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22 July 2010

Dear Colleague

PERINATAL & INFANT MORTALITY SURVEY 2008/9 – STAFFORDSHIRE

This report relates to the newly formed **Staffordshire Cluster and its constituent PCTs**. It provides an update of mortality rates up to 2009 for stillbirths and neonatal deaths, and up to 2008 for infant deaths. PCT cohorts are defined here according to postcode.

Method

The regional information is based on the WM Perinatal Death Notifications (PDNs) which the Perinatal Institute receives from its network of co-ordinators in West Midlands units. The information may sometimes differ from the last ONS Vital Statistics because our data includes late ascertained cases which are notified to the PI on an ongoing basis. We have also implemented cross checks with the WM Safeguarding Children's Boards.

This report includes

- birth rate trend in Staffordshire, West Midlands (WM) and England & Wales (E&W);
- a short description of Staffordshire demographics based on PEER 09/10;
- numbers, rates and 3year moving averages for
 - stillbirths (from 24 weeks)
 - early neonatal deaths (birth to age 7 days)
 - perinatal deaths (stillbirths and early neonatal deaths)
 - neonatal deaths (birth to age 28 days)
 - infant deaths (birth to 12 months)

Although these categories overlap, the data are presented for ease of reference and comparison with other reports. Unlike previous national reports, we continue presenting trends by 3 year moving averages, as year-on-year variation may often falsely identify outliers.

As in previous years, we also present 'corrected' rates, whereby we exclude congenital anomalies and pre-viable births, to allow more useful comparisons between PCTs with different populations.

For stillbirths and infant deaths, we have undertaken the following additional analyses:

1. mortality rates plotted against deprivation index of the birth population: this allows each PCTs mortality rate to be seen within the context of the level of deprivation within its population;
2. analysis of stillbirths and infant deaths within major classification groups, to assess the main contributing causes.

Findings

1. Births

- a. As the graph shows, birth trends in Staffordshire and WM follow the national trend. The number of births have been increasing in recent years, but appear to have reached a plateau in 2009.
- b. In the table, several comparative maternity demographics are presented for Staffordshire and the rest of WM. The data confirm that, compared to the rest of the region, a higher proportion of Staffordshire residents are British European. The overall proportion of most deprived areas is lower than the rest of the region, but smoking at booking and in late pregnancy is significantly higher. Prematurity and growth restriction rates are similar to the rest of WM.

2. Stillbirth trends

- a. Staffordshire crude stillbirth rates are similar to the national average and lower than the rest of WM. They appear to have been falling gradually over the last few years.
- b. Correction by exclusion of congenital anomalies shows rates similar to that in the rest of WM.

3. Stillbirths and Deprivation:

This analysis is also repeated for crude and corrected figures, and shows that PCT rates are mostly within the expected range when adjusted for IMD score.

4. Stillbirth classification groups:

the largest category is intrauterine growth restriction (IUGR), with a suggestion of a recent (non-significant) downward trend. The relatively large group of 'unexplained/unclassified' cases is likely to be related to the low uptake of postmortems.

5. Infant deaths – trends

- a. Staffordshire infant death rates are similar to WM and E&W. There was a drop in Stoke ($p < 0.02$), mirrored since 2004-6 by a rise in North Staffordshire ($p = 0.16$, NS).
- b. Corrected rates (after exclusion of congenital anomalies and previable births) are also shown, and the respective trends for Stoke remain significant.

6. Infant deaths and deprivation:

the plots show mortality rates for the last triennium when adjusted by deprivation index. Stoke infant mortality rates are shown to be below the prediction line.

7. Infant death classification groups - trend analysis

suggests that the main categories have been stable over recent years, although there was a significant drop in SUDI rates ($p < 0.001$). The rates for the main infant death categories are displayed for each PCT and for the cluster, compared with the rest of the West Midlands.

Sections 8 & 9 show rates for subgroups of infant deaths (**early neonatal and neonatal**), and in section 10, rates for **perinatal deaths** are presented, with similar comparisons for crude and corrected rates.

Further analyses are currently being undertaken and will be reported in the coming weeks, including a more thorough analysis of subgroups of the WM maternity population.

Comments and suggestions for our reports are always welcome, and specific analyses continue to be available on request (www.pi.nhs.uk/data).

With sincere regards



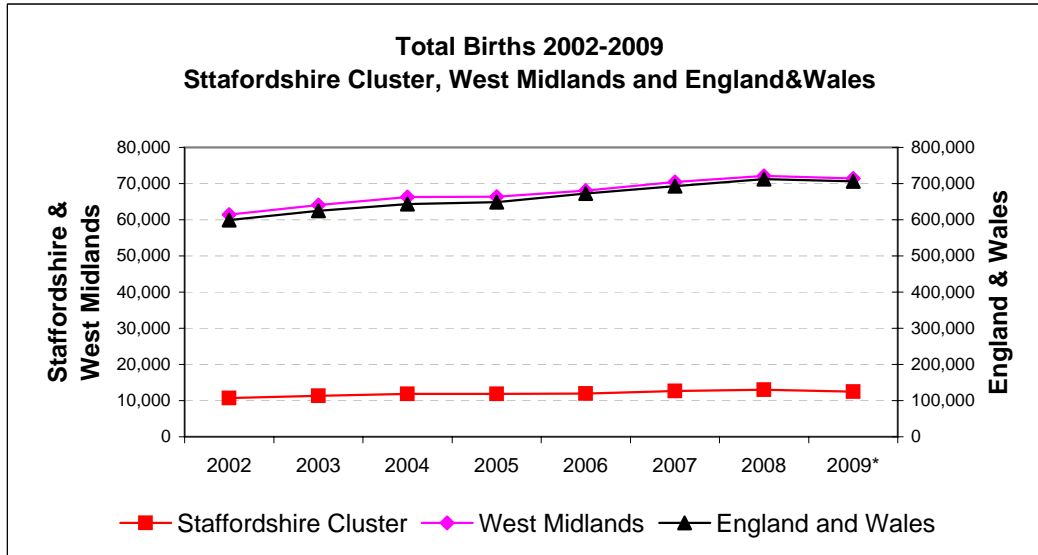
Professor Jason Gardosi
Director, West Midlands Perinatal Institute

1. Births: Staffordshire, West Midlands and England & Wales 2002-2009

Source: ONS

	2002	2003	2004	2005	2006	2007	2008	2009*
England and Wales	599,279	624,816	643,026	649,094	672,966	693,356	712,328	706,248
West Midlands	61,417	64,079	66,285	66,351	68,063	70,476	72,110	71,452
Staffordshire Cluster	10,704	11,314	11,864	11,894	11,934	12,656	13,023	12,519
North Staffordshire	1,830	2,001	2,081	2,066	1,942	2,059	2,128	2,091
South Staffordshire	5,933	6,278	6,472	6,444	6,576	6,915	6,950	6,778
Stoke on Trent	2,941	3,035	3,311	3,384	3,416	3,682	3,945	3,650

* Provisional, live births only



Data: PEER 2009/10

	Staffordshire	Rest of West Midlands	West Midlands Total		Staffordshire	Rest of West Midlands	West Midlands Total
Submissions:	9,673	38,826	48,499	Submissions:	9,673	38,826	48,499
Deprivation - IMD Quintile				Maternal Age			
1 (least)	12.6%	6.8%	8.0%	< 16	0.2%	0.2%	0.2%
2	17.8%	10.0%	11.5%	< 18	2.1%	2.0%	2.0%
3	17.8%	15.4%	15.9%	< 20	8.0%	7.2%	7.4%
4	21.3%	20.2%	20.4%	20 - 24	23.9%	22.8%	23.0%
5 (most)	30.5%	47.6%	44.2%	25 - 29	28.8%	29.3%	29.2%
Ethnic Origin				30 - 34	23.4%	24.5%	24.3%
African	1.2%	4.1%	3.5%	35 - 39	13.1%	13.1%	13.1%
African Caribbean	0.3%	2.7%	2.3%	35+	15.9%	16.2%	16.1%
British European	86.4%	62.1%	67.0%	40+	2.9%	3.0%	3.0%
Eastern European	2.2%	3.1%	2.9%	Body Mass Index			
Middle Eastern	0.4%	1.5%	1.3%	< 18.5	3.0%	3.4%	3.3%
South Asian	5.4%	20.7%	17.6%	18.5 - 24.9	48.2%	47.9%	48.0%
Bangladeshi	0.5%	2.6%	2.1%	25 - 29.9	28.2%	28.2%	28.2%
Indian	1.0%	6.0%	5.0%	30 - 34.9	12.6%	12.9%	12.8%
Pakistani	3.9%	12.1%	10.4%	35 - 39.9	5.4%	5.2%	5.2%
Other/Mixed	4.1%	5.8%	5.5%	30+	20.6%	20.4%	20.4%
Smoking				35+	7.9%	7.5%	7.6%
At booking	22.6%	18.5%	19.3%	40+	2.5%	2.4%	2.4%
Late in pregnancy	17.3%	13.1%	14.0%	Prematurity			
Ceased During Pregn.	24.3%	26.5%	25.9%	< 37 Weeks	7.0%	6.7%	6.7%
IUGR (<10th cust.cent.)	14.1%	14.3%	14.2%	< 34 Weeks	2.0%	2.2%	2.1%

2 A: Stillbirths 2002-2009

Numbers

	2002	2003	2004	2005	2006	2007	2008	2009
England and Wales*	3365	3565	3517	3473	3590	3585	3617	
West Midlands	391	395	383	403	392	398	416	414
Staffordshire Cluster	55	59	57	77	70	62	69	67
North Staffordshire	10	9	9	14	12	6	18	6
South Staffordshire	27	26	27	36	37	33	33	38
Stoke on Trent	18	24	21	27	21	23	18	23

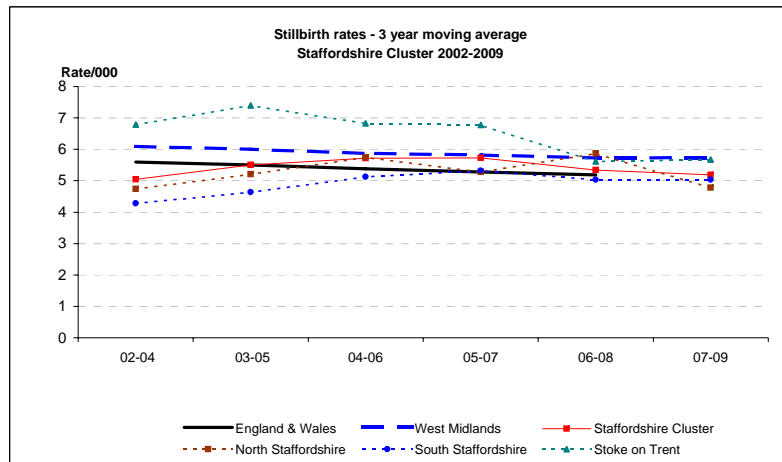
Rate/1,000

	2002	2003	2004	2005	2006	2007	2008	2009	2009 CI
England and Wales*	5.6	5.7	5.5	5.4	5.3	5.2	5.1		
West Midlands	6.4	6.2	5.8	6.1	5.8	5.6	5.8	5.8	5.3 - 6.4
Staffordshire Cluster	5.1	5.2	4.8	6.5	5.9	4.9	5.3	5.4	4.2 - 6.8
North Staffordshire	5.5	4.5	4.3	6.8	6.2	2.9	8.5	2.9	1.3 - 6.2
South Staffordshire	4.6	4.1	4.2	5.6	5.6	4.8	4.7	5.6	4.1 - 7.7
Stoke on Trent	6.1	7.9	6.3	8.0	6.1	6.2	4.6	6.3	4.2 - 9.4

3 year moving averages

	02-04	03-05	04-06	05-07	06-08	07-09
England & Wales	5.6	5.5	5.4	5.3	5.2	
West Midlands	6.1	6.0	5.9	5.8	5.7	5.7
Staffordshire Cluster	5.0	5.5	5.7	5.7	5.3	5.2
North Staffordshire	4.7	5.2	5.7	5.3	5.9	4.8
South Staffordshire	4.3	4.6	5.1	5.3	5.0	5.0
Stoke on Trent	6.8	7.4	6.8	6.8	5.6	5.7

*ONS



2 B: Stillbirths 2002-2009 - CORRECTED

Corrected = excluding major congenital anomalies

Numbers

	2002	2003	2004	2005	2006	2007	2008	2009
West Midlands	282	284	279	311	268	284	290	259
Staffordshire Cluster	41	49	38	59	47	47	55	49
North Staffordshire	8	9	8	12	8	4	14	3
South Staffordshire	19	23	17	26	24	25	26	28
Stoke on Trent	14	17	13	21	15	18	15	18

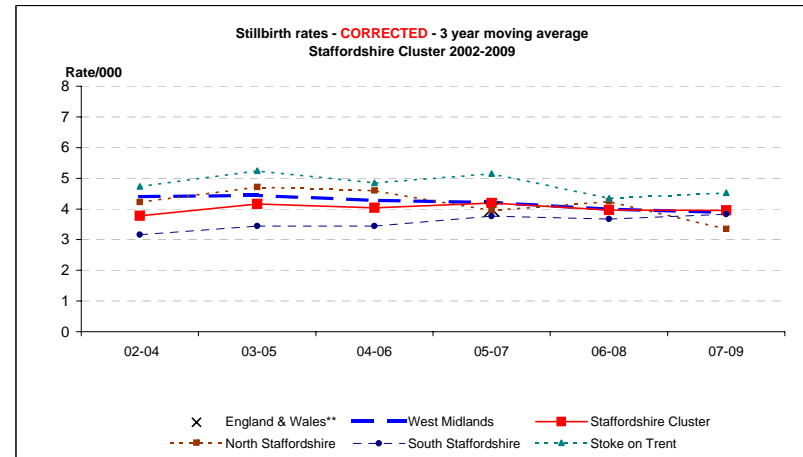
Rate/1,000

	2002	2003	2004	2005	2006	2007	2008	2009	2009 CI
England and Wales**				4.1	4.1	3.9			
West Midlands	4.6	4.4	4.2	4.7	3.9	4.0	4.0	3.6	3.2 - 4.1
Staffordshire Cluster	3.8	4.3	3.2	5.0	3.9	3.7	4.2	3.9	3.0 - 5.2
North Staffordshire	4.4	4.5	3.8	5.8	4.1	1.9	6.6	1.4	0.5 - 4.2
South Staffordshire	3.2	3.7	2.6	4.0	3.6	3.6	3.7	4.1	2.9 - 6.0
Stoke on Trent	4.8	5.6	3.9	6.2	4.4	4.9	3.8	4.9	3.1 - 7.8

3 year moving averages

	02-04	03-05	04-06	05-07	06-08	07-09
England & Wales**				4.0		
West Midlands	4.4	4.4	4.3	4.2	4.0	3.9
Staffordshire Cluster	3.8	4.2	4.0	4.2	4.0	4.0
North Staffordshire	4.2	4.7	4.6	4.0	4.2	3.3
South Staffordshire	3.2	3.4	3.4	3.8	3.7	3.8
Stoke on Trent	4.7	5.2	4.8	5.2	4.3	4.5

**CEMACH



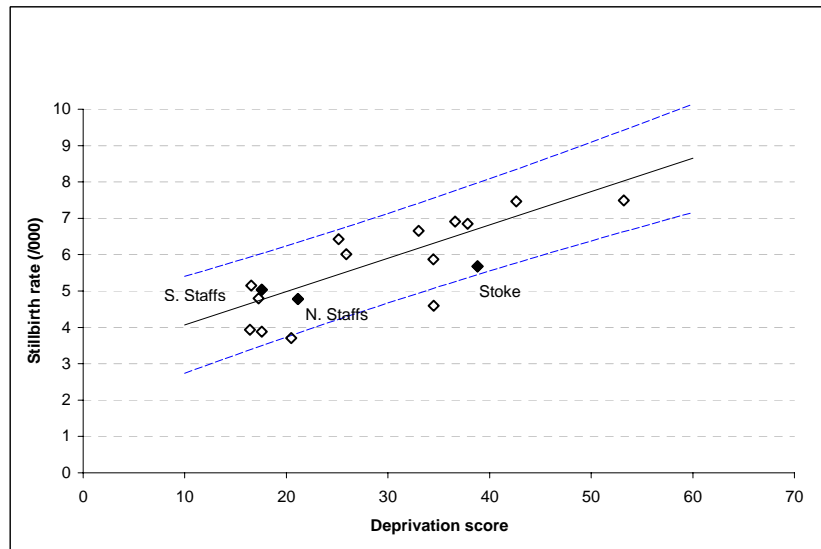
x = England & Wales 3 y adjusted average from CEMACH

3. Stillbirths and Deprivation, Staffordshire PCTs

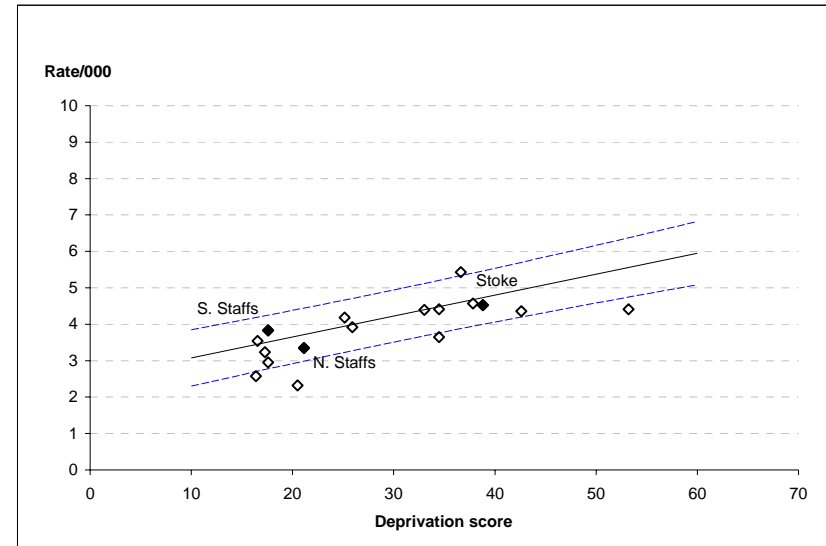
Graphs show stillbirth rates for the last triennium (2007-9) for Staffordshire PCTs, plotted against each PCT's respective deprivation score (IMD 2007).

Regression line with 90% prediction intervals (based on 2002-2009 data) are also shown

A. Crude rates



B. Corrected rates - after excluding major congenital anomalies



4. Stillbirths in Staffordshire, 2002-2009: Classification in main groups

Groups based on ReCoDe classification

	2002	2003	2004	2005	2006	2007	2008	2009
Births	10704	11314	11864	11894	11934	12656	13023	12519

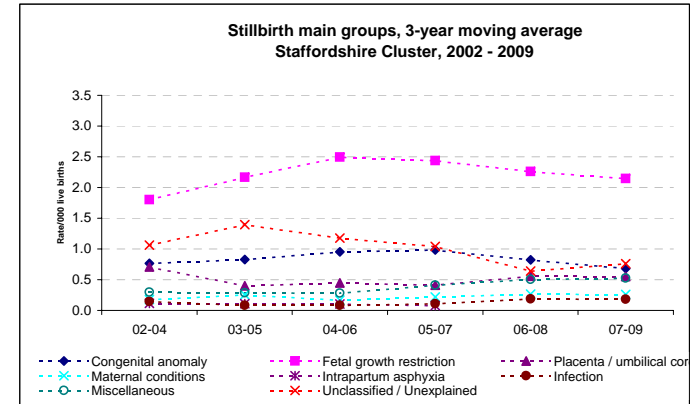
MAIN GROUPS

Numbers

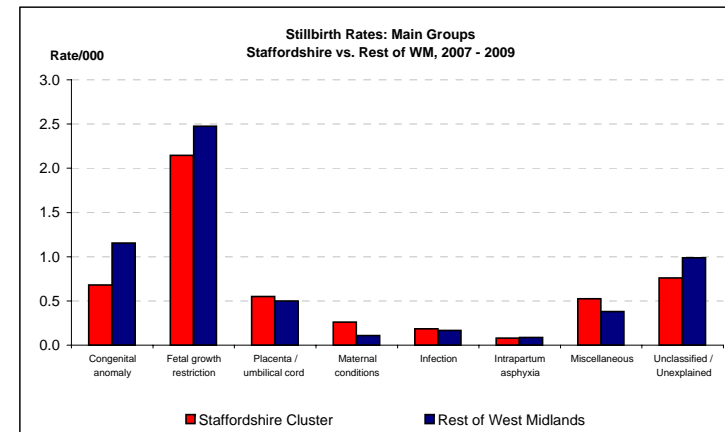
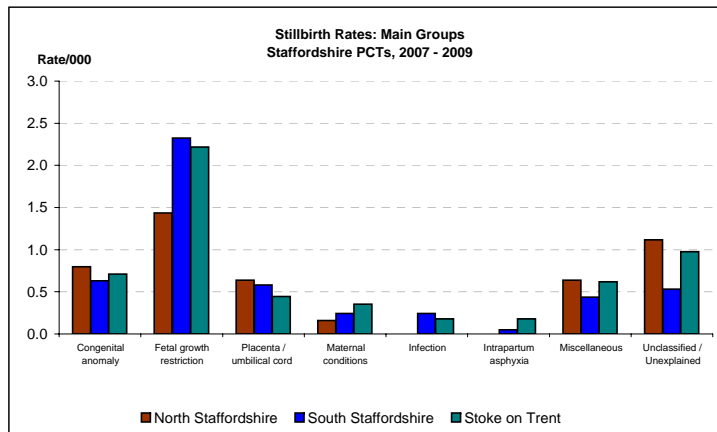
Congenital anomaly	9	7	10	12	12	12	7	7
Fetal growth restriction	17	21	23	32	34	23	28	31
Placenta/Umbilical cord	14	6	4	4	8	3	10	8
Maternal conditions	0	3	3	3	0	5	5	0
Infection	3	2	0	1	2	1	4	2
Intrapartum asphyxia	1	2	0	1	3	0	1	2
Miscellaneous	3	3	4	3	3	9	7	4
Unclassified / Unexplained	8	15	13	21	8	9	7	13

3-year moving averages

	02-04	03-05	04-06	05-07	06-08	07-09
Congenital anomaly	0.8	0.8	1.0	1.0	0.8	0.7
Fetal growth restriction	1.8	2.2	2.5	2.4	2.3	2.1
Placenta / umbilical cord	0.7	0.4	0.4	0.4	0.6	0.5
Maternal conditions	0.2	0.3	0.2	0.2	0.3	0.3
Infection	0.1	0.1	0.1	0.1	0.2	0.2
Intrapartum asphyxia	0.1	0.1	0.1	0.1	0.1	0.1
Miscellaneous	0.3	0.3	0.3	0.4	0.5	0.5
Unclassified / Unexplained	1.1	1.4	1.2	1.0	0.6	0.8



Births 2007-9	North Staffordshire 6,278		South Staffordshire 20,643		Stoke on Trent 11,277		Staffordshire Cluster 38,198		Rest of West Midlands 175,840	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
MAIN GROUPS - 2007-9										
Congenital anomaly	5	0.8	13	0.6	8	0.7	26	0.7	203	1.2
Fetal growth restriction	9	1.4	48	2.3	25	2.2	82	2.1	435	2.5
Placenta / umbilical cord	4	0.6	12	0.6	5	0.4	21	0.5	88	0.5
Maternal conditions	1	0.2	5	0.2	4	0.4	10	0.3	19	0.1
Infection	0	0.0	5	0.2	2	0.2	7	0.2	29	0.2
Intrapartum asphyxia	0	0.0	1	0.0	2	0.2	3	0.1	15	0.1
Miscellaneous	4	0.6	9	0.4	7	0.6	20	0.5	67	0.4
Unclassified / Unexplained	7	1.1	11	0.5	11	1.0	29	0.8	174	1.0



5 A: Infant Deaths 2002-2008

Numbers

	2002	2003	2004	2005	2006	2007	2008
England and Wales*	3144	3274	3234	3217	3329	3309	3369
West Midlands	407	476	419	423	407	421	456
Staffordshire Cluster	72	86	68	73	69	80	66
North Staffordshire	9	11	9	7	5	17	15
South Staffordshire	32	47	33	38	40	44	29
Stoke on Trent	31	28	26	28	24	19	22

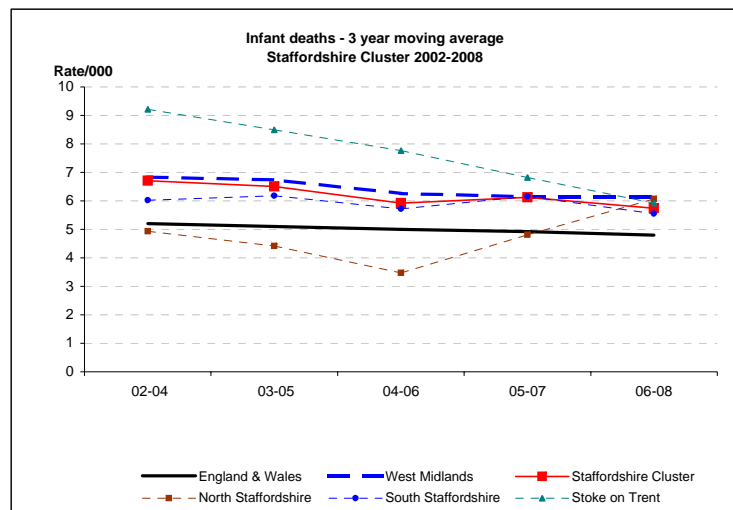
Rate/1,000

	2002	2003	2004	2005	2006	2007	2008	2008 CI
England and Wales*	5.3	5.3	5.1	5.0	5.0	4.8	4.8	4.6 - 4.9
West Midlands	6.7	7.5	6.4	6.4	6.0	6.0	6.4	5.8 - 7.0
Staffordshire Cluster	6.8	7.6	5.8	6.2	5.8	6.4	5.1	4.0 - 6.5
North Staffordshire	4.9	5.5	4.3	3.4	2.6	8.3	7.1	4.3 - 11.7
South Staffordshire	5.4	7.5	5.1	5.9	6.1	6.4	4.2	2.9 - 6.0
Stoke on Trent	10.6	9.3	7.9	8.3	7.1	5.2	5.6	3.7 - 8.5

3 year moving average

	02-04	03-05	04-06	05-07	06-08
England & Wales	5.2	5.1	5.0	4.9	4.8
West Midlands	6.8	6.7	6.3	6.1	6.1
Staffordshire Cluster	6.7	6.5	5.9	6.1	5.7
North Staffordshire	4.9	4.4	3.5	4.8	6.1
South Staffordshire	6.0	6.2	5.7	6.2	5.6
Stoke on Trent	9.2	8.5	7.8	6.8	5.9

*ONS



5 B: Infant deaths 2002-2008 - CORRECTED

Corrected = excluding major congenital anomalies, <22 weeks gestation and <500g birthweight. NB - rates not available for E&W

Numbers

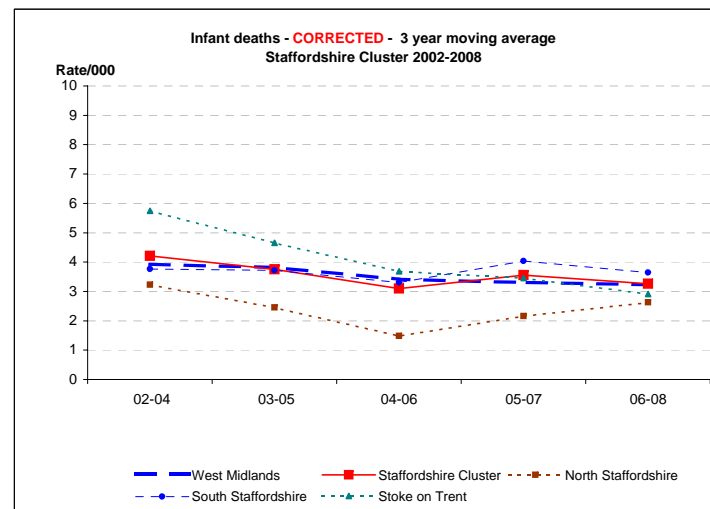
	2002	2003	2004	2005	2006	2007	2008
West Midlands	238	275	236	235	209	228	239
Staffordshire Cluster	49	57	36	38	36	55	31
North Staffordshire	7	8	4	3	2	8	6
South Staffordshire	21	30	19	22	23	35	16
Stoke on Trent	21	19	13	13	11	12	9

Rate/1,000

	2002	2003	2004	2005	2006	2007	2008	2008 CI
West Midlands	3.9	4.3	3.6	3.6	3.1	3.3	3.3	2.9 - 3.8
Staffordshire Cluster	4.6	5.1	3.0	3.2	3.0	4.4	2.4	1.7 - 3.4
North Staffordshire	3.8	4.0	1.9	1.5	1.0	3.9	2.8	1.3 - 6.2
South Staffordshire	3.6	4.8	2.9	3.4	3.5	5.1	2.3	1.4 - 3.8
Stoke on Trent	7.2	6.3	4.0	3.9	3.2	3.3	2.3	1.2 - 4.4

3 year moving average

	02-04	03-05	04-06	05-07	06-08
West Midlands	3.9	3.8	3.4	3.3	3.2
Staffordshire Cluster	4.2	3.8	3.1	3.6	3.3
North Staffordshire	3.2	2.5	1.5	2.2	2.6
South Staffordshire	3.8	3.7	3.3	4.0	3.6
Stoke on Trent	5.7	4.7	3.7	3.5	2.9

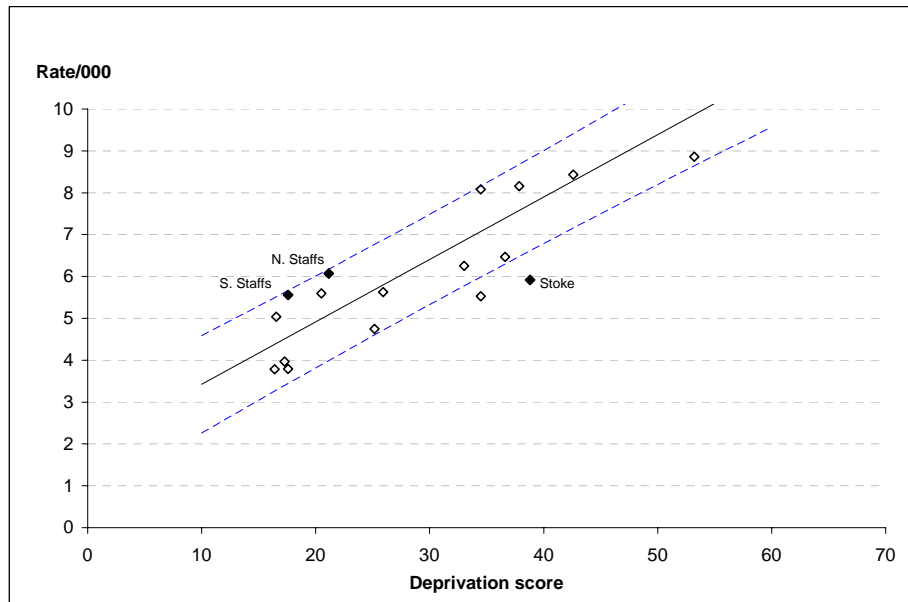


6. Infant deaths and Deprivation, Staffordshire PCTs

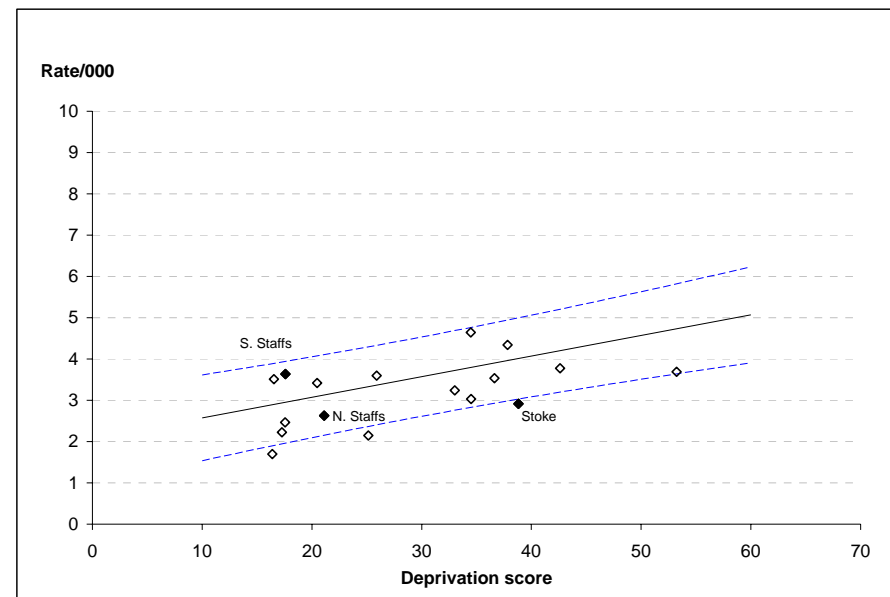
Graphs show infant deaths for the last available triennium (2006-8) for Staffordshire PCTs, plotted against each PCT's respective deprivation score (IMD 2007).

Regression line with 90% prediction intervals (based on 2002-2008 data) are also shown

a. Crude rates



B. Corrected rates (after excluding major congenital anomalies and neonatal deaths <22 weeks and/or <500g)



7. Infant Deaths in Staffordshire, 2002-2008: main groups

Groups based on Fetal/Neonatal/Infant classification

	2002	2003	2004	2005	2006	2007	2008
Live Births	10649	11255	11807	11817	11864	12594	12954

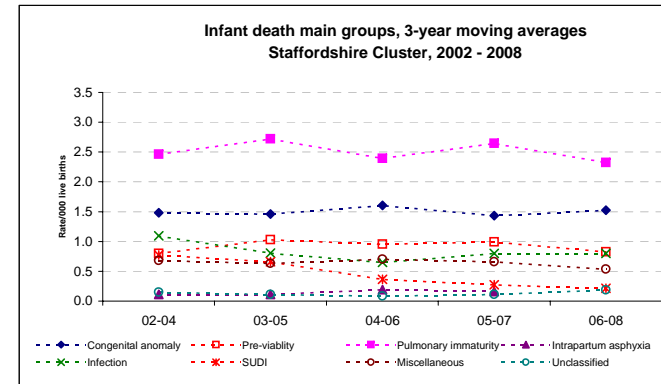
MAIN GROUPS - 2002-8

Numbers

Congenital anomaly	13	17	20	14	23	15	19
Pre-viability	8	11	8	17	9	10	12
Pulmonary immaturity	25	34	24	37	24	35	28
Intrapartum asphyxia	0	2	0	2	2	3	1
Infection	16	13	8	7	8	14	8
SUDI	7	12	7	4	2	4	2
Miscellaneous	7	7	9	6	10	8	2
Unclassified	4	1	0	3	0	1	6

3-year moving averages

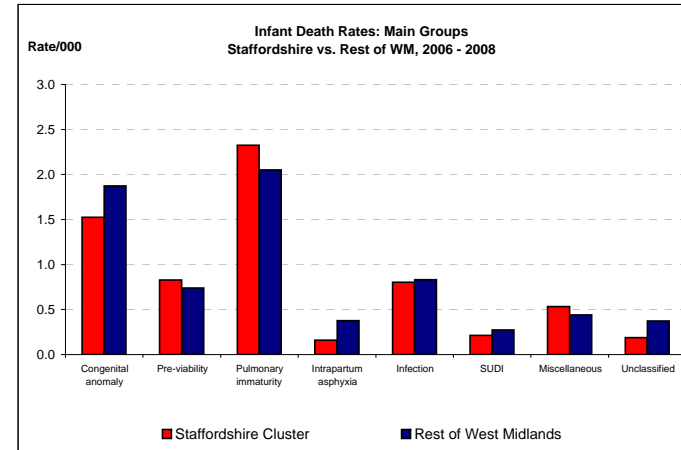
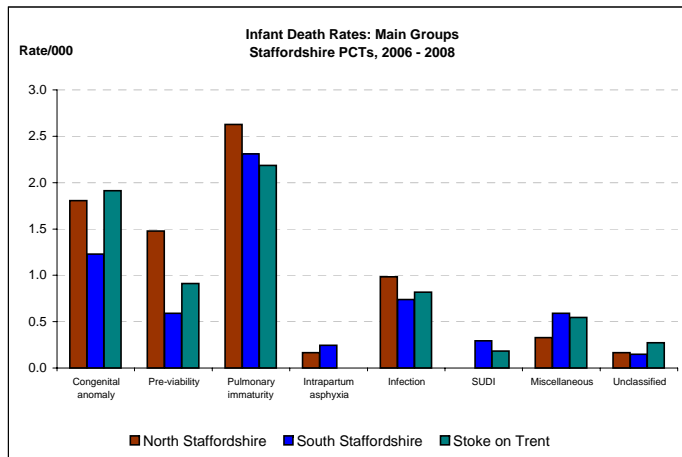
	02-04	03-05	04-06	05-07	06-08
Congenital anomaly	1.5	1.5	1.6	1.4	1.5
Pre-viability	0.8	1.0	1.0	1.0	0.8
Pulmonary immaturity	2.5	2.7	2.4	2.6	2.3
Intrapartum asphyxia	0.1	0.1	0.1	0.2	0.2
Infection	1.1	0.8	0.6	0.8	0.8
SUDI	0.8	0.7	0.4	0.3	0.2
Miscellaneous	0.7	0.6	0.7	0.7	0.5
Unclassified	0.1	0.1	0.1	0.1	0.2



	North Staffordshire	South Staffordshire	Stoke on Trent	Staffordshire Cluster	Rest of West Midlands
Live Births 2006-8	6093	20338	10981	37412	172031

MAIN GROUPS - 2006-8

	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Congenital anomaly	11	1.8	25	1.2	21	1.9	57	1.5	322	1.9
Pre-viability	9	1.5	12	0.6	10	0.9	31	0.8	127	0.7
Pulmonary immaturity	16	2.6	47	2.3	24	2.2	87	2.3	353	2.1
Intrapartum asphyxia	1	0.2	5	0.2	0	0.0	6	0.2	65	0.4
Infection	6	1.0	15	0.7	9	0.8	30	0.8	143	0.8
SUDI		0.0	6	0.3	2	0.2	8	0.2	47	0.3
Miscellaneous	2	0.3	12	0.6	6	0.5	20	0.5	76	0.4
Unclassified	1	0.2	3	0.1	3	0.3	7	0.2	64	0.4



8 A: Early Neonatal deaths 2002-2009

Early neonatal = birth to age 7 days

Numbers

	2002	2003	2004	2005	2006	2007	2008	2009
England and Wales*	1628	1726	1714	1681	1750	1762	1763	
West Midlands	234	266	255	270	245	268	258	246
Staffordshire Cluster	33	52	43	50	43	56	44	42
North Staffordshire	4	7	4	5	3	14	13	8
South Staffordshire	14	27	22	26	24	33	20	21
Stoke on Trent	15	18	17	19	16	9	11	13

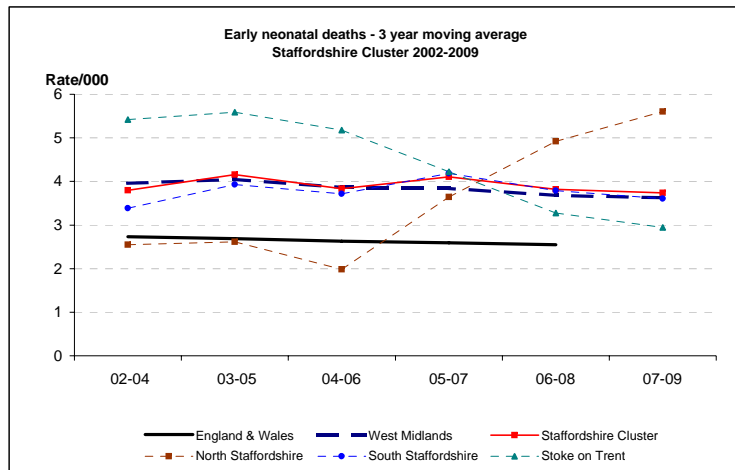
Rate/1,000

	2002	2003	2004	2005	2006	2007	2008	2009	2009 CI
England and Wales*	2.7	2.8	2.7	2.6	2.6	2.6	2.5		
West Midlands	3.8	4.2	3.9	4.1	3.6	3.8	3.6	3.5	3.1 - 3.9
Staffordshire Cluster	3.1	4.6	3.6	4.2	3.6	4.4	3.4	3.4	2.5 - 4.6
North Staffordshire	2.2	3.5	1.9	2.4	1.6	6.8	6.2	3.8	1.9 - 7.6
South Staffordshire	2.4	4.3	3.4	4.1	3.7	4.8	2.9	3.1	2.0 - 4.8
Stoke on Trent	5.1	6.0	5.2	5.7	4.7	2.5	2.8	3.6	2.1 - 6.1

3 year moving averages

	02-04	03-05	04-06	05-07	06-08	07-09
England & Wales	2.7	2.7	2.6	2.6	2.6	
West Midlands	4.0	4.0	3.9	3.8	3.7	3.6
Staffordshire Cluster	3.8	4.2	3.8	4.1	3.8	3.7
North Staffordshire	2.5	2.6	2.0	3.6	4.9	5.6
South Staffordshire	3.4	3.9	3.7	4.2	3.8	3.6
Stoke on Trent	5.4	5.6	5.2	4.2	3.3	2.9

*ONS



8 B: Early Neonatal Deaths 2002-2009 - CORRECTED

Corrected = excluding major congenital anomalies, <22 weeks gestation and <500g birthweight

Numbers

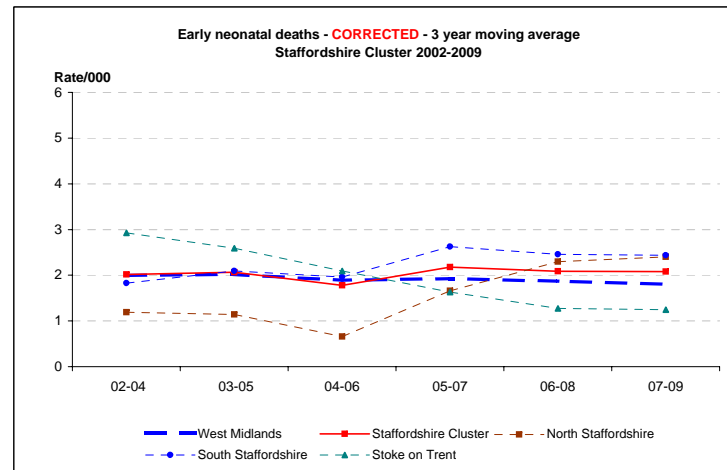
	2002	2003	2004	2005	2006	2007	2008	2009
West Midlands	118	134	129	131	117	144	130	110
Staffordshire Cluster	17	30	21	21	21	37	20	22
North Staffordshire	2	4	1	2	1	7	6	2
South Staffordshire	7	15	12	13	13	26	11	13
Stoke on Trent	8	11	8	6	7	4	3	7

Rate/1,000

	2002	2003	2004	2005	2006	2007	2008	2009	2009 CI
West Midlands	1.9	2.1	2.0	2.0	1.7	2.1	1.8	1.5	1.3 - 1.9
Staffordshire Cluster	1.6	2.7	1.8	1.8	1.8	2.9	1.5	1.8	1.2 - 2.7
North Staffordshire	1.1	2.0	0.5	1.0	0.5	3.4	2.8	1.0	0.3 - 3.5
South Staffordshire	1.2	2.4	1.9	2.0	2.0	3.8	1.6	1.9	1.1 - 3.3
Stoke on Trent	2.7	3.7	2.4	1.8	2.1	1.1	0.8	1.9	0.9 - 4.0

3 year moving averages

	02-04	03-05	04-06	05-07	06-08	07-09
West Midlands	2.0	2.0	1.9	1.9	1.9	1.8
Staffordshire Cluster	2.0	2.1	1.8	2.2	2.1	2.1
North Staffordshire	1.2	1.1	0.7	1.7	2.3	2.4
South Staffordshire	1.8	2.1	2.0	2.6	2.5	2.4
Stoke on Trent	2.9	2.6	2.1	1.6	1.3	1.2



9 A: Neonatal deaths 2002-2009

Neonatal = birth to age 28 days

Numbers

	2002	2003	2004	2005	2006	2007	2008	2009
England and Wales*	2129	2234	2223	2205	2331	2269	2299	
West Midlands	294	329	314	327	316	316	321	321
Staffordshire Cluster	48	60	53	60	55	66	49	58
North Staffordshire	6	8	5	7	3	17	14	12
South Staffordshire	20	30	26	32	32	36	23	28
Stoke on Trent	22	22	22	21	20	13	12	18

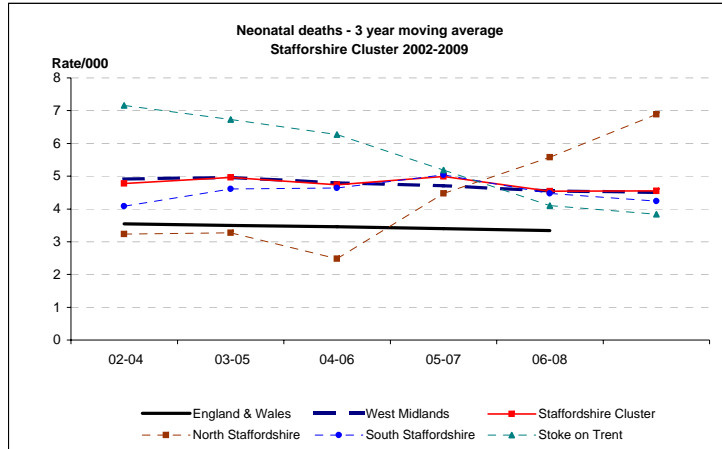
Rate/1,000

	2002	2003	2004	2005	2006	2007	2008	2009	2009 CI
England and Wales*	3.6	3.6	3.5	3.4	3.5	3.3	3.2		
West Midlands	4.8	5.2	4.8	5.0	4.7	4.5	4.5	4.5	4.1 - 5.0
Staffordshire Cluster	4.5	5.3	4.5	5.1	4.6	5.2	3.8	4.7	3.6 - 6.0
North Staffordshire	3.3	4.0	2.4	3.4	1.6	8.3	6.6	5.8	3.3 - 10.0
South Staffordshire	3.4	4.8	4.0	5.0	4.9	5.2	3.3	4.2	2.9 - 6.0
Stoke on Trent	7.5	7.3	6.7	6.3	5.9	3.6	3.1	5.0	3.1 - 7.8

3 year moving averages

	02-04	03-05	04-06	05-07	06-08	07-09
England & Wales	3.5	3.5	3.5	3.4	3.3	
West Midlands	4.9	5.0	4.8	4.7	4.6	4.5
Staffordshire Cluster	4.8	5.0	4.7	5.0	4.5	4.6
North Staffordshire	3.2	3.3	2.5	4.5	5.6	6.9
South Staffordshire	4.1	4.6	4.6	5.0	4.5	4.2
Stoke on Trent	7.2	6.7	6.3	5.2	4.1	3.8

*ONS



9 B: Neonatal Deaths 2002-2009 - CORRECTED

Corrected = excluding major congenital anomalies, <22 weeks gestation and <500g birthweight

Numbers

	2002	2003	2004	2005	2006	2007	2008	2009
West Midlands	157	176	166	172	168	172	168	149
Staffordshire Cluster	31	37	26	29	30	44	21	30
North Staffordshire	4	5	1	3	1	8	6	5
South Staffordshire	13	18	16	18	20	28	12	15
Stoke on Trent	14	14	9	8	9	8	3	10

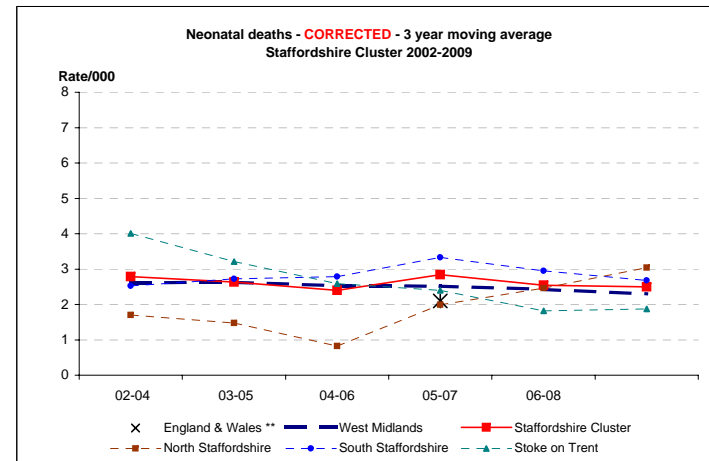
Rate/1,000

	2002	2003	2004	2005	2006	2007	2008	2009	2009 CI
England and Wales**				2.1	2.3	2.0			
West Midlands	2.6	2.8	2.5	2.6	2.5	2.5	2.3	2.1	1.8 - 2.5
Staffordshire Cluster	2.9	3.3	2.2	2.5	2.5	3.5	1.6	2.4	1.7 - 3.4
North Staffordshire	2.2	2.5	0.5	1.5	0.5	3.9	2.8	2.4	1.0 - 5.6
South Staffordshire	2.2	2.9	2.5	2.8	3.1	4.1	1.7	2.2	1.3 - 3.7
Stoke on Trent	4.8	4.6	2.7	2.4	2.7	2.2	0.8	2.8	1.5 - 5.1

3 year moving averages

	02-04	03-05	04-06	05-07	06-08	07-09
England & Wales**				2.1		
West Midlands	2.6	2.6	2.5	2.5	2.4	2.3
Staffordshire Cluster	2.8	2.6	2.4	2.8	2.5	2.5
North Staffordshire	1.7	1.5	0.8	2.0	2.5	3.0
South Staffordshire	2.5	2.7	2.8	3.3	3.0	2.7
Stoke on Trent	4.0	3.2	2.6	2.4	1.8	1.9

**CEMACH



X = England & Wales 3 y adjusted average, from CEMACH

10 A: Perinatal Deaths 2002-2009

Perinatal = stillbirths and early neonatal deaths

Numbers

	2002	2003	2004	2005	2006	2007	2008	2009
England and Wales*	4993	5291	5231	5154	5340	5347	5380	
West Midlands	625	661	638	673	637	666	674	656
Staffordshire Cluster	88	111	100	127	113	118	113	109
North Staffordshire	14	16	13	19	15	20	31	14
South Staffordshire	41	53	49	62	61	66	53	59
Stoke on Trent	33	42	38	46	37	32	29	36

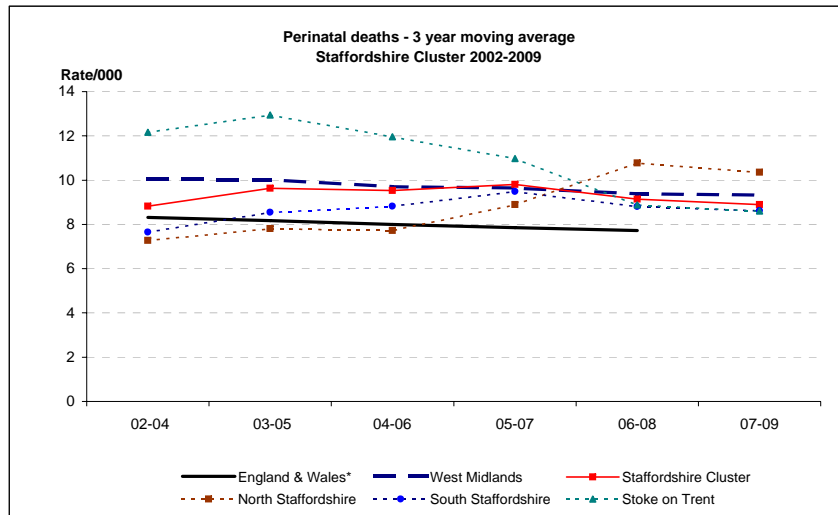
Rate/1,000

	2002	2003	2004	2005	2006	2007	2008	2009	2009 CI
England and Wales*	8.3	8.5	8.1	7.9	7.9	7.7	7.6		
West Midlands	10.2	10.3	9.6	10.1	9.4	9.5	9.3	9.2	8.5 - 9.9
Staffordshire Cluster	8.2	9.8	8.4	10.7	9.5	9.3	8.7	8.7	7.2 - 10.5
North Staffordshire	7.7	8.0	6.2	9.2	7.7	9.7	14.6	6.7	4.0 - 11.2
South Staffordshire	6.9	8.4	7.6	9.6	9.3	9.5	7.6	8.7	6.8 - 11.2
Stoke on Trent	11.2	13.8	11.5	13.6	10.8	8.7	7.4	9.9	7.1 - 13.6

3 year moving averages

	02-04	03-05	04-06	05-07	06-08	07-09
England & Wales*	8.3	8.2	8.0	7.9	7.7	
West Midlands	10.0	10.0	9.7	9.6	9.4	9.3
Staffordshire Cluster	8.8	9.6	9.5	9.8	9.1	8.9
North Staffordshire	7.3	7.8	7.7	8.9	10.8	10.4
South Staffordshire	7.7	8.5	8.8	9.5	8.8	8.6
Stoke on Trent	12.2	12.9	12.0	11.0	8.9	8.6

*ONS



10 B: Perinatal Deaths 2002-2009 - CORRECTED

Corrected = excluding major congenital anomalies, <22 weeks gestation and <500g birthweight

Numbers

	2002	2003	2004	2005	2006	2007	2008	2009
West Midlands	400	418	408	442	385	428	420	369
Staffordshire Cluster	58	79	59	80	68	84	75	71
North Staffordshire	10	13	9	14	9	11	20	5
South Staffordshire	26	38	29	39	37	51	37	41
Stoke on Trent	22	28	21	27	22	22	18	25

Rate/1,000

	2002	2003	2004	2005	2006	2007	2008	2009	2009 CI
West Midlands	6.5	6.5	6.2	6.7	5.7	6.1	5.8	5.2	4.7 - 5.7
Staffordshire Cluster	5.4	7.0	5.0	6.7	5.7	6.6	5.8	5.7	4.5 - 7.1
North Staffordshire	5.5	6.5	4.3	6.8	4.6	5.3	9.4	2.4	1.0 - 5.6
South Staffordshire	4.4	6.1	4.5	6.1	5.6	7.4	5.3	6.0	4.5 - 8.2
Stoke on Trent	7.5	9.2	6.3	8.0	6.4	6.0	4.6	6.8	4.6 - 10.1

3 year moving averages

	02-04	03-05	04-06	05-07	06-08	07-09
West Midlands	6.4	6.4	6.2	6.1	5.9	5.7
Staffordshire Cluster	5.8	6.2	5.8	6.4	6.0	6.0
North Staffordshire	5.4	5.9	5.3	5.6	6.5	5.7
South Staffordshire	5.0	5.5	5.4	6.4	6.1	6.2
Stoke on Trent	7.6	7.8	6.9	6.8	5.6	5.8

