



Antenatal Screening in Queensland 1 July 2007 to 30 June 2010: Maternal characteristics

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Antenatal screening technology is increasingly utilised for routine monitoring of pregnancies in Queensland. Significant investment into implementing this technology in Queensland facilities has been made in recent years. This StatBite describes the coverage of antenatal screening of Queensland resident mothers, and their demographic characteristics, who gave birth in the three years from 1 July 2007 to 30 June 2010.

Data was drawn from the Queensland Perinatal Data Collection (QPDC). Information on whether an ultrasound scan (of any type) was performed during pregnancy, and the number of scans performed, has been collected in the QPDC for many years. However, information on three specific ultrasound scan types was first introduced into the QPDC in July 2007, namely nuchal translucency, morphological and assessment of chorionicity scans.

A nuchal translucency scan is generally offered to pregnant women between 11-14 weeks gestation to determine if the pregnancy is at higher risk of chromosomal anomalies, particularly Down Syndrome (Trisomy 21), but also Trisomy 13 and 18. A morphology scan is usually performed at approximately 19-20 weeks gestation to assess the development of the baby with good views of limbs and internal organs achievable at this stage, and to exclude any obvious problems with the pregnancy. A chorionicity scan is used to distinguish between twins that share a placenta and those who have separate ones, so that twins at a higher risk of complications can be monitored more closely.

It is noted that collection of ultrasound scan information may vary, particularly between public and private sector. In the public sector, mothers generally have these scans organised and completed by a general practitioner and/or the hospital providing antenatal care. As a result, the data is likely to appear in the mother's chart and can be recorded accurately by the midwife on the QPDC data collection form. Private sector facilities are generally dependent on information provided by an obstetrician or self reported by the mother, therefore accuracy of scan information may be inconsistent.

Table 1 provides a summary of the proportion of mothers who had received an antenatal scan during pregnancy. An ultrasound (of any type) is consistently being performed on nearly all pregnancies. The nuchal translucency scan has been increasingly performed during pregnancy, with the proportion increasing from 45.2% to 57.7% of mothers with singleton pregnancies between 2007/2008 to 2009/2010, and 58.7% to 70.1% of mothers with multiple pregnancies being screened over the same period. The morphology scan has been performed on the majority of pregnancies (up to 96.0% in 2009/2010). The proportion of mothers scanned for an assessment of the chorion (in multiple pregnancies) also increased from 45.3% in 2007/2008 to 64.0% in 2009/2010.

The demographic characteristics are described in Table 2. Most notable differences appear in very remote category (Table 2a) with only 18.9% of mothers receiving a nuchal translucency scan over the three year period compared to around half of mothers in all other areas. This is consistent with only 18.1% of Indigenous mothers receiving a nuchal translucency scan compared to 54.3% of non-Indigenous mothers (Table 2d). The proportion of nuchal translucency scans performed also increased with increasing socioeconomic advantaged categories (Table 2b), as well as increasing age (Table 2c).

Table 1: Proportion (%) of mothers who had a selected antenatal scan performed during pregnancy, Queensland, 2007/2008 to 2009/2010

Antenatal scan type	2007/ 2008	2008/ 2009	2009/ 2010
Ultrasound (any)	99.4	99.4	99.5
Nuchal Translucency			
Singleton	45.2	53.1	57.7
Multiple	58.7	63.2	70.1
Morphology			
Singleton	85.7	92.2	96.0
Multiple	82.2	90.3	96.0
Assessment of chorion (multiple only)*	45.3	52.2	64.0

* a very small number of chorion scans were performed on singleton pregnancies, but these cases were verified as high risk pregnancies for which the scans were warranted.

Source: Queensland Perinatal Data Collection, Queensland Health (extracted June 2011; 2010 data was preliminary at the time of extraction)

Table 2: Counts and proportion (%) of mothers who had a selected antenatal scan performed during pregnancy, Queensland, 2007/2008 to 2009/2010

(a) by remoteness[#] category

Antenatal scan type	Very remote	Remote	Outer Regional	Inner regional	Major city
Ultrasound (any)	2,811 (97.7)	3,391 (98.8)	33,179 (99.2)	45,823 (99.5)	94,168 (99.6)
Nuchal Translucency	543 (18.9)	1,810 (52.7)	14,526 (43.4)	20,959 (45.5)	56,423 (59.7)
Morphology	2,516 (87.5)	3,155 (91.9)	31,044 (92.8)	43,768 (95.1)	84,173 (89.0)
Assessment of chorion (multiple only) [*]	18 (56.3)	23 (53.5)	231 (49.6)	392 (53.2)	961 (55.0)
Total	2,876	3,432	33,447	46,037	94,573

(b) by socioeconomic advantage/disadvantage[†] category

Antenatal scan type	Most disadvantaged	Quintile2	Quintile3	Quintile4	Most advantaged
Ultrasound (any)	37,211 (99.0)	37,562 (99.4)	35,587 (99.5)	37,073 (99.6)	31,939 (99.7)
Nuchal Translucency	12,360 (32.9)	16,313 (43.2)	19,901 (55.7)	23,048 (61.9)	22,639 (70.7)
Morphology	34,541 (91.9)	35,332 (93.5)	33,299 (93.1)	33,580 (90.2)	27,904 (87.1)
Assessment of chorion (multiple only) [*]	285 (54.4)	345 (57.1)	325 (55.2)	331 (52.2)	339 (50.3)
Total	37,571	37,792	35,754	37,221	32,027

(c) by agegroup

Antenatal scan type	<20 years	20-24	25-29	30-34	35+
Ultrasound (any)	9,935 (99.0)	31,180 (99.2)	50,628 (99.5)	52,312 (99.6)	35,317 (99.5)
Nuchal Translucency	2,165 (21.6)	10,191 (32.4)	25,037 (49.2)	32,366 (61.6)	24,504 (69.0)
Morphology	9,241 (92.1)	28,990 (92.2)	46,743 (91.9)	47,640 (90.7)	32,042 (90.3)
Assessment of chorion (multiple only) [*]	34 (48.6)	168 (52.8)	415 (54.3)	539 (54.8)	469 (52.8)
Total	10,039	31,428	50,861	52,545	35,492

(d) by Indigenous status

Antenatal scan type	Indigenous	Non-Indigenous / not stated
Ultrasound (any)	9,624 (97.1)	169,748 (99.6)
Nuchal Translucency	1,791 (18.1)	92,470 (54.3)
Morphology	8,564 (86.4)	156,092 (91.6)
Assessment of chorion (multiple only) [*]	49 (41.2)	1,576 (54.2)
Total	9,909	170,456

[#] Remoteness measure: ARIA+ of usual place of residence

[†] socioeconomic measure: SEIFA Index of Relative Socio-economic Advantage and Disadvantage

* a very small number of chorion scans were performed on singleton pregnancies, but these cases were verified as high risk pregnancies for which the scans were warranted.

Source: Queensland Perinatal Data Collection, Queensland Health (extracted June 2011; 2010 data was preliminary at the time of extraction)