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Dear Colleague

PERINATAL & INFANT MORTALITY SURVEY 2008/9 – WEST MERCIA

This report relates to the newly formed **West Mercia Cluster and its constituent PCTs**. It provides an update of mortality rates to 2009 for stillbirths and neonatal deaths, and 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 West Mercia, West Midlands (WM) and England & Wales (E&W);
- a short description of West Mercia 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 PCT's 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 West Mercia and West Midlands follow the national trend. After an increase in recent years, they appear to have reached a plateau in W Mercia since 2007.
 - b. In the table, several comparative maternity demographics are presented. Compared with the rest of the region, mothers in West Mercia have less social deprivation and tend to be older; fewer mothers are from ethnic minorities overall, although there is a higher proportion from Eastern Europe. Smoking rates at booking are higher and cessation rates during pregnancy are lower. While prematurity is higher, fewer babies are born with IUGR than in the rest of the region.
2. **Stillbirth trends**

West Mercia stillbirth rates are similar to the national average and lower than in the WM. There are differences between the PCTs but confidence intervals are wide because of small numbers and random variation. The differences are reduced for corrected rates (excluding congenital anomalies).
3. **Stillbirths and Deprivation:** This analysis, for crude and corrected figures, shows that PCT stillbirth rates, adjusted for each PCT's respective IMD score, are within the expected range.
4. **Stillbirth classification groups:** trends are presented for the main groups but analysis is limited because of small numbers. Deaths associated with intrauterine growth restriction (IUGR) represent the largest category, and are highest in Telford & Wrekin. However, compared to the rest of the West Midlands, rates are lower in each of the main categories.
5. **Infant deaths – trends**

West Mercia infant death rates are below those of E&W and well below those in the WM, although once again the differences are not statistically significant because of small numbers and wide confidence intervals. For corrected rates (after exclusion of congenital anomalies and previable births), the differences to WM rates are smaller but still apparent (E&W rates are not available).
6. **Infant deaths and deprivation:** as for stillbirths, this analysis shows that the infant mortality rates for each of the PCT's, after adjustment for their respective IMD scores, are within the prediction lines.
7. **Infant death classification groups** – as elsewhere, the largest categories are pulmonary immaturity and congenital anomalies. The rates in West Mercia are lower than the rest of the West Midlands in each of the main categories – including congenital anomalies, previable deaths and prematurity.

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



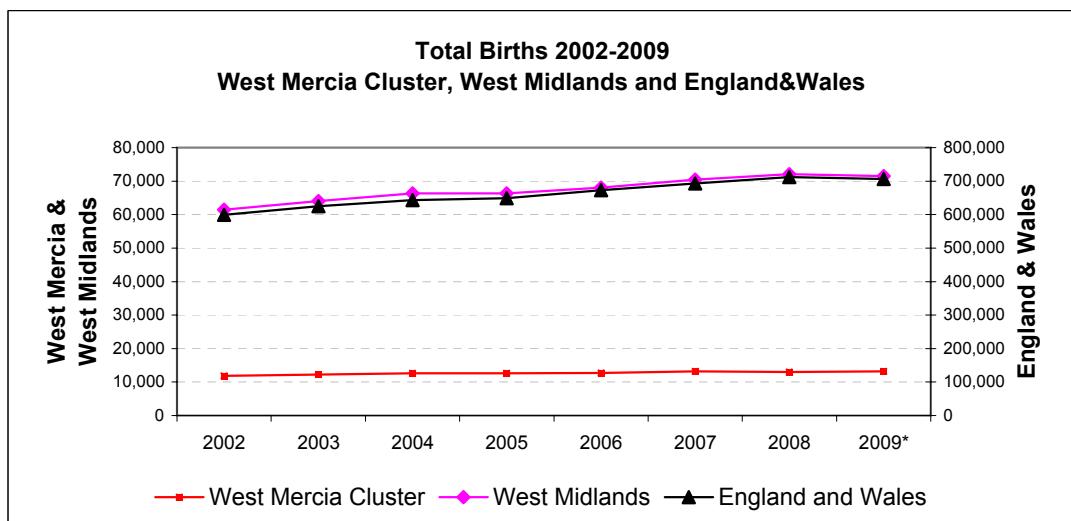
Professor Jason Gardosi
Director, West Midlands Perinatal Institute

1.Births: West Mercia, 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
West Mercia Cluster	11,824	12,246	12,580	12,582	12,715	13,204	13,023	13,157
Herefordshire	1,576	1,673	1,697	1,664	1,720	1,827	1,754	1,830
Shropshire	2,749	2,852	2,759	2,774	2,793	2,878	2,913	2,954
Telford&Wrekin	1,935	1,923	2,118	2,067	2,145	2,245	2,177	2,266
Worcestershire	5,564	5,798	6,006	6,077	6,057	6,254	6,179	6,107

* Provisional, live births only



Data: PEER 2009/10

	West Mercia	Rest of West Midlands	West Midlands Total		West Mercia	Rest of West Midlands	West Midlands Total
Submissions:	6,025	42,474	48,499	Submissions:	6,025	42,474	48,499
Deprivation - IMD Quintile				Maternal Age			
1 (least)	15.0%	7.0%	8.0%	< 16	0.2%	0.2%	0.2%
2	21.0%	10.2%	11.5%	< 18	1.8%	2.0%	2.0%
3	30.6%	13.8%	15.9%	< 20	6.4%	7.5%	7.4%
4	20.2%	20.4%	20.4%	20 - 24	20.2%	23.4%	23.0%
5 (most)	13.2%	48.6%	44.2%	25 - 29	26.6%	29.6%	29.2%
				30 - 34	26.9%	23.9%	24.3%
				35 - 39	16.3%	12.7%	13.1%
				35+	20.0%	15.6%	16.1%
Ethnic Origin				40+	3.6%	2.9%	3.0%
African	0.6%	3.9%	3.5%	Body Mass Index			
African Caribbean	0.2%	2.6%	2.3%	< 18.5	2.9%	3.4%	3.3%
British European	87.2%	64.1%	67.0%	18.5 - 24.9	50.4%	47.7%	48.0%
Eastern European	4.9%	2.6%	2.9%	25 - 29.9	27.3%	28.3%	28.2%
Middle Eastern	0.2%	1.4%	1.3%	30 - 34.9	12.0%	13.0%	12.8%
South Asian	3.6%	19.6%	17.6%	35 - 39.9	5.1%	5.2%	5.2%
Bangladeshi	0.3%	2.4%	2.1%	30+	19.4%	20.6%	20.4%
Indian	1.3%	5.6%	5.0%	35+	7.4%	7.6%	7.6%
Pakistani	2.0%	11.6%	10.4%	40+	2.3%	2.4%	2.4%
Other/Mixed	3.4%	5.8%	5.5%				
Smoking							
At booking	20.2%	19.2%	19.3%				
Late in pregnancy	15.9%	13.7%	14.0%				
Ceased During Pregnancy	19.7%	26.8%	25.9%	Prematurity			
IUGR (<10th cust.cent.)	13.1%	14.4%	14.2%	< 37 Weeks	7.2%	6.7%	6.7%
				< 34 Weeks	2.3%	2.1%	2.1%

2 A: Stillbirths 2002-2009

West Midlands

Numbers

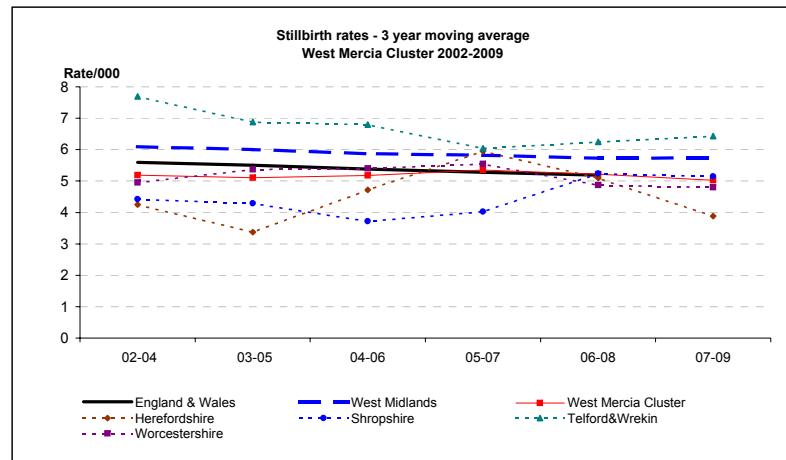
	2002	2003	2004	2005	2006	2007	2008	2009
England and Wales*	3365	3565	3517	3473	3590	3585	3617	
West Midlands	391	395	383	403	392	398	416	414
West Mercia Cluster	67	59	64	68	64	74	65	59
Herefordshire	11	5	5	7	12	12	3	6
Shropshire	8	17	12	7	12	15	18	12
Telford&Wrekin	16	10	20	12	11	16	14	13
Worcestershire	32	27	27	42	29	31	30	28

	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
West Mercia Cluster	5.7	4.8	5.1	5.4	5.0	5.6	5.0	4.5	3.5 - 5.8
Herefordshire	7.0	3.0	2.9	4.2	7.0	6.6	1.7	3.3	1.5 - 7.1
Shropshire	2.9	6.0	4.3	2.5	4.3	5.2	6.2	4.1	2.3 - 7.1
Telford&Wrekin	8.3	5.2	9.4	5.8	5.1	7.1	6.4	5.7	3.4 - 9.8
Worcestershire	5.8	4.7	4.5	6.9	4.8	5.0	4.9	4.6	3.2 - 6.6

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
West Mercia Cluster	5.2	5.1	5.2	5.4	5.2	5.0
Herefordshire	4.2	3.4	4.7	5.9	5.1	3.9
Shropshire	4.4	4.3	3.7	4.0	5.2	5.1
Telford&Wrekin	7.7	6.9	6.8	6.0	6.2	6.4
Worcestershire	5.0	5.4	5.4	5.5	4.9	4.8

*ONS



2 B: Stillbirths 2002-2009 - CORRECTED

(Excluding major congenital anomalies)

Numbers

	2002	2003	2004	2005	2006	2007	2008	2009
West Midlands	282	284	279	311	268	284	290	259
West Mercia Cluster	50	38	54	53	46	57	40	38
Herefordshire	10	2	5	5	8	10	3	3
Shropshire	6	12	11	7	8	12	11	8
Telford&Wrekin	12	6	14	10	7	12	8	8
Worcestershire	22	18	24	31	23	23	18	19

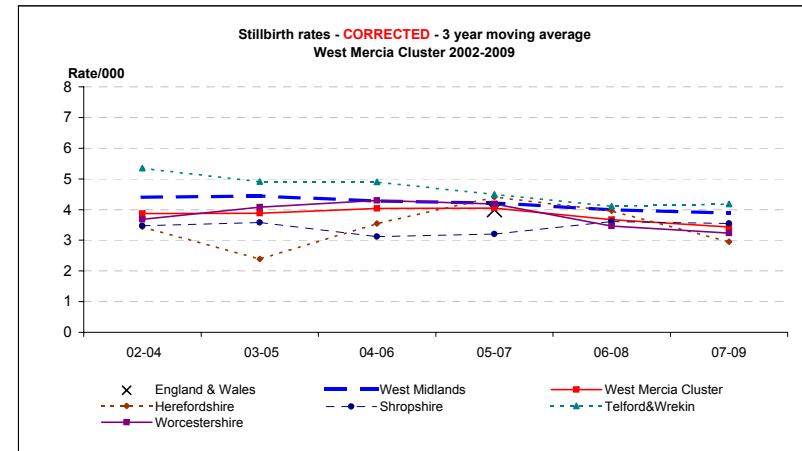
Rate/1,000

	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
West Mercia Cluster	4.2	3.1	4.3	4.2	3.6	4.3	3.1	2.9	2.1 - 4.0
Herefordshire	6.3	1.2	2.9	3.0	4.7	5.5	1.7	1.6	0.6 - 4.8
Shropshire	2.2	4.2	4.0	2.5	2.9	4.2	3.8	2.7	1.4 - 5.3
Telford&Wrekin	6.2	3.1	6.6	4.8	3.3	5.3	3.7	3.5	1.8 - 7.0
Worcestershire	4.0	3.1	4.0	5.1	3.8	3.7	2.9	3.1	2.0 - 4.9

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
West Mercia Cluster	3.9	3.9	4.0	4.1	3.7	3.4
Herefordshire	3.4	2.4	3.5	4.4	4.0	3.0
Shropshire	3.5	3.6	3.1	3.2	3.6	3.5
Telford&Wrekin	5.4	4.9	4.9	4.5	4.1	4.2
Worcestershire	3.7	4.1	4.3	4.2	3.5	3.2

**CEMACH



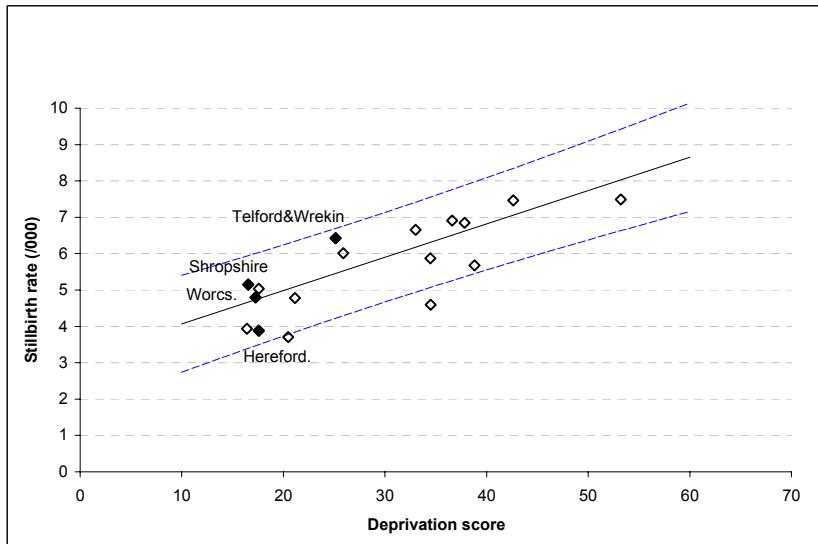
x = England & Wales 3 y adjusted average from CEMACH

3. Stillbirths and Deprivation, West Mercia PCTs

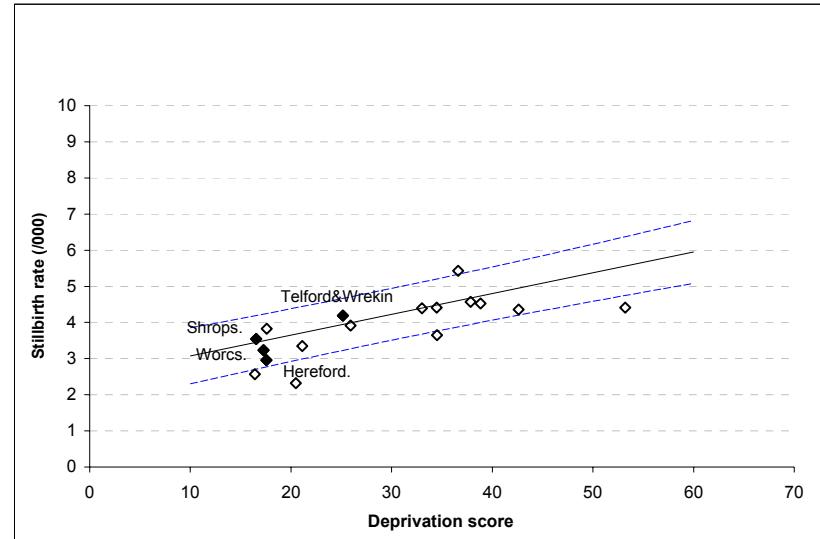
Graphs show stillbirth rates for the last triennium (2007-9) for West Mercia PCTs, plotted against each PCT's respective deprivation score (IMD 2007).

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

A. Crude rates



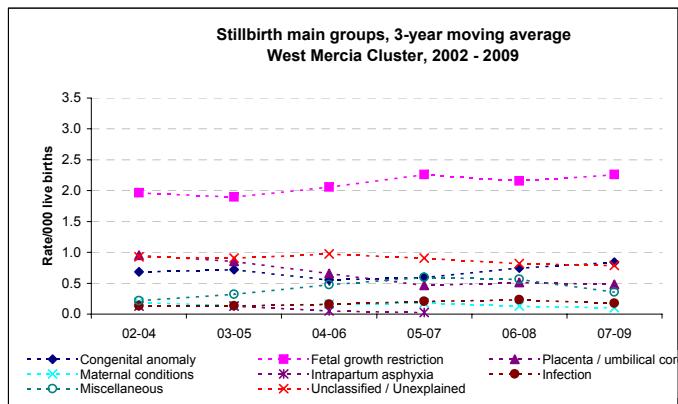
B. Corrected rates - after excluding major congenital anomalies



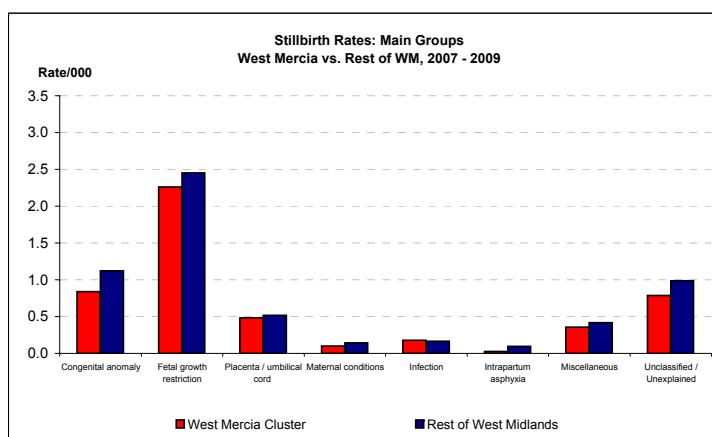
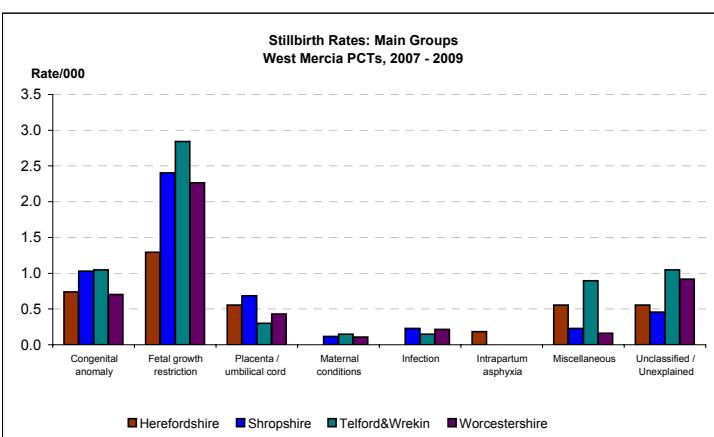
4. Stillbirths in the West Mercia, 2002 -2009: Classification in main groups

Groups based on ReCoDe classification

Births	2002	2003	2004	2005	2006	2007	2008	2009
	11824	12246	12580	12582	12715	13204	13023	13157
MAIN GROUPS								
Numbers								
Congenital anomaly	7	14	4	9	8	6	15	12
Fetal growth restriction	28	20	24	27	27	33	24	32
Placenta/Umbilical chord	10	12	13	7	5	6	9	4
Maternal conditions	4	1	2	2	2	3	0	1
Infection	2	1	2	2	2	4	3	0
Intrapartum asphyxia	2	1	1	3	1	1	0	0
Miscellaneous	3	3	2	7	9	7	6	1
Unclassified / Unexplained	11	7	16	11	10	14	8	9
3-year moving averages								
	02-04	03-05	04-06	05-07	06-08	07-09		
Congenital anomaly	0.7	0.7	0.6	0.6	0.7	0.8		
Fetal growth restriction	2.0	1.9	2.1	2.3	2.2	2.3		
Placenta / umbilical cord	1.0	0.9	0.7	0.5	0.5	0.5		
Maternal conditions	0.2	0.1	0.2	0.2	0.1	0.1		
Infection	0.1	0.1	0.2	0.2	0.2	0.2		
Intrapartum asphyxia	0.1	0.1	0.1	0.1	0.1	0.0		
Miscellaneous	0.2	0.3	0.5	0.6	0.6	0.4		
Unclassified / Unexplained	0.9	0.9	1.0	0.9	0.8	0.8		



Births 2007-9	Herefordshire	Shropshire	Telford&Wrekin	Worcestershire	West Mercia Cluster	Rest of West Midlands		
	5,411	8,745	6,688	18,540	39,384	174,654		
MAIN GROUPS - 2007-9	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Congenital anomaly	4	0.7	9	1.0	7	1.0	13	0.7
Fetal growth restriction	7	1.3	21	2.4	19	2.8	42	2.3
Placenta / umbilical cord	3	0.6	6	0.7	2	0.3	8	0.4
Maternal conditions	0	0.0	1	0.1	1	0.1	2	0.1
Infection	0	0.0	2	0.2	1	0.1	4	0.2
Intrapartum asphyxia	1	0.2	0	0.0	0	0.0	1	0.0
Miscellaneous	3	0.6	2	0.2	6	0.9	3	0.2
Unclassified / Unexplained	3	0.6	4	0.5	7	1.0	17	0.9



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
West Mercia Cluster	58	62	61	67	54	53	60
Herefordshire	7	5	8	13	7	3	10
Shropshire	15	18	7	11	15	12	16
Telford&Wrekin	10	7	12	11	8	6	17
Worcestershire	26	32	34	32	24	32	17

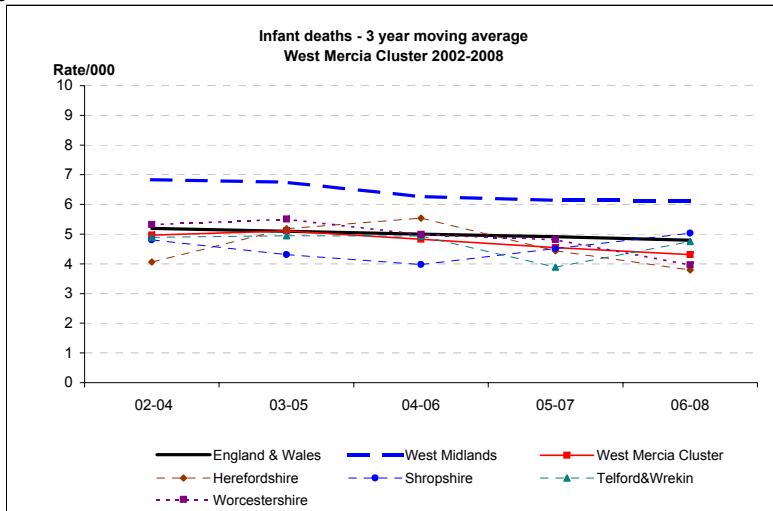
Rate/1,000

	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
West Mercia Cluster	4.9	5.1	4.9	5.4	4.3	4.0	4.6	3.6 - 6.0
Herefordshire	4.5	3.0	4.7	7.8	4.1	1.7	5.7	3.1 - 10.5
Shropshire	5.5	6.3	2.5	4.0	5.4	4.2	5.5	3.4 - 9.0
Telford&Wrekin	5.2	3.7	5.7	5.4	3.7	2.7	7.9	4.9 - 12.6
Worcestershire	4.7	5.5	5.7	5.3	4.0	5.1	2.8	1.7 - 4.4

Infant death rates - 3 year moving average - PDN

	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
West Mercia Cluster	5.0	5.1	4.8	4.5	4.3
Herefordshire	4.1	5.2	5.5	4.4	3.8
Shropshire	4.8	4.3	4.0	4.5	5.0
Telford&Wrekin	4.9	4.9	4.9	3.9	4.8
Worcestershire	5.3	5.5	5.0	4.8	4.0

*ONS



5 B: Infant deaths 2002-2008 - CORRECTED

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

Numbers

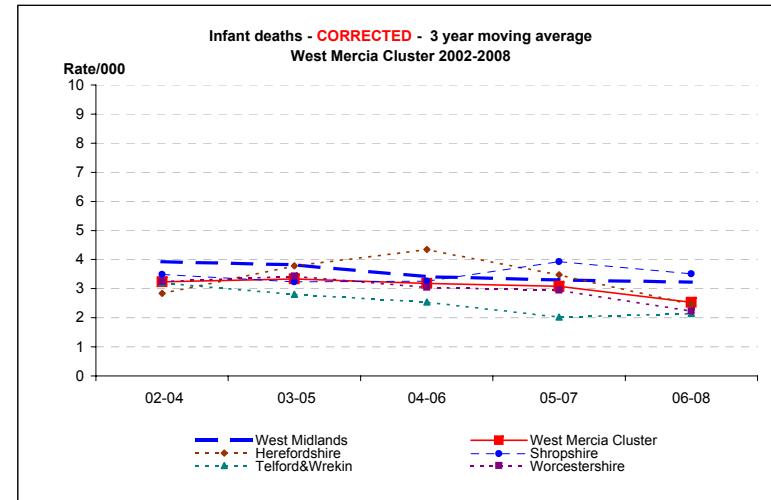
	2002	2003	2004	2005	2006	2007	2008
West Midlands	238	275	236	235	209	228	239
West Mercia Cluster	44	38	36	50	34	34	30
Herefordshire	5	3	6	10	6	2	5
Shropshire	12	13	4	10	13	10	7
Telford&Wrekin	9	5	5	7	4	2	8
Worcestershire	18	17	21	23	11	20	10

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
West Mercia Cluster	3.7	3.1	2.9	4.0	2.7	2.6	2.3	1.6 - 3.3
Herefordshire	3.2	1.8	3.5	6.0	3.5	1.1	2.9	1.2 - 6.7
Shropshire	4.4	4.6	1.5	3.6	4.7	3.5	2.4	1.2 - 5.0
Telford&Wrekin	4.7	2.6	2.4	3.4	1.9	0.9	3.7	1.9 - 7.3
Worcestershire	3.3	2.9	3.5	3.8	1.8	3.2	1.6	0.9 - 3.0

3 year moving averages

	02-04	03-05	04-06	05-07	06-08
West Midlands	3.9	3.8	3.4	3.3	3.2
West Mercia Cluster	3.2	3.3	3.2	3.1	2.5
Herefordshire	2.8	3.8	4.4	3.5	2.5
Shropshire	3.5	3.2	3.3	3.9	3.5
Telford&Wrekin	3.2	2.8	2.5	2.0	2.1
Worcestershire	3.2	3.4	3.0	3.0	2.2

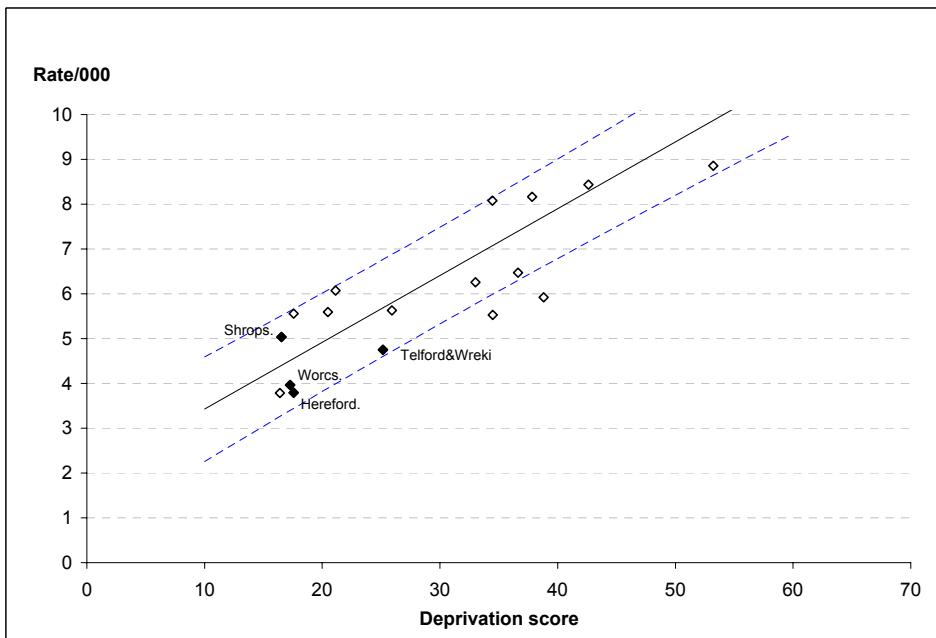


6. Infant deaths and Deprivation, West Mercia PCTs

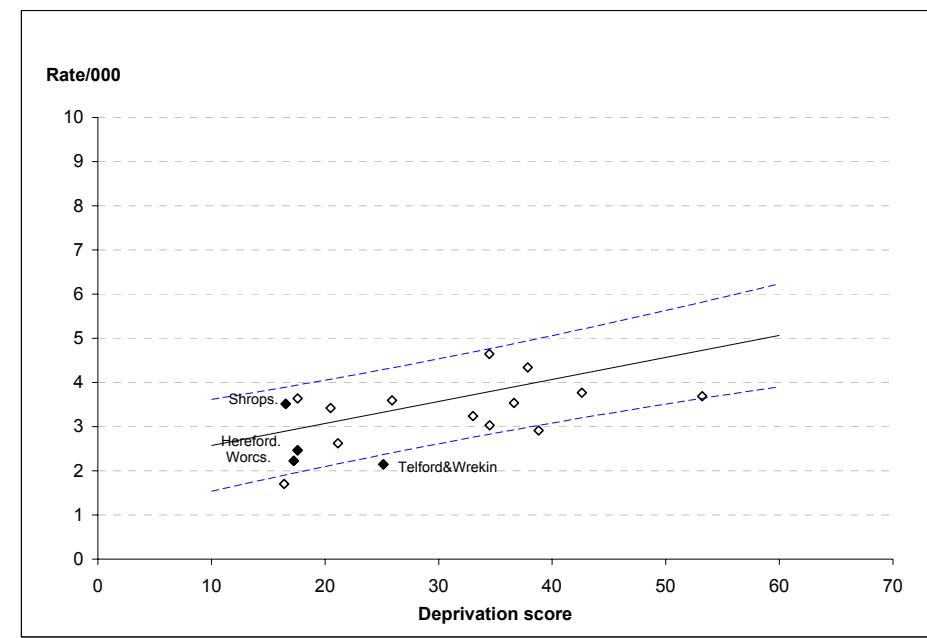
Graphs show infant deaths for the last available triennium (2006-8) for West Mercia PCTs, plotted against each PCT's respective deprivation score (IMD 2007).

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 West Mercia, 2002-2008: main groups

Groups based on Fetal/Neonatal/Infant classification

	2002	2003	2004	2005	2006	2007	2008
Live Births	11757	12187	12516	12514	12651	13130	12958

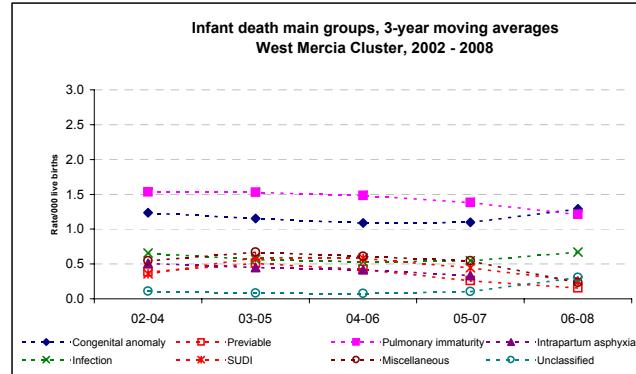
MAIN GROUPS

Numbers

Congenital anomaly	13	17	15	11	15	16	19
Preivable	1	5	8	6	2	2	2
Pulmonary immaturity	17	16	23	18	15	20	12
Intrapartum asphyxia	5	9	5	5	7	4	2
Infection	10	10	4	7	9	5	12
SUDI	2	3	8	11	3	3	4
Miscellaneous	10	5	5	15	3	3	3
Unclassified	1	2	1		2	2	8

3-year moving averages

	02-04	03-05	04-06	05-07	06-08
Congenital anomaly	1.2	1.2	1.1	1.1	1.3
Preivable	0.4	0.5	0.4	0.3	0.2
Pulmonary immaturity	1.5	1.5	1.5	1.4	1.2
Intrapartum asphyxia	0.5	0.5	0.5	0.4	0.3
Infection	0.7	0.6	0.5	0.5	0.7
SUDI	0.4	0.6	0.6	0.4	0.3
Miscellaneous	0.5	0.7	0.6	0.5	0.2
Unclassified	0.1	0.1	0.1	0.1	0.3

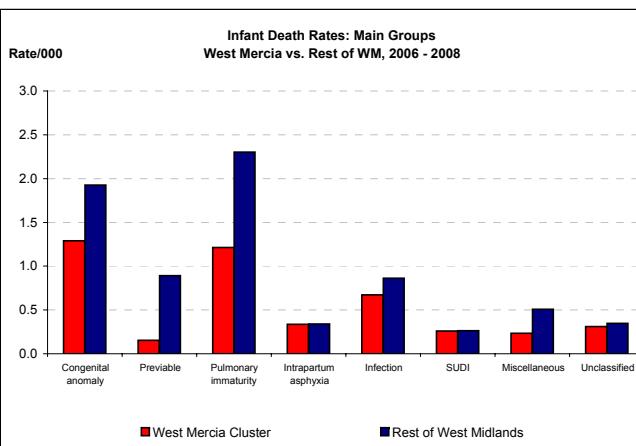
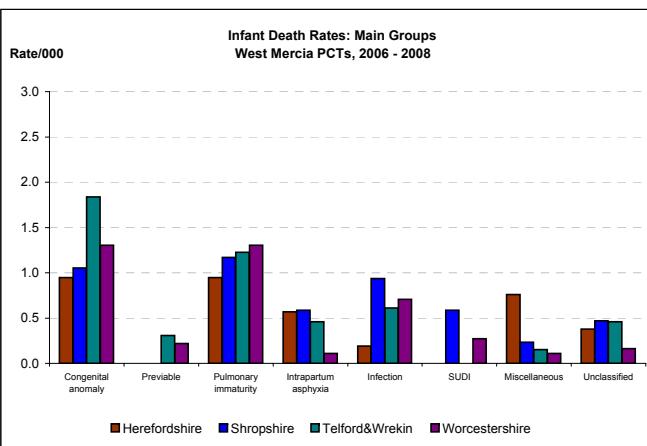


Live Births 2006-8

Herefordshire 5274 **Shropshire** 8539 **Telford&Wrekin** 6526 **Worcestershire** 18400 **West Mercia Cluster** 38739 **Rest of West Midlands** 170704

MAIN GROUPS - 2006-8

	No.	Rate								
Congenital anomaly	5	0.9	9	1.1	12	1.8	24	1.3	50	1.3
Preivable	0	0.0	0	0.0	2	0.3	4	0.2	6	0.2
Pulmonary immaturity	5	0.9	10	1.2	8	1.2	24	1.3	47	1.2
Intrapartum asphyxia	3	0.6	5	0.6	3	0.5	2	0.1	13	0.3
Infection	1	0.2	8	0.9	4	0.6	13	0.7	26	0.7
SUDI	0	0.0	5	0.6	0	0.0	5	0.3	10	0.3
Miscellaneous	4	0.8	2	0.2	1	0.2	2	0.1	9	0.2
Unclassified	2	0.4	4	0.5	3	0.5	3	0.2	12	0.3



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
West Mercia Cluster	33	35	38	34	28	28	28	30

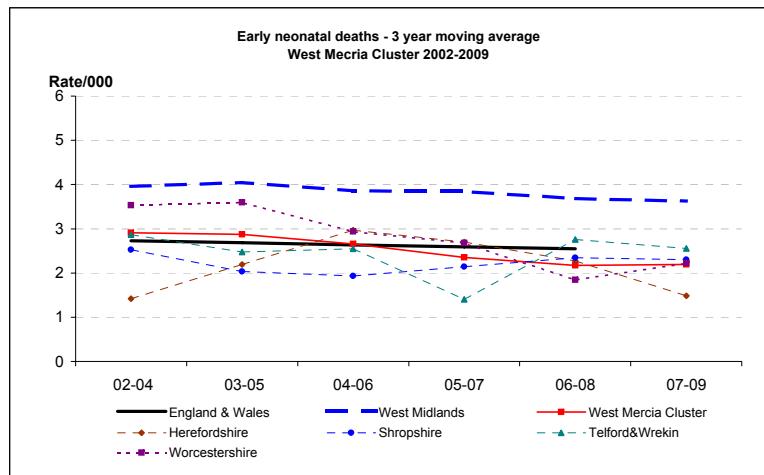
Rate/1,000

	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
West Mercia Cluster	2.8	2.9	3.0	2.7	2.2	2.1	2.2	2.3	1.6 - 3.3
Herefordshire	1.9	0.6	1.8	4.2	2.9	1.1	2.9	0.5	0.1 - 3.1
Shropshire	3.3	3.2	1.1	1.8	2.9	1.7	2.4	2.7	1.4 - 5.4
Telford&Wrekin	2.1	2.6	3.8	1.0	2.8	0.4	5.1	2.2	0.9 - 5.2
Worcestershire	3.1	3.5	4.0	3.3	1.5	3.2	0.8	2.6	1.6 - 4.3

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
West Mercia Cluster	2.9	2.9	2.7	2.4	2.2	2.2
Herefordshire	1.4	2.2	3.0	2.7	2.3	1.5
Shropshire	2.5	2.0	1.9	2.1	2.3	2.3
Telford&Wrekin	2.9	2.5	2.5	1.4	2.8	2.6
Worcestershire	3.5	3.6	2.9	2.7	1.8	2.2

*ONS



8 B: Early Neonatal Deaths 2002-2009 - CORRECTED

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

Numbers

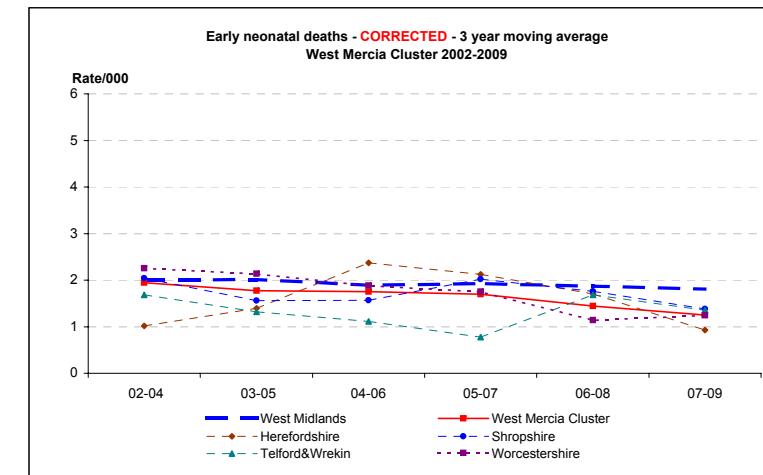
	2002	2003	2004	2005	2006	2007	2008	2009
West Midlands	118	134	129	131	117	144	130	110
West Mercia Cluster	28	22	21	23	22	20	14	15
Herefordshire	3		2	5	5	1	3	1
Shropshire	9	7	1	5	7	5	3	4
Telford&Wrekin	3	4	3	1	3	1	7	1
Worcestershire	13	11	15	12	7	13	1	9

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
West Mercia Cluster	2.4	1.8	1.7	1.8	1.7	1.5	1.1	1.1	0.7 - 1.9
Herefordshire	1.9	0.0	1.2	3.0	2.9	0.6	1.7	0.5	0.1 - 3.1
Shropshire	3.3	2.5	0.4	1.8	2.5	1.7	1.0	1.4	0.5 - 3.5
Telford&Wrekin	1.6	2.1	1.4	0.5	1.4	0.4	3.2	0.4	0.1 - 2.5
Worcestershire	2.3	1.9	2.5	2.0	1.2	2.1	0.2	1.5	0.8 - 2.8

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
West Mercia Cluster	1.9	1.8	1.8	1.7	1.4	1.3
Herefordshire	1.0	1.4	2.4	2.1	1.7	0.9
Shropshire	2.0	1.6	1.6	2.0	1.8	1.4
Telford&Wrekin	1.7	1.3	1.1	0.8	1.7	1.4
Worcestershire	2.3	2.1	1.9	1.7	1.1	1.2



9 A: Neonatal deaths 2002-2009

Neonatal = birth to age 28 days

Numbers

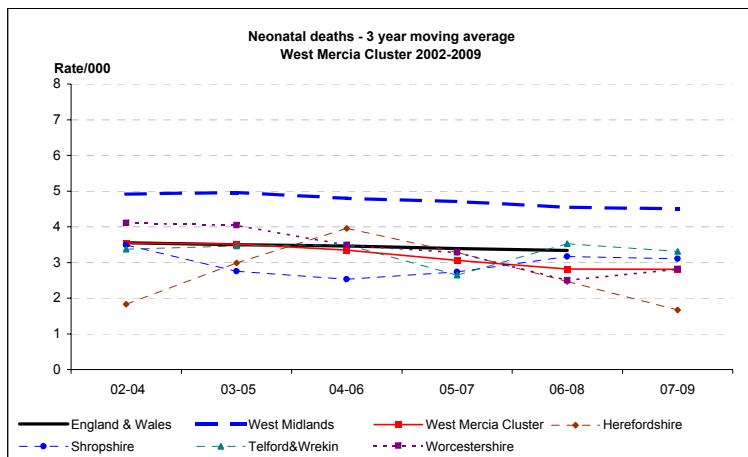
	2002	2003	2004	2005	2006	2007	2008	2009
England and Wales*	2129	2234	2223	2205	2331	2269	2299	
West Midlands	294	329	314	327	316	316	321	321
West Mercia Cluster	41	43	45	43	38	36	35	39
Herefordshire	3	1	5	9	6	2	5	2
Shropshire	11	13	5	5	11	7	9	11
Telford&Wrekin	5	6	9	6	7	4	12	6
Worcestershire	22	23	26	23	14	23	9	20

	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
West Mercia Cluster	3.5	3.5	3.6	3.4	3.0	2.7	2.7	3.0	2.2 - 4.1
Herefordshire	1.9	0.6	3.0	5.4	3.5	1.1	2.9	1.1	0.3 - 4.0
Shropshire	4.0	4.6	1.8	1.8	4.0	2.4	3.1	3.7	2.1 - 6.7
Telford&Wrekin	2.6	3.1	4.3	2.9	3.3	1.8	5.5	2.7	1.2 - 5.8
Worcestershire	4.0	4.0	4.3	3.8	2.3	3.7	1.5	3.3	2.1 - 5.1

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
West Mercia Cluster	3.5	3.5	3.3	3.1	2.8	2.8
Herefordshire	1.8	3.0	4.0	3.3	2.5	1.7
Shropshire	3.5	2.8	2.5	2.7	3.2	3.1
Telford&Wrekin	3.4	3.5	3.5	2.6	3.5	3.3
Worcestershire	4.1	4.0	3.5	3.3	2.5	2.8

*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
West Mercia Cluster	34	28	25	31	28	25	19	16
Herefordshire	3	0	3	7	6	1	3	1
Shropshire	10	11	2	5	10	6	4	5
Telford&Wrekin	4	4	4	4	3	2	7	1
Worcestershire	17	13	16	15	9	16	5	9

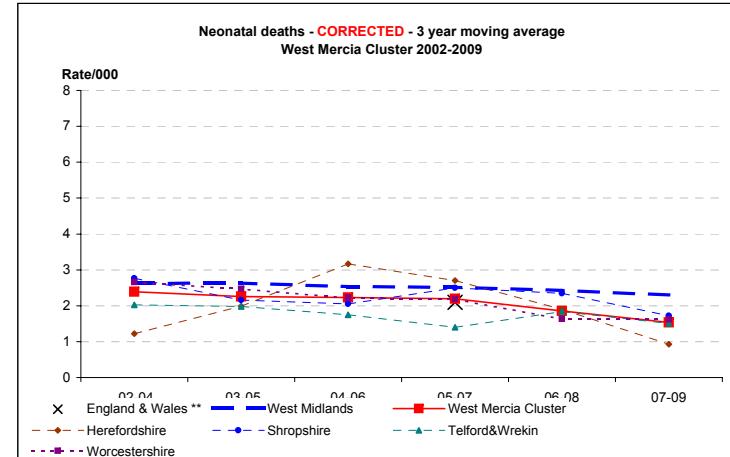
Rate/1,000

	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
West Mercia Cluster	2.9	2.3	2.0	2.5	2.2	1.9	1.5	1.2	0.8 - 2.0
Herefordshire	1.9	0.0	1.8	4.2	3.5	0.6	1.7	0.5	0.1 - 3.1
Shropshire	3.6	3.9	0.7	1.8	3.6	2.1	1.4	1.7	0.7 - 4.0
Telford&Wrekin	2.1	2.1	1.9	1.9	1.4	0.9	3.2	0.4	0.1 - 2.5
Worcestershire	3.1	2.3	2.7	2.5	1.5	2.6	0.8	1.5	0.8 - 2.8

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
West Mercia Cluster	2.4	2.3	2.2	2.2	1.9	1.5
Herefordshire	1.2	2.0	3.2	2.7	1.9	0.9
Shropshire	2.8	2.2	2.0	2.5	2.3	1.7
Telford&Wrekin	2.0	2.0	1.7	1.4	1.8	1.5
Worcestershire	2.7	2.5	2.2	2.2	1.6	1.6

**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
West Mercia Cluster	100	94	102	102	92	102	93	89
Herefordshire	14	6	8	14	17	14	8	7
Shropshire	17	26	15	12	20	20	25	20
Telford&Wrekin	20	15	28	14	17	17	25	18
Worcestershire	49	47	51	62	38	51	35	44

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
West Mercia Cluster	8.5	7.7	8.1	8.1	7.2	7.7	7.1	6.8	5.5 - 8.3
Herefordshire	8.9	3.6	4.7	8.4	9.9	7.7	4.6	3.8	1.9 - 7.9
Shropshire	6.2	9.1	5.4	4.3	7.2	6.9	8.6	6.8	4.4 - 10.4
Telford&Wrekin	10.3	7.8	13.2	6.8	7.9	7.6	11.5	7.9	5.0 - 12.5
Worcestershire	8.8	8.1	8.5	10.2	6.3	8.2	5.7	7.2	5.4 - 9.7

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
West Mercia Cluster	8.1	8.0	7.8	7.7	7.4	7.2
Herefordshire	5.7	5.6	7.7	8.6	7.4	5.4
Shropshire	6.9	6.3	5.6	6.2	7.6	7.4
Telford&Wrekin	10.5	9.3	9.3	7.4	9.0	9.0
Worcestershire	8.5	8.9	8.3	8.2	6.7	7.0

*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
West Mercia Cluster	78	60	75	76	68	77	54	53
Herefordshire	13	2	7	10	13	11	6	4
Shropshire	15	19	12	12	15	17	14	12
Telford&Wrekin	15	10	17	11	10	13	15	9
Worcestershire	35	29	39	43	30	36	19	28

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
West Mercia Cluster	6.6	4.9	6.0	6.0	5.3	5.8	4.1	4.0	3.1 - 5.3
Herefordshire	8.2	1.2	4.1	6.0	7.6	6.0	3.4	2.2	0.9 - 5.6
Shropshire	5.5	6.7	4.3	4.3	5.4	5.9	4.8	4.1	2.3 - 7.1
Telford&Wrekin	7.8	5.2	8.0	5.3	4.7	5.8	6.9	4.0	2.1 - 7.5
Worcestershire	6.3	5.0	6.5	7.1	5.0	5.8	3.1	4.6	3.2 - 6.6

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
West Mercia Cluster	5.8	5.6	5.8	5.7	5.1	4.7
Herefordshire	4.4	3.8	5.9	6.5	5.7	3.9
Shropshire	5.5	5.1	4.7	5.2	5.4	4.9
Telford&Wrekin	7.0	6.2	6.0	5.3	5.8	5.5
Worcestershire	5.9	6.2	6.2	5.9	4.6	4.5

