Chapter 3

Preliminary Data Analysis

This chapter describes the preliminary data analysis for ill-defined mortality in Thailand from 2000 to 2009. These were 1,441,347 deaths notified for ill-defined during the study period. These analyses can be separated into three sections. The first section describes the mortality data that were used in this study. The second section presents the frequency distributions of ill-defined death rates for determinants. The results were presented using frequency table and graphical display for identifying the association between determinants and the outcome.

3.1 Description of the variables

The roles of the variables are classified as determinants and the outcome. The variables consist of gender-age group, region, year, place of death and ill-defined death. There are 14 gender-age groups, 5 regions, 10 years from 2000 to 2009, 2 places of death and outcome is ill-defined mortality rate, as shown in Table 3.1

Table 3.1: Variable categories

Variables	Categories
Gender-age group	Male 0-9,10-19, 20-29, 30-39, 40-49, 50-59, 60+ Female 0-9,10-19, 20-29, 30-39, 40-49, 50-59, 60+
Region	Bangkok, Central, North, Northeast, South
Year	2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009
Place of death	In-hospital, Outside-hospital

3.2 Distribution of determinants

There were 1,441,347 ill-defined deaths in Thailand from 2000 to 2009. Of these, 719,852 (49.9%) were males and 721,495 (50.1%) were females.

Table 3.2: Distribution for ill-defined deaths in each year

Years	Ill-defined deaths	Total deaths	Percent
2000	147,755	358,325	41.2
2001	140,181	368,232	38.1
2002	138,813	366,657	37.9
2003	123,068	367,704	33.5
2004	141,351	366,713	38.5
2005	150,524	393,354	38.3
2006	149,377	389,583	38.3
2007	150,309	393,116	38.2
2008	150,575	397,256	37.9
2009	149,394	393,877	37.9

Table 3:2 shows number and percent of ill-defined death by year. The percentage of ill-defined death dropped from 41% in 2000 to 38% in 2009.

Table 3.3: Frequency distribution of ill-defined deaths separated by determinants

Factors	Categories		Cases (n=1,441,347)	% of deaths	Rate/100,000 population
Gender-age group	male	0-9	11,334	0.8	22.9
		10-19	6,488	0.5	12.1
		20-29	23,504	1.6	43.4
		30-39	47,453	3.3	88.2
		40-49	55,135	3.8	117.1
		50-59	60,956	4.2	199.1
		60+	514,982	35.7	1,724.6
	female	0-9	9,356	0.6	19.8
		10-19	3,302	0.2	6.5
		20-29	9,318	0.6	17.4
		30-39	16,344	1.1	28.8
		40-49	22,172	1.5	44.2
		50-59	33,523	2.3	101.2
		60+	627,480	43.5	1,694.8
Place of death	Inside hospital		200,519	13.9	62.0
	Outside hospital		1,240,828	86.1	383.5

Table 3.3 (Cont.)

Determinants	Categories	Cases (n=1,441,347)	% of deaths	Rate/100,00 population
Region	Bangkok	79,963	5.5	119.2
	Central	338,988	23.5	222.6
	Northeast	491,605	34.1	222.4
	North	338,419	23.5	284.0
	South	192,372	13.4	219.8
Year	2000	147,755	10.3	237.4
	2001	140,181	9.7	223.1
	2002	138,813	9.6	218.9
	2003	123,068	8.5	192.4
	2004	141,351	9.8	219.0
	2005	150,524	10.4	231.2
	2006	149,377	10.4	227.8
	2007	150,309	10.4	227.8
	2008	150,575	10.4	226.5
	2009	149,394	10.4	223.3

The highest ill-defined death rate was found in aged 60 years and over for both male and female. Females in age group 10-19 years had the lowest ill-defined death rates. Ill-defined death outside hospital was found 86% with the rate of 383.5 per 100,000 population. Ill-defined death was highest in the North accounted for 284 deaths per 100,000 population. Bangkok had the lowest ill-defined death rates with 119.2 per 100,000 population. The highest mortality rate was found in year 2000 whereas the lowest ill-defined death rate was found in year 2003.

3.3 Ill-defined death rates of each determinant

The trend of ill-defined death rates per 100,000 population by gender-age group, region, year and place of death are shown in Figure 3.1 to 3.4.

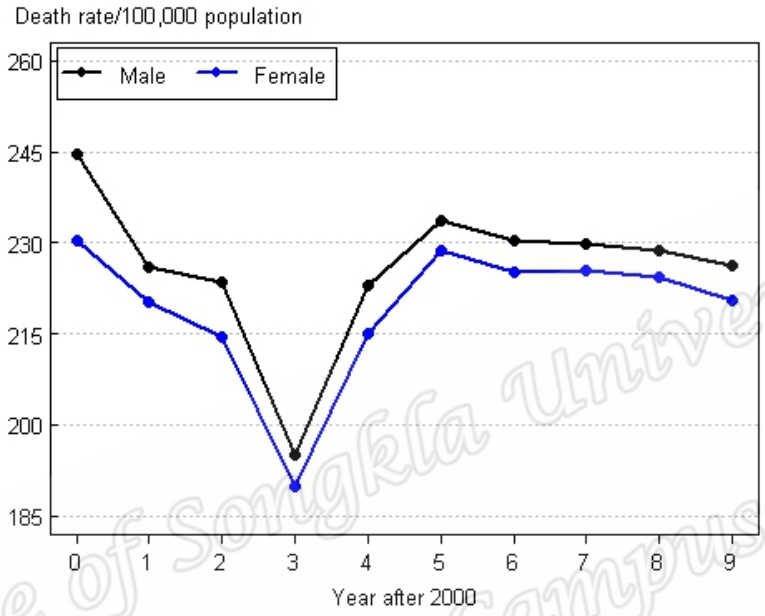

Figure 3.1: Annual ill-defined death rates by year and gender

Figure 3.1 shows ill-defined death rates by year and gender. Males had higher ill-defined death rate than females. Ill-defined death rate per 100,000 population was highest in year 2000 with 244.5 and 230.5 for male and female. The lowest death rate was found in year 2003 with 195.0 and 189.8 for male and female. Ill-defined death rates had a decreasing trend in both sexes in year 2000 to 2003 and increasing trend in year 2003 to 2005. After year 2005, a slightly decreasing trend occurred.

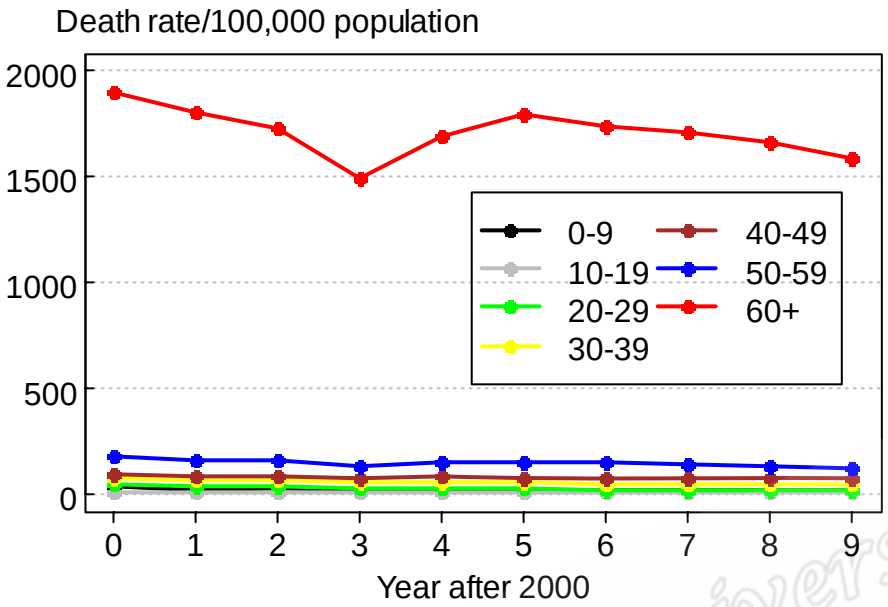

Figure 3.2: Trends of ill-defined death rates by age group and year

Figure 3.2 shows ill-defined death rates by age group and year. All age groups had a slightly decreasing trend of ill-defined deaths. Age group 60 years and over had highest ill-defined death rate than other age groups.

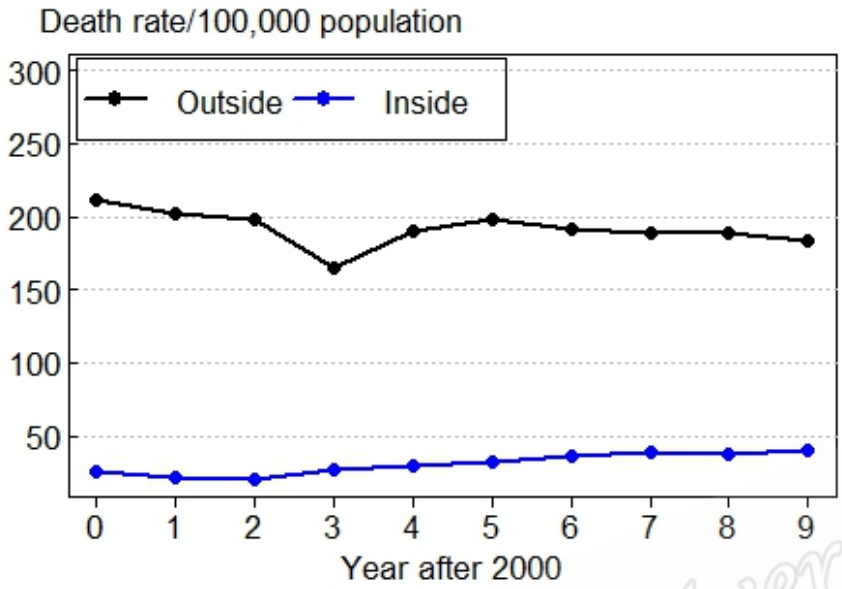

Figure 3.3: Annual Ill-defined death rates by place of death and year

Figure 3.3 shows the ill-defined death rates by place of death and year. The highest ill-defined deaths were found outside hospital. An increasing trend of ill-defined death was found in inside hospital deaths whereas a decreasing trend was found in outside hospital deaths.

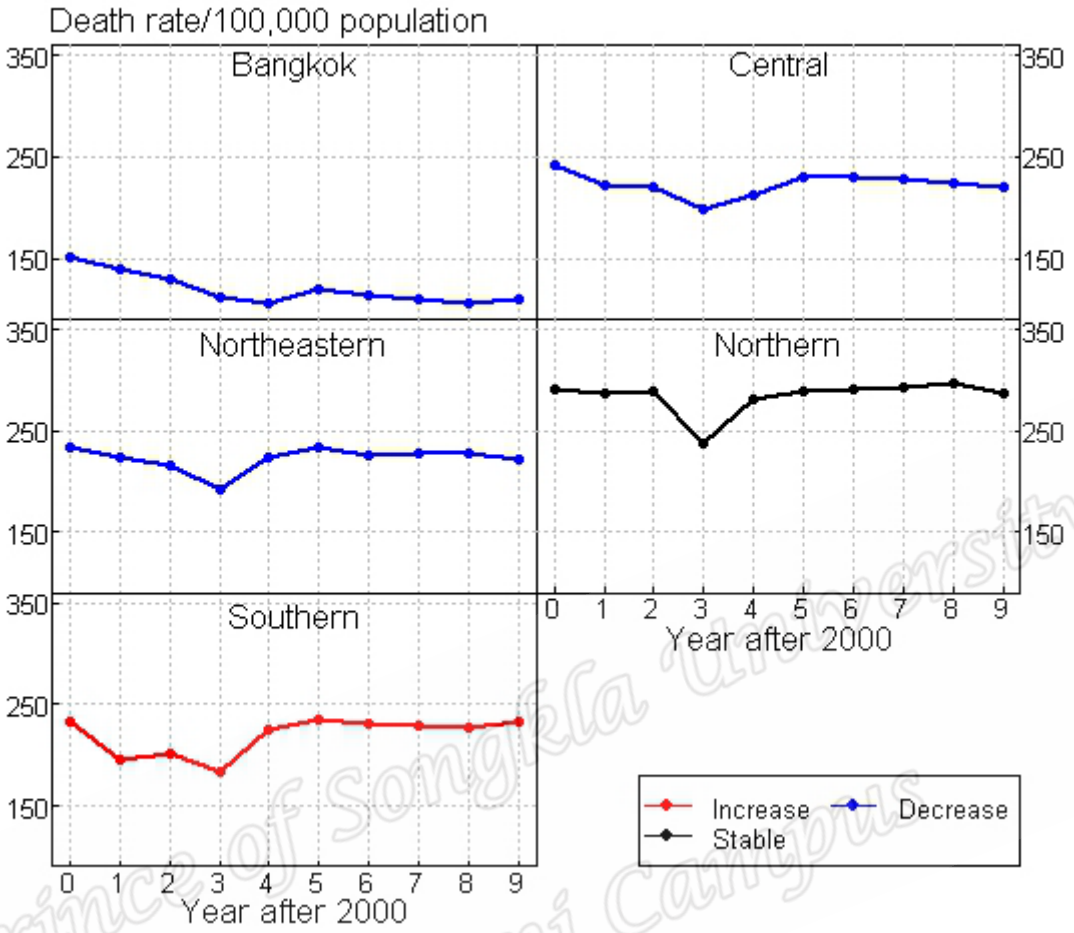

Figure 3.4: Trends of annual ill-defined death rates by regions

Figure 3.4 shows trend of annual ill-defined death rates by regions. A decreasing ill-defined death trend was found in Bangkok, the Central and the Northeast. In contrast, in the South had an increasing trend of ill-defined death. A stable trend was found in the North.