ▶ Secondary Prevention – screening, early detection of risk factors and early stage of cancer to improve treatment outcome
- ▶ Tertiary Prevention/ Control/ Management – effective management for cancer treatment and improve quality of life

# IARC Monographs Human Carcinogens

- Scope of volume 100
  - Update the critical review for each carcinogen in Group 1
  - Identify tumour sites and plausible mechanisms
  - Compile information for subsequent scientific publications
- The volume was developed over the course of 6 meetings
  - A. *Pharmaceuticals* (23 agents, Oct 2008)
  - B. *Biological agents* (11 agents, Feb 2009)
  - C. *Metals, particles and fibres* (14 agents, Mar 2009)
  - D. *Radiation* (14 agents, June 2009)
  - E. *Lifestyle factors* (11 agents, Sept 2009)
  - F. *Chemicals and related occupations* (34 agents, Oct 2009)

International Agency for Research on Cancer



# WHO classification of red and processed meats

IARC\* Carcinogenic Classification Groups

Likelihood  
causes cancer  
High to Low

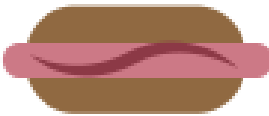





1

2a

2b

3

4

Causes cancer: Processed meats including		
Sausages and hotdogs 	Bacon 	Salami 
Probably causes cancer: Red meats including		
Pork 	Beef 	Lamb 

# Carcinogenicity Evaluation

## Cancer in humans

*Sufficient evidence*  
*Limited evidence*  
*Inadequate evidence*  
*Evidence suggesting lack of carcinogenicity*

## Cancer in experimental animals

*Sufficient evidence*  
*Limited evidence*  
*Inadequate evidence*  
*Evidence suggesting lack of carcinogenicity*

## Mechanistic and other relevant data

- Mechanistic data "weak," "moderate," or "strong"?
- Mechanism likely to be operative in humans?

## Overall evaluation

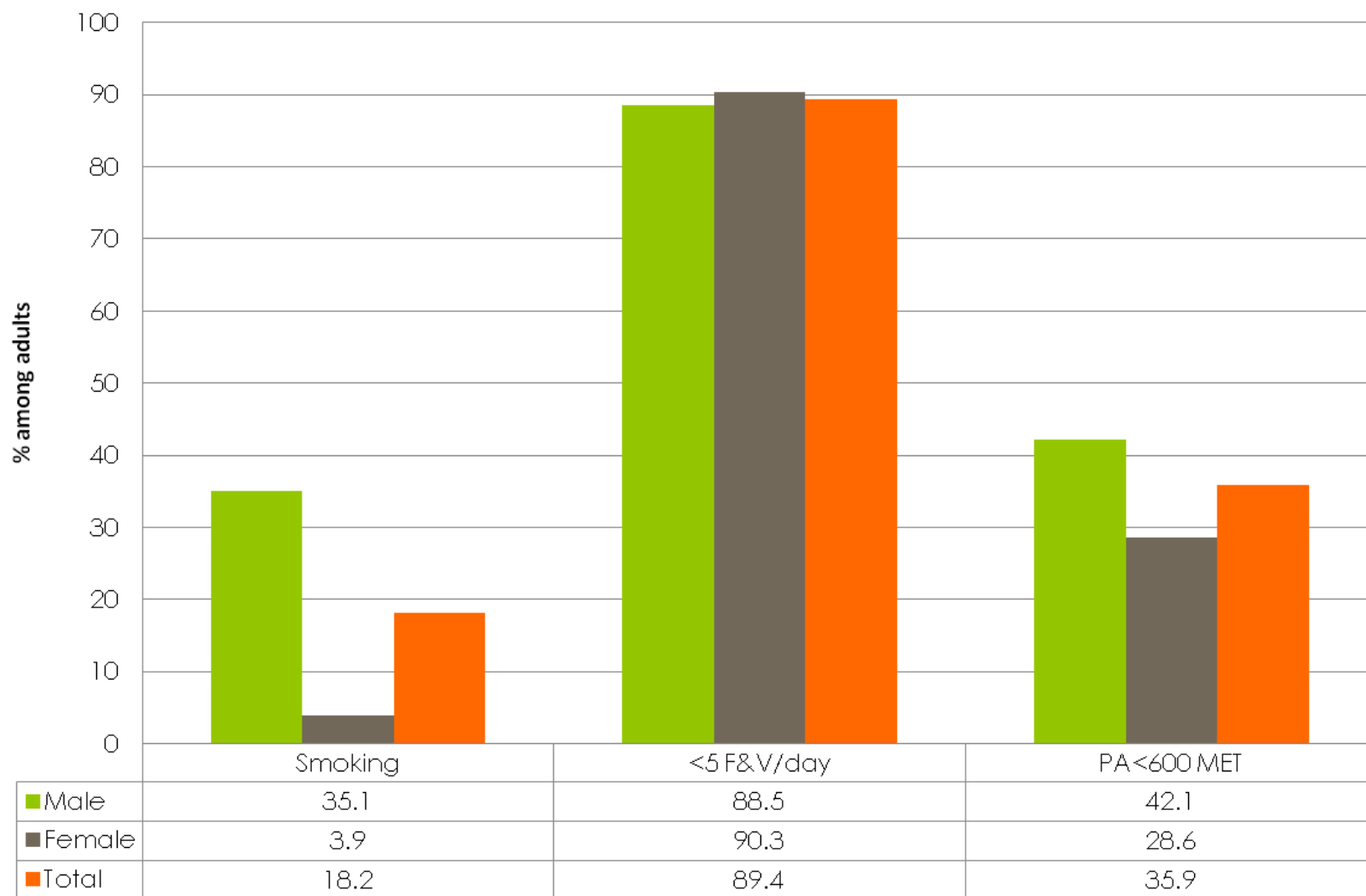
Group 1	<i>Carcinogenic to humans</i>
Group 2A	<i>Probably carcinogenic to humans</i>
Group 2B	<i>Possibly carcinogenic to humans</i>
Group 3	<i>Not classifiable as to its carcinogenicity to humans</i>
Group 4	<i>Probably not carcinogenic to humans</i>



# Carcinogenicity Review

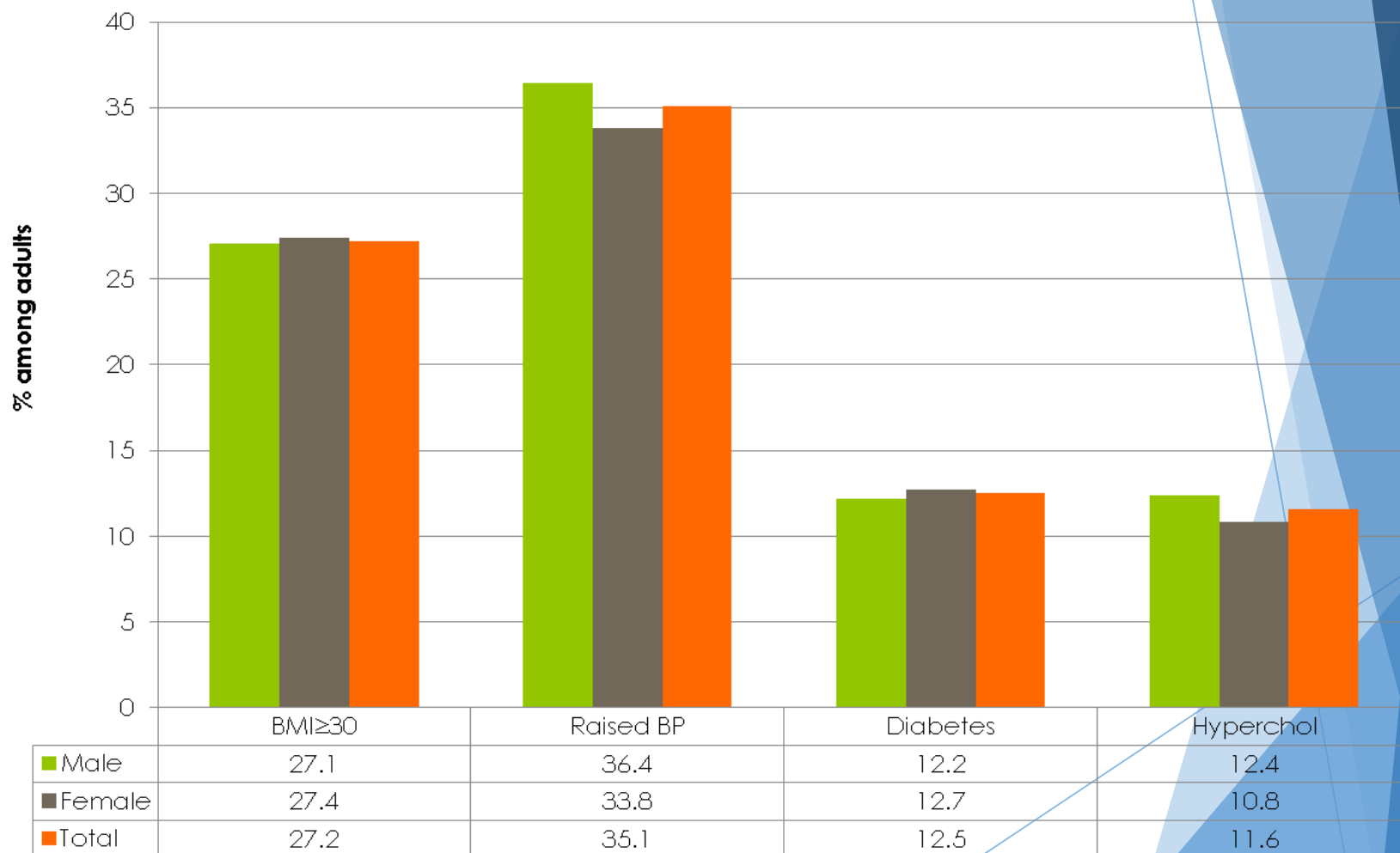
		EVIDENCE IN EXPERIMENTAL ANIMALS			
		<i>Sufficient</i>	<i>Limited</i>	<i>Inadequate</i>	<i>ESLC</i>
EVIDENCE IN HUMANS	<i>Sufficient</i>	Group 1			
	<i>Limited</i>	↑ 1 <u>strong evidence in exposed humans</u> Group 2A	↑ 2A belongs to a mechanistic class where other members are classified in Groups 1 or 2A Group 2B (exceptionally, Group 2A)		
	<i>Inadequate</i>	↑ 1 <u>strong evidence in exposed humans</u> ↑ 2A strong evidence ... <u>mechanism also operates in humans</u> Group 2B ↓ 3 <u>strong evidence ... mechanism does not operate in humans</u>	↑ 2A belongs to a mechanistic class ↑ 2B with <u>supporting evidence from mechanistic and other relevant data</u> Group 3	↑ 2A belongs to a mechanistic class ↑ 2B with <u>strong evidence from mechanistic and other relevant data</u> Group 3	Group 3 ↓ 4 <u>consistently and strongly supported by a broad range of mechanistic and other relevant data</u>
	<i>ESLC</i>	Group 3			Group 4

# Lifestyle risk factors among adults



Source: National Health & Nutritional Status Survey 2011, MOH

# Lifestyle risk factors among adults



Source: National Health & Nutritional Status Survey 2011, MOH

# Together Towards A Healthy Nation

**Mission:** Prevention and control of noncommunicable diseases through enabling healthy environments, reducing risk factors and better management

**Goal:** 18% relative reduction in premature mortality from NCDs by 2018 (18 by 18)

Improving health through enabling environments and healthy choices



To reduce tobacco use



To promote balanced and healthy diet



To increase physical activity



To identify people at risk of NCDs and manage effectively



To improve the quality of care and outcome of NCD management

2013 - 2018

NCD Prevention and Control Unit, Ministry of Health

National Committee on Health Promotion

**Health in All Policy**

**Whole of Government**

**Whole of Society**

**Health in Development**





# NCD & Cancer prevention a win-win situation

