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Characteristics of women with a pregnancy affected by neural tube defects in Queensland 1 July 2007 to 30 June 2010

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Neural tube defects (NTD) are major congenital anomalies that result from early disruption in the development of the brain and spinal cord. NTD are often incompatible with life and many women opt for a termination early in the pregnancy. It is widely accepted that increased folic acid intake around the time of conception is protective of NTD and Australia moved from voluntary to mandatory fortification of food stuffs in 2009¹.

This report describes the characteristics of women with pregnancies affected by a NTD in Queensland between 2007/2008 and 2009/2010. The data are extracted from the Queensland Hospital Admitted Patient Data Collection (QHAPDC: terminations of pregnancy prior to 20 weeks duration) and the Queensland Perinatal Data Collection (QPDC: live births and fetal deaths of at least 20 weeks gestation or 400 grams in birth weight). This allows for the best available surveillance of congenital anomalies from conception to the end of the perinatal period. However, it is recognised that this does not provide full surveillance as events such as spontaneous abortion are not captured.

Table 1: Incidence of neural tube defects by selected maternal characteristics: Queensland 2007/2008 to 2009/2010

	Incidence rate per 10,000 pregnancies			
	2007/ 2008	2008/ 2009	2009/ 2010	2007/2008 to 2009/2010
Incidence [n]	10.0 [73]	9.9 [74]	7.9 [59]	9.3 [206]
Maternal age				
< 35 years [n]	10.5 [62]	9.8 [59]	7.5 [45]	9.2 [166]
35+ years [n]	8.0 [11]	10.5 [15]	9.8 [14]	9.4 [40]
Country of birth				
Australia [n]	11.1 [65]	11.0 [65]	8.5 [49]	10.2 [179]
Overseas [n]	5.6 [8]	5.7 [9]	5.9 [10]	5.7 [27]
SEIFA ¹				
Most disadvantaged [n]	13.8 [20]	13.7 [21]	8.7 [13]	12.1 [54]
2 nd Quintile [n]	12.2 [18]	9.7 [15]	8.5 [13]	10.1 [46]
3 rd Quintile [n]	11.6 [17]	7.8 [12]	10.8 [16]	10.0 [45]
Most Advantaged [n]	6.2 [18]	9.1 [26]	5.8 [17]	7.0 [61]
(4 th – 5 th Quintile)				
ARIA ²				
Major cities [n]	7.6 [30]	8.4 [34]	7.7 [31]	7.9 [95]
Regional/remote [n]	12.8 [43]	11.6 [40]	8.2 [28]	10.9 [111]

Source:

Queensland Hospital Admitted Patient Data Collection (extracted August 2011);

Queensland Perinatal Data Collection (extracted August 2011; 2010 data were preliminary at the time of extraction)

¹SEIFA: Socioeconomic Indexes For Areas

²ARIA: Accessibility / Remoteness Index of Australia

There were 206 pregnancies affected by NTD in Queensland between 2007/2008 and 2009/2010. This corresponds to an incidence rate of 9.3 affected pregnancies per 10,000 pregnancies (Table 1). When compared to their respective comparison groups, NTD were more common among Australian born women, women residing in more disadvantaged regions and those residing outside of major cities. The incidence of NTD declined between 2007/2008 and 2009/2010 (Table 1). This decline was strongest among younger women, Australia born, and residents of disadvantaged and/or regional and remote areas. There was a sharp decline in the incidence of NTD among women in the most advantaged areas.

Related publications:

Stat Bite # 13: [Neural tube defects in Queensland: 1 July 2007 to 30](#)

Stat Bite # 14: [Trisomy 21 \(Down Syndrome\) in Queensland: 1 July 2007 to 30 June 2010](#)

Stat Bite # 18: [Characteristics of women with a pregnancy affected by Trisomy 21 in Queensland: 1 July 2007 to 30 June 2010](#)

References:

¹ Abeywardana S & Sullivan E 2008. Neural tube defects in Australia. An epidemiological report. Cat. No. PER 45. Sydney. AIHW National Perinatal Statistics Unit.