Chapter 4

HEALTH, MORTALITY, AND DISABILITY

4.1 Introduction

In any country health, mortality and disability outcomes vary by sex in ways that reflect how society "genders" exposure to risk factors. MOWA lists the promotion of the health of women and girls as one of its six priority areas, and the Ministry of Health (MOH) emphasized improving maternal and child health in its sector-wide strategy for 2003-2007. This chapter looks at how the 2008 census data casts some light on several of the relevant issues, especially regarding maternal and infant health and mortality, and regarding disability.

4.2 Maternal and Infant Mortality

The Census asked in every household:

- *Has anyone died in the household during the last 12 months?* (With follow-up questions regarding *Relationship to head of household, Age at death,* and *Cause of death.*
- In the case of a woman aged 15-49 years who died an additional question was asked: *Did the woman die while pregnant, during delivery, or within 42 days after giving birth?* (With follow-up questions if the answer is *Yes* regarding *Where the death took place* and *Who attended on her before death*)

NIS (2010a) applies direct and indirect estimation techniques to data generated by these questions. Table 4.1 gives the estimates obtained for the infant mortality rate (IMR).

Estimation method	Estimated	Reference point or period				
	IMR					
Rural + urban						
Palloni-Heligman: UN General model	26	Jan 2006				
Trussell: Coale-Demeny West model	26	Feb 2006				
Direct estimation	58	Mar 2007-Mar 2008				
Rural						
Palloni-Heligman: UN General model	27	Jan 2006				
Trussell: Coale-Demeny West model	28	Feb 2006				
Direct estimation	62	Mar 2007-Mar 2008				
Urban						
Palloni-Heligman: UN General model	<24	Jan 2006				
Trussell: Coale-Demeny West model	17	Feb 2006				
Direct estimation	34	Mar 2007-Mar 2008				

Table 4.1 Estimates of infant mortality rate (IMR) using different methods for total, rural and urban populations based on 2008 census data

Source: NIS (2010a: Tables 9-11).

As NIS (2010a: 25) notes, the use of indirect techniques (Palloni-Heligman and Trussell) gives consistent results but the values are "implausibly" low.²⁴ Surprisingly, simple direct estimation²⁵ gives more "plausible" results. The NIS report speculates this is because although the absolute number of infant deaths and the number of live births recorded for the previous 12 months are undoubtedly both undercounts, the magnitude of underreporting is likely to be roughly the same

²⁴ Implausibly low values are also obtained using these methods for child and under-5 mortality rates.

²⁵ I.e. simply dividing the number of deaths aged under-1 years reported for the last 12 months divided by the number of live births reported for the last 12 months.

in both cases so that the ratio between the two statistics is relatively unbiased. Direct estimation gives an IMR of 58 per 1,000 live births for the 12-month period before the census, which is consistent with the trend in IMR derived from survey data (CDHS 2000 and 2005 and CIPS 2004). However further analysis is needed to confirm that this measurement is indeed unbiased, and to explain why the indirect techniques – which were after all designed to overcome the common problem of undercounting births and deaths – should perform so poorly in this case.

Maternal mortality

NIS (2010a: 26-29) estimates the maternal mortality ratio (MMR) to be 461 per 100,000 live births for the previous 12 months, based on data from the second mortality question listed above (i.e. the question asked of women aged 15-49 years who died in the previous 12 months). For the rural population MMR is given as 490, and for the urban population 287. These values, based on simple direct estimation, are deemed "plausible" (NIS 2010a: 26). However the total number of maternal deaths recorded is small (804 cases)²⁶ so even a handful of missed cases affects the reported number. Further in-depth analysis could attempt to put a confidence interval around these estimates.

In conclusion, while the IMR and MMR obtained using direct estimation are plausible they are hardly robust, since they each appear to depend on a fortuitous balance whereby the underreporting in one statistic (number of births) cancels out the underreporting in another statistic (number of deaths). However the results are consistent with the downward trends previously observed using CDHS and CIPS data. The 2010 CDHS may confirm these trends (NIS 2010a: 39).

Type of assistance received

In the case of maternal deaths further questions asked were, *Where the death took place*? and *Who attended her before her death*? The results, even though based on a relatively small number of cases, are worthy of note since access to health care is an important issue in Cambodia and women "have particular health needs that require good access to what are currently relatively high cost services," foremost being the need for safe delivery services (MOWA 2008: 93). The results show that out of 804 recorded maternal deaths, 320 (39.8 percent) occurred in hospital, 69 (8.6 percent) in a health center, 364 (45.3 percent) at home, and 51 in some other (or unrecorded) place. Slightly more cases died in a health facility than at home.

Of the 804 cases, 313 (38.9 percent) were attended by a doctor, 64 (8.0 percent) by a nurse, 129 (16 percent) by a midwife, 104 (12.9 percent) by a traditional birth attendant, 21 by "other," and 173 were recorded as attended by "none." 62.9 percent of cases accessed modern health care providers.

4.3 Cause of Death

Where there has been a death in a household the 2008 Census also records information on cause of death. As already noted, the number of deaths recorded is undoubtedly an undercount, and the responses to the cause of death question are not likely to be medically precise in many cases (the non-specific "Other illness" is the largest category accounting for 26.2 percent of all deaths due to

 $^{^{26}}$ There are 804 cases of maternal mortality recorded in response to the second mortality question listed in section 4.2. The results obtained from the first mortality question only record a total of 460 cases of death due to pregnancy or delivery complications (Table 4.2) but the correct full definition of maternal mortality – explicitly including the phrase "death within 42 days after giving birth" – is only used in the second question; this presumably accounts for the larger number of maternal deaths obtained than implied by Table 4.2.

illness). Nonetheless, given the absence of other reliable data sources on cause of death at the national level the data are of interest in giving a broad view of overall patterns.

and broad age group, cambouna 2007-00									
	Age								
Cause of death	0-14		15-44		45 & over		Total		Total
	Μ	F	Μ	F	Μ	F	Μ	F	M+F
Illness									
Fever	3,940	3,119	614	424	457	346	5,011	3,889	8,900
Diarrhoea	863	666	166	96	160	137	1,189	899	2,088
Tuberculosis	458	288	318	249	808	668	1,584	1,205	2,789
Heart disease	483	374	440	360	1,040	801	1,963	1,535	3,498
Dengue fever	1,926	1,754	224	146	51	40	2,201	1,940	4,141
Malaria	829	673	802	286	264	95	1,895	1,054	2,949
Tetanus	1,497	1,105	264	165	126	64	1,887	1,334	3,221
HIV/AIDS	77	66	235	154	37	21	349	241	590
Pregnancy complic'n.				111		28		139	139
Delivery complic'n				302		19		321	321
Other illness	1,541	1,136	880	536	2,140	2,158	4,561	3,830	8,391
Total due to illness	11,614	9,181	3,943	2,829	5,083	4,377	20,640	16,387	32,027
Accident									
Land mine	89	41	364	46	61	27	514	114	628
Road accident	235	100	688	135	160	54	1,083	289	1,372
Drowning	576	362	194	75	57	23	827	460	1,287
Other accident	465	297	717	224	313	225	1,495	746	2,241
Total due to	1 265	800	1.062	190	501	220	2 0 1 0	1 600	5 5 7 9
accident	1,505	800	1,903	460	391	529	5,919	1,009	3,328
Not known	685	489	336	160	313	196	1,334	845	2,179
Total deaths	13,664	10,470	6,242	3,469	5,987	4,902	25,893	18,841	44,734

Table 4.2 Deaths (number) in the 12 months preceding the census by sex (M and F)and broad age group, Cambodia 2007-08

Source: G2.

Table 4.2 shows that of 44,734 deaths recorded for the previous 12 months 25,893 (57.9 percent) are male and 18,841 (42.1 percent) female, even though there are more females in the population (Table 2.1). Not only do males die at a faster rate for all the illnesses listed (except for pregnancy-or delivery-related causes), they are also far more prone to death by accident.

Figure 4.1 shows how the percent distribution of deaths due to illness by cause of death varies by sex and broad age group. The population as a whole is not far into its epidemiological transition and the prominence of communicable diseases is clear.

Figure 4.1 Percent of deaths by sex, cause of death, and broad age group, Cambodia 2008



Source: Data from Table 4.2.

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4.4 **Disability**

The Census for the first time in 2008 included a question on physical and mental disability. To date relatively little is known about the magnitude of disabilities and the concerns of disabled men and women (MOWA 2008: 96).

Table 4.3 Disabled persons (number) by sex, residence, and type of disability									
Type of	Rural population		Urban po	pulation	Total population				
disability	Μ	F	Μ	F	Μ	F			
All disabled persons									
In seeing	23,835	24,193	4,892	4,789	28,727	28,982			
In speech	7,302	6,600	1,447	1,314	8,749	7,954			
In hearing	6,480	6,913	890	978	7,370	7,891			
In movement	44,268	23,851	6,652	3,862	50,920	27,713			
Mental	10,745	9,917	1,957	1,613	12,702	11,530			
Total	92,630	71,474	15,838	12,596	108,468	84,070			
Persons disabled since birth									
In seeing	9,729	10,723	2,128	2,236	11,857	12,959			
In speech	4,849	4,304	984	857	5,833	5,161			
In hearing	2,484	2,437	492	544	2,976	2,981			
In movement	5,910	4,490	992	820	6,902	5,310			
Mental	3,148	2,946	563	515	3,711	3,461			
Total	26,120	24,900	5,159	4,972	31,279	29,872			
Persons disabled after birth									
In seeing	14,106	13,470	2,764	2,553	16,870	16,023			
In speech	2,453	2,296	463	497	2,916	2,793			
In hearing	3,996	4,476	398	434	4,394	4,910			
In movement	38,358	19,361	5,660	3,042	44,018	22,403			
Mental	7,597	6,971	1,394	1,098	8,991	8,069			
Total	66,510	46,574	10,679	7,624	77,189	54,198			

Source: E1.

The Census counted 192,538 disabled persons, of which 108,468 (56.3 percent) are male and 84,070 (43.7 percent) are female. 85.2 percent of disabled people are designated rural, which is slightly higher than the national level of urbanization (80.5 percent). 31.8 percent of disabled persons are disabled since birth, and the remaining 68.2 percent have become disabled after birth. In the former case the largest category is problems with seeing (blindness); in the latter it is problems with movement. Disabilities are distributed fairly evenly by sex except in the case of problems with movement after birth, where the male cases (44,018 males) are almost twice the number of female cases (22,403 females).

4.5 Final Remarks

Morbidity and mortality trends have important implications for gender relations. First there are invariably differences by sex in the way these trends unfold, due to a mixture of biological and social factors. Second, since females typically have (or assume) more responsibility for providing and managing health care in households than males this means improvements in population health can reduce the amount of health care females must provide and thereby opens up more time for them to engage in other activities. The economic and social consequences of someone being ill affect the whole household, not just the person who is sick. Put differently, high rates of morbidity in a population make it more difficult for women to escape their traditional domestic roles and for society to implement more gender equality. Reducing the high incidence of communicable diseases in Cambodia will not only improve health and well-being, it will also facilitate more gender equality.