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2 December 2010

### **Perinatal & Infant Mortality - 2009 Unit Report:**

#### **SANDWELL AND WEST BIRMINGHAM HOSPITALS NHS TRUST**

This report provides the latest update of stillbirth, perinatal and infant mortality rates for your Trust, as well as for the West Midlands and England & Wales. The report is delayed because of the late release by ONS of the 2009 births and deaths extracts which we cross check our cases with, and the Vital Statistics national reference data, which became available only in November this year.

The report includes

- yearly rates and three-year moving averages, summarised for stillbirths and infant deaths, as well as early neonatal, neonatal and perinatal death rates for comparison with other sources;
- 'corrected' mortality rates, after exclusion of congenital anomalies and pre-viable births;
- main categories / causes of stillbirths and infant deaths for your unit and the West Midlands

Additional information relevant to your PCT's maternity population has been presented in the respective Cluster reports which have been sent out earlier this year, and are available on [www.pi.nhs.uk/pnm/clusterreports](http://www.pi.nhs.uk/pnm/clusterreports)

As always, specific information relating to your unit is available on request ([www.pi.nhs.uk/data](http://www.pi.nhs.uk/data)). In addition, we are currently completing development of a web based interactive tool, and will be able to display mortality rates and trends on-line in the New Year.

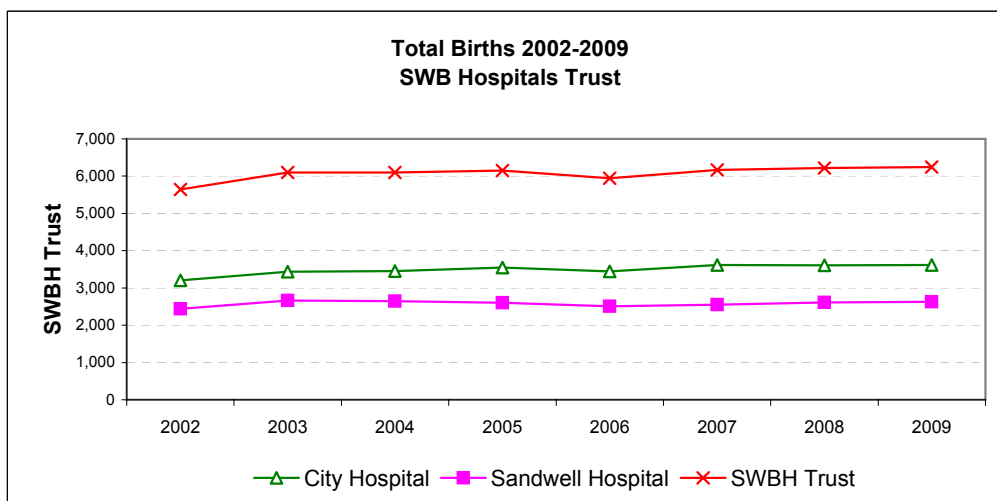
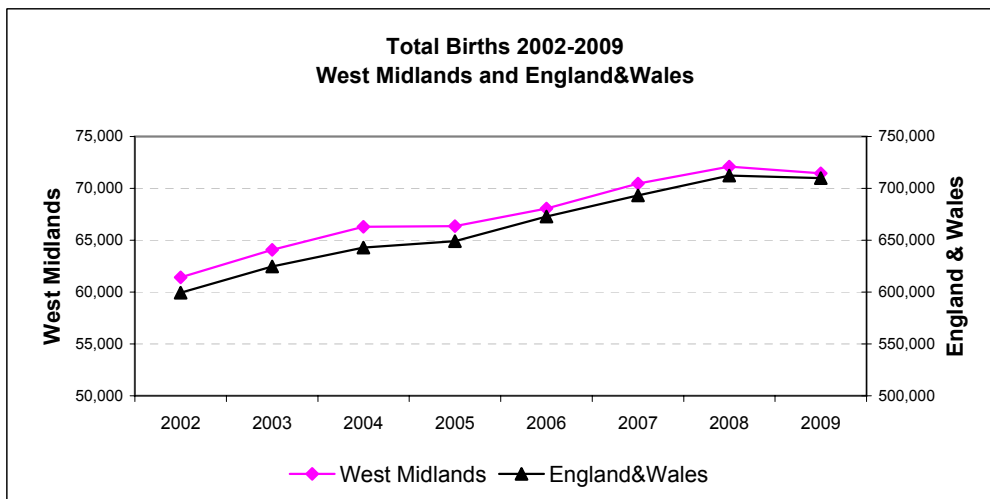
With sincere regards,

Professor Jason Gardosi  
Director, Perinatal Institute

# 1. Births: Sandwell and West Birmingham Hospitals NHS Trust, WM and E & W 2002-2009

Source: ONS

	2002	2003	2004	2005	2006	2007	2008	2009
England&Wales	599,279	624,816	643,026	649,094	672,966	693,356	712,328	709,936
West Midlands	61,417	64,079	66,285	66,351	68,063	70,476	72,110	71,455
SWBH Trust	5,643	6,100	6,100	6,148	5,946	6,170	6,215	6,241
City Hospital	3,205	3,435	3,457	3,545	3,440	3,617	3,605	3,614
Sandwell Hospital	2,438	2,665	2,643	2,603	2,506	2,553	2,610	2,627



## 2 A: Stillbirths 2002-2009

### Numbers

	2002	2003	2004	2005	2006	2007	2008	2009
England and Wales*	3365	3565	3517	3473	3590	3585	3617	3688
West Midlands	391	395	383	403	392	398	416	414
SWBH Trust	50	43	45	52	25	47	45	59
City Hospital	31	28	28	35	16	32	24	36
Sandwell Hospital	19	15	17	17	9	15	21	23

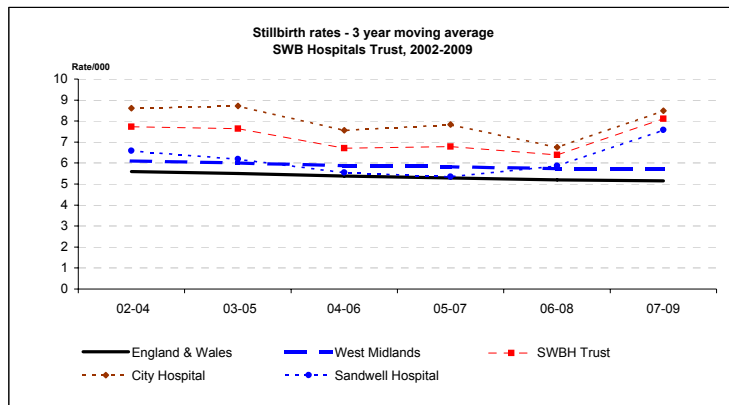
### Rate/1,000

	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	5.2	5.0 - 5.4
West Midlands	6.4	6.2	5.8	6.1	5.8	5.6	5.8	5.8	5.3 - 6.4
SWBH Trust	8.9	7.0	7.4	8.5	4.2	7.6	7.2	9.5	7.3 - 12.2
City Hospital	9.7	8.2	8.1	9.9	4.7	8.8	6.7	10.0	7.2 - 13.8
Sandwell Hospital	7.8	5.6	6.4	6.5	3.6	5.9	8.0	8.8	5.8 - 13.1

### 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	5.1
West Midlands	6.1	6.0	5.9	5.8	5.7	5.7
SWBH Trust	7.7	7.6	6.7	6.8	6.4	8.1
City Hospital	8.6	8.7	7.6	7.8	6.8	8.5
Sandwell Hospital	6.6	6.2	5.5	5.4	5.9	7.6

\*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
SWBH Trust	36	31	29	39	20	32	36	31
City Hospital	24	20	17	27	11	21	18	21
Sandwell Hospital	12	11	12	12	9	11	18	10

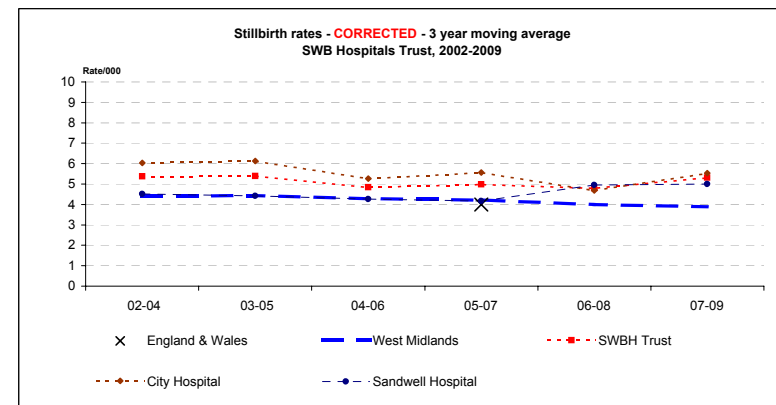
### Rate/1,000

	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
SWBH Trust	6.4	5.1	4.8	6.3	3.4	5.2	5.8	5.0	3.5 - 7.0
City Hospital	7.5	5.8	4.9	7.6	3.2	5.8	5.0	5.8	3.8 - 8.9
Sandwell Hospital	4.9	4.1	4.5	4.6	3.6	4.3	6.9	3.8	2.1 - 7.0

### 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
SWBH Trust	5.4	5.4	4.8	5.0	4.8	5.3
City Hospital	6.0	6.1	5.3	5.6	4.7	5.5
Sandwell Hospital	4.5	4.4	4.3	4.2	5.0	5.0

\*\*CEMACH



x = England & Wales 3 y adjusted average from CEMACH

### 3. Stillbirths in Sandwell and West Birmingham Trust, 2002 -2009: Classification in main categories

Categories based on ReCoDe classification

	2002	2003	2004	2005	2006	2007	2008	2009
Births	5643	6100	6100	6148	5946	6170	6215	6241

#### MAIN CATEGORIES

Numbers	2002	2003	2004	2005	2006	2007	2008	2009
Congenital anomaly	9	8	7	8	3	11	7	15
Fetal growth restriction	17	17	22	22	8	17	20	16
Placenta/Umbilical chord	7	3	4	5	3	2	5	6
Maternal conditions	2	1	0	1	0	1	1	0
Infection	1	1	1	0	1	4	1	1
Intrapartum asphyxia	2	3	1	1	1	3	1	1
Miscellaneous	2	1	1	4	1	3	4	2
Unclassified / Unexplained	10	9	9	11	8	6	6	18

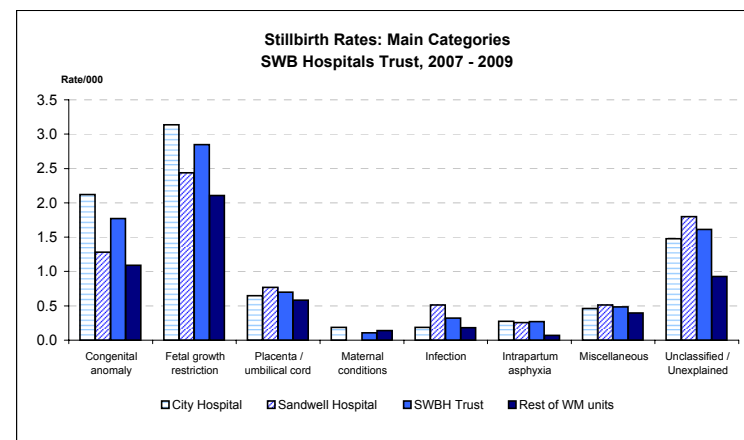
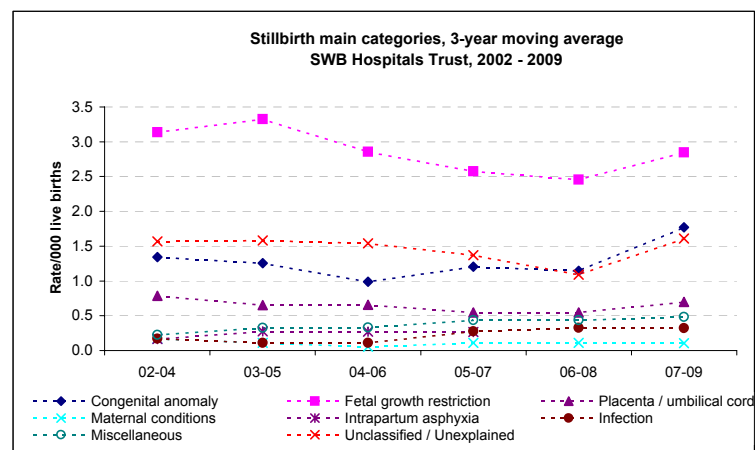
#### 3-year moving averages

	02-04	03-05	04-06	05-07	06-08	07-09
Congenital anomaly	1.3	1.3	1.0	1.2	1.1	1.8
Fetal growth restriction	3.1	3.3	2.9	2.6	2.5	2.8
Placenta / umbilical cord	0.8	0.7	0.7	0.5	0.5	0.7
Maternal conditions	0.2	0.1	0.1	0.1	0.1	0.1
Infection	0.2	0.1	0.1	0.3	0.3	0.3
Intrapartum asphyxia	0.3	0.3	0.2	0.3	0.3	0.3
Miscellaneous	0.2	0.3	0.3	0.4	0.4	0.5
Unclassified / Unexplained	1.6	1.6	1.5	1.4	1.1	1.6

Births 2007-9	City Hospital 10,836	Sandwell Hospital 7,790	SWBH Trust 18,626	Rest of WM units 199,181
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#### MAIN CATEGORIES - 2007-9

	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Congenital anomaly	23	2.1	10	1.3	33	1.8	217	1.1
Fetal growth restriction	34	3.1	19	2.4	53	2.8	420	2.1
Placenta / umbilical cord	7	0.6	6	0.8	13	0.7	116	0.6
Maternal conditions	2	0.2	0	0.0	2	0.1	28	0.1
Infection	2	0.2	4	0.5	6	0.3	36	0.2
Intrapartum asphyxia	3	0.3	2	0.3	5	0.3	14	0.1
Miscellaneous	5	0.5	4	0.5	9	0.5	79	0.4
Unclassified / Unexplained	16	1.5	14	1.8	30	1.6	185	0.9



#### 4 A: Infant Deaths 2002-2009

##### Numbers

	2002	2003	2004	2005	2006	2007	2008	2009
England and Wales*	3144	3274	3234	3217	3329	3309	3369	3312
West Midlands	407	476	419	423	407	422	458	455
SWBH Trust	60	49	47	41	48	42	49	45
City Hospital	36	38	30	24	34	25	30	26
Sandwell Hospital	24	11	17	17	14	17	19	19

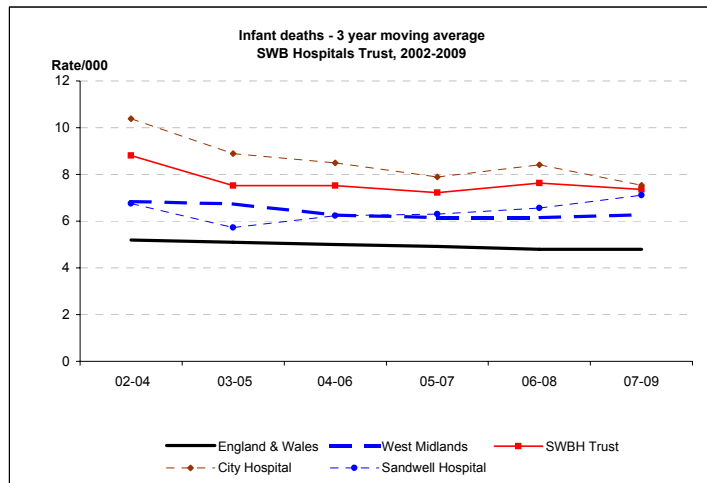
##### Rate/1,000

	2002	2003	2004	2005	2006	2007	2008	2009	2009 CI
England and Wales*	5.3	5.3	5.1	5.0	5.0	4.8	4.8	4.7	4.5 - 4.9
West Midlands	6.7	7.5	6.4	6.4	6.0	6.0	6.4	6.4	5.8 - 7.0
SWBH Trust	10.7	8.1	7.8	6.7	8.1	6.9	7.9	7.3	5.4 - 9.7
City Hospital	11.3	11.2	8.7	6.8	9.9	7.0	8.4	7.3	5.0 - 10.6
Sandwell Hospital	9.9	4.2	6.5	6.6	5.6	6.7	7.3	7.3	4.7 - 11.4

##### Infant death rates - 3 year moving average - PDN

	02-04	03-05	04-06	05-07	06-08	07-09
England & Wales	5.2	5.1	5.0	4.9	4.8	4.8
West Midlands	6.8	6.7	6.3	6.1	6.1	6.3
SWBH Trust	8.8	7.5	7.5	7.2	7.6	7.4
City Hospital	10.4	8.9	8.5	7.9	8.4	7.5
Sandwell Hospital	6.8	5.7	6.2	6.3	6.6	7.1

\*ONS



#### 4 B: Infant deaths 2002-2009 - CORRECTED

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

##### Numbers

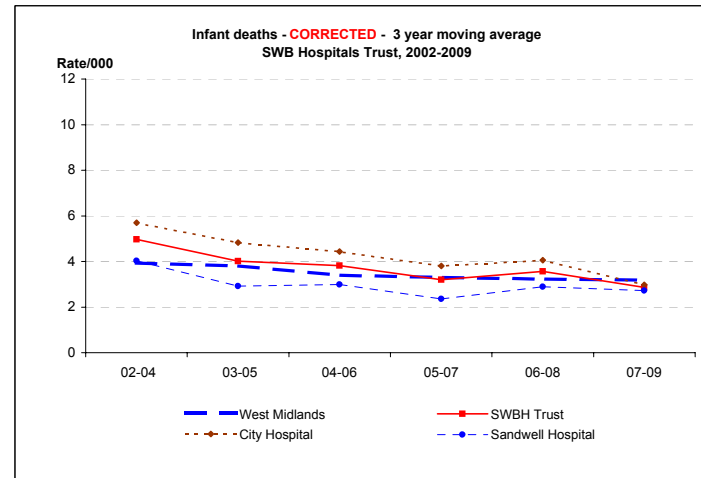
	2002	2003	2004	2005	2006	2007	2008	2009
West Midlands	238	274	236	235	208	228	240	211
SWBH Trust	31	31	26	16	27	15	23	15
City Hospital	17	24	16	10	20	10	13	9
Sandwell Hospital	14	7	10	6	7	5	10	6

##### Rate/1,000

	2002	2003	2004	2005	2006	2007	2008	2009	2009 CI
West Midlands	3.9	4.3	3.6	3.6	3.1	3.3	3.3	3.0	2.6 - 3.4
SWBH Trust	5.5	5.1	4.3	2.6	4.6	2.4	3.7	2.4	1.5 - 4.0
City Hospital	5.4	7.0	4.7	2.8	5.8	2.8	3.6	2.5	1.3 - 4.8
Sandwell Hospital	5.8	2.6	3.8	2.3	2.8	2.0	3.9	2.3	1.1 - 5.0

##### Infant death rates - 3 year moving average - PDN

	02-04	03-05	04-06	05-07	06-08	07-09
West Midlands	3.9	3.8	3.4	3.3	3.2	3.2
SWBH Trust	5.0	4.0	3.8	3.2	3.6	2.9
City Hospital	5.7	4.8	4.4	3.8	4.1	3.0
Sandwell Hospital	4.0	2.9	3.0	2.4	2.9	2.7



## 5. Infant Deaths in Sandwell and West Birmingham Trust, 2002-2009: main categories

Categories based on Fetal/Neonatal/Infant classification

	2002	2003	2004	2005	2006	2007	2008	2009
Live Births	5593	6057	6055	6096	5921	6123	6170	6182

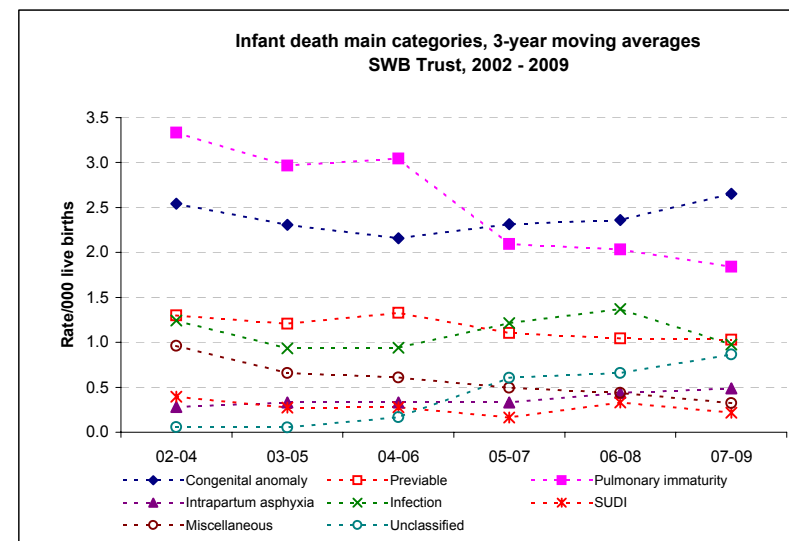
### MAIN CATEGORIES

#### Numbers

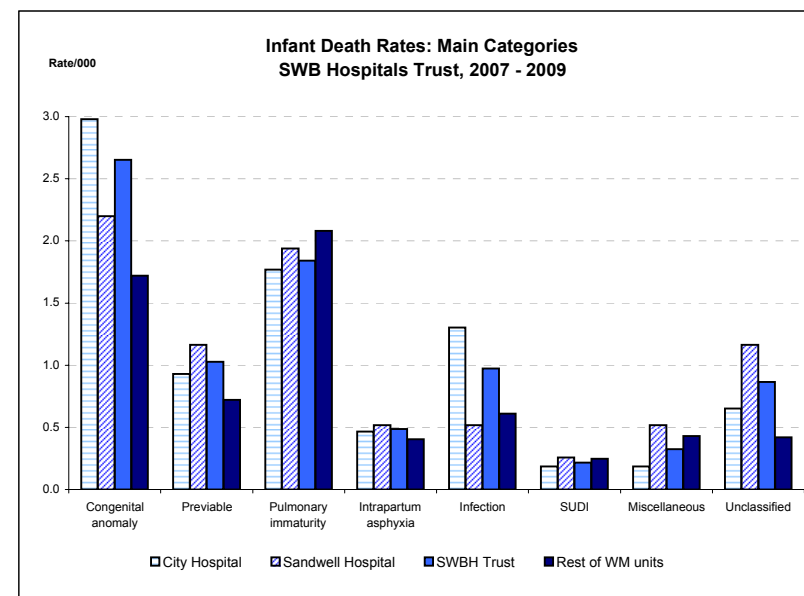
Congenital anomaly	20	12	13	17	9	16	18	15
Previabie	9	6	8	8	8	4	7	8
Pulmonary immaturity	20	18	21	15	19	4	14	16
Intrapartum asphyxia	0	3	2	1	3	2	3	4
Infection	9	9	4	4	9	9	7	2
SUDI	2	2	3	0	2	1	3	0
Miscellaneous	9	4	4	4	3	2	3	1
Unclassified	0	1	0	0	3	8	1	7

#### 3-year moving averages

	02-04	03-05	04-06	05-07	06-08	07-09
Congenital anomaly	2.5	2.3	2.2	2.3	2.4	2.7
Previabie	1.3	1.2	1.3	1.1	1.0	1.0
Pulmonary immaturity	3.3	3.0	3.0	2.1	2.0	1.8
Intrapartum asphyxia	0.3	0.3	0.3	0.3	0.4	0.5
Infection	1.2	0.9	0.9	1.2	1.4	1.0
SUDI	0.4	0.3	0.3	0.2	0.3	0.2
Miscellaneous	1.0	0.7	0.6	0.5	0.4	0.3
Unclassified	0.1	0.1	0.2	0.6	0.7	0.9



	City Hospital 10,744		Sandwell Hospital 7,731		SWBH Trust 18,475		Rest of WM units 198,128	
Live Births 2007-9	No.	Rate	No.	Rate	No.	Rate	No.	Rate
<b>MAIN CATEGORIES - 2006</b>								
Congenital anomaly	32	3.0	17	2.2	49	2.7	341	1.7
Previabie	10	0.9	9	1.2	19	1.0	143	0.7
Pulmonary immaturity	19	1.8	15	1.9	34	1.8	412	2.1
Intrapartum asphyxia	5	0.5	4	0.5	9	0.5	80	0.4
Infection	14	1.3	4	0.5	18	1.0	121	0.6
SUDI	2	0.2	2	0.3	4	0.2	49	0.2
Miscellaneous	2	0.2	4	0.5	6	0.3	85	0.4
Unclassified	7	0.7	9	1.2	16	0.9	83	0.4



## 6 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	1715
West Midlands	234	266	255	270	245	268	258	246
SWBH Trust	36	25	30	24	29	18	27	23
City Hospital	21	18	21	9	19	11	14	13
Sandwell Hospital	15	7	9	15	10	7	13	10

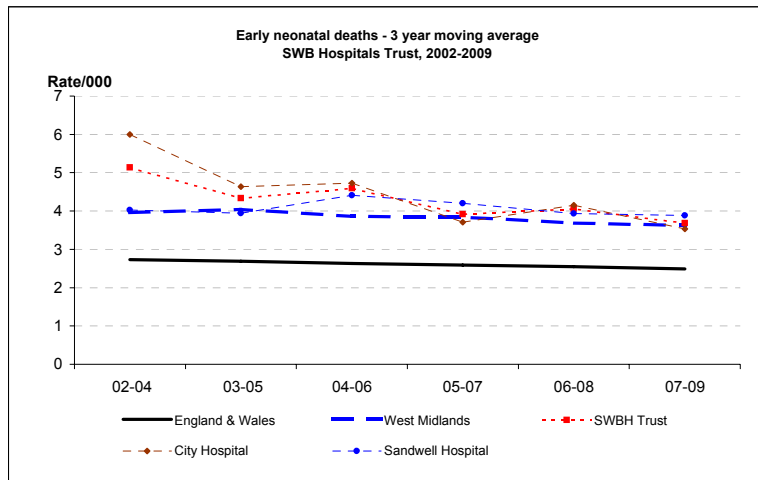
### Rate/1,000

	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	2.4	2.3 - 2.5
West Midlands	3.8	4.2	3.9	4.1	3.6	3.8	3.6	3.5	3.1 - 3.9
SWBH Trust	6.4	4.1	5.0	3.9	4.9	2.9	4.4	3.7	2.5 - 5.6
City Hospital	6.6	5.3	6.1	2.6	5.5	3.1	3.9	3.6	2.1 - 6.2
Sandwell Hospital	6.2	2.6	3.4	5.8	4.0	2.8	5.0	3.8	2.1 - 7.1

### 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	2.5
West Midlands	4.0	4.0	3.9	3.8	3.7	3.6
SWBH Trust	5.1	4.3	4.6	3.9	4.1	3.7
City Hospital	6.0	4.6	4.7	3.7	4.2	3.5
Sandwell Hospital	4.0	3.9	4.4	4.2	3.9	3.9

\*ONS



## 6 B: Early Neonatal Deaths 2002-2009 - CORRECTED

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

### Numbers

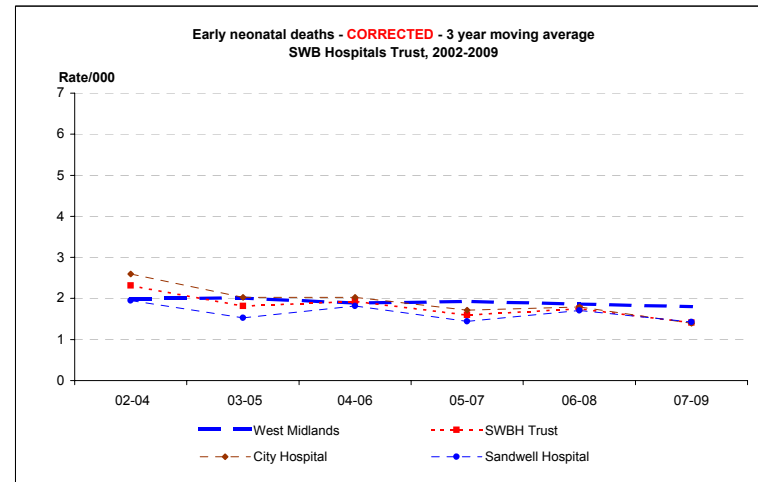
	2002	2003	2004	2005	2006	2007	2008	2009
West Midlands	118	134	129	131	117	144	130	110
SWBH Trust	16	13	12	8	15	6	11	9
City Hospital	9	10	7	4	10	4	5	6
Sandwell Hospital	7	3	5	4	5	2	6	3

### 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
SWBH Trust	2.9	2.1	2.0	1.3	2.5	1.0	1.8	1.5	0.8 - 2.8
City Hospital	2.8	2.9	2.0	1.1	2.9	1.1	1.4	1.7	0.8 - 3.7
Sandwell Hospital	2.9	1.1	1.9	1.5	2.0	0.8	2.3	1.2	0.4 - 3.4

### 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
SWBH Trust	2.3	1.8	1.9	1.6	1.8	1.4
City Hospital	2.6	2.0	2.0	1.7	1.8	1.4
Sandwell Hospital	1.9	1.5	1.8	1.4	1.7	1.4



## 7 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	2251
West Midlands	294	329	314	327	316	316	321	321
SWBH Trust	45	35	34	33	38	24	32	31
City Hospital	27	28	23	17	26	16	19	18
Sandwell Hospital	18	7	11	16	12	8	13	13

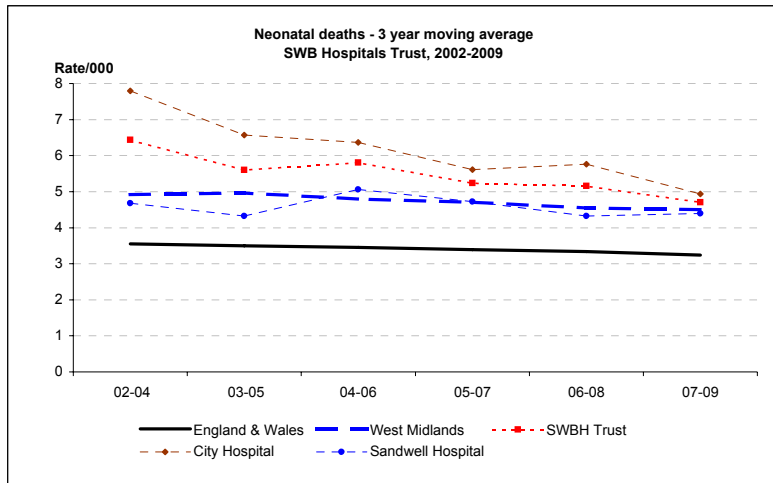
### Rate/1,000

	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
SWBH Trust	8.0	5.8	5.6	5.4	6.4	3.9	5.2	5.0	3.5 - 7.1
City Hospital	8.5	8.2	6.7	4.8	7.6	4.5	5.3	5.0	3.2 - 7.9
Sandwell Hospital	7.4	2.6	4.2	6.2	4.8	3.2	5.0	5.0	2.9 - 8.5

### 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	3.2
West Midlands	4.9	5.0	4.8	4.7	4.6	4.5
SWBH Trust	6.4	5.6	5.8	5.2	5.2	4.7
City Hospital	7.8	6.6	6.4	5.6	5.8	4.9
Sandwell Hospital	4.7	4.3	5.1	4.7	4.3	4.4

\*ONS



## 7 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
SWBH Trust	21	21	15	14	22	8	15	13
City Hospital	13	18	9	9	15	6	9	8
Sandwell Hospital	8	3	6	5	7	2	6	5

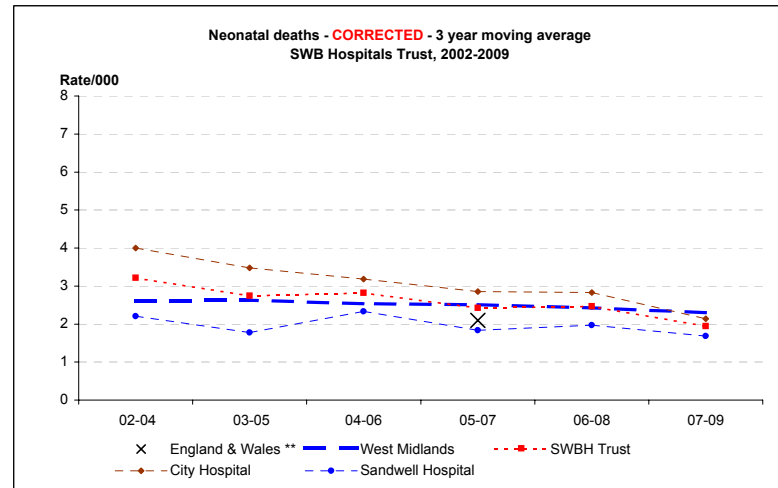
### Rate/1,000

	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
SWBH Trust	3.8	3.5	2.5	2.3	3.7	1.3	2.4	2.1	1.2 - 3.6
City Hospital	4.1	5.3	2.6	2.6	4.4	1.7	2.5	2.2	1.1 - 4.4
Sandwell Hospital	3.3	1.1	2.3	1.9	2.8	0.8	2.3	1.9	0.8 - 4.5

### 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
SWBH Trust	3.2	2.7	2.8	2.4	2.5	1.9
City Hospital	4.0	3.5	3.2	2.9	2.8	2.1
Sandwell Hospital	2.2	1.8	2.3	1.8	2.0	1.7

\*\*CEMACH



x = England & Wales 3 y adjusted average from CEMACH



## 8 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	5403
West Midlands	625	661	638	673	637	666	674	656
SWBH Trust	86	68	75	76	54	65	72	82
City Hospital	52	46	49	44	35	43	38	49
Sandwell Hospital	34	22	26	32	19	22	34	33

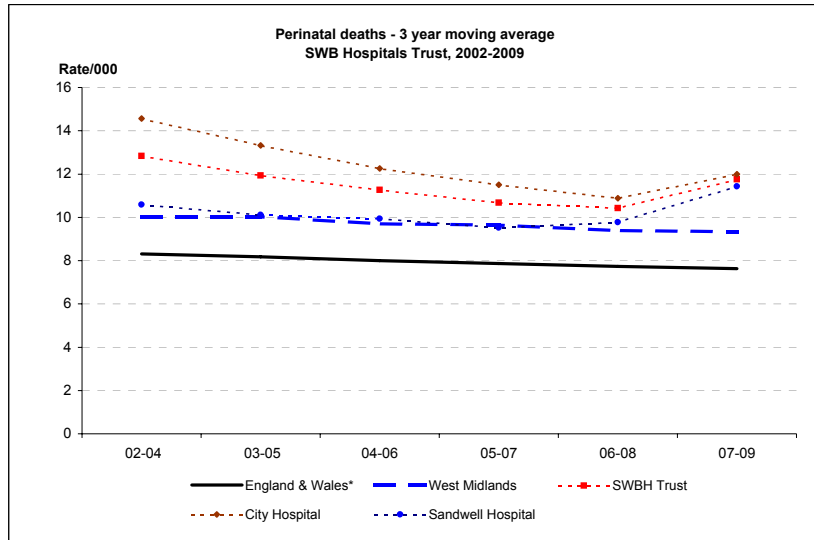
### Rate/1,000

	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	7.6	7.4 - 7.8
West Midlands	10.2	10.3	9.6	10.1	9.4	9.5	9.3	9.2	8.5 - 9.9
SWBH Trust	15.2	11.1	12.3	12.4	9.1	10.5	11.6	13.1	10.6 - 16.3
City Hospital	16.2	13.4	14.2	12.4	10.2	11.9	10.5	13.6	10.3 - 17.9
Sandwell Hospital	13.9	8.3	9.8	12.3	7.6	8.6	13.0	12.6	9.0 - 17.6

### 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	7.6
West Midlands	10.0	10.0	9.7	9.6	9.4	9.3
SWBH Trust	12.8	11.9	11.3	10.7	10.4	11.8
City Hospital	14.6	13.3	12.3	11.5	10.9	12.0
Sandwell Hospital	10.6	10.1	9.9	9.5	9.8	11.4

\*ONS



## 8 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
SWBH Trust	52	44	41	47	35	38	47	40
City Hospital	33	30	24	31	21	25	23	27
Sandwell Hospital	19	14	17	16	14	13	24	13

### 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
SWBH Trust	9.2	7.2	6.7	7.6	5.9	6.2	7.6	6.4	4.7 - 8.7
City Hospital	10.3	8.7	6.9	8.7	6.1	6.9	6.4	7.5	5.1 - 10.8
Sandwell Hospital	7.8	5.3	6.4	6.1	5.6	5.1	9.2	4.9	2.9 - 8.4

### 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
SWBH Trust	7.7	7.2	6.8	6.6	6.5	6.7
City Hospital	8.6	8.1	7.3	7.3	6.5	6.9
Sandwell Hospital	6.5	5.9	6.1	5.6	6.7	6.4

