

IV. CHILD MORTALITY

One of the overarching goals of the Millennium Development Goals (MDGs) is the reduction of infant and under-five mortality. The infant mortality rate is the probability of dying before the first birthday, while the under-five mortality rate is the probability of dying before the fifth birthday. The MDGs call for the reduction in under-five mortality by two-thirds between 1990 and 2015. Monitoring progress towards this goal is an important but difficult objective.

In MICS Punjab, 2014 an indirect method, known as the Brass method¹⁴, was used. Robust estimates of the aforementioned indicators are produced by this method, and generally are comparable with those obtained by applying direct methods.

The data used by the indirect method are: the mean number of children ever born for the five-year time-since-first-birth (TSFB) groups of women age 15 to 49 years, and the proportion of these children who are dead, also for five-year time-since-first-birth groups of women (Table CM.1). The technique converts the proportions dead among children of women in each time-since-first-birth group into probabilities of dying by taking into account the approximate length of exposure of children to the risk of dying, assuming a particular model age pattern of mortality. Based on previous information on mortality in Pakistan, the “East Model” life table was selected as most appropriate.

Table CM.1: Children ever born, children surviving and proportion dead						
Mean and total numbers of children ever born, children surviving and proportion dead by age of women, Punjab, 2014.						
	Children ever born		Children surviving		Proportion dead	Number of women age 15-49 years
	Mean	Total	Mean	Total		
Punjab	3.7	104,444	3.4	94,193	0.1	28,106
Time since first birth						
0-4	1.7	11,636	1.5	10,773	0.1	6,996
5-9	3.2	21,681	2.9	19,838	0.1	6,775
10-14	4.3	25,158	3.9	22,769	0.1	5,794
15-19	5.1	24,596	4.6	22,012	0.1	4,803
20-24	5.7	21,374	5.0	18,800	0.1	3,738

Table CM.2 provides estimates of infant and under-five mortality rates derived from proportion dead among children of women in various time-since-first-birth groups from 0-4 to 20-24. This table provides estimates of infant and under-5 mortality rates for various points in time prior to the survey. These estimates are later used in Figure CM.2 to compare the trend indicated by these rates with those from other data sources.

¹⁴ United Nations, 1983. *Manual X: Indirect Techniques for Demographic Estimation* (United Nations publication, Sales No. E.83.XIII.2). United Nations, 1990a. *QFIVE, United Nations Program for Child Mortality Estimation*. New York, UN Pop Division. United Nations, 1990b. *Step-by-step Guide to the Estimation of Child Mortality*. New York, UN. International Union for the Scientific Study of Population, 2013. *Tools for Demographic Estimation*. Paris, UNFPA.

Table CM.2: Infant and under-5 mortality rates by age groups of women			
Indirect estimates of infant and under-5 mortality rates by age of women, and reference dates for estimates, East model, Punjab 2014.			
	Reference date	Infant mortality rate	Under-5 mortality rate
Time since first birth			
0-4	2012.7	76	95
5-9	2010.2	74	92
10-14	2007.3	76	95
15-19	2004.1	79	100
20-24	2000.5	84	107

To obtain the most recent single estimates of the two indicators by background characteristics, estimates from time since first birth groups 0-4 and 5-9 are averaged and presented in Table CM.3.

Table CM.3: Infant and under-5 mortality rates by background characteristics		
Indirect estimates of infant and under-five mortality rates by selected background characteristics, age version, (by using East Model), Punjab, 2014.		
	Infant mortality rate ¹	Under-five mortality rate ²
Punjab	75	93
Area of residence		
Rural	83	105
All Urban	57	69
Major Cities	46	55
Other Urban	68	85
Sex		
Male	84	104
Female	65	82
Mother's education		
None/pre-school	96	124
Primary	73	91
Middle	58	71
Secondary	50	60
Higher	46	54
Wealth index quintile		
Lowest	105	137
Second	88	112
Middle	73	91
Fourth	61	75
Highest	45	53
Division		
Bahawalpur	91	116
D.G. Khan	91	118
Faisalabad	74	92
Gujranwala	68	85
Lahore	64	79
Multan	74	92
Rawalpindi	59	72
Sahiwal	89	114
Sargodha	72	89
¹ MICS indicator 1.2; MDG indicator 4.2 - Infant mortality rate		
² MICS indicator 1.5; MDG indicator 4.1 - Under-five mortality rate		
Rates refer to April 2011. The East Model was assumed to approximate the age pattern of mortality in Pakistan.		

The infant mortality rate is estimated at 75 deaths per thousand live births, while the probability of dying under age 5 (U5MR) is 93 deaths per thousand live births. Probability of dying during childhood among males is higher than females. The infant mortality rate for males is 84 deaths per thousand live births compared to 65 deaths per thousand for females, similarly the child mortality for males is 104

deaths per thousand live births compared with 82 deaths per thousand for females (Table CM.3). Among divisions, infant mortality rates and under-5 mortality rates are lowest in Rawalpindi division (72 and 59 deaths per thousand live births respectively) and highest in DG Khan division (118 and 91 deaths per thousand live births respectively).

Infant mortality rate in rural areas is 83 deaths per thousand live births compared to 57 deaths per thousand live births in urban areas. Similarly, under-5 mortality rate is higher in rural areas compared to urban areas (105 and 69 deaths per thousand live births respectively).

There is a considerable difference in child mortality in terms of mother's educational levels and wealth. Under-5 mortality for children whose mothers have pre-school or no education is high (124 deaths per thousand live births) and the rates decline as the mother's educational level increases. Similarly, infant mortality rate for children whose mothers have pre-school or no education is much higher compared to children whose mothers have higher secondary education (96 versus 46 deaths per thousand live births).

Furthermore, the probability of dying before age 5 for children living in households in the highest quintile is much lower (53 deaths per thousand live births) compared to children living in the households in the lowest quintile (137 deaths per thousand live births). Similarly, infant mortality rate is 105 deaths per thousand live births for children living in the households in the lowest quintile compared to 45 deaths per thousand live births for those living in the households in the highest quintile. Figure CM.1 provides a graphical presentation of the differences of child mortality rates.

Figure CM.1: Under-5 mortality rates by area and division, MICS Punjab, 2014

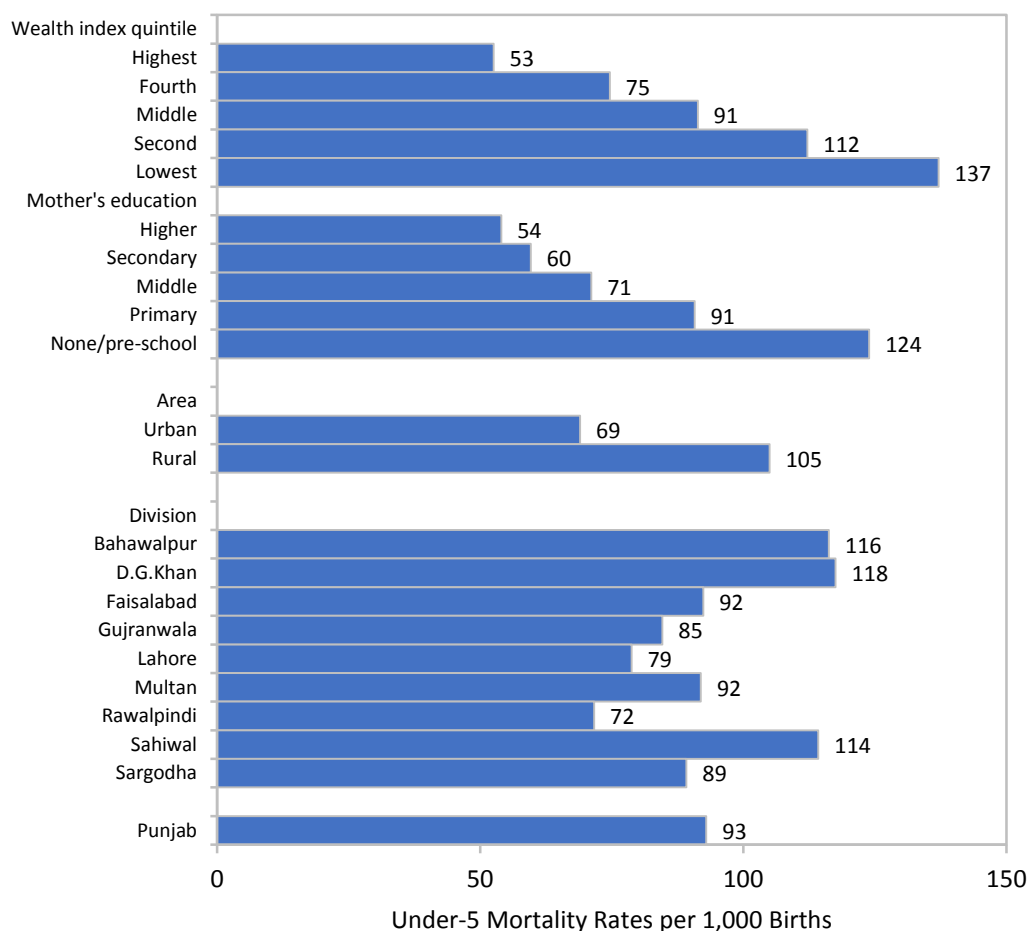


Figure CM.2 compares the findings of the current MICS Punjab, 2014 with MICS Punjab, 2011 and Pakistan Demographic and Health Survey (PDHS) 2012-13. The MICS estimates indicate a decline in mortality during the last four years.

Figure CM.2: Trend in under-5 mortality and Infant mortality rates, 1990-2014

