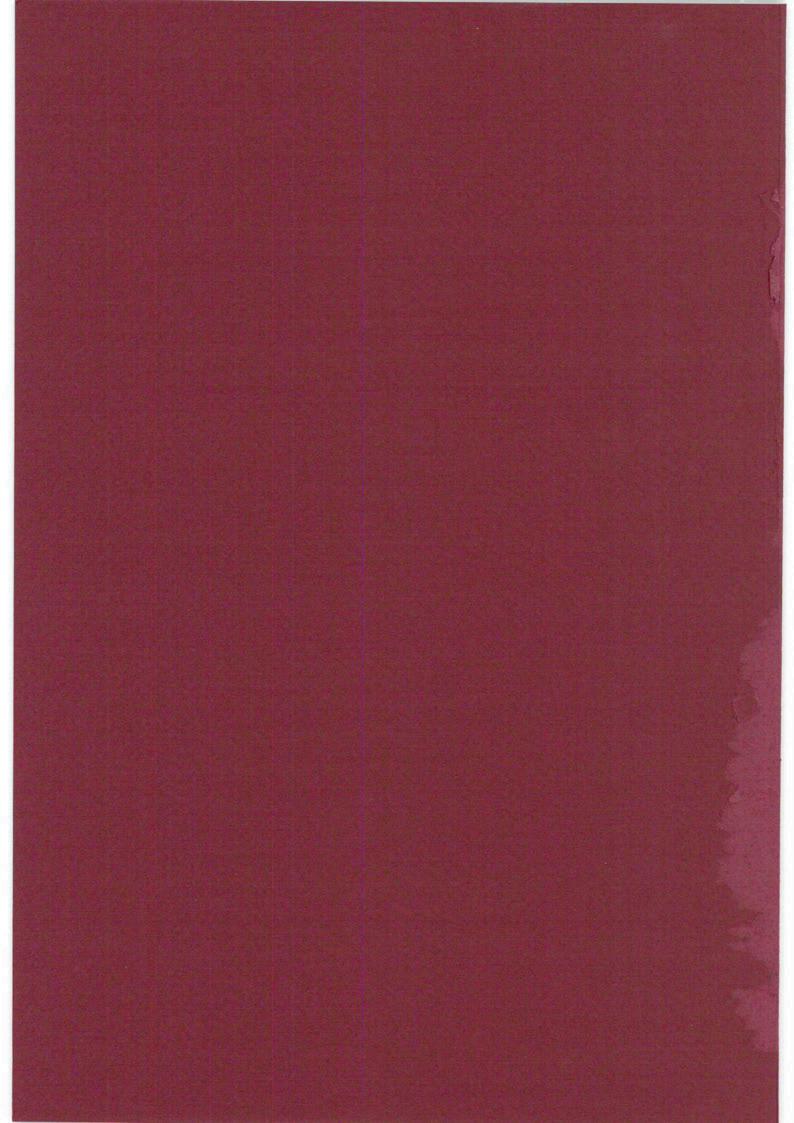


RESEARCH TECHNICAL REPORT

TITLE: Burden of Disease Study: Estimating Mortality
& Cause of Death in Malaysia
(PROJECT NO: NMRR-10-758-6818)

INSTITUTE FOR PUBLIC HEALTH
YEAR 2012





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TABLE OF CONTENTS

		PAGE
1.	LIST OF TABLES	i
2.	LIST OF FIGURES	ii
3.	ABBREVATONS	iii
4.	INTRODUCTION	1
5.	METHODS	2
6.	RESULTS	4
7.	DISCUSSION	22
8.	CONCLUSIONS	24
9.	REFERENCES	25
10.	APPENDICES 1 & 2	27

1. LIST OF TABLES

Tables	Tittle of Tables	Page
1	Life expectancy at 5 years age group based on registered deaths, Malaysia, 2008	
2		4
2	Top 10 causes of death by sex, Malaysia, 2008	5
3	Top 10 causes of YLL, overall	8
4	Top 10 causes of YLL, males	9
5	Top 10 causes of YLL, females	9
6	Top 10 causes of YLL, 0-4 years old, overall	10
7	Top 10 causes of YLL, 0-4 years old, boy	10
8	Top 10 causes of YLL, 0-4 years old, girl	11
9	Top 10 causes of YLL, 5-14 years old, overall	11
10	Top 10 causes of YLL, 5-14 years old, male	12
11	Top 10 causes of YLL, 5-14 years old, female	12
12	Top 10 causes of YLL, 15-29 years old, overall	13
13	Top 10 causes of YLL, 15-29 years old, male	13
14	Top 10 causes of YLL, 15-29 years old, female	14
15	Top 10 causes of YLL, 30-44 years old, overall	14
16	Top 10 causes of YLL, 30-44 years old, male	15
17	Top 10 causes of YLL, 30-44 years old, female	15
18	Top 10 causes of YLL, 45-59 years old, overall	16
19	Top 10 causes of YLL, 45-59 years old, male	16
20	Top 10 causes of YLL, 45-59 years old, female	17
21	Top 10 causes of YLL, 60-69 years old, overall	17
22	Top 10 causes of YLL, 60-69 years old, male	18
23	Top 10 causes of YLL, 60-69 years old, female	18
24	Top 10 causes of YLL, 70-79 years old, overall	19
25	Top 10 causes of YLL, 70-79 years old, male	19
26	Top 10 causes of YLL, 70-79 years old, female	20
27	Top 10 causes of YLL, 80 years old & above, overall	20
28	Top 10 causes of YLL, 80 years old & above, male	
29	Top 10 causes of YLL, 80 years old & above, female	21
23		21

2. LIST OF FIGURES

Figures	Tittle of Figures	Page
1	Percentages of YLL by sex	6
2	Percentages of YLL by age group	6
3	Percentages of YLL by major disease group	7
4	Percentages of YLL by major disease category	7
5	Percentages of YLL by major disease category	8

3. ABBREVATIONS

AIDS - Acquired Immunodeficiency Syndrome

GBD - Global Burden of Disease

HIV - Human Immunodeficiency Virus

ICD - International Statistical Classification of Diseases and Related

Health Problem

YLL - Years of Life Lost

_=

4. Introduction

Mortality estimates are important parameters for monitoring health, and are routinely used as evidence for health policy development and planning¹. Many countries have established vital registration systems that legally mandate registration of births and deaths. However, only about a third of countries in the world have complete and valid vital registration system and produce timely birth and death statistics ².

Malaysia is one of few Asian countries with long standing and functional vital registration system. Registration of births and deaths is a legal requirement in Malaysia, operated by the Ministry of Home Affairs. Under this system, a burial permit is issued upon death registration, which is mandatory before corpse disposal in all locations across the country. The Department of Statistics (DOS), Malaysia compiles data from civil registration obtained from the Ministry of Home Affairs, and these data are commonly referred as vital registration (VR) statistics³.

Despite having a functional system for the reporting of death events, there are problems such as the ascertainment of cause of death for each death report. Deaths in health facilities are certified as to cause by attending physicians, and subsequently the DOS uses the International Classification Diseases and Health Related Problems (ICD) to classify and tabulate medically certified deaths by age, sex and cause of death⁴. Deaths outside hospitals are reported to the local police station by relatives of the deceased, who provide a 'lay' opinion of the cause to be recorded at the death registry. DOS has established its own classification for these non-medically certified deaths. Though the proportion of medically certified death in Malaysia has improved from 45% in 1998 to 57.6% in 2010, still, the considerably large proportion of non-medically certified deaths has limited the direct use of these mortality data for health policy development and planning in Malaysia.

Therefore, the Ministry of Health conducted a second Burden of Disease and Injury Study in 2010 to apply internationally tested principles for burden of disease assessment to available mortality data in order to develop national estimates of mortality by age, sex and cause in Malaysia in the year 2008. This article documents the methods and results from this mortality estimation research.

5. Methods

5.1 Age- and sex-specific number of deaths

Available mortality statistics by age, sex and cause at the national level for 2008 were used as input data for mortality estimation. The reference point for estimation was chosen as the year 2008, in the second Malaysian National Burden of Disease and Injury Study. At the time of conducting analysis, data collection for the year 2009 had not completed. For this reason, data for the year 2008 were used, which were coded using the ICD10 Revision.

We assumed that the registration of mortality is complete based on the report by the DOS. There are no other sources of mortality data to make formal check. Disaggregated data were evaluated for quality in terms of proportion of deaths and the data were used to construct abridged life tables. Cases with unknown age at death (19 females) had been redistributed to suitable age group based on the cause of death.

5.2 Cause-specific mortality estimates

All death in the National VR were coded either using ICD-10 classification (for medically certified death) or DOS codes (for non-medically certified death). All data were examined for quality on causes of death according to specific criteria⁵.

Data of medically certified death were cleaned through 3 steps. First step was assessment of the accuracy of coding done by original coders from DOS on cause of death by sex and age. Secondly, the same mortality data were coded again by independent certified ICD coders. Lastly, inter-coder consistency was checked between the two sets of coding done by the original coders and independent coders. Causes of death with similar codes were accepted whilst causes with disagreed codes were re-coded by another group of independent certified coders of higher ranking.

Non-medically certified deaths were coded according to the guidelines from the DOS. Each specific codes were re-coded into ICD 10 by certified coders and physicians based on available information including age, sex and cause of death.

All deaths were then combined and taken as the cause of death structure. Deaths coded into garbage categories were redistributed, accordingly for each age and sex stratum, based on the guidelines from the Global Burden of Disease 2005 Study⁶ with some modifications.

- Garbage code (1.1): Causes that cannot lead to death- redistributed to all causes.
- Garbage code (2.1): Causes that cannot lead to death- redistributed to all causes.
- Garbage code (2.2): Malignant or non-malignant neoplasm without specification of any site – redistributed to all causes of malignancy.
- d) Garbage code (2.4): Carcinoma in situ, unknown behaviour neoplasms as a cause of death or benign neoplasm – redistributed to all causes of malignancy.
- e) Garbage code (3.1): Unspecified diseases and injuries in one chapter redistributed to all causes.
- f) Garbage code (3.2): Unspecified diseases and injuries in some parts of one chapter or in disease group- redistributed to all causes.
- g) Garbage code (4): Intermediate cause in death chain- redistributed to all causes.
- Garbage code (5): Sequelae as an intermediate cause or as contemporary conditions besides another intermediate cause - redistributed to all causes.
- Garbage code (6): Immediate cause of death or mode of death- redistributed to all causes.
- j) Garbage code (7): Particular garbage codes- redistributed to circulatory causes.

5.3 Life Expectancy

Age- and sex-specific death structure was used to construct abridged life table.

5.4 Years of Life Lost (YLL)

Years of Life Lost (YLL) was calculated according to the procedures in the Global Burden of Disease (GBD) study 2005⁷. YLL is calculated as a simple summation of deaths at each age from a given cause, multiplied by the average life expectancy at that particular age. We used the GBD standard life expectancy revised Model to generate the life expectancy table.

6. Results

The total number of estimated deaths in Malaysia in year 2008 was 124,857, which composed of 72,202 males and 52,655 females. Life expectancy by 5-year age group from abridged life table is shown in Tables 1. Based on deaths registered in 2008, we estimated the life expectancy at birth for Malaysian males and females as 70.2 years and 74.8 years, respectively.

Table 1: Life expectancy by 5-year age group based on registered deaths, Malaysia, 2008

Age (Years)	Life Expectancy (Male)	Life Expectancy (Female)
0	70.2	74.8
1-4	69.7	74.3
5-9	65.8	70.4
10-14	60.9	65.4
15-19	56.0	60.5
20-24	51.3	55.6
25-29	46.6	50.7
30-34	41.9	45.9
35-39	37.3	41.0
40-44	32.7	36.2
45-49	28.1	31.4
50-54	23.7	26.8
55-59	19.5	22.3
60-64	15.5	18.0
65-69	11.8	13.9
70-74	8.4	10.1
75-79	5.3	6.8
80+	1.6	3.4

6.1 Leading causes of death

The top two leading causes of death in both sexes were ischaemic heart disease and cerebrovascular disease (Table 2). Road traffic injuries was the third leading cause of death in males and breast cancer was the third leading cause of death in females.

Table 2: Top 10 causes of death by sex, Malaysia, 2008

	MALE			FEMALE		
	Cause of Death	n	%	Cause of Death	n	%
1	Ischaemic heart disease	15836	21.9	Ischaemic heart disease	9667	18.4
2	Cerebrovascular disease (Stroke)	7725	10.7	Cerebrovascular disease (Stroke)	7852	14.9
3	Road traffic injury	4895	6.8	Breast cancer	2077	3.9
4	Lower respiratory infection	2816	3.9	Lower respiratory infection	1047	3.7
5	Trachea, bronchus and lung cancer	2816	3.9	Nephritis and Nephrosis	1790	3.4
6	Chronic Obstructive Pulmonary Disease	2732	3.8	Trachea, bronchus and lung cancer	1507	2.9
7	Nephritis and Nephrosis	2020	2.8	Diabetis Mellitus	1392	2.6
8	HIV/AIDS	1421	2.0	Colon & Rectum Cancer	1160	2.2
9	Diabetis Mellitus	1241	1.7	Road traffic injury	940	1.8
10	Liver cancer	1227	1.7	Chronic Obstructive Pulmonary Disease	1039	2.0
	ALL DEATH	72202			52655	

6.2 Years of Life Lost (YLL)

The total number of YLL in Malaysia in 2008 was 1.5 million. Sixty-one percents of the YLLs were contributed by male (Figure 1). Majority of YLLs occurred in the age group of 45-59 (26%), followed by 60-69 (18%) and 30-44 (16%) (Figure 2). Almost three quarter of YLLs were due to non-communicable disease (68%) followed by communicable disease (20%) and injury (12%) (Figure 3). By disease category, the leading cause of YLL in Malaysia is caused by cardiovascular and circulatory disease

(35%), followed by malignant neoplasm (20%), infectious disease (15%), unintentional disease (14%) and respiratory disease (6%) (Figure 4).

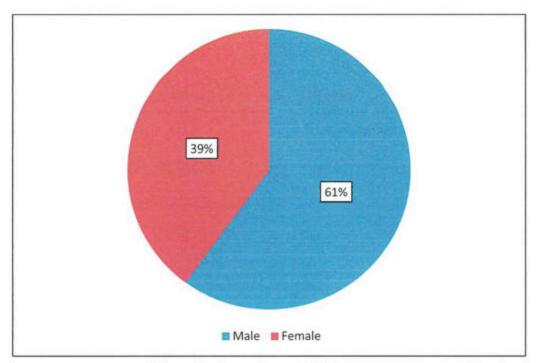


Figure 1: Percentages of YLL by sex

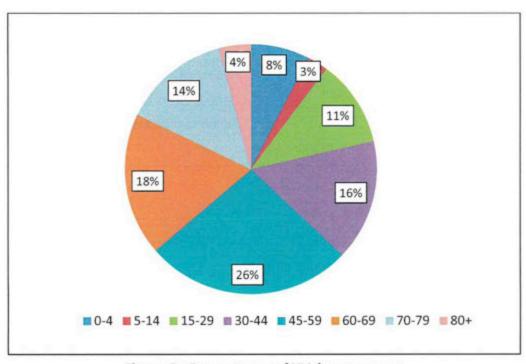


Figure 2: Percentages of YLL by age group

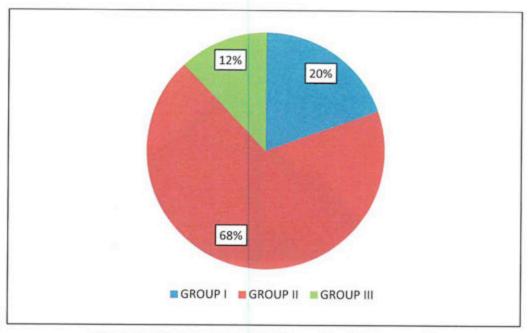


Figure 3: Percentages of YLL by major disease group

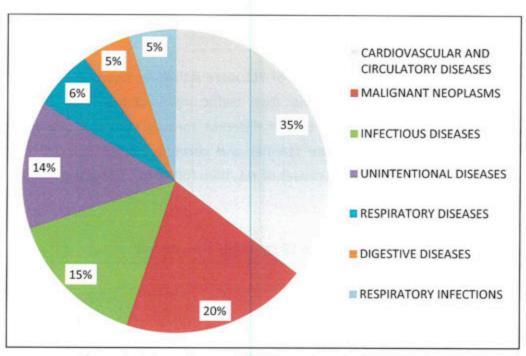


Figure 4: Percentages of YLL by major disease category

With regards to age group, a large portion of YLLs at age of 0-4 years were contributed by Group I (Communicable disease, Maternal, Perinatal and Nutritional disorder); while for age group 15-29, injury (Group III) was the main cause for YLLs; and for Malaysian aged 30 years and above, non communicable disease (Group II) has been the main contributor for YLLs (Figure 5).

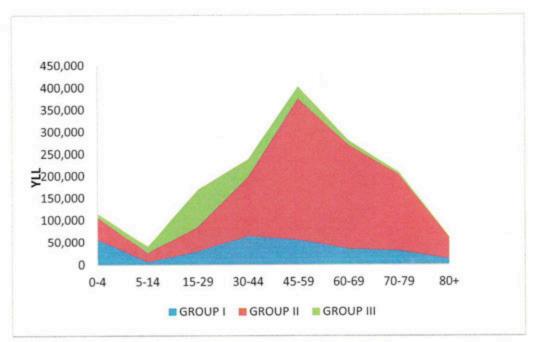


Figure 5: Distribution of YLL by major disease category across age groups

6.3 YLL by age group:

a) Overall

Overall, the top three leading causes of YLL were ischaemic heart disease (17.1%), cerebrovascular disease (9.6%) and road traffic injury (8.3%)(Table 3). Similar observation was seen in males but of different ranking (Table 4). However, in females, ischaemic heart disease (14.3%) and cerebrovascular diseases (11.7%) remained as the top two leading causes of YLL, then followed by breast cancer (4.3%) (Table 5).

Table 3: Top 10 causes of YLL, overall

		YLL	%
1	Ischaemic heart disease	258,232	17.1
2	Cerebrovascular disease (Stroke)	145,694	9.6
3	Road traffic injury	125,106	8.3
4	Lower respiratory infection	63,386	4.2
5	Trachea, bronchus and lung cancer	45,379	3.0
6	Nephritis and nephrosis	40,915	2.7
7	HIV	33,926	2.2
8	Breast cancer	33,139	2.2
9	Diabetes Mellitus	29,822	2.0
10	Colon and rectum cancer	24,444	1.6

Table 4: Top 10 causes of YLL, males

		YLL	%
1	Ischaemic heart disease	173,040	18.8
2	Road traffic injury	104,259	11.4
3	Cerebrovascular disease (Stroke)	76,123	8.3
4	Lower respiratory infection	37,688	4.1
5	HIV	30,457	3.3
6	Trachea, bronchus and lung cancer	28,640	3.1
7	Nephritis and nephrosis	21,974	2.4
8	Chronic obstructive pulmonary disease	17,698	1.9
9	Tuberculosis	16,806	1.8
10	Liver cancer	14,695	1.6

Table 5 : Top 10 causes of YLL, females

		YLL	%
1	Ischaemic heart disease	85,192	14.3
2	Cerebrovascular disease (Stroke)	69,571	11.7
3	Breast cancer	33,029	5.6
4	Lower respiratory infection	25,698	4.3
5	Road traffic injury	20,847	3.5
6	Nephritis and nephrosis	18,940	3.2
7	Trachea, bronchus and lung cancer	16,739	2.8
8	Diabetes Mellitus	15,582	2.6
9	Colon and rectum cancer	11,763	2.0
10	Leukaemia	8,915	1.5

b) 0-4 years old

The top two causes of YLL among 0 to 4 years old Malaysians were low birth weight (19.8%) and congenital heart anomalies (8.6%) (Table 6). The top ten leading causes of YLL among boys and girls of these ages are consistent, with only slight differences in the ranking (Table 7 & 8).

Table 6: Top 10 causes of YLL, 0-4 years old, overall

		YLL	%
1	Low birth weight	22,772	19.8
2	Congenital heart anomalies	9,915	8.6
3	Neonatal infection	6,843	6.0
4	Lower respiratory infection	6,811	5.9
5	Birth trauma & asphyxia	6,322	5.5
6	Neural tube defects	3,312	2.9
7	Meningitis & Encephalitis	2,776	2.4
8	Road traffic injury	2,145	1.9
9	Diarrhoeal disease	2,099	1.8
10	Drowning	2,012	1.8

Table 7: Top 10 causes of YLL, 0-4 years old, boy

		YLL	%
1	Low birth weight	13,975	21.7
2	Congenital heart anomalies	5,177	8.0
3	Lower respiratory infection	4,064	6.3
4	Neonatal infection	3,969	6.2
5	Birth trauma & asphyxia	3,346	5.2
6	Neural tube defect	1,874	2.9
7	Meningitis & encephalitis	1,350	2.1
8	Road traffic injury	1,349	2.1
9	Drowning	1,255	1.9
10	Diarrhoeal disease	933	1.4

Table 8: Top 10 causes of YLL, 0-4 years old, girl

		YLL	%
1	Low birth weight	8,797	17.4
2	Congenital heart anomalies	4,738	9.4
3	Birth trauma & asphyxia	2,976	5.9
4	Neonatal infections	2,873	5.7
5	Lower respiratory infections	2,747	5.4
6	Neural tube defects	1,438	2.8
7	Meningitis & encephalitis	1,427	2.8
8	Diarrhoeal diseases	1,166	2.3
9	Leukaemia	829	1.6
10	Road traffic injury	797	1.6

c) 5 - 14 years old

The top three causes of overall YLL among 5-14 years old children were road traffic injuries (15.7%), drowning (12.4%) and leukaemia (8.2%) (Table 9), which was consistent with the top three ranking in males (Table 10). On the other hand, road traffic injury (14.5%), leukaemia (9.6%) and lower respiratory infection (5.8%) were the top three causes of YLL for females (Table 11).

Table 9: Top 10 causes of YLL, 5-14 years old, overall

		YLL	%
1	Road traffic injury	6,282	15.7
2	Drowning	4,973	12.4
3	Leukaemia	3,278	8.2
4	Lower respiratory infection	2,289	5.7
5	Meningitis & encephalitis	2,086	5.2
6	Congenital heart anomalies	1,529	3.8
7	Brain & other CNS cancer	1,240	3.1
8	Benign neoplasm	1,168	2.9
9	Cerebrovascular disease	1,149	2.9
10	Endocrine, nutritional, blood and immune	1,086	2.7

Table 10: Top 10 causes of YLL, 5-14 years old, male

		YLL	%
1	Road traffic injury	3,941	16.5
2	Drowning	3,795	15.9
3	Leukaemia	1,720	7.2
4	Lower respiratory infection	1,388	5.8
5	Meningitis & encephalitis	1,281	5.4
6	Congenital heart anomalies	883	3.7
7	Endocrine, nutritional, blood and immune disorder	657	2.8
8	Brain & other CNS cancer	650	2.7
9	Benign neoplasm	579	2.4
10	Inflammatory heart disease	558	2.3

Table 11: Top 10 causes of YLL, 5-14 years old, female

		YLL	%
1	Road traffic injury	2,341	14.5
2	Leukaemia	1,558	9.6
3	Lower respiratory infection	902	5.6
4	Drowning	1,178	7.3
5	Meningitis & encephalitis	805	5.0
6	Cerebrovascular disease	698	4.3
7	Congenital heart anomalies	646	4.0
8	Brain & other CNS cancer	590	3.6
9	Benign neoplasm	589	3.6
10	Endocrine, nutritional, blood and immune	429	2.6

d) 15 - 29 years old

The commonest cause of YLL among Malaysian aged 15-29 years was road traffic injury which was responsible for 40.1% of YLL in Malaysia (Table 12), almost 47% of YLL in males (Table 13) and 20.6% in females (Table 14).

Table 12: Top 10 causes of YLL, 15-29 years old, overall

		YLL	%
1	Road traffic injury	67,598	40.1
2	Lower respiratory infection	6,624	3.9
3	Cerebrovascular diseases	5,411	3.2
4	HIV	4,482	2.7
5	Drowning	4,478	2.7
6	Leukaemia	4,248	2.5
7	Meningitis & encephalitis	3,950	2.3
8	Ischaemic heart disease	3,605	2.1
9	Endocrine, nutritional, blood and immune	3,473	2.1
10	Tuberculosis	2,946	1.7

Table 13: Top 10 causes of YLL, 15-29 years old, male

		YLL	%
1	Road traffic injury	58,635	46.9
2	Lower respiratory infection	3,996	3.2
3	Drowning	3,970	3.2
4	HIV	3,928	3.1
5	Cerebrovascular disease	3,745	3.0
6	Ischaemic heart disease	3,015	2.4
7	Leukaemia	2,871	2.3
8	Meningitis & encephalitis	2,462	2.0
9	Endocrine, nutritional, blood and immune	2,279	1.8
10	Interpersonal violence /homicide	2,100	1.7

Table 14: Top 10 causes of YLL, 15-29 years old, female

		YLL	%
1	Road traffic injury	8,963	20.6
2	Lower respiratory infection	2,627	6.0
3	Cerebrovascular disease	1,666	3.8
4	Meningitis & encephalitis	1,488	3.4
5	Leukaemia	1,377	3.2
6	Endocrine, nutritional, blood and immune	1,194	2.7
7	Tuberculosis	1,115	2.6
8	Nephritis and nephrosis	941	2.2
9	Congenital heart anomalies	906	2.1
10	Asthma	896	2.1

e) 30-44 years old

Ischaemic heart disease, road traffic injuriesand HIV were the three commonest causes of overall YLL as well as YLL in males aged 30-44 years (Table 15 & Table 16). In females, the commonest causes of YLL were breast cancer (13%), ischaemic heart disease (6.6%) and cerebrovascular diseases (5.8%) (Table 17).

Table 15: Top 10 causes of YLL, 30-44 years old, overall

		YLL	%
1	Ischaemic heart disease	29207	12.3
2	Road traffic injury	23837	10.0
3	HIV	22139	9.3
4	Cerebrovascular disease (stroke)	13266	5.6
5	Lower respiratory infection	11263	4.7
6	Breast cancer	9061	3.8
7	Endocrine, nutritional, blood and immune disorder	7872	3.3
8	Tuberculosis	5676	2.4
9	Meningitis & Encephalitis	4630	1.9
10	Nephritis and nephrosis	4485	1.9

Table 16: Top 10 causes of YLL, 30-44 years old, male

		YLL	%	
1	Ischaemic heart disease	24602	14.7	
2	HIV	20482	12.2	
3	Road traffic injury	20236	12.1	
4	Cerebrovascular diseases (Stroke)	9212	5.5	
5	Lower respiratory infection	7704	4.6	
6	Endocrine, nutritional, blood and immune disorder	6609	3.9	
7	Tuberculosis	5980	3.6	
8	Meningitis & Encephalitis	2866	1.7	
9	Nephritis and nephrosis	2797	1.7	
10	Drowning	2741	1.6	

Table 17: Top 10 causes of YLL, 30-44 years old, female

		YLL	%
1	Breast cancer	9061	13.0
2	Ischaemic heart diseases	4605	6.6
3	Cerebrovascular diseases (Stroke)	4054	5.8
4	Road traffic injuries	3602	5.2
5	Lower respiratory infections	3559	5.1
6	Tuberculosis	1859	2.7
7	Meningitis and Encephalitis	1764	2.5
8	Asthma	1748	2.5
9	Leukaemia	1709	2.4
10	Nephritis and nephrosis	1688	2.4

f) 45 - 59 years old

The top two causes of YLL among 45-59 years old adults were ischaemic heart disease(22.9%) and cerebrovascular disease (10.7%) (Table 18). Similar ranking was observed in both males and females (Table 19 & 20).

Table 18: Top 10 causes of YLL, 45-59 years old, overall

		YLL	%
1	Ischaemic heart disease	92207	22.9
2	Cerebrovascular disease (Stroke)	43019	10.7
3	Road traffic injury	17177	4.3
4	Trachea, bronchus and lung cancer	16712	4.2
5	Lower respiratory infections	16691	4.2
6	Breast cancer	15555	3.9
7	Nephritis and nephrosis	14228	3.5
8	Diabetes mellitus	11582	2.9
9	Colon and rectum cancer	8674	2.2
10	Liver cancer	7892	1.9

Table 19: Top 10 causes of YLL, 45-59 years old, male

		YLL	%
1	Ischaemic heart disease	71641	28.1
2	Cerebrovascular disease (Stroke)	25571	10.0
3	Road traffic injury	13646	5.4
4	Trachea, bronchus and lung cancer	11068	4.3
5	Lower respiratory infection	10268	4.0
6	Nephritis and nephrosis	8376	3.3
7	Liver cancer	6274	2.5
8	Diabetes mellitus	5806	2.3
9	HIV	5116	2.0
10	Mouth & oropharynx cancer	5064	2.0

Table 20: Top 10 causes of YLL, 45-59 years old, female

		YLL	%
1	Ischaemic heart disease	20566	13.9
2	Cerebrovascular disease (Stroke)	17449	11.8
3	Breast cancer	15522	10.5
4	Lower respiratory infections	6423	4.3
5	Nephritis and Nephrosis	5852	4.0
6	Diabetes mellitus	5776	3.9
7	Trachea, bronchus and lung cancer	5644	3.8
8	Ovary cancer	4034	2.7
9	Colon and rectum cancer	3965	2.7
10	Road traffic injury	3531	2.4

g) 60 - 69 years old

The top three leading causes of YLL among elderly aged 60-69 years were ischaemic heart disease (24.2%), cerebrovascular disease (13.8%) and trachea, bronchus and lung cancer (4.8%) (Table 21). Similar ranking was seen in males, but breast cancer has replaced trachea, bronchus and lung cancer and ranked as the third cause of YLL in females (Table 22 and Table 23).

Table 21: Top 10 causes of YLL, 60-69 years old, overall

		YLL	%
1	Ischaemic heart disease	67783	24.2
2	Cerebrovascular disease (Stroke)	38702	13.8
3	Trachea, bronchus and lung cancer	13534	4.8
4	Lower respiratory infection	10908	3.9
5	Nephritis and nephrosis	10577	3.8
6	Diabetes mellitus	8449	3.0
7	Chronic obstructive pulmonary disease	8070	2.9
8	Colon and rectum cancer	6146	2.2
9	Breast cancer	5749	2.1
10	Liver cancer	5547	1.9

Table 22 : Top 10 causes of YLL, 60-69 years old, male

		YLL	%
1	Ischaemic heart disease	44267	26.9
2	Cerebrovascular disease (Stroke)	20694	12.6
3	Trachea, bronchus and lung cancers	8763	5.3
4	Chronic obstructive pulmonary disease	6402	3.9
5	Lower respiratory infection	5979	3.6
6	Nephritis and nephrosis	5652	3.4
7	Diabetes mellitus	4399	2.7
8	Liver cancer	4373	2.7
9	Road traffic injury	4324	2.6
10	Colon and rectum cancer	3676	2.2

Table 23: Top 10 causes of YLL, 60-69 years old, female

		YLL	%
1	Ischaemic heart disease	23516	20.4
2	Cerebrovascular disease (Stroke)	18008	15.6
3	Breast cancer	5693	4.9
4	Lower respiratory infections	4929	4.3
5	Nephritis and nephrosis	4925	4.3
6	Trachea, bronchus and lung cancers	4771	4.1
7	Diabetes mellitus	4051	3.5
8	Colon and rectum cancer	2470	2.1
9	Ovary cancer	1720	1.5
10	Chronic obstructive pulmonary disease	1669	1.4

h) 70 - 79 years old

The top three leading causes of YLL among 70-79 years old elderly were ischaemic heart disease(25.1%), cerebrovascular disease (15.4%) and chronic obstructive pulmonary disease (4.6%) (Table 24). The ranking remained the same in males, but in females, the third rank was nephritis and nephrosis (Table 25 and Table 26).

Table 24: Top 10 causes of YLL, 70-79 years old, overall

		YLL	%
1	Ischaemic heart disease	52245	25.1
2	Cerebrovascular disease (Stroke)	31951	15.4
3	Chronic obstructive pulmonary disease	9563	4.6
4	Trachea, bronchus and lung cancer	8953	4.3
5	Lower respiratory infection	6914	3.3
6	Nephritis and nephrosis	6707	3.2
7	Colon and rectum cancers	4355	2.1
8	Diabetes mellitus	4319	2.1
9	Liver cancer	2982	1.4
10	Road traffic injury	2383	1.1

Table 25: Top 10 causes of YLL, 70-79 years old, male

		YLL	%
1	Ischaemic heart disease	25618	25.4
2	Cerebrovascular disease (Stroke)	13111	13.0
3	Chronic obstructive pulmonary disease	6758	6.7
4	Trachea, bronchus and lung cancer	5612	5.6
5	Lower respiratory infection	3658	3.6
6	Nephritis and nephrosis	2886	2.9
7	Road traffic injury	1997	1.9
8	Colon and rectum cancer	1693	1.7
9	Liver cancer	1653	1.6
10	Tuberculosis	1628	1.6

Table 26: Top 10 causes of YLL, 70-79 years old, female

		YLL	%
1	Ischaemic heart disease	26628	24.9
2	Cerebrovascular disease (Stroke)	18841	17.6
3	Nephritis and nephrosis	3821	3.6
4	Trachea, bronchus and lung cancer	3341	3.1
5	Lower respiratory infection	3256	3.0
6	Chronic obstructive pulmonary disease	2805	2.6
7	Diabetes mellitus	2795	2.6
8	Colon and rectum cancer	2657	2.5
9	Breast cancer	1926	1.8
10	Liver cancer	1328	1.2

i) 80 years old & above

The top three leading causes of YLL (ischaemic heart disease, cerebrovascular disease and chronic obstructive pulmonary disease) among elderly aged 80 years and above (Table 27) were consistent with those aged 70-79 years. Similar ranking was observed in males (Table 28). However in females, the third rank was nephritis and nephrosis (Table 29).

Table 27: Top 10 causes of YLL, 80 years old & above, overall

		YLL	%
1	Ischaemic heart disease	12663	20.5
2	Cerebrovascular disease (Stroke)	10849	17.5
3	Chronic obstructive pulmonary disease	2509	4.1
4	Nephritis and nephrosis	1980	3.2
5	Lower respiratory infection	1886	3.0
6	Trachea, bronchus and lung cancer	1530	2.5
7	Colon and rectum cancers	1369	2.2
8	Diabetes mellitus	1176	1.9
9	Liver cancer	591	0.9
10	Stomach cancer	519	0.8

Table 28 : Top 10 causes of YLL, 80 years old & above, male

_			
		YLL	%
1	Ischaemic heart disease	3586	21.1
2	Cerebrovascular disease (Stroke)	2554	15.0
3	Chronic obstructive pulmonary disease	1360	8.0
4	Lower respiratory infection	631	3.7
5	Trachea, bronchus and lung cancer	578	3.4
6	Nephritis and nephrosis	565	3.3
7	Colon and rectum cancers	327	1.9
8	Diabetes mellitus	244	1.4
9	Tuberculosis	225	1.3
10	Prostate cancer	167	1.0

Table 29: Top 10 causes of YLL, 80 years old & above, female

		YLL	%
1	Ischaemic heart disease	9077	20.2
2	Cerebrovascular disease (Stroke)	8295	18.5
3	Nephritis and nephrosis	1415	3.2
4	Lower respiratory infection	1255	2.8
5	Chronic obstructive pulmonary disease	1149	2.6
6	Colon and rectum cancer	1042	2.3
7	Trachea, bronchus and lung cancer	952	2.1
8	Diabetes mellitus	932	2.1
9	Liver cancer	431	1.0
10	Endocrine, nutritional, blood and immune disorder	416	0.9

7. DISCUSSION

Results from the analyses of leading causes of death and premature death are important evidence-based information to guide the decision-making process pertaining to health. The rank order and magnitude of diseases and injuries in population will provide accurate and useful information to health programmers and policy-makers in decision-making and policy-planning.

Overall, in year 2008, 57.6% of mortality were medically certified whilst 42.4% were non-medically certified. This indicates that there was undoubtedly substantial uncertainty in determining causes of death pattern. Nonetheless, the GBD 2005 framework provides a set of techniques and methods to estimate cause-specific mortality pattern at population level from incomplete and miss-specified data. In the present study, we applied those approaches to estimate the pattern of causes of death in Malaysia and thus filled up the gap of causes of death among the non-medically certified deaths. There is currently no evidence to confirm or refute these estimates. However, the use of structured verbal autopsy method can yield mortality data of better quality, and future surveys using this method are useful in the estimation of burden of disease in Malaysia in the near future.

These data manipulations enabled a plausible interpretation of the cause of death structure in Malaysia. However, improving the quality of reported causes of death is still an imperative milestone for the Ministry of Health and other relevant agencies. The attention given to the certification of cause of death data in this study has led to a pilot study on death certification in the state of Malacca, Malaysia with the aim to improve the certification process. Alternative data collection using verbal autopsy interview in the near future to verify the true causes of death which are currently being categorised as ill-defined cause.

The present findings demonstrated that the epidemiology of diseases in Malaysia is more of the epidemiological pattern of developing countries, as reported in the international comparative assessments study⁹. It showed that mortality due to ischaemic heart disease [25503, (20.4%)] and cerebrovascular disease [15577, (12.5%)] are the leading causes of death in both sexes. Besides, infectious disease is still the major cause of death in Malaysia [(ranked third; 11104, (8.9%)). The death rate was higher in Malaysian males [72202, (57.8%)] than females [52655, (42.2%)].

The total years of life lost (YLLs) for Malaysian population in 2008 was 1.5 million. Premature mortality was responsible for 918,110 YLLs in men, and 594,797 in women. Almost three quarters (68%) of the burden of premature deaths resulted from non-communicable disease and communicable disease contributed to about one fifth (20%) of this burden.

The major cause of YLL in both men and women was ischaemic heart disease, accounting for 18.8% and 14.3% of total YLL in men and women, respectively. In men, the other major contributors of YLL were road traffic injury (RTI), cerebrovascular disease, lower respiratory infection and HIV which constituted 43% of the total burden of premature deaths among Malaysian men. For women, cerebrovascular disease and breast cancer were the second and third contributors of YLL, followed by lower respiratory infection and road traffic injury. Together, these four diseases accounted for 36% of the burden of premature death among Malaysian women.

The calculation of mortality component of Burden of Disease, YLL is relatively straightforward, however the precision of these estimates is entirely dependent on the quality of information on underlying causes of death. Although Malaysia has good vital registration system, the system allows the death to be certified by lay person such as police officers and relatives of the deceased (ie : non-medically certified death).

In 2008, almost half of all registered deaths in Malaysia were non-medically certified. This continues to pose a challenge for the calculation of mortality or premature death's burden since a large portion of deaths were assigned with non-medically certified, ill-defined causes (eg: death due to old age and miss-specified vascular diseases, particularly cardiac arrest. This may indicate the miscoding of deaths due to the lack of knowledge on medical history, inadequate diagnosis by physicians or the families were unaware of the deceased's medical status which then resulted in incomplete information on the medical card. These issues strongly suggest the need for urgent measures to improve the cause of death certification and coding practice among the physicians at hospital level, through adequate training programs in death certification procedures and ICD coding¹⁰.

The process of establishing and developing a death registration system which only encompasses medically certified cause of death would require considerable resources, and in many countries, they have taken more than a century to establish

such efficient registry¹¹. Nonetheless, Malaysia has developed an established vital registry, and the focus now should be emphasised on the strengthening of the cause of death reporting mechanisms¹². A complete review of medical certificates should be first considered by relevant authorities and ministries of the Government of Malaysia, in conjunction with studies to validate medically certified causes of death in hospitals^{13,14}. Also, like other Asian countries, Malaysia should undertake pilot projects to improve cause of death attribution for deaths occurring outside health facilities, using verbal autopsy methods^{15,16,17}.

8. CONCLUSION

Mortality estimates are the key parameter in providing crucial and comprehensive information on the total burden of disease in the country. The information would enable relevant authorities to plan, implement and evaluate health activities and promotional programmes to prevent and reduce the burden of premature death. However, the accuracy of the mortality estimates depends on the quality of the reported cause of death. Therefore, it is critical and extremely important to have a standard scheme for medical certification of cause of death in Malaysia as well as encourage multi-agency collaboration in order to provide the best estimates of cause-specific mortality for health development.

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APPENDIX 1

				Deaths by cause, age and sex, Malaysia 2008	cause	age 's	and se	x, Mal	aysia 2	8003									
	TOTAL	MAUS	FUMALES	MALES	5-14	15.73	30-44	65-59	89-09	20.73	\$	FOMMUS	5.14	15.23	304	45-53	69-09	200	2
DARBALL	124,857	72,202	52,655	2,203	88	4,804	7,562	15,319	14,835	15,985	10,651	1,696	8	1,619	3,034	8,291	9,224	14,421	13,831
GROUP II 222,597 GROUP III 83,562 8,663	22,597 93,592 8,668	11,007 52,130 7,865	9,591 41,461 1,603	1112 828 634	N 8 8	25 LE 25 C. 57.5	2,239 3,863 1,460	2,237 11,853 1,230	1,788 12,489 538	2,633	2,303 4,205 148	811 788 97	21 25 34	395 797 305	2,095	3,135 6,856 309	622,1 788,7 821	2,178 12,103 140	3,087
INFECTIOUS DISGASES 16,167	16,167	9,335	2469	138	16	585	1,889	1,624	1,246	1,859	1,899	136	13	262	8	613	830	1,740	2,690
	4,773	2,824	1,947	139	8 0	0 0	347	8 °	552	675	339	92	31	26 75	152	358	997	0 43	781
	1,414	9	573	9	0	0	0	0	0	0	0	823	0	0	0	0	0	0	0
MUTRITIONAL DESICIENCY 47	47	=	R	1	0	0	•	,	0	0	,	10	0	0	0	0	*	7	10
MALIGNANT NEOPLASANS	20,171	10,369	9,802	38	140	331	757	2,524	2,762	2,565	1,235	25	109	221	930	2,628	2,081	2,255	1,524
BENIGN NEOFLASMS	1,054	115	205	M	12	83	49	1114	138	101	35	16	2	12	19	315	101	110	8
DIABILITYS	2,634	1,241	1,392	0	0	24	76	157	393	240	153	0	0	21	3	320	322	377	288
ENDOCRINE, NUTNITIONAL, BLOOD AND INMUNE DISORDERS	1,255	787		п	22	2	193	151	œ	2	2	22	15	2	8	101	23	ĸ	128
MENTAL AND BEHAVIOURAL DISORDER	47	R	6	0	0	9	12	11	7	0	0	0	0	7	4	4	0	0	0
NEUROLOGICAL CONDITIONS	166	35	423	R	22	8	n	127	z	22	×	23	22	23	83	23	16	19	19
SENSE ORGANS DISEASES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARDIDVASCULAR AND CIRCULATORY DISEASES	44,420	25,459	18,960	89	19	403	1,806	6,300	6,248	905'9	4,087	23	R	150	SII	2,339	3,540	6,562	5,738
RESPIRATORY DISEASES	160'6	\$,613	3,478	38	Ħ	311	242	9	11111	1,890	1,499	38		75	147	361	203	1,049	1,274
DIGESTIVE DISEASES	6,197	3,776	1,421	13	13	×	338	828	836	285	583	22	n	33	3	333	405	732	822
GENITO URBNARY DISEASE	105'5	1,671	2,829	13	13	2	158	603	691	613	490	9	7	85	105	473	279	832	704
SKIN DISEASES	2	92	29	*	0	2	0	2	1	s	00	0	7	7	*	22	30	12	10
MUSCULORELETAL DISEASES	753	329	424	1	. 74	22	34	100	8	33	36	0	11	8	92	93	95	37	41
CONGENITAL ANOMALIES	1,361	733	628	574	2	8	n	=	п	•	0	495	31	37	8	2	w	9	un.
ORAL CONDITIONS	20	100	11	0	0	0	2	2	w	0	0	0	0		0	0	sn.	4	0
UNINTENTIONAL DISEASES	960'8	6,627	1,469	158	305	2,621	1,317	1741	250	909	1115	86	143	391	238	285	14	126	49
INTENTIONAL INUNES	225	438	134	•	4	131	143	8	89	=		*	-	35	8	24	25	34	4

Deaths by cause, age and sex, Malaysia 2008

A Ministration contours. A Ministration con	THE RESIDENCE OF THE PARTY OF T	TOTAL	MALES	FEMALES	MAUES 0-4	5-14	15.29	30-44	65-59	69-09	20-79	*0*	FEMALES 0-4	5.14	15-29	30-44	45-59	69-09	70-79	å
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1540 1471 159 159 159 159 159 159 159 159 159 15	c. Gonorrhoea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179 189	3. HIV	1,580	1,421	159	w	10	156	911	291	33	11	0	*	11	21	69	2	10	9	v
8. S.	4. Diamhoeal Diseases	379	185	193	32	m	13	22	34	22	119	9	33	9	14	11	36	19	37	41
1	5. UP-Cluster																			
12	a. Dightheria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	b. Pertussis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Second Color Seco	c. Tetanus	12	10	9	0	0	0	0	0	0	w	0	0	0	0	2	2	2	0	0
1	d. Polio	0	0	0	0	0	0	0	0	0	o	0	0	0	0	0	0	0	0	0
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12. 15. 15. 15. 15. 15. 15. 15. 15. 15. 15	b. Hepatitis B	266	178	22	0	0	2	30	63	3	13	10	2	0	0	5	22	34	13	s
84 11,104 5,522 5,512 104 12 104 14 14 14 14 14 14 14 14 14 14 14 14 14	c. Other Nepathfis	92	74	18	0	0	2	22	32	11	00	0	0	0	0	0	9	6	(F)	0
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one 4,762 2,816 1,947 1,19 40 155 347 609 548 571 375 97 11 98 152 347 601 one 0	10. Other infections diseases	11,104	5,592	5,512	26	16	500	480	792	879	1,501	1,678	29	30	104	156	409	624	1,579	2,582
circle one 4,782 2,816 1,947 1,19 49 155 347 600 548 573 395 92 31 98 132 338 397 431 circle or 6 0	B. RESPIRATORY INFECTIONS																			
State of the control	1. Lower respiratory infections	4,762	2,816	1,947	139	45	155	347	600	548	573	395	92	31	28	152	358	397	431	387
the sequences of the control of the	Upper respiratory infections	80	100	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
the programmery	3. Otitis media	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fig. 1	C. MATERNAL CONDITIONS																			
Seesey	1. Maternal Haemorrhage	47	0	47	0	0	0	0	0	0	0	0	0	0	10	25	12	0	0	0
And Presponding Land Control of the	2. Maternal sepsis	14	0	14	0	0	0	0	0	0	0	0	0	0	4	0	10	0	0	0
total data of the control of the con	3. Hypertensive disorders of pregnancy	45	0	45	0	0	0	0	0	0	0	0	0	0	7	12	36	0	0	0
the control of the co	4. Obstructed labour	21	0	22	0	0	0	0	0	0	0	0	0	0	0	*	15	0	0	0
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tal. 224 144 300 114 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6. Other maternal conditions	61	0	19	0	0	0	0	0	0	0	0	0	0	17	22	23	0	0	0
773 477 256 477 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D. NEOMATAL CONDITIONS																			
224 114 120 1114 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1. Low birth weight	773	477	295	477	0	0	0	0	0	0	0	295	0	0	0	0	0	0	0
232 336 96 336 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2. Birth trauma & asphysia	214	114	300	114	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
195 113 R2 113 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3. Neonatal infections	232	136	æ	136	0	0	0	0	0	0	0	96	0	0	0	0	0	0	0
Hone 34 7 27 6 0 0 2 0 0 0 0 10 0 0 0 0 0 0 0 0 0 0 0	4. Other neonatal	195	113	82	111	0	0	0	0	0	0	0	82	0	0	0	0	0	0	0
bon 34 7 27 6 0 0 2 0 0 0 0 10 0 0 0 0 0 0 0 0 0 0 0	E. NUTRITIONAL DEFICIENCY																			
	1. Protein-energy mainufcition	25	1	27	10	0	0	3	0	0	0	0	10	0	0	0	0	0	7	30
11 9 2 1 0 0 0 4 0 0 4 0 0 0 0 0 2 0	2. Nutritional anaemia	*	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
	3. Other nutritional disorders	п	•	7		0	0	0	4	0	0	4	0	0	0	0	0	7	0	0

APPENDIX 1 (continue)

				Deaths by cause, age and sex, Malaysia 2008	by cat	ise, age	and s	ex, Mal	aysia 2	800									
	TOTAL	MALES	FEMALES	MALES 0-4	5.14	15.29	9044	45.59	69-09	20.73	9	FEMALES 0-4	214	15-28	20-44	45-59	89-93	20.00	2
F. MEDILASMS																			
1. Mouth & oropharytix cancer	1,156	810	346	0	0	32	122	303	211	128	17	0	0	15	45	105	89	88	25
2. Oetophagus cancer	381	222	154	0	0	0	1	23	69	88	32	0	0	0	*	22	32	40	55
3. Stemach cancer	1,078	574	\$08	0	0	-	33	100	147	184	100	0	0	10	90	R	101	160	111
4. Colon and rectum cancers	2,366	1,206	1,160	0	0	10	66	289	329	280	205	0	2	138	47	217	200	355	321
5. Uver cancers	1,746	1,227	520	2	0	**	16	385	386	20	100	3	0	10	15	92	Z	177	133
6. Pancreas cancer	177	435	337	0	0	0	74	93	139	1118	19	0	0	*	15	23	83	119	19
7. Trachea, brenchus and lung cancers	4,323	2,816	1,507	0	0	=	106	199	782	888	362	0	0	17	2	314	375	437	294
8. Breast cancer	2,086		2,077	0	0	0	0	2	w	1	0	0	0	118	397	852	448	252	111
9. Cervix cancer	487	0	487	0	0	0	0	0	0	0	0	0	0	0	S	182	106	36	17
10. Ovary cancer	552	0	552	0	0	0	0	0	0	0	0	0	0	=	53	222	134	88	44
11. Prostate cancer	399	339	0	0	0	0	0	32	98	167	105	0	0	0	0	0	0	0	0
12. Bladder cancer	269	227	42	0	0	2	10	8	×	25	a	0	0	0	0	100	12	30	11
13. Brain & other CNS cancer	345	217	128	w	23	52	22	72	35	17	13	15	2		12	31	33	7	0
14. Lymphoma	1,040	621	420		=	35	13	143	174	119	19	2	*	32	27	89	110	118	61
15. teukaemia	1,101	865	100	32	61	110	82	108	103	26	M	22	3	15	7.6	308	47	97	42
16. Other malignant neoplains	2,068	1,005	1,063	14	38	25	107	245	230	192	18	14	20	200	74	252	216	241	177
G. BENISH NEOPLASM																			
Benign neoplasms	1,064	531	532	M	21	65	43	114	138	101	13	16	2	23	45	315	307	130	3
H. DMBITTES MELLITUS																			
Diabetes Melitus	2,634	1,241	1,392	0	0	34	32	357	393	240	153	0	0	21	3	320	322	377	288
L. ENDOCRINE, NUTRITIONAL, BLOOD AND IMMUNE DISCRIDERS																			
Endocrine, nutritional, blood and immune disorders	1,255	767	488	21	23	88	293	151	29	98	27	11	15	2	23	101	53	75	128
J. MENTAL AND BEHAVIOURAL DISORDER	0	0	0			l	l	ŀ	l	l					ŀ		l		l
1. Unipolar dispressive disorders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Bipolar affective disorder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Schitophemia	1	4	4	0	0	0	0	2	P	0	0	0	0	0	N	PN	0	0	0
4. Alcohol use disorders	12	12	0	0	0	0	2	11	0	0	0	0	0	0	0	0	0	0	0
5. Drug use disorders	14	14	0	0	0	N	10	*	0	0	0	0	0	0	0	0	0	0	0
6. Anxiety disorders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. Other mental and behavioral disorders	7	=	w	0	0	*	2	2	0	0	0	0	0	2	*	**	0	0	0
K, NEUROLOGICAL CONDITIONS																			
1. Altheimer's disease and other dementias	49	13	36	0	0	0	0	1	0	-	4	0	0	0	0	0	2	13	17
2. Parkinson's diseases	111	8	45	0	0	0	3	11	16	24	12	0	0	0	0	111	32	9	35
3. Epilepsy	185	128	57	n	12	22	35	27	4		4	đ	œ.	11	11	13	**	0	0
4. Other neurological conditions	645	361	285	3	16	42	33	8	3	2	12	2	6	12	43	35	72	42	31
1 Glavores																			
3 Cottons					0 0	0 0	9 6	9 6	0 0		0 0	9 6		9 0	0 0	2 0	9 0	9 6	9 0
1 Hearing loss	9 6	9 6	0 0	9 6	9 6	9 6	9 6	9 0	9 0	9 6	0 0	9 6	9 6	0 0	0 0	9 0	0 0	0 0	9 0
4. Other tests person discorder	0 0		0 0	9 6	9 6	9 6	9 6	9 6	9 0	9 6	9 6	9 6	9 6	0 0	9 0	0 0	9 0	9 0	9 0
M. CARDIOVASCULAR AND CIRCULATORY DISEASES	,	,		•											•	9	9	9	9
1. Rheumatic heart disease	238	8	148	0	0	14	14	21	23	71	4	3	7	34	36	25	34	37	11
2. Hypertensive heart disease	243	161	82	0	0	*	36	35	35	23	Si .	0	0	0	~	13	12	28	27
3. hichaemic heart disease	25,503	15,836	9,667	4	4	118	1,131	4,336	3,993	4,000	2,246	15	2	22	203	1,155	1,900	3,579	2,801
4. Cerebrovascular diseases (Stroke)	15,577	7,725	7,852	22	16	164	423	1,552	1,871	2,092	1,600	19	Z	52	177	980	1,456	2,575	2.559
5. Pericarditis, endocarditis and myocarditis	426	283	142	m	20	25	96	88	35	129	*	10	10	30	23	36	24	27	111
6. Other circulatory diseases	2,433	1,364	1,069	15	18	74	126	111	292	359	203	32	17	31	20	141	1111	316	330

APPENDIX 1 (continue)

Deaths by cause, age and sex, Malaysia 2008

N. RESPIBATORY DEGASES 1. Chronic obstructive polinomary divease 2. Adher respiratory diseases 3. Other respiratory diseases 1. Pepter diver diseases 2. Pepter diver diseases 2. Pepter diver diseases 3. Certhosis of the liver 4. Other digenthe diseases 3. Certhosis of the liver 4. Other digenthe diseases 5. Replatific and nephrosis 5. Replatific and nephrosis 5. Single poutate for pper opport 5. Single poutate for pper opport 6. Single poutate for pper opport 6. Single poutate for pper opport 7. Single poutate for pper opport 6. Single poutate for pper opport 7. Single contact of per opport 8. Other orlany diseases 9. Single manual opport 8. Single contact of per opport 8. Single contact of per opport 9. Single contact of p	1,109 4,347	MALES FE	MALES	0.4	5.14	15.33	3044	45-59	69-09	10.79	*08	20	5.14	15-29	30-44	45-59	69-09	25-75	80°
1. Chronic obstructive pulmonary disease 2. Adhering 2. Adhering 2. Adhering 3. Adhering 3. Other registrony diseases 1. Depict when disease 3. Certonics of the liver 4. Other disease 3. Certonics of the liver 4. Other diseases 5. Every purpose protective pretrophy 5. Every protective hypertrophy 5. Serving protective hypertrophy 5. Serving protective hypertrophy 5. Serving protective hypertrophy 5. Serving structure diseases 5. Serving and obsoluteneous diseases 6. MINICALOSSILITAT, DOSEASES 1. MINICALOSSILITAT, DOSEASES 1. MINICALOSSILITAT, DOSEASES 1. Sharmandod arthetis	3,635 1,109 4,347																		ĺ
1. Orbronic obstructive pulmonary diverse 2. Asthmas 2. Asthmas 3. Other registratory diseases 3. Other registratory diseases 4. Other diseases 4. Other diseases 5. Corposition of the liver 4. Other diseases 5. Corposition and neglitrosis 5. Energis protection property pages 5. Energis protection of diseases 5. Son DisEASCES 5. Son DisEASCES 5. Son DisEASCES 5. Son DisEASCES 6. In Manachad diseases 6. Son DisEASCES 7. Other unless diseases 6. Son DisEASCES 7. Son DisEASCES 6. Son DisEASCES 7.	3,635 1,109 4,347																		
2. Adher registrony diseases 3. Other registrony diseases 4. Other dura diseases 5. Carbosis of the liver 4. Other digether diseases 6. Carbosis of the liver 7. Other unlaway costs, or 5. Benjamps provide digether diseases 6. Senio provide digether diseases 5. Seni post, or diseases 6. Seni post, or diseases 6. Senio diseases 6.	4,347	2,732	903	3	+	2	12	166	585	1,099	852	3	0	**	4	19	135	383	354
3. Other registratory diseases A picture registratory diseases 2. Appendiction 2. Appendiction 3. Currinosis of the liver 4. Other digestive diseases 4. Other digestive diseases 5. Generio unitsAdry tostsAde 1. Repistratis hypertrophy 3. Other ortinary diseases 5. Sensing prostatist hypertrophy 3. Sin ond outsides 5. Sin ond outsides 5. Sin outsides 6. Sin outsides 7. Sin outsid	4,347	634	476	10	10	33	101	149	139	125	8	6	9	34	75	137	87	83	46
A Operative Description 1. Appendicate 2. Appendicate 3. Curbonise of the liver 4. Coher digestive diseases 4. Coher digestive diseases 5. Energy protective hypertrophy 2. Benigy protective hypertrophy 2. Senigy protective hypertrophy 3. Son backets 5. Son Backets 5. Son Backets 1. Mercoulosmuthat, Description 1. Mercoulosmuthat, Description 1. Mercoulosmuthat, Description 2. Son backets 3. Son backets 4. Sharped artherits 4. Sharped artherits 5. Son backets 6. Son backets 7. Son backets 8. Son backets 8. Son backets 9. Son back		2,248	2,099	82	24	8	129	290	377	959	587	15	*	39	99	302	285	583	873
Lyeptedicitis Conhools of the liver Conhools of the liver Conhools of the liver Control of the liver Control of the liver Control of the liver Neghviris and nephrosis Leving provides layertrophy Cohen to uthank or of the liver Sith and on object received in the liver Sith and onfortuneous diseases Sith and sold-outereous diseases MINICALOSKULTAL GOSEASIS RANCOLOSKULTAL GOSEASIS																			
2. Appendicities 3. Culturalises of the liver 4. Coher digestree diseases GRATIO URINARY DOSCASE 1. Replaceforms and respirously 2. Benign proutatic hypertrophy 3. Other ordinary diseases 5. SWI BUSQUESS 5. SWI BUSQUESS 1. SHY MUSCALOSEILLTAL DOSCASES 1. MUSCALOSEILLTAL DOSCASES 2. SAN DOSCALOSEILLTAL DOSCASES 2. SAN DOSCALOSEILLTAL DOSCASES 2. SAN	717	425	292	2	2	13	35	80	89	137	88	3	2	N	5	17	3	87	113
3. Corrisols of the liver 4. Culture digestive diseases (a. Culture digestive diseases (a. Cearro UnituAey Diseases 2. Enright paroutach pretrophy 3. Enright paroutach diseases 3. Soft with diseases 3. Soft and diseases 3. Soft and diseases 3. Soft and diseases 1. Shreamatold arthetis	43	90	22	0	10	0		2	0	15	*	0	2	N	N	19	ru	4	un
4. Other digestive diseases 4. Cather digestive diseases 5. Cathor UnimAry totals. 5. Reinige province hypertrophy 1. Other unimary diseases 5. Sinn Diseases 5. Sinn big Add. 7. Sin and diseases 6. Musicul Osmular Land	843	619	224	-	-	40	89	253	156	38	16	2	24	7	1	88	K	3	30
1. ORDERTO UNINARIY DOSASE. 1. Nephrothis and nephrosis. 2. Elenga protestic hypertrophy 3. Other orderary diseases. 5. SMN DOSASES. 5. SMN DOSASES. 7. MUSCULOSEULITAL DOSASES. 1. MANACALOSEULITAL DOSASES. 1. MANACALOSEULITAL DOSASES. 2. SMN DOSASES. 3. SMN DOSASES. 3. SMN DOSASES. 4. SMN DOSASES. 5. SMN DOSASES.	4.594	2,711	1,883	90	12	36	210	\$65	612	744	474	21	6	28	46	251	265	860	694
1. Nephritis and nephrosis 2. Beinging pursuate hypertrophy 1. Other unlaw feet presents 5.000 DESAGES 5.000 DESAGES 5.000 DESAGES 1. Bhrannold arthritis 1. Bhrannold arthritis 2. and once 2. and once 3. and o																			
Benign prostatic hypertrophy Carlo Discuss San Discuss San Discuss San Discuss San and subcutaneous diseases MUSCULOSITUTAL DISCUSS San and subcutaneous diseases Autocutositutal Discuss	3,810	2,020	1,790	1	16	41	128	512	\$11	452	154	10	*	35	73	332	390	514	437
3. Other urleany diseases 5.50M 10824555 5.50M 10824555 5.50I and other transcriptory 5.50I and other transcriptory 6.50I and other transcriptory 6.50I and other transcriptory 6.50I and other transcriptory 6.50I and other	16	16	0	0	0	0		0	8	0		0	0	0	0	0	0	0	0
Skin DisEASES Skin and subcutaneous diseases MUSCULOSKILITAL DISEASES 1. Minumated arthretis	1.675	98.9	1.039	7	2	2	27	97	176	197	129	0	4	23	32	141	254	319	267
Skin and subcutaneous diseases MUSCULOSITUTAL DESIGNS 1. Bineumolia arthelis 2. Contraction of the subcutation of the subcutati																			
MUSCULOSITUTAL DISTASS 1. Meumatoid arthetts 2. sections 3. sections 4. sections 5. sections 6. sections 6. sections 7. sections 7. sections 8. section	88	300	62	2	0	2	0	2	7	*	**	0	2	4	2	115	20	12	
1. Rheumatold arthritis				- govern	2	-		-											
7 Backania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4. Den't plent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Gout	*	*	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
4. Other musculoskeletal disorders	749	325	424	**	N	52	34	86	88	37	36	0	111	26	92	93	95	37	41
S, CONGENITAL ANOMALIES																			
1. Neural tube defects	1112	3	27	2	0	0	0	0	0	0	0	27	0	0	0	0	0	0	0
2. Congenital heart anomalies	574	306	369	177	31	51	24	14	6	0	0	159	22	33	22	15	un	-	W
3. Cleft palate & lip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4. Down's syndrome	47	2	27	13	r	*	0	rv	0	0	0	22	*	N	4	0	0	0	0
5. Other chromosomal abnormalities.	188	96	S	92	2	0	0	0	0	0	0	55	0	0	0	0	0	0	0
6. Other congenital anomalies	439	249	190	227	10	10	2	2	2	0	0	175	9	~	0	4	0	47	0
T. ORAL CONDITIONS																			
1. Dental carles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Periodontitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Edenbulism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4. Other oral diseases	92		12	0	0	0	~	2	s	0	0	0	0		0	0	*	4	a
U. UNINTENTIONAL DISEASES																			
1. Road traffic injuries	5,835	4,895	940	99	340	2,235	897	798	390	307	82	17	81	331	154	192	26	20	11
2. Poisonings	88	15	35		0	10	24	16	9	3	2	24	0	Ø1	6	7	VO.	1	1
3, Falls	412	322	90	10	en	23	72	77	47	22	23	4	15	11	23	19	w	17	-
4. Fires, heat and hot substances	75	51	24	3	4	1	12	Øi.	2	100	7	0	15	=	*	7	m	4	9
S. Drowning	692	525	136	43	134	151	171	70	77	17	45	10	41	19	11	23	0	11	7
6. Other unintentional injuries	583	733	244	R	13	142	130	177	91	42	18	×	12	30	318	42	36	43	17
V. INTENTIONAL INJURIES																			
1. Self-inflicted injuries	167	145	22	0	0	69	25	22	80	7	2	0	2	*	9	9		*	0
2. Interpersonal violence /homicide	405	293	1111	4	4	82	88	23	40	0	1	4	2	31	30	18	11	32	*

APPENDIX 2

YEARS OF LIFE LOST (YLL) by cause, age and sex, Malaysia 2008

Particular Par			YEAR	YEARS OF LIFE LOST (YLL) by cause, age and sex, Malaysia 2008	OSI (YLL)	by ca	JSe, aç	e and	sex, N	alaysia	2008									
1,11, 1,11, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,		TOTAL	MALES		WALES 0-4	N.S	15-28	3044	45.59	99	20.73	•09	TEMAUES 0-4	24	15-29	3044	45.59	999	70.79	8
14 15 15 15 15 15 15 15	OVERALL	1,512,907	918,110		64,460	23,832	125,147	167,687	254,505	164,444	100,001	17,003	50,524	16,184	43,605	906'69	147,674	115,205	106,874	44,83
14.0 19.4	III anoes II anoes I anoes	235,605 1,034,230 182,962	182,066 587,003 149,038		32,543 27,181 4,736	11,291 8,730	19,310 887,88 790,57	50,043 84,786 32,868	37,707 195,751 71,047	19,866 137,880 6,678	15,113	3,676 13,099 228	24,175 23,462 2,887	1,480 8,530 4,225	21,433	15,079 48,422 6,405	18,929 121,079 5,666	15,289 97,918 1,999	16,082 89,737 1,055	34,646
14.15 1.2 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5	INFECTIOUS DISEASES	186,818	119,396		3,684	2,423	15,314	42,269	27,381	73,837	11,455	3,032	4,047	2,528	7,031	9,885	12,150	10,330	12,783	8,738
14, 144 1, 4559 1, 1244 1, 1459 1, 1454 1, 1459 1, 1454 1, 1459 1, 1454 1, 1459 1, 1454 1, 1459 1, 1454 1, 1459 1, 1454 1, 1459 1, 1454 1, 1459 1, 1454 1, 1459 1, 1454 1, 145	RESPIRATORY INFECTIONS	63,441	37,743		4,064	1,388	3,996	7,704	10,268	800'9	3,658	637	2,747	905	2,627	3,559	6,423	4,929	3,256	1,255
14.64 14.59 17.28 17.28 14.29	MATERIAL CONDITIONS	3,019			0	0	0	0	0	0	0	0	0	0	979	1,685	355	0	0	
1451 114 115 115 115 115 115 115 115 115	NEGNATAL CONDITIONS	41,684	24,596		24,596	0	0	0	0	0	0	0	17,088	0	0	0	0	0	0	
340.0 135.6 <th< td=""><td>NUTRITIONAL DESIGNORY</td><td>233</td><td>133</td><td></td><td>139</td><td>0</td><td>0</td><td>2</td><td>38</td><td>0</td><td>0</td><td>8</td><td>293</td><td>0</td><td>0</td><td>0</td><td>0</td><td>30</td><td>43</td><td></td></th<>	NUTRITIONAL DESIGNORY	233	133		139	0	0	2	38	0	0	8	293	0	0	0	0	30	43	
34.04 71.56 41.56 41.64 1.464 1.467 1.461 <th< td=""><td>MALIGNANT NEOPUSMS</td><td>249,249</td><td>121,583</td><td></td><td>1,635</td><td>3,955</td><td>8,642</td><td>16,558</td><td>41,639</td><td>30,855</td><td>16,287</td><td>1,971</td><td>1,560</td><td>3,167</td><td>\$,936</td><td>21,391</td><td>47,503</td><td>26,238</td><td>16,932</td><td>4,935</td></th<>	MALIGNANT NEOPUSMS	249,249	121,583		1,635	3,955	8,642	16,558	41,639	30,855	16,287	1,971	1,560	3,167	\$,936	21,391	47,503	26,238	16,932	4,935
3.00 14,219 15,220 6,10 1,100 6,10 1,20 6,10 6,10 6,10 6,10 6,10 6,10 6,10 6,10 6,10 6,10 1,100 6,10 7 </td <td>Section of the second</td> <td></td> <td>7,716</td> <td></td> <td>423</td> <td>573</td> <td>1,548</td> <td>1,082</td> <td>1,874</td> <td>1,492</td> <td>699</td> <td>×</td> <td>474</td> <td>289</td> <td>119</td> <td>1,056</td> <td>2,078</td> <td>1,368</td> <td>824</td> <td>306</td>	Section of the second		7,716		423	573	1,548	1,082	1,874	1,492	699	×	474	289	119	1,056	2,078	1,368	824	306
Mathematic Disposers Authorized Disposers	DIABETES MELLITUS	29,822	14,239		0	0	119	1,657	\$,806	4,399	1,524	244	0	0	384	1,465	5,776	4,051	2,795	932
3.4 746 156 167 26 6 6 6 6 6 6 6 6 6 6 6 77 66 77 66 77 66 77 66 77 66 77 66 77 66 77 66 77 66 77 67 78	ENDOCRINE, NUTRITIONAL, BLOOD AND IMMUNE DISORDERS		14,000		829	657	2,273	609'9	2,562	878	519	11	241	429	1,194	1,263	1,027	23	185	436
14-71 14-71	MENTAL AND BEHAVIOURAL DISORDER	196	746		0	0	152	261	306	36	0	0	0	0	\$	11	69	0	0	
0086465	NITUROLOGICAL CONDITIONS	16,711	9,914		2,033	787	1,812	1,617	2,135	206	262	15	1,579	538	909	1,253	934	1,164	446	216
0000A015 446,109 17,188 1,488	SENSE ORGANS DISEASES	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
64,54 64,24 62,25 22,69 866 631 1,042 7,412 15,472 9,248 6,140 930 770 64,124 7,14 1,14 1,14 1,14 1,14 1,14 1,14 1,1	CARDIDVASCULAR AND CRICULATORY DISEASES	446,109	274,225		1,408	1,732	10,369	39,456	104,139	69,255	41,342	6,524	1,943	1,605	4,011	11,727	41,695	43,843	48,463	18,597
64,844 64,245 72,645 72,645 84,64 74,12 15,47 74,12 15,47 74,12 15,47 74,12 15,47 74,12 15,47 74,12 15,41 74,12 15,41 74,12 15,41 74,12 15,41 74,12 15,41 74,12 15,41 74,12 15,41 74,12 15,41 74,12 74,14 74	RESPIRATIONY DISEASES	80,747	48,70		2,791	1,062	3,501	5,329	9,862	12,018	11,748	2,393	1,666	269	2,015	3,443	6,521	6,322	2,678	4,123
57,301 77,958 71,304<	DIGESTIVE DISEASES	64,954	42,295		856	159	1,404	7,412	15,472	9,258	6,160	930	577	428	1,052	1,399	5,943	150'5	5,358	2,566
1,210 273 936 718 936 71 0 72 1,611 1,011 258 58 13 0 53 147 42 270 265 102 102 103 13,488 5.58 13 14,799	GENTO URMARY DISTASE	57,301	17,958		354	491	1,108	3,454	9,946	7,659	4,124	783	190	215	1,555	2,437	8,363	8,105	6,196	2,281
33,448 4,566 7,887 35 53 751 1,641 1,013 258 58 60 1,641 1,013 258 58 60 1,641 1,013 258 58 164 1,013 258 60 14,739 915 1,079 915 1,079 915 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079 916 1,079<	SKIN DISEASES	1,210			и	0	25	0	22	11	25	11	0	23	187	45	270	265	102	17
38,682 20,686 13,086 14,734 1,415 1,585 559 104 0 0 14,739 0 0 91 10 0 91 10 91 10 92 47 231 131,300 140,008 31,132 4,605 8,631 18,518 6,442 2,530 215 2,782 4,135 10,583 5,522 5,213 1,425 944 11,722 8,970 2,732 8,737 1,511 556 74 13 105 89 953 854 453 13 10	MUSCULOSKILITAL DISEASES	32,448	4,568		35	53	757	751	1,641	1,013	258	85	0	330	2,534	2,179	1,688	733	757	133
231 119 177 0 0 0 41 31 45 0 0 0 0 0 9 54 23 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	CONGENITAL ANOMALIES	38,482	8		16,794	1,315	1,555	553	309	124	0	0	14,739	915	1,005	969	350	25	47	
171,260 140,068 31,192 4,605 8,631 68,678 29,631 19,516 6,142 2,610 215 2,782 4,135 10,583 5,252 5,213 1,825 944 11,722 8,970 2,732 131 99 3,369 3,217 1,511 556 74 13 105 89 953 854 453 173 110	DRAL CONDITIONS	291	118		0	0	0	41	33	\$	0	0	0	0	8	0	0	33	22	
11,722 8,970 2,752 131 99 3,368 3,217 1,511 556 74 13 105 89 953 854 453 173		171,360	140		4,605	8,631	68,678	159'62	19,536	6,142	2,630	215	2,782	4,135	10,583	5,552	\$,213	1,025	944	
	INTENTIONAL INCURES	11,722	8,970		111	66	3,369	3,217	1,511	955	74	13	105	89	953	854	453	173	110	

APPENDIX 2 (continue)

YEARS OF LIFE LOST (YLL) by cause, age and sex, Malaysia 2008

	PURSON	MALES TE	FEMALES	MALES 0-4	5.14	15.23	30-44	45-59	69 09	70-79	+08	HWALES 04	5-34	15-29	30-44	45-59	69-09	20-79	80
A. INFECTIOUS DISEASES																			
1. Tuberculosis	23,449	16,806	6,642	109	2	1,831	5,980	4,937	2,044	1,628	225	0	215	1,115	1,859	1,810	1,129	358	11
2. STDs Excluding HIV																			
a. Syphilis	61	0	61	0		0	0	0	0	0	0	32	0	0	0	0	0	36	4
b. Ohlamydia	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	4
c Gonorrhoea		0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	9
A FIG.	33.926	30.457	3.469	144		3.928	20,482	5.116	430	71	0	122	322	554	1,656	635	112	51	1
A Distributed Districts	6 603	2,856	3 067	613	10	348	472	577	245	124	3	1.166	160	378	245	468	228	290	13.
C (DLC)soles	Practice .	200	and's			ŧ													
- Pickelback	•	•	•	0		0		0	0	0	0	0	0	0	0	0	0	0	3
a. upmmena			0 0					9 6			0 0								-
B. Pertusss		9 1		9 1		9 1		9 (,	9 0			9 0	9	,	,	0 0	-
c. Tetanus	130	58	101	0		0		0	0	28	0	0	0	0	199	8	48	0	
d. Polio	0	0	0	0		0		0	0	G	o	0	0	0	0	0	0	0	-
e. Measles	157	\$4	103	35		0		0	0	0	0	103	0	0	0	0	0	0	-
6. Meningitis & Encephalitis	17,184	10,094	7,090	1,350	1,281	2,462	2,866	1,561	347	181	45	1,427	808	1,488	1,764	946	377	218	67
7. Hepaditis																			
a. Hepatitis A.	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	-
b. Hepatitis B	3,713	2,540	1,173	0		44	623	1,052	682	91	13	51	0	0	115	405	436	141	I
c. Other Hepathis	1,516	1,276	240	0		4	484	295	128	53	0	0	0	0	0	88	116	25	3
8. Malaria	449	392	95	0		4	152	82	79	28	0	0	0	0	0	33	0	22	3
9. Dengue	4,923	2,563	2,361	35		1,158	530	391	124	II.	9	280	162	701	583	470	#	51	-
10. Other infections diseases	95,387	\$2,330	43,057	1,058	464	5,454	10,644	13,097	9,759	9,174	2,679	862	865	2,795	3,594	7,251	7,761	11,560	8,16
B. RESPIRATORY INFECTIONS																			
1. Lower respiratory infections	63,386	37,688	25,698	4,064	1,3	3,996		10,268	5,979	3,658	631	2,747	2005	2,627	3,559	6,423	4,929	3,256	175
 Upper respiratory infections 	55	55	0	0		0	0	0	49	0	ø	0	0	0	0	0	0	0	
3. Otitis media	0	0	0	0		0		0	0	0	0	0	0	0	0	0	0	0	
C. MATERNAL CONDITIONS																			
1. Maternal Haemorrhage	116	0	941	0		0	0	0	0	0	0	0	0	111	594	69	0	0	
2. Maternal sepsis	134	0	134	0		0	0	0	0	0	0	0	0	101	0	33	0	0	
3. Hypertensive disorders of pregnancy	286	0	995	0		0	0	0	0	0	0	0	0	194	280	83	0	0	-
4. Obstructed labour	175	0	175	0		0	0	0	0	0	0	0	0	0	125	S	0	0	
S. Abortion	362	0	262	0		0	0	0	0	0	0	0	0	88	173	0	0	0	-
6. Other maternal conditions	942	0	942	0		0	0	0	0	0	0	0	0	120	503	113	0	0	9
D. NEONATAL CONDITIONS																			
1. Low birth weight	22,772	13,975	8,797	13,975	0	a	0	0	0	0	0	8,797	0	0	0	0	0	0	_
2. Birth trauma & asphyxia	6,322	3,346	2,976	3,346	0	0	0	0	0	0	0	2,976	0	0	0	0	0	0	-
3. Neonatal infections	6,843	3,969	2,873	3,969	0	0	0	0	0	0	0	2,873	0	0	0	0	0	0	
4. Other reconstal	5,748	3,305	2,442	3,305	0	0	0	0	0	0	0	2,442	0	0	0	0	0	0	_
E. NUTRITIONAL DEFICIENCY																			
1. Protein-energy mainutrition	895	199	369	163	0	0	35	0	0	0	0	293	0	0	0	0	0	43	
2. Nutritional anaemia	32	32	•	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	
		1			1	1	200			,									

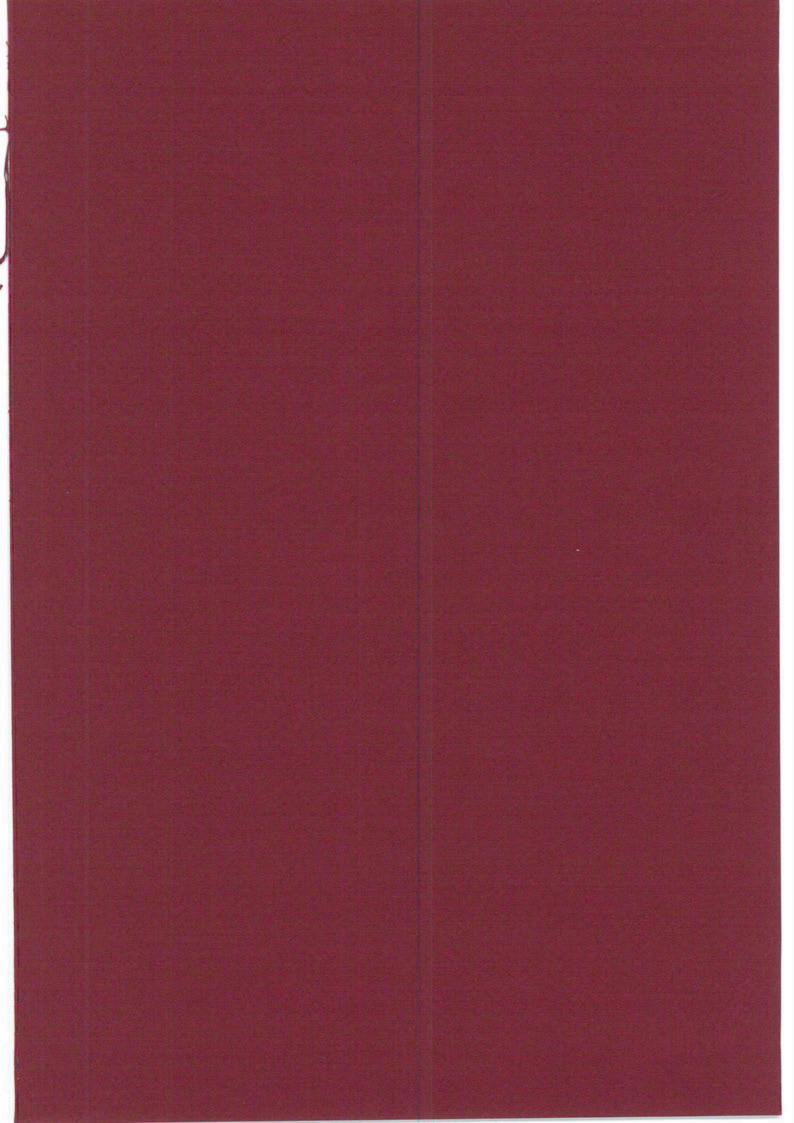
APPENDIX 2 (continue)

YEARS OF LIFE LOST (YLL) by cause, age and sex, Malaysia 2008

	TOTAL			MALES					STATE OF THE PERSON	N. S.	SPANISHED STATES	FEMALES	DESCRIPTION	Charles	DESCRIPTION	2000000	Total Control	Distriction	100000
	PERSON	MALES	FEMALES	1	5-14	15-29	30-44	45-59	69-09	70-79	*08	2	5-14	15-29	30-44	45-59	69-09	70-79	+08
F. NEDPLASMS																			
1. Mouth & propharynx cancer	16,494	11,676	4.818	0	0	734	2,661	5.064	2.378	808	238	0	0	AUK	1000	1 000	650	434	200
2. Oesophagus cancer	3,655	2,282	1,373	0	0	0	160	830	75.6	392	3	0	0 0	0	98	400	414	100	280
3. Stomach cancer	10,876	5,515	5,362	0	0	306	731	1,644	1.593	1.181	160	0	0	146	100	1.741	8 370	1166	950
4. Colon and rectum cancers	24,444	12,681	11,763	0	0	243	2,028	4,708	3.676	1.698	327	0	- 65	474	1 100	3.968	2.470	2,657	1043
5. Uver cancers	19,836	14,695	5,140	×	0	208	1,971	6,274	4.373	1,653	160	101	0	141	341	1.618	1178	1 128	4111
6. Pancreas cancer	7,973	4,445	3,528	0	0	0	\$25	1,496	1,552	774	30	0	0	17	347	1.018	1.048	870	108
7. Trachea, bronchus and lung cancers	45,379	28,640	16,739	0	0	333	2,286	11,068	8,763	5,612	\$78	0	0	437	1.594	5.644	4.771	3 341	00
8. Breast cancer	33,139	109	33,029	0	0	0	0	33	33	20	0	0	0	469	9.061	15 522	5,693	1.976	200
9. Cervix cancer	6,853	0	6,853	0	0	0	0	0	0	0	0	0	0	0	1 268	2 343	1 8 8 4	3116	144
10. Ovary cancer	8,122	0	8,122	0	0	0	0	0	0	0	0			101	1 212	4034	1 230	300	:
11. Problete cancer	2,770	2,770	0	0	0	0	0	205	1.076	1.025	291					-	July D	9	
12. Bladder cancer	2,262	1,839	423	0	0	46	176	475	109	203	18		. 0		0	147	160		2
13. Brain & other CNS cancer	6329	3,810	2,519	348	059	768	495	1,236	101	1111	31	251	600	341	403	5	***	: :	
14. Lymphoma	13.461	8.214	5.246	92	\$15	1.033	1 368	2 433	1 947	360	3	**	100		622	745		200	
15. Leukaemia	19,748	10,834	8,915	930	1,720	2.871	1.823	1,794	1.157	493	42	829	1 5558	1 277	1 300	1 000	4,585	212	977
16. Other malignant reoplasms	27,910	14,074	13,836	409	1,070	2,199	2,361	4,062	2,580	1,239	153	422	859	1,054	1711	4.496	2.913	1.805	1 5
G. BENICH NEOPLASM																			
Benign neoplasms H. DIAMETES MELITIUS	15,041	7,716	7,325	423	823	1,548	1,062	1,874	1,492	699	25	474	589	189	1,056	2,078	1,368	824	305
Diabetes Melitus	26822	14 219	15 583	•		24.0		****	4 100	****	****								
I. ENDOCRINE, NUTRITIONAL, BLOOD AND IMMUNE DISCRIDERS	-	-	-			****	1,007	3,000	4.330	1,344	545	0	0	200	1,465	5,776	4,051	2,735	932
Endocrine, nutritional, blood and immune disorders	20.924	14.009	6.915	628	657	2 279	6.609	3 563	81.9	610		172	430	* ***	. 163		****		200
J. MENTAL AND BEHAVIOURAL DISORDER	0	0	0		1		-	-				144	-	4,134	1,403	1787	5	787	410
1. Unicolar dispressive disorders	0	0	0	0	0		0	c	0	9									
2. Bisolar affective disorder	0	0	0					0 0		0 0	9 0	9 0	0 0		9 1	0 1	0 1	0	0
3. Schkrophernia	110	S	77	0	0 0			2 2	9 90	9 6	9 0	0 0	0 0	9 6	0 9	0 9	0 (0	0
4. Alrehol use Gronders	333	333			9 0		, ,		9 6	0	9 0	0 (0 0	0	2	2	0	0	0
6. Drue use disorders	301	101	9 0	9 0	9 0		2 5	187	9 (9 (0 (0	0	0	0	0	0	0	0
6. Anniate disorders	0	127	9 6	9 0	9 0	1 '	189	8 9	0 0	0 (9 (0	0	0	0	0	0	0	0
T. Other manuful and habenhood discorders	2		9 :	0 0	0 0	0 1	0 ;	0	0	0	0	0	0	0	0	0	0	0	0
K. MELBOLOGICAL CONDITIONS	552	172	122	0	0	108	37	28	0	0	0	0	0	43	39	35	0	0	0
1. Altheimer's disease and other dementias	319	113	187	0				100		*									
2. Parkingen's diseases	1,035	009	475	0	0 0	9 6	, g	180	166	10	0 9	9 0	0 0	0 6	0 0	0 9	9 5	8 9	3
3. Epilepsy	4,207	2.830	1377	449	339	211	808	100	40	110	. "	***		1	200	230	747	,	2 "
4. Other neurological conditions	11.150	6.352	4.798	1.584	458	1,000	737	1 296	689	19	. 2	1 2003	200	707	200	963	000	0 1	0
L. SENSE ORGANS DISEASES				-				-	***	-		4,502	687	374	200	Ŕ	388	908	100
1. Glaucima	0	0	0	0	0	0	0	0	0	0	0	0	0	0		6	¢	•	
2. Cataract	0	0	0	0	0	0	0	0	0					0 0			9 6	9 6	
3. Hearing loss	0	0	0	0	0	0	0	0	0	. 0	. 6	0 0	9 6	0 0	9 0	9 6	9 6	0 0	9 6
4. Other sense organ disorder	0	0	0	0	0	0	0	0			0 0		9 6	9 0	9 0	9 (9 0	0 (9 1
M. CARDIDVASCULAR AND CIRCULATORY DISEASES				Contract of the		,											0	0	0
1. Wheumatic heart disease	3,860	1,356	2,503	0	0	356	307		356	28		101	214	308	200	463	181	308	**
2. Hypertensive heart disease	2,639	1,930	709	0	0	93	348		182	138	18						107	0.00	
3. Ischaemic heart disease	258,232	173,040	85,192	106	306	3.015	24.602		44.267	25.618	1,586	100		680	4 605	30 555	33 646	76.610	2000
4. Cerebrovascular diseases (Stroke)	145,694	76,123	69,571	786	451	3,745	9.212	35.571	20.694	11111	2.554	195	600	1 666	4.000	17 446	25,210	10.041	2,007
5. Pericarditis, endocarditis and myocarditis	7,986	5,595	2,391	96	855	1,219	2,185		382	133	,	174	160	540	155	200	3000	100'01	0,420
6. Other circulatory diseases	27,698	16.180	11.519	427	818	1 931	2 803		1 274	2 358	23.6		100	200		2000		200	
	100000		-	-			-		plants.	grant g	200	100	101	838	1,047	5,555	1,003	2,320	1,000

YEARS OF LIFE LOST (YLL) by cause, age and sex, Malaysia 2008

### STATES 17,098 6,239 7,465		TOTAL	MALES PE	FEMALES	MUES 0-4	5.14	15-29	30-44	45-59	60-60	20.78	*08	PEMALES 0-4	5.14	15-29	30-44	65-59	60-00	20.79	808
Column																				
proposed signature (1) 15 15 10 10 10 10 10 10 10 10 10 10 10 10 10	N. RESPIRATORY DESCASES																			
State Stat	1. Chronic obstructive pulmonary disease	23,957	17,698	6,259	96	106	44	250	2,688	6,402	6,758	1,360	87	0	63	173	328	1,669	2,805	1,149
Column C	2. Asthma	16,218	8,753	7,465	305	292	1,014	2,230	2,456	1,540	829	96	261	161	858	1,748	2,531	1,103	616	150
March Marc	3. Other respiratory diseases	40,573	22,253	18,319	2,396	664	2,443	2,859	4,718	4,076	4,161	937	1,318	108	1,071	1,522	3,662	3,551	4,257	2,830
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	O. DIGESTIVE DEEASES																			
Performent (4,775) 244.91 256.9 359 359 359 359 359 359 359 359 359 35	1. Peptic ulcer disease	6,735	4,328	2,408	54	53	334	789	1,317	757	881	141	103	53	4	119	308	780	634	366
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	2. Appendicits	609	303	306	0	159	0	36	22	0	33	9	0	23	S	R	97	28	22	17
4775 1411 1439 1439 179 1439 179 1439 179 1439 179 1439 179 179 179 179 179 179 179 179 179 17	3. Cirrhools of the liver	11,815	8,846	2,969	35	100	144	1,932	4,220	1,751	619	36	51	53	192	173	1,022	961	483	33
Comparison Com	4. Other digestive diseases	45,795	28,819	16,976	879	339	926	4,614	50676	6,7109	4,607	757	616	268	765	1,062	4,536	3,283	4,220	2,248
13 13 13 13 13 13 13 13	P. GENITO URINARY DISEASE																			
biological participation of the control parti	1. Neohribi and neohrosis.	40.915	21.974	18,940	139	445	1,055	2,797	8,376	5,652	2,886	585	190	108	116	1,688	5,852	4,925	3,821	1,415
1,210 2,13 2,45 1,64 2, 1,13 2, 1,	2. Benjen prostatic hypertrophy	128	128	0	0	0	0	20	0	45	0	13	0	0	0	0	0	0	0	0
TACOGRAPHIES (1.20) 2.77 9/6 7/7 9/6 7/7 9/7 9/7 9/7 9/7 9/7 9/7 9/7 9/7 9/7	2. Other unions diseases	16.258	528.5	10.402	156	47	25	587	1.570	1,962	1,238	2005	0	307	614	749	2,512	3,179	2,375	958
13 13 13 13 13 13 13 13	CO CARIN DISCACES																			
1,12,25 1,12,41 1,43,81 1,13,41 1,43,81 1,13,41 1,43,81 1,13,41 1,43,81 1,43	Appropriate to the second discount of	1 310	328	816	3.6	0	63	0	38	22	118	13	0	53	187	42	230	265	102	17
1,2,2,3, 1,2,3,4, 1,2,4, 1,2,3,4, 1,2,4,4, 1,2,3,4, 1,2,3,4, 1,2,3,4, 1,2,3,4, 1,2,3,4, 1,2,3,4, 1,2,3,4, 1,2,3,4, 1,2,3,4,4, 1,2,3,4,4, 1,2,3,4,4, 1,2,3,4,4,4, 1,2,3,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4	sen and subcutaneous diretives a MISCHI OSERFTAI DISCASS	OR PART	***	200							1									
1,2,2,2,3,4,3,4,3,4,3,4,3,4,3,4,3,4,3,4,3	a Sharmond askets	9		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Stat	L. Micumatoro detretos	9 6										0		0	9	0	0	0	0	0
State Stat	2. Back pain	9	9 1	0 0		0 0	0 0	0 0		,		0 0	0 0							
1,1,2,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1	3. Gout	29	23	0	0	0	0	0	11	4	0	0	0	9	0	0	9	-		9
1,112 1,514 1,458 1,514 1,458 1,514 1,519 1,514 1,51	4. Other musculoskeletal disorders	12,389	4,506	7,882	35	23	757	751	1,608	587	258	28	0	320	2,534	2,179	1,688	733	200	133
1,11, 1,11	S. CONGENITAL ANOMALIES											*							39	7
1,5,555 1,5,555 1,5,755 1,5,755 1,5,75 1,5,155 1,5,75 1,5,155 1,5,75 1,5,	1. Neural tube defects	3,312	1,874	1,438	1,874	0	0	0	0	0	0	0	1,438	0	0	0	0	0	0	0
1,230 546 248 2,838 2,701 47 69 60 60 60 60 60 60 60	2. Congenital heart anomalies	15,555	8,273	7,282	5,177	883	1,339	524	251	25	0	0	4,738	949	906	632	281	2	520	17
set 1,329 2,444 765 188 93 52 0 0 0 0 2,435 10 49 0	3. Cleft palate & lip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5,566 2,748 2,818 2,011 47 0 0 0 0 2,418 0 0 0 2,418 0 </td <td>4. Down's sendrome</td> <td>1,329</td> <td>755</td> <td>365</td> <td>388</td> <td>93</td> <td>52</td> <td>0</td> <td>30</td> <td>0</td> <td>0</td> <td>0</td> <td>525</td> <td>107</td> <td>49</td> <td>84</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td>	4. Down's sendrome	1,329	755	365	388	93	52	0	30	0	0	0	525	107	49	84	0	0	0	0
12,720 7,138 5,522 6,653 292 163 35 28 29 0 0 0 0 0 0 0 0 0	5. Other chromosomal abnormalties.	5,566	2,748	2,818	2,701	47	0	0	0	0	0	0	2,818	0	0	0	0	0	0	0
SEASCY 125,106 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6. Other consental anomalies	12,720	7,198	5,522	6,653	292	163	35	28	316	0	0	5,220	161	9	0	S	0	22	0
SEGNACY STATE OF THE PARTY OF T	T. ORAL CONDITIONS																			
Color Colo	1. Dental caries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125,106 194,259 20,467 1,149 1,941 54,615 1,156 4,314 1,197	2. Periodontitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
291 119 172 0 0 41 111 45 0 0 0 41 11 45 0 0 0 0 9 95 72 244 1 11 45 1	3. Edentulism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125,106 104,259 20,847 1,949 1,941 58,635 20,236 13,646 4,324 1,997 13.2 797 2,341 8,951 1,562 1,521 1,194 186 1,959 1,241 7,13 4,44 0 2,69 54.2 13.6 1,21 147 3,4 105 13.4 3,11 8,51 1,194 186 1,407 5,677 5,676 1,673 1,74 1,21 1,21 1,21 1,17 1,17 1,17 1,17 1,17	4. Other oral diseases	291	119	172	0	0	0	41	10	45	0	0	0	0	93	0	0	×	22	0
125,06 104,29 20,847 1,149 1,941 54,186 4,344 1,997 132 777 2,441 8,953 1,450 1,451 1,194 3,868 1,194	U. UNINTENTIONAL DISEASES																			
1,555 1,241 718 44 0 269 542 121 147 14 1 15 1 14 1 15 1 14 1 15 1 14 1 15 1 14 1 15 1 14 1 15 1 14 1 15 1 14 1 15 1 14 1 15 1 14 1 15 1 14 1 15 1 14 1 15 1 14 1 15 1 14 1 14 1 15 1 14 14	1. Road traffic injuries	125,106	104,259	20,847	1,349	3,941	58,635	20,236	13,646	4,324	1,997	132	161	2,341	8,963	3,602	3,531	1,194	386	35
7,497 5,876 1,623 174 251 1,930 1,595 1,223 521 147 34 105 134 301 535 337 62 134 abdates 1,158 887 373 62 134 10 10 1,930 1,930 1,931 1,231 167 11,041 1,051 1,04	2. Poisonings	1,959	1,241	718	44	0	569	545	193	77	139	1	88	0	234	316	132	89	00	in.
obstances 1,258 887 373 87 99 191 277 151 16 54 10 0 144 41 65 20 43 29 lejaries 16,462 13,246 1,346 1,255 1,376 1,421 187 113 8 758 1,178 548 29 83 lejaries 16,672 1,456 5,441 1,621 187 113 8 758 1,178 549 23 407 9 83 1,778 63 33 407 9 83 1,178 548 33 407 9 83 1,178 549 134 44 83 777 638 114 40 14 104 441 62 19 19 104 104 441 62 19 19 104 104 441 62 19 19 104 104 441 62 19 15 10	3 Fals	7,497	5.876	1,621	174	751	1,930	1,595	1,223	521	147	×	105	134	301	535	337	62	124	23
16,402 11,246 1,134 1,255 1,37	4 Since hast and hot substances	1,258	887	373	87	33	191	277	151	16	54	10	0	144	41	63	98	43	R	18
Hapters 18,979 14,577 4,442 1,096 544 1,685 4,280 3,002 1,042 279 279 1,068 338 535 897 777 658 314 658 100 1,280 1,283 466 55 12 3 0 45 116 130 117 46 12 12 12 12 12 13 145 130 117 46 12 12 12 12 12 12 13 135 135 138 98	5. Demandes	36.462	11.268	3.154	1,155	3,795	3,970	2.741	1,221	167	113		758	1,178	808	237	403	0	83	23
No. 1	6. Other contractional inhelian	18 670	14517	4.443	1,696	546	2,635	4.750	3,002	1.042	279	22	1.068	338	535	897	111	859	314	88
3599 3,177 466 0 0 1,269 1,833 446 95 12 3 0 45 116 130 117 46 12 12 13 14 14 154 154 154 154 154 154 154 154 1	v. INTENTIONAL INITIBLES		10000	****	a delate															
-A	1 Call inflicted industries	1591	1137	466	0	0	1,269	1.303	446	8	12		0	45	116	130	117	98	12	0
	a. open wanted appeared	8138	****	3.386	133	8	2 100	1.014	1.064	461	62	10	105	45	833	724	335	128	86	3.6



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