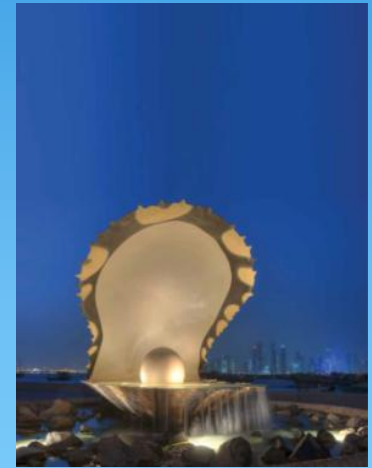


Qatar's Population Dynamics between 1975 and 2012 and their impact on Maternal and Newborn Survival



Dr. Sajjad ur Rahman

Lead PI PEARL Study

Senior Consultant Neonatal Perinatal Medicine
Women's Hospital Hamad Medical Corporation &

Associate Professor of Clinical Pediatrics

Weill Cornell Medical College

Doha State of Qatar

The State of Qatar

Past, Present & Future



The Changing Landscape and lifestyle in the Arabian Gulf



The New Landscape and Life style in the Arabian Gulf



The State of Qatar



Area	11437 Sq Km
Population 2013	2.1 million
LNG Production	77 million tonnes per year in 2011
GDP Per Capita (Global Finance)	\$ 90,149 in 2010 \$179,000 in 2011

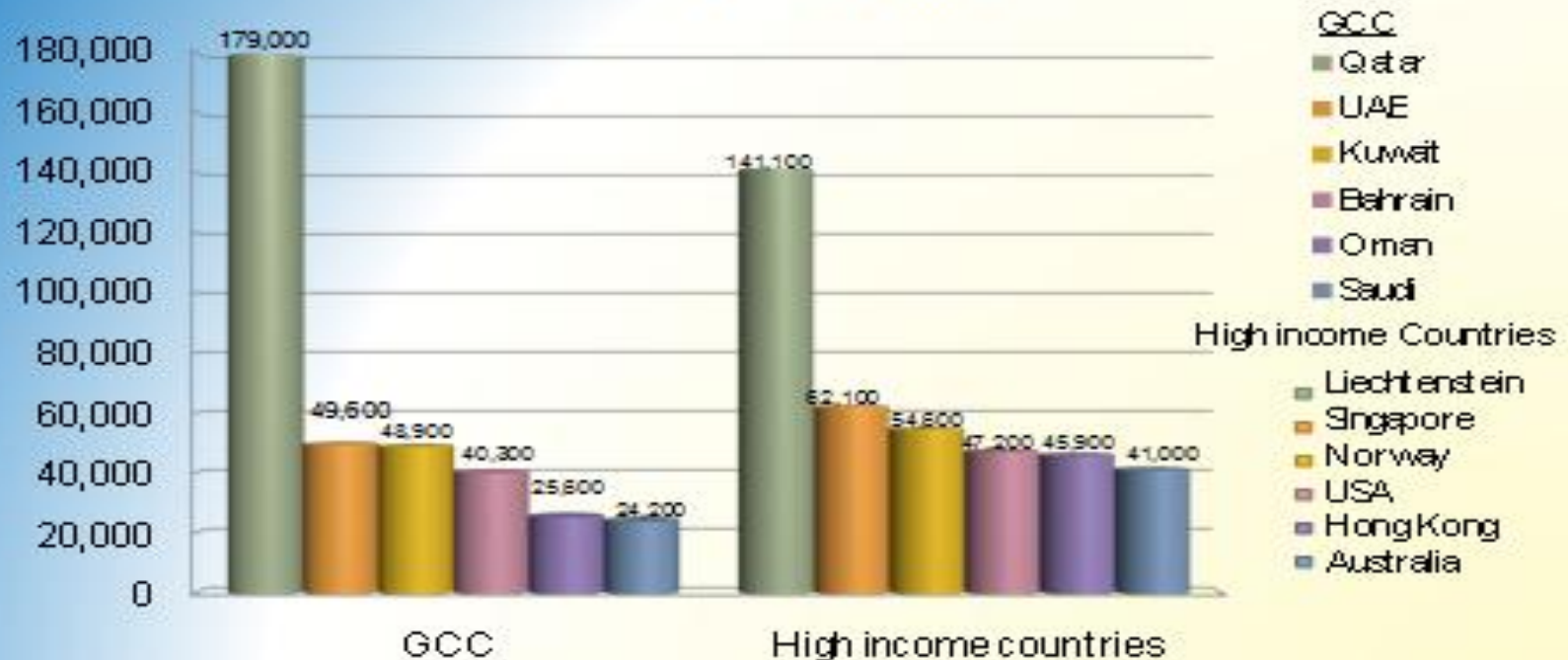


GDP Per Capita 2011

GCC Countries & Other High Income Countries

GDP per Capita 2011 (US \$) GCC countries versus High income countries

Source: (i) <http://www.indexmundi.com/>
(ii) CIA World Factbook



Trends in Qatar's Population

1975: 0.2 million

2012: 2.23 Million

The population increased by

Ten Fold

Qatar's Population 2013

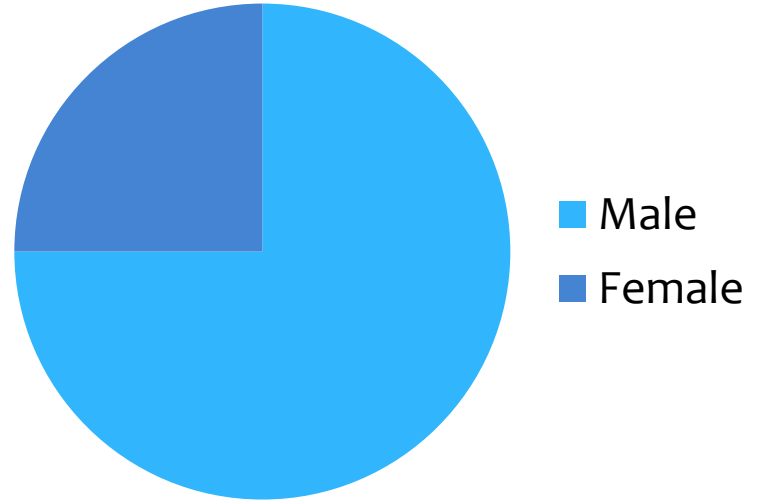
Gender

Total Population: 2.23 Million

Male: 1.5 Million

Female: 0.523 Million

Male: Female Ratio 3:1



Population-Ethnicity

Qataris: 30%

Non-Qataris: 70%

Arab Nationals: 20%

India: 20%

Nepal: 13%

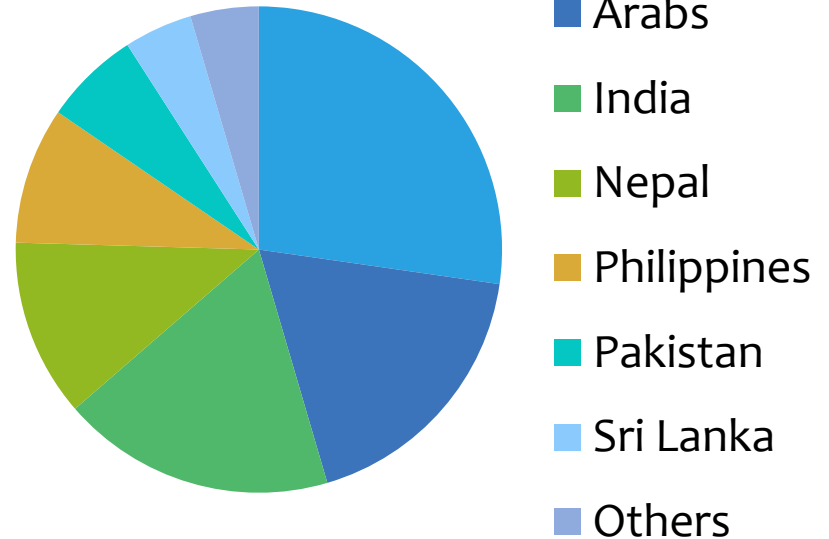
Philippines: 10%

Pakistan: 7%

Sri Lanka: 5%

Others: 5%

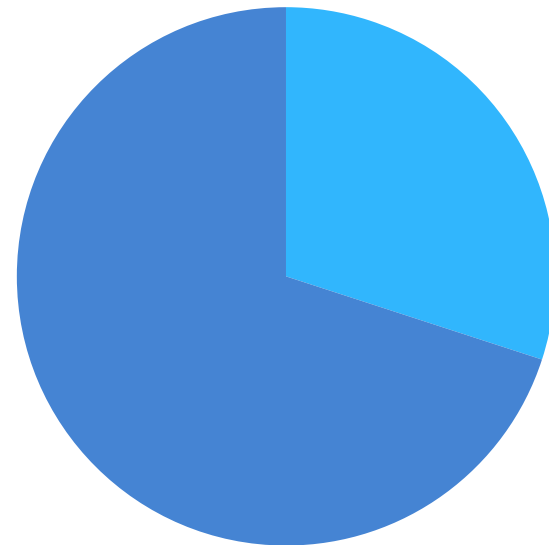
Ethnicity



Family Population

Qataris: 30%
Non-Qatari: 70%

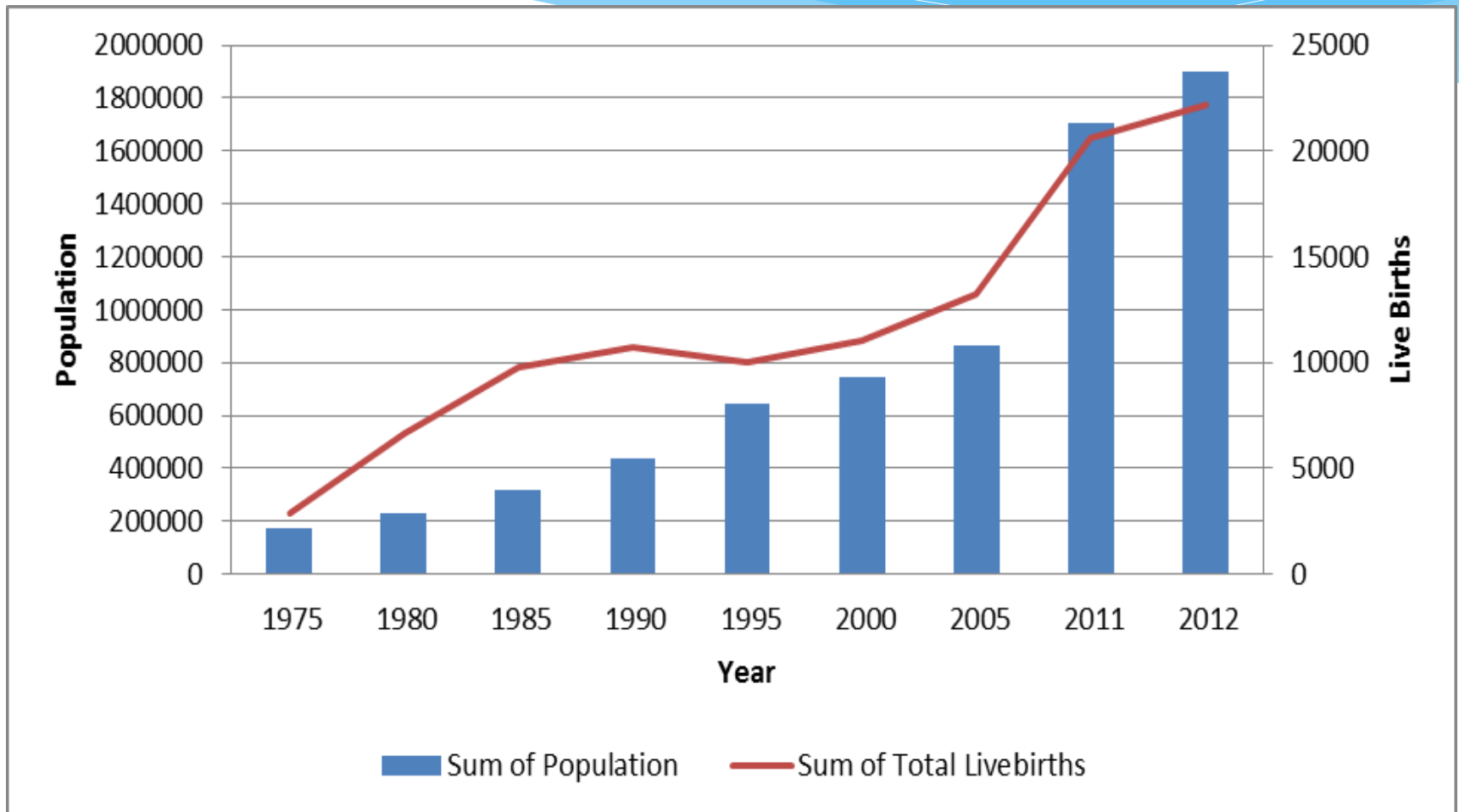
Family Population



■ Qatari ■ Non-Qatari

Qatar's population growth and live births over 36 years (1975-2012)

(Source: Qatar Statistics authority www.qsa.org)





PERINATAL NEONATAL OUTCOMES RESEARCH STUDY IN THE ARABIAN GULF **PEARL STUDY**



A National Epidemiologic Reproductive Health Study

Collaborating institutions:

1. Hamad Medical Corporation (HMC), Qatar
2. University of Gloucestershire, UK

Qatar's National Perinatal Registry

Maternal Mortality and Morbidity

Neonatal Mortality and Morbidity

Perinatal Mortality and Morbidity

Strategic Guidelines to improve Health Systems and Care Processes

State of Qatar's National

Maternal, Neonatal and
Perinatal Mortality Rates 2011-12

Maternal Mortality Rate

Qatar 2011-12

Maternal Mortality Rate (MMR)2011	9.85/100,000
Maternal Mortality Rate2012	8.99/100,000

Maternal Deaths (Criteria A,B & C) n= 2

	Direct	Indirect	HIV	Incidental
Early maternal (<42 weeks)	A	B	C	D
Late maternal (>42 weeks and <1 year)	E	F		

Table 1: Definitions of maternal death and maternal mortality

Neonatal Mortality Rate

Per 1000 Live births

Qatar 2011 & 2012

INDICATOR	N	2011	2012
Neonatal Mortality Rate (NMR)	102	4.9	4.32
Early Neonatal Mortality Rate (ENMR)	56	2.7	2.52
Late Neonatal Mortality Rate (LNMR)	46	2.2	1.8
Corrected NMR (cNMR)	68	3.26	3.06
Early cNMR	27	1.32	1.44
Late cNMR	41	1.94	1.62

Perinatal Mortality Rate

Per 1000 Total Births

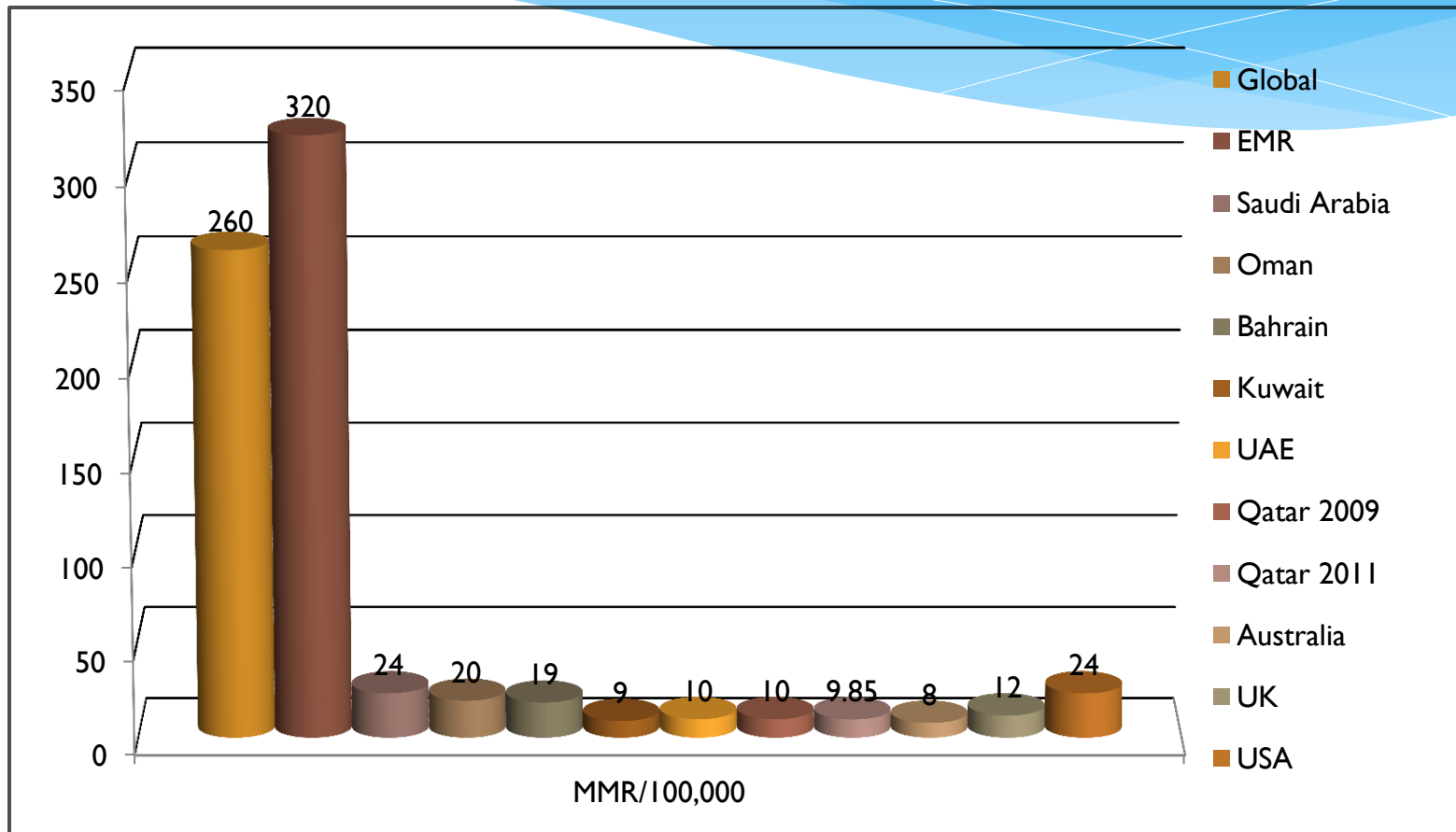
Qatar 2011 & 2012

INDICATOR	N	2011	2012
Perinatal Mortality Rate (PMR)	n = 198	9.55	9.07
Early Neonatal Mortality Rate (ENMR)	n = 46	2.7	2.52
Stillbirth Rate (SBR) ≥500 grams	n = 142	6.85	6.53
Stillbirth Rate (SBR) ≥1000 grams	n = 98	4.76	4.39

COMPARATIVE ANALYSIS of Mortality Rates

**Qatar versus Global, Regional and
High Income Countries Rates**

Maternal Mortality Rate



Source: World Health Statistics 2011

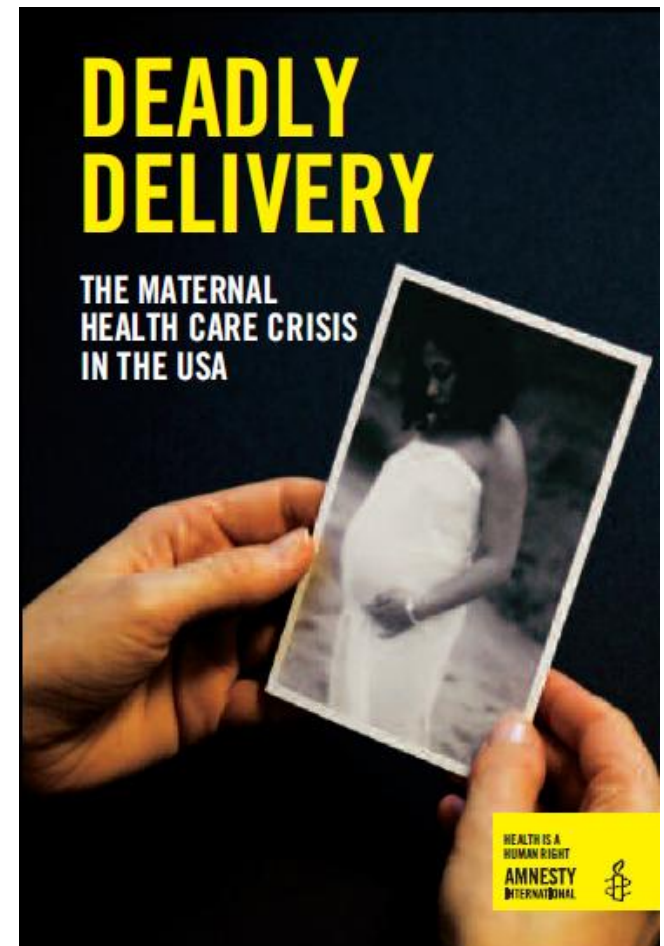
Maternal Mortality in Qatar

Maternal Mortality in Qatar was **Zero** for several years between and 2004 1998

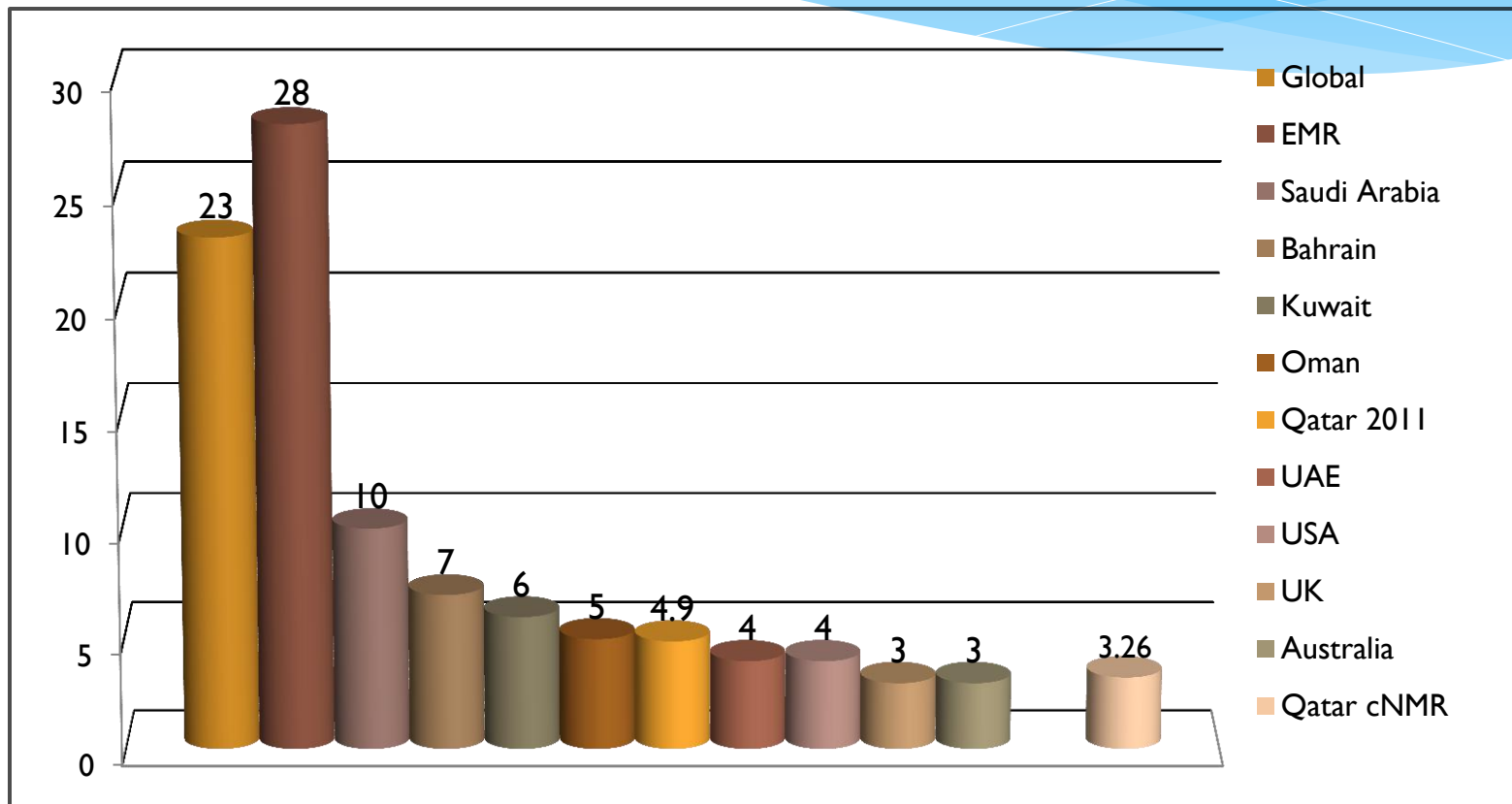
Qatar had two maternal deaths in **a year** during 2011 and two in **a year** during 2012

United States had Two Maternal Deaths **a day** in 2011

Source: Amnesty International
WWW.amnesty.org

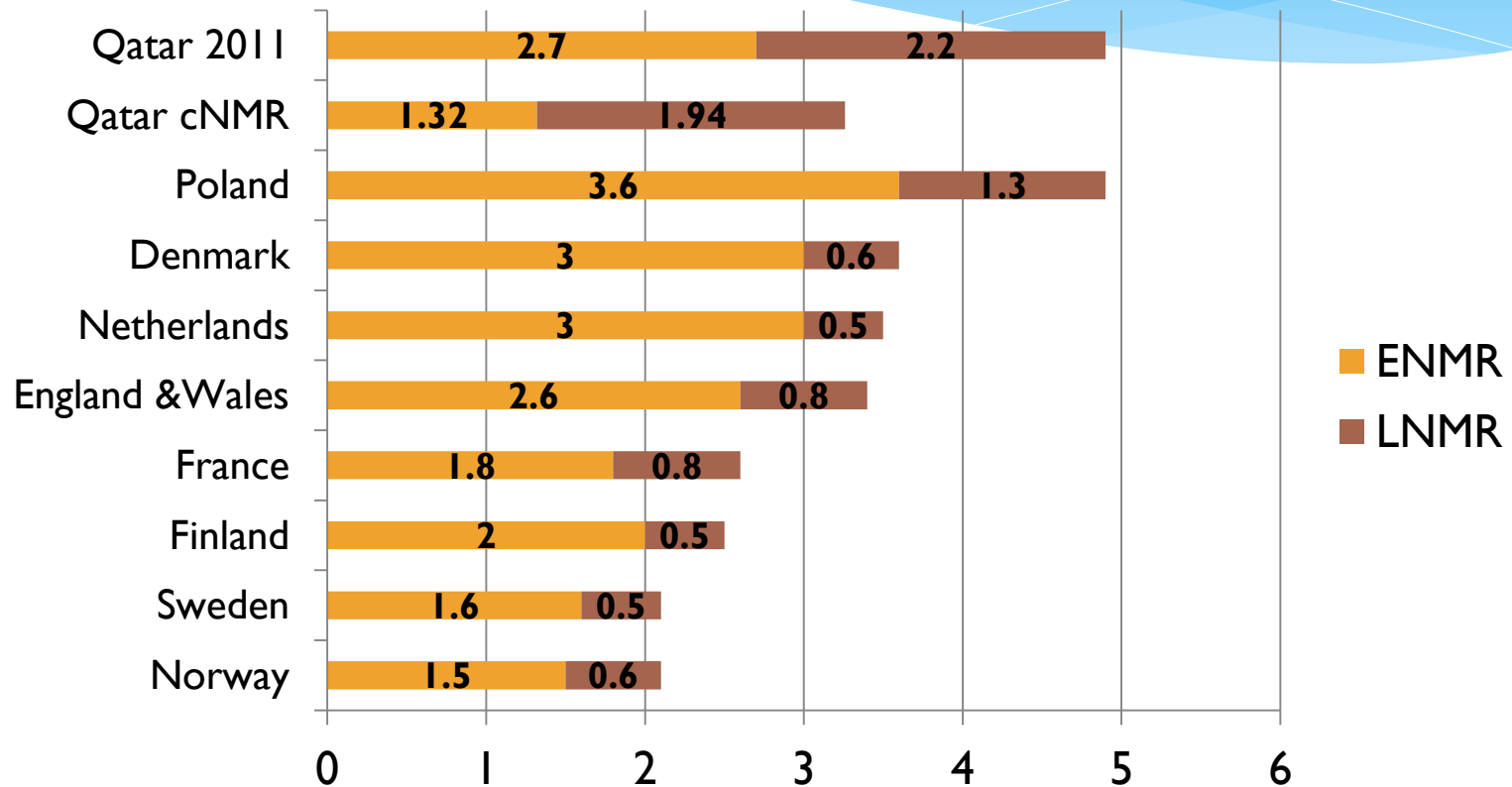


Neonatal Mortality Rate



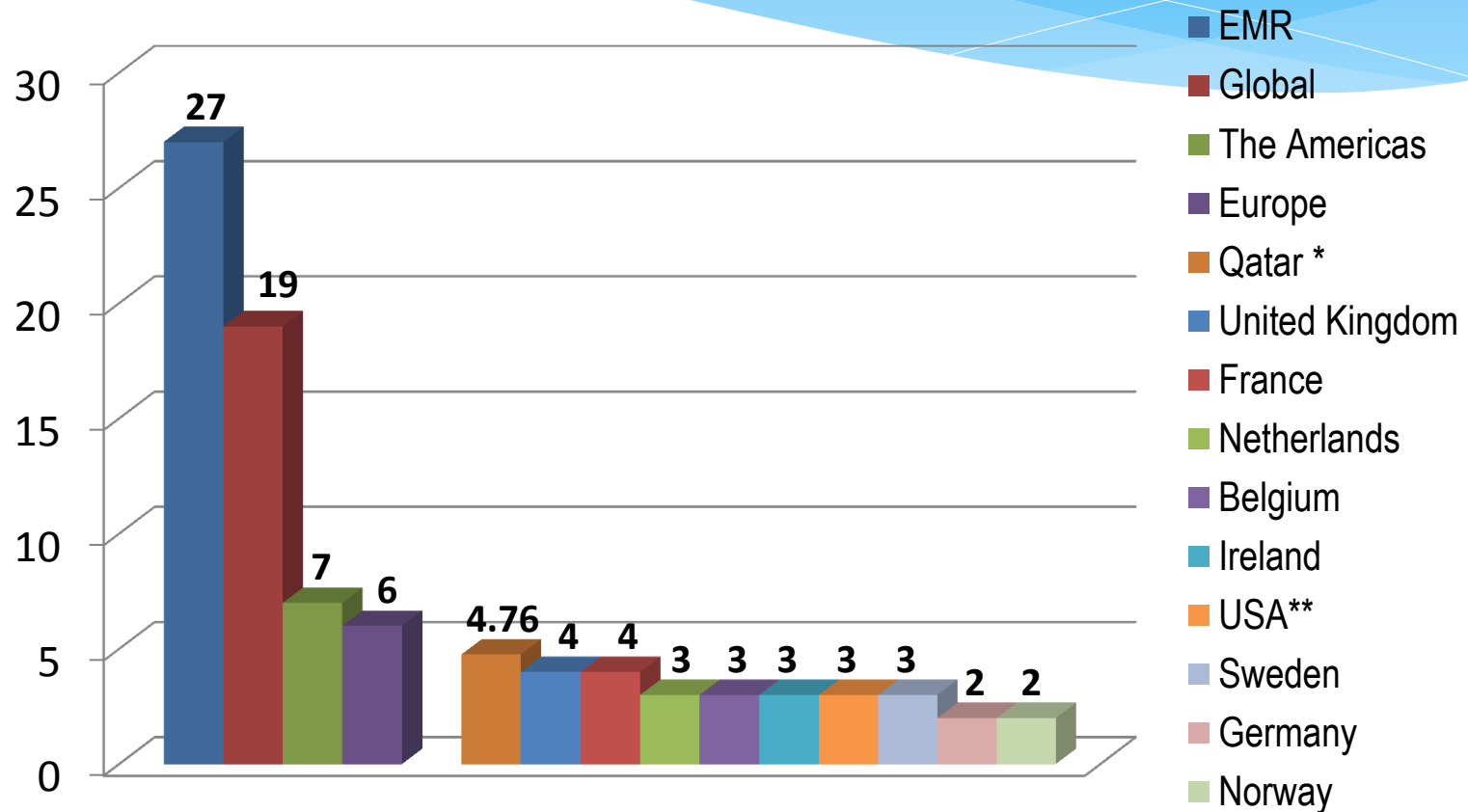
Source: World Health Statistics 2011

Comparative Analysis of Qatar's Early and Late NMR with Europe



Source: Euro Perinatal Health Report 2008

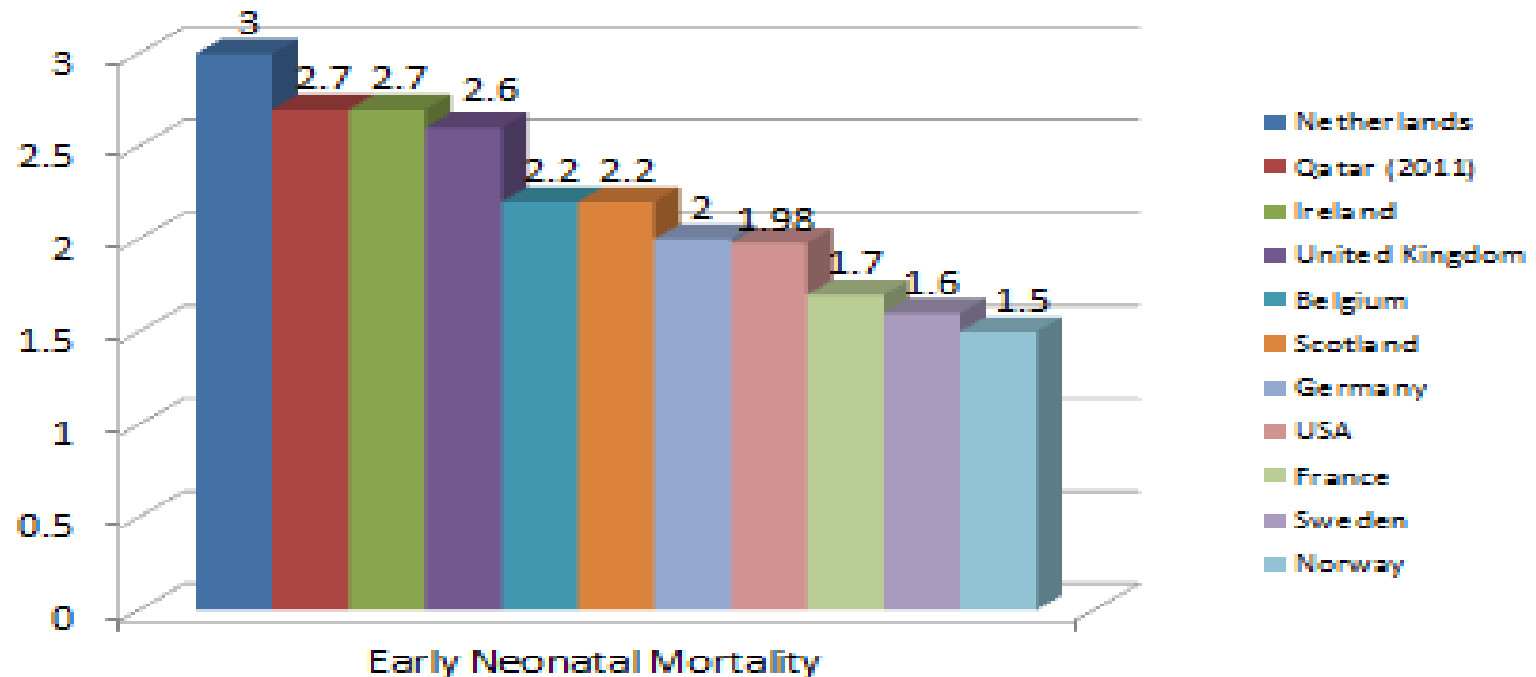
Stillbirths



Source: World Health Statistics 2011

Early Neonatal Mortality Rate (ENMR)

Figure 3 Comparison of Qatar's 2011 Early Neonatal Mortality Rate (PEARL Study data) with USA (2008 data), Europe and some West European countries (2009 data)
Source World Health Statistics 2011

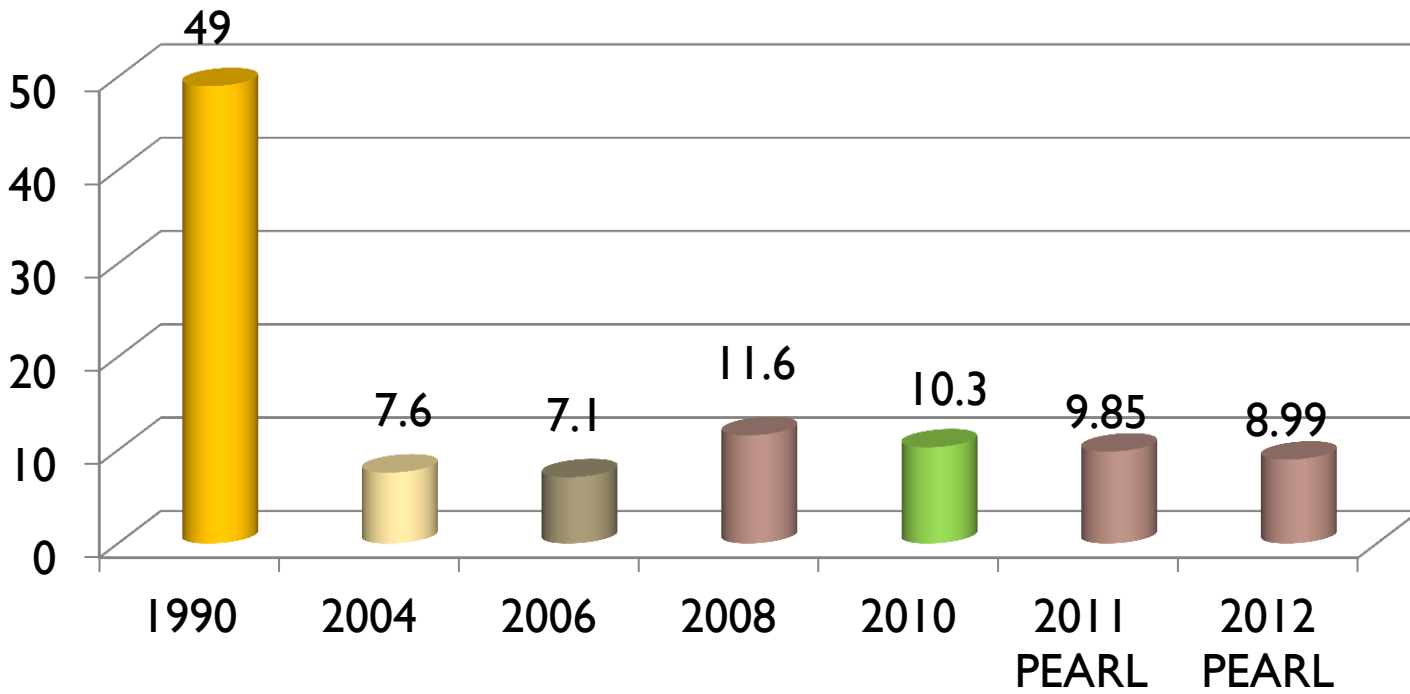


Trends in Qatar's Maternal, Neonatal & Perinatal Mortality Rates

1975-2012

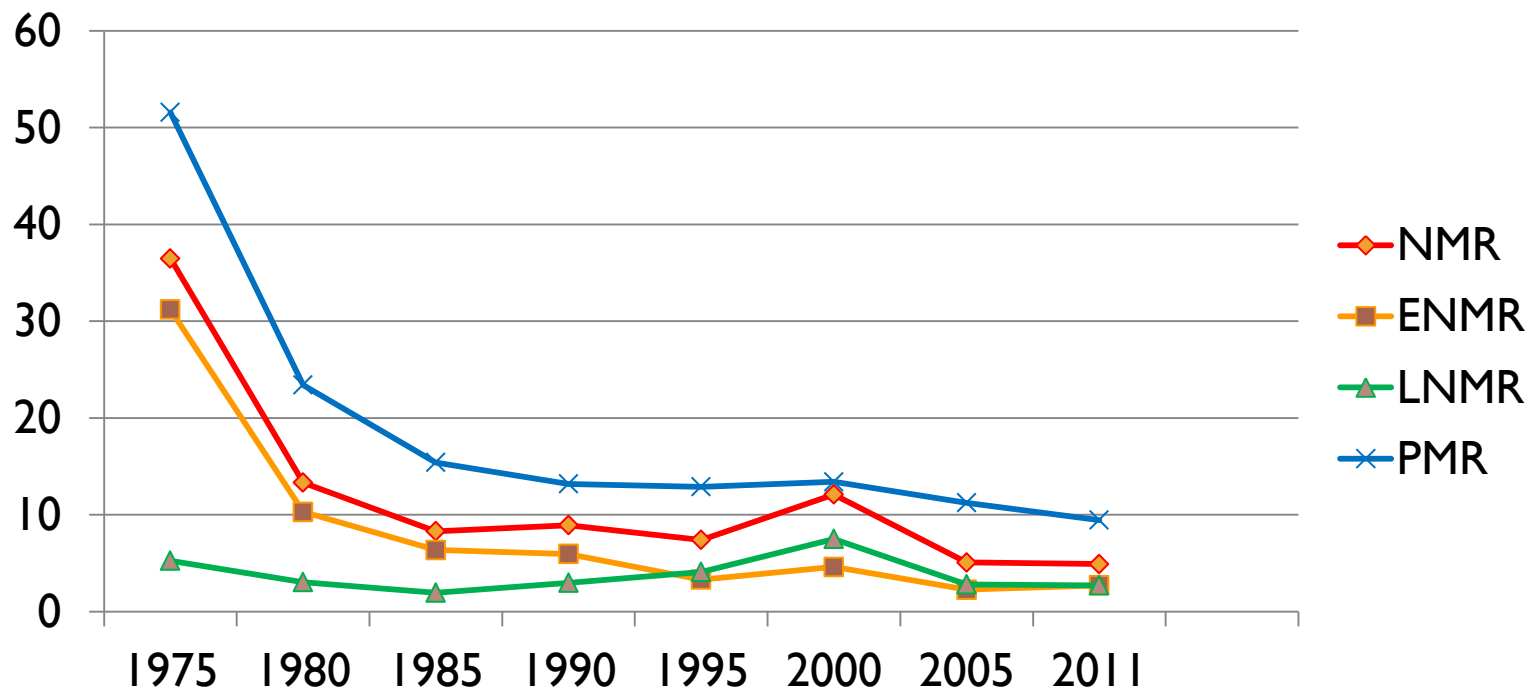
MMR Trends within Qatar

1990-2012



Trends in Qatar's Neonatal Mortality Rates over 37 Years

1975-2011



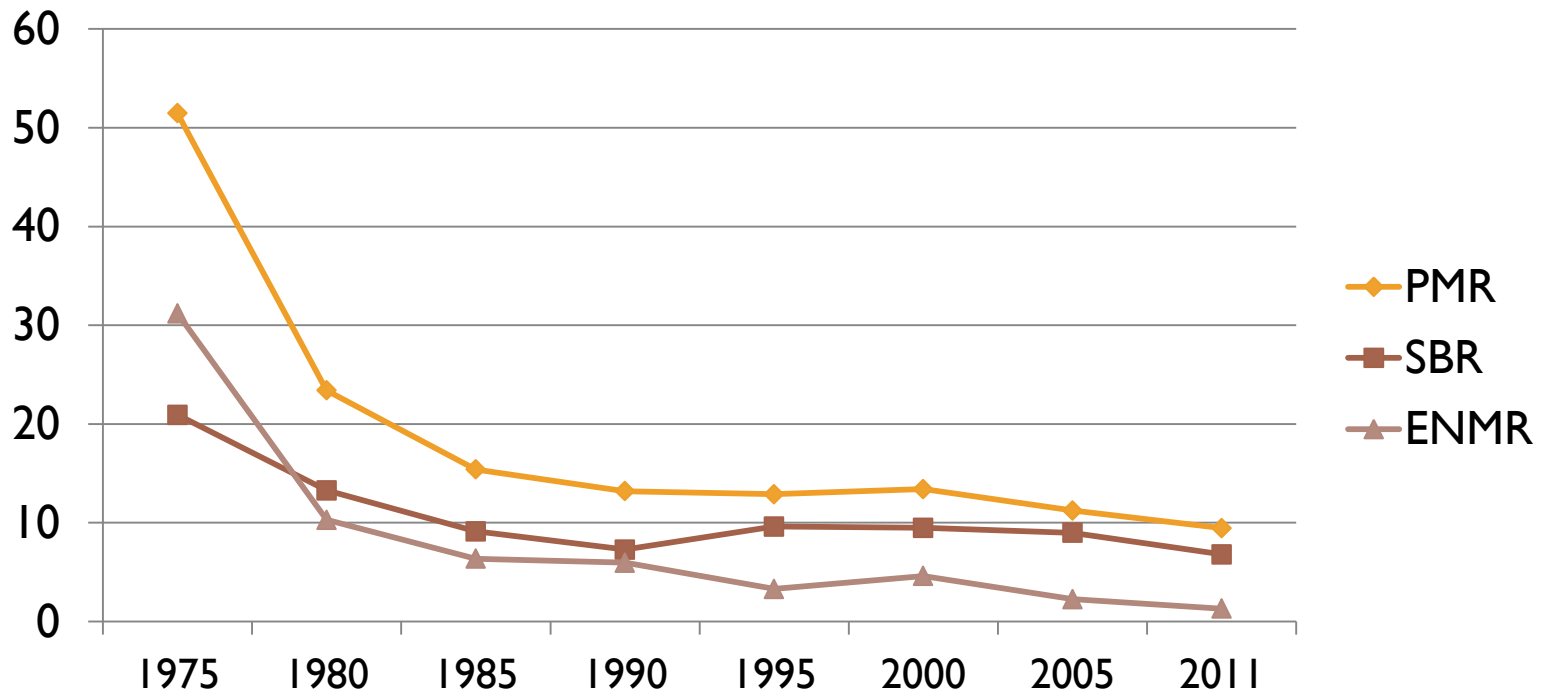
Trends in Population, Live births and Relative Risk of NMR, ENMR and LNMR in Qatar

1975-2011

Year	Population *	Total Live Births	NM	NMR	RR (95% CI) p-value	EN M	ENMR	RR (95% CI) p-value	LN M	LN MR	RR (95% CI) p-value
1975	171,000	2853	104	36.45	Reference	89	31.2	Reference	15	5.25	Reference
1990	439,000	10759	96	8.92	0.24 (0.19-0.32) <0.001	64	5.95	0.19 (0.14-0.26) <0.001	32	2.97	0.57 (0.31-1.04) =0.064
2011	1,707,756	20583	101	4.9	0.13 (0.10-0.18) <0.001	55	2.7	0.09 (0.06-0.12) <0.001	46	2.2	0.42 (0.23-0.74) =0.002

Trends in Qatar's Perinatal Mortality and Stillbirth Rates over 37 Years

1975-2011



Trends in Relative Risk of Perinatal Mortality Rate in Qatar 1990-2011

Year	Total Population	Live Births	Stillbirths SB*	SBR	Early Neonatal Mortality ENM**	ENMR	Perinatal Mortality	PMR	RR (95% CI)	P _∞
1990	439,000	10759	79	7.2	64	5.9	143	13.2	1 (Ref)	
1995	642,000	9995	97	9.6	33	3.3	130	12.88	0.98(0.77-1.24)	0.859
2001	769,152	11875	88	7.36	52	4.35	140	11.9	0.89(0.70-1.12)	0.315
2006	885,359	13741	110	7.94	26	1.89	136	9.82	0.75(0.59-0.94)	0.016
2011	1,707,756	20583	142	6.85	56	2.7	198	9.55	0.72(0.58-0.89)	0.002

∞Two sided P value based on Chi Square test

Ref: Reference category. All rates / ratios are calculated in comparison to this category

* And ** Total Deaths



Profile of Reproductive Health Care in Qatar

Health Care Expenditure in Qatar

Qatar provides Universal health care to all its citizens

Health Qatar Spending in Qatar was **15%** of national budget
till 2010

Health care spending in 2011 increased to **27%** of National
Budget

Maternal and Child Health care in Qatar

	1980	1986	1993	2000	2008	2010
% of pregnancies attended by TBA	100%	100%	100%	100%	100%	100%
% of deliveries attended by TBA	100%	100%	100%	100%	100%	100%
% of babies seen by trained person	100%	100%	100%	100%	100%	100%
Childhood immunization	80%	96-100%	96-100%	96-100%	97-100%	95 – 98%
Cases of Neonatal Tetanus	3	1	0	0	0	0

Maternal and Childhood Mortality in Qatar

Indicator	1980	1986	1993	2000	2008	2010
MMR	NA	NA	0	0	11.6	10.3
<5 MR	NA	NA	14.5	13.1	9.5	8.5
IMR	NA	NA	12.5	11.7	7.7	6.8




The Message

Socioeconomic associations of improved maternal, neonatal, and perinatal survival in Qatar

Sajjad Rahman^{1,2}
Khalil Salameh¹
Abdulbari Bener^{1,3}
Walid El Ansari⁴

Abstract: This retrospective study analyzed the temporal association between socioeconomic development indices and improved maternal, neonatal, and perinatal survival in the State of Qatar over a period of 35 years (1974–2008). We explored the association between reduction in poverty, improvement in maternal education, and perinatal health care on the one hand, and

Rahman S, Salameh K, Bener A, El Ansari W. Socioeconomic associations of improved maternal, neonatal, and perinatal survival in Qatar. IJWH 2010;2: 311–318

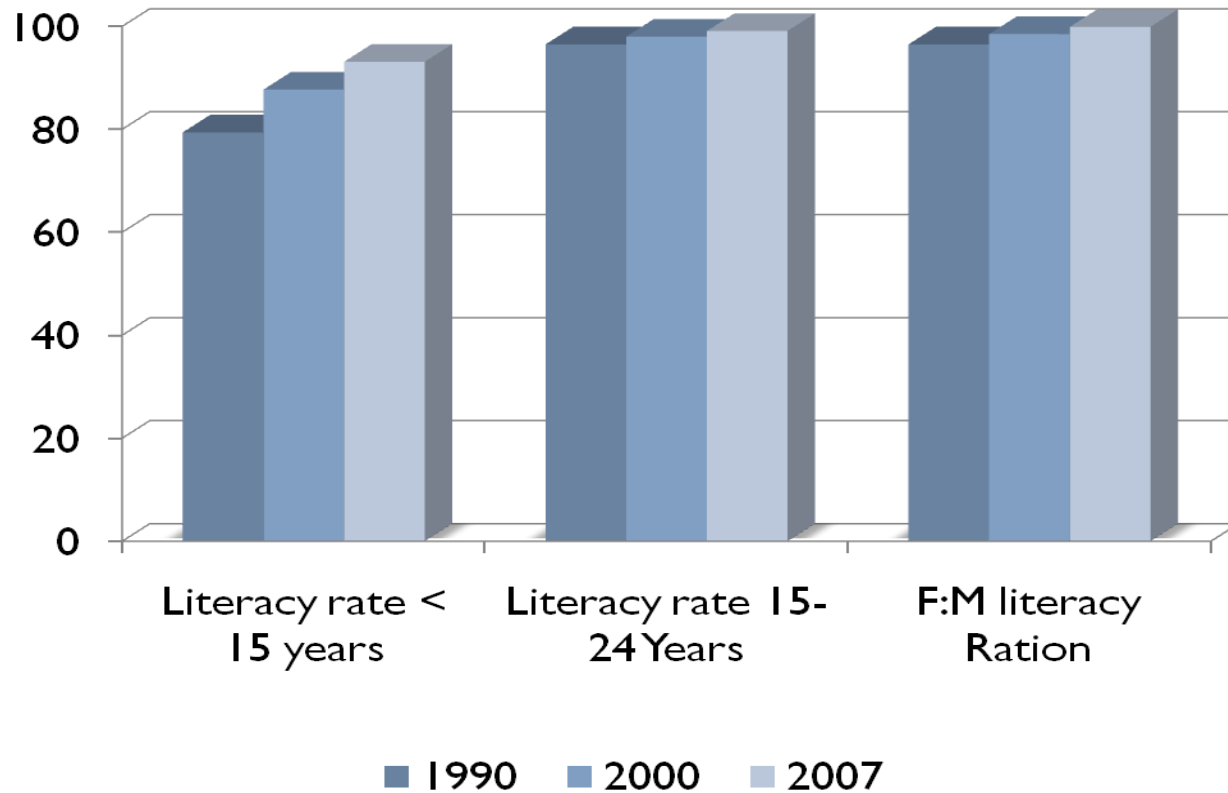


Reduction in poverty, high rates of maternal education, and improved perinatal health care were temporally associated with improved maternal, neonatal, and perinatal survival in the State of Qatar.

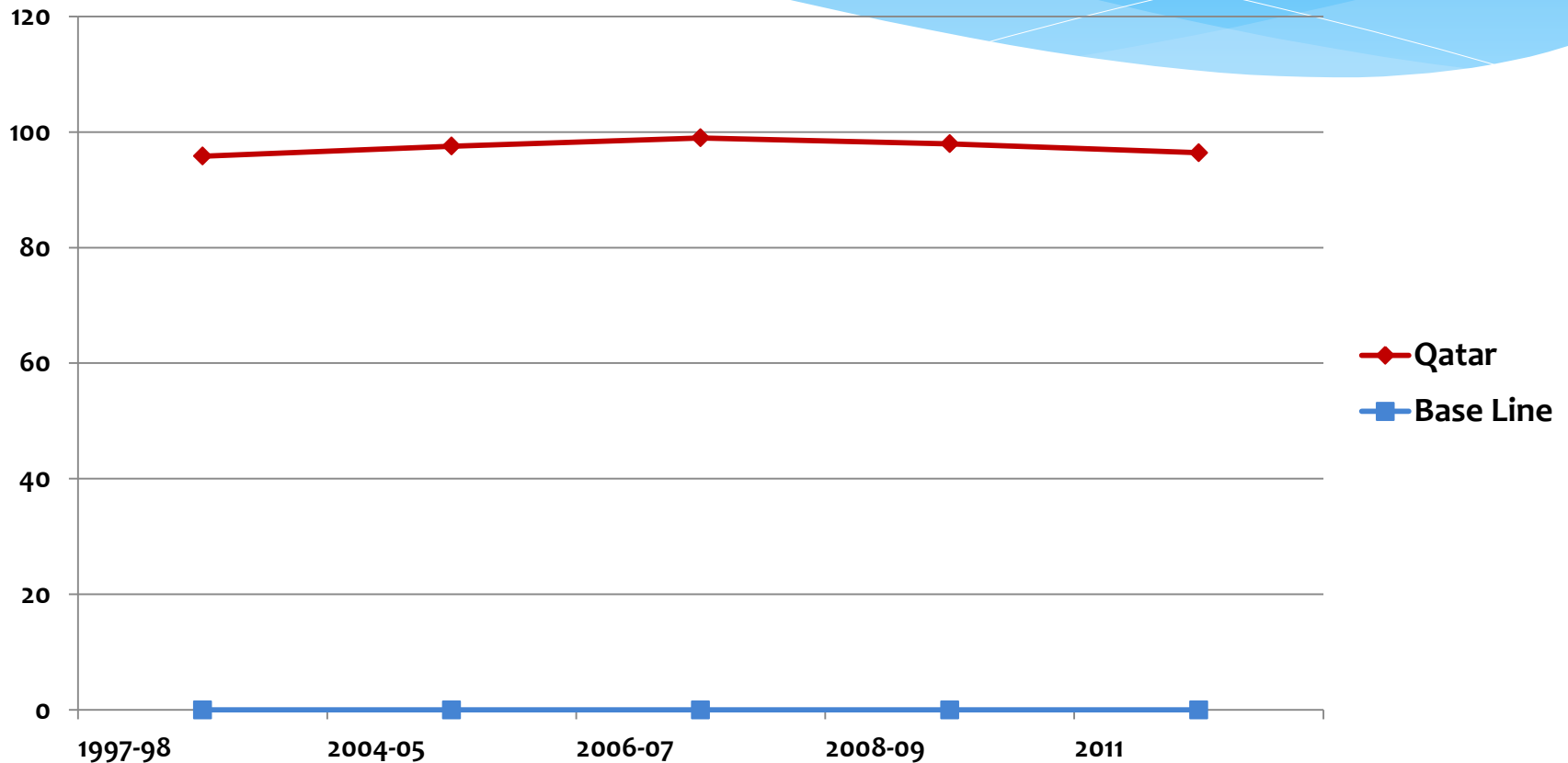
Rahman S, Salameh K, Bener A, El Ansari W. Socioeconomic associations of improved maternal, neonatal, and perinatal survival in Qatar. *IJWH* 2010;2: 311–318

Women's LITERACY RATE IN QATAR 1986-2007

Source: www.qsa.gov.qa



Female (15 – 24 Years) Literacy Rate over 15 years in Qatar



Source: www.indexmundi.com, Qatar Statistics Authority

Conclusion

Qatar's has successfully established a reproductive health system with universal access for all in spite of a rapidly growing multiethnic population.

Qatar's excellent maternal and newborn survival remains independent of ethnicity and social status.

Qatar 2010

Doha Corniche at Night





THANK YOU



Mother and Child First