Staffordshire, Shropshire & Black Country Neonatal Network

Report on additional work completed following designation workshop (29 June 2005)

The Staffordshire, Shropshire & Black Country Neonatal Network has been considering the level of neonatal care that should be provided in each of the hospitals within the network.

Details of the work completed prior to the workshop on 29 June 2005 can be found in reports of the workshops held on 23 February and 29 June 2005, copies of which are available on the network website at: www.newbornnetworks.org.uk/staffs

The workshop on 29 June highlighted some additional work that was required prior to submitting a final proposed designation report to the network board on 5 October.

This report contains information on the additional work undertaken.

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Section 1

Trust Responses Received After 3 August 2005

AG/SCB

4th August 2005

Ruth Moore
Network Manager
Staffordshire, Shropshire & Black Country Neonatal Network

Dear Ruth

Re: Unit Designation Workshop on 29th June 2005 & Draft Designation of Units Report.

I hope to summarise the response of our Trust for the above that has mostly been collected by consultation with our Clinical Director Mr K Chin, Obstetricians Miss Karen Powell and Jill Dixon. Consultant Paediatricians Dr S Ghosal and Dr C Melville, Neonatal Nurse Manager Gina Hartwell, Paediatric Nurse Manager Kim Wooliscroft and Directorate Manager Gill Landon.

We have the following observations to make from the "Capacity and Quality Unit" Document regarding our Neonatal Unit:

1. We do have a system for the home loan of equipment, especially for babies going on home oxygen therapy. We do not give out breast pumps from the Unit because of concerns regarding hygiene and safety and also in the past found it difficult to recall the equipment. We do arrange for the parents to hire this equipment from a local company. We are also looking forward to raising funds to buy some more breast pumps.

   The Unit has a multipurpose room that can be conveniently used as a quiet room if required. The Neonatal Unit has shower and toilet facilities for the parents to use overnight. Those wishing to use bathtubs can use the facilities on the adjoining postnatal ward.

2. There is always someone available (24/7) with training in neonatal resuscitation including an NLS trained paediatric middle grade and neonatal nurses to support deliveries. We have an ongoing programme to ensure NLS Certification of nursing and medical staff.

   The Neonatal Unit always has at least one neonatal nurse with skills and training in neonatal resuscitation.

3. The South West Staffordshire Primary Care Trust has a Community Paediatric Nursing Team which is based in the hospital and includes a neonatal trained nurse working part-time in our S.C.B.U. These nurses provide direct support and liaison with the PCT and families.

4. In your report, assumptions have been made about move to a new and more appropriately designed Unit. It has also been presumed that there would be an increased inconvenience and risk of infection with this move. I would like to reassure you that if and when Stafford has a new Neonatal Unit, there will be a marked improvement in parents facilities, a medical support team would be based much closer to the S.C.B.U. and a separate entry and nursing team will be in place. I understand the architects plan to have a dedicated lift connecting

the maternity unit with S.C.B.U. to minimise the inconvenience and separation of mothers and babies.

5. It is our understanding that all the Units in the area have experienced problems in recruiting paediatric doctors at the middle grade level. We at present have the full compliment of medical staffing and expect to maintain it in the near future. This is fully EWTD compliant.

With regards to the actual re-designation of Units, the following points were raised during your visit recently:-

Cot/bed capacity in the level 3 neonatal and maternity unit: Our Obstetricians have faced increasing difficulties in finding beds for intra-uterine transfers within the region and a substantial number of mothers are being transferred to distant Units like Liverpool, Manchester and Birmingham Women's Hospital. There do not seem to be any arrangements for increasing maternity bed capacity in the designated level 3 units.

We would like to point out that in the year November 2003 – November 2004, nearly 50% of the neonatal transfers were to Units outside the network. With the proposed guidelines, the number of newborns transferred out of SGH will be doubled with all these going out of the region.

The report recommends a level 1 Unit at Stafford and will not be allowed to initiate and provide CPAP service to neonates. We find this completely arbitrary and without any evidence base. Our Unit has been providing CPAP for the last 2 years with an increase in confidence and skill. This has helped in the nursing recruitment and retention, as trained neonatal nurses feel valued by putting their training into practice.

In the year November 2003 – November 2004, approximately 25 babies received CPAP and their full care at Staffordshire General Hospital without the need for transfer to a tertiary Unit. In the new scheme of things, if these babies were to be transferred, this would not only impose considerable travel and a burden on families but would also be contradictory to the philosophy of report of the Neonatal Intensive Care Services Review Group. The review clearly rejects centralisation of neonatal services and recommends that mothers and babies should be able to receive their care as near to home as possible and that only the sickest babies needing intensive and complex care would be transferred to more specialist centres.

We are also concerned that the proposals, given the inadequate capacity of service provision elsewhere in the region, will mean that our status is reduced to level 1, whilst in practice we will be expected to continue to provide elements of level 2 care for significant periods without the network resources and staffing to delivery this.

Yours sincerely

Dr A Gupta
Consultant Paediatrician

Capacity and quality of unit: Shrewsbury and Telford Hospitals NHS Trust

Number of births July 03 – June 04: 4924 (5100 including births in midwifery-led units)

Aspect	Comments	RSH Comments
Good facilities and support should be available for parents and families.	The neonatal unit has insufficient space to provide a quiet room, kitchen, toilet, washing area or facilities for parents to make refreshments. There are two parents' flats on the neonatal unit. There is no discreet area for expressing milk.	• **The neonatal unit does have facilities such as toilet, washing room, and tea/coffee making. Refreshments are available from the League of Friends shop just outside the unit. There is an office close to the bedrooms that could be easily converted into a parents' kitchen at minor expense if required.** • **The Unit has carried out a comprehensive Parental Satisfaction Survey, which included assessment of the facilities. In the survey, the current facilities for breast milk expression were rated as 'good/very good' by 61%, and poor/very poor by 13% of respondents.** • **The Unit recognises the need to modernise its infrastructure, including development of a separate area for breast milk expression; the plans for this are currently part of the overall building strategy by the Trust.**
Maternity services should have the capacity to care for the expected numbers and care required, including: o Obstetrician and midwifery staffing	A Specialist Registrar is always available to the delivery suite but may not have three years of higher specialist training. An	• **The Consultant Obstetricians operate a Consultant of the Week**

o Training and expertise of obstetricians and midwives, in particular, expertise in feto-maternal medicine for level 3 units. o Facilities and equipment	obstetric anaesthetist is not available to the labour ward without commitments elsewhere at nights and weekends. There are two feto-maternal medicine specialists in the unit. Midwifery staffing is not at the level recommended by *Birthrate Plus* and there is not yet a plan, agreed with commissioners, for reaching this level. The results were received in April 2005. There is not always someone with skills in neonatal resuscitation available to support all deliveries although there are plans to achieve this. There is not a second obstetric theatre close to the labour ward and available for use in an emergency.	**service providing a** continuous **daytime 40-hrs/week consultant cover for the labour ward. The Associate Specialist and two Staff Grades have equivalent or more clinical experience of a year 4/5 SpRs. When Core SpRs are on call, the Consultants provide close supervision and immediate availability for them. The two sub-speciality accredited feto-maternal specialists (the only two outside B'ham Women's Hospital) oversee the management of all complex pregnancies including fetal anomalies.** • **Although the obstetric anaesthetic cover is shared with ITU out of hours, audit of the decision to delivery time showed the performance to be well within the national guidelines.** • **Midwifery staffing has increased since Birthrate Plus by 5wte. The additional midwifery staff required was added to the Workforce Plan presented to the Trust in June 2005. Very low levels of midwifery staff turnover with high retention and good recruitment. High level of stable core staff so although numbers down according to birthrate plus the quality of the staff is very high**

		due to stability. Recruitment and retention not a problem if funding made available. • **All midwives and neonatal nurses are trained regularly in newborn resuscitation, with an ongoing programme for both training and regular update. Many midwives and neonatal nurses have attained the certificate from the Newborn Life Support course and a significant number have been asked to be instructors. There are clearly defined, evidence-based and audited guidelines for the skilled neonatal attendance at deliveries (encl 1) with round the clock availability of skilled neonatal personnel in close proximity of the labour suites.** • **The Consultant Labour Ward has one designated obstetric theatre but 5 of the labour rooms can be used as a theatre in an emergency. All have piped gases, air change, scrubbing up facilities and appropriate lighting. A second Anaesthetist machine is available. The obstetric department is in negotiation with the Trust for opening a fully equipped dedicated second obstetric theatre.**
Neonatal services should have the capacity to care for the expected numbers and care required, including:	Medical staffing meets the standards for a level 2 unit. There is not a separate	• There are currently 3 accredited Consultant Neonatologists in post with a fourth due to

o Medical and nurse staffing o Training and expertise of staff on the neonatal unit o Facilities and equipment	consultant neonatologist rota. There are currently three paediatricians with an interest in neonatology (***see query below).*** A joint appointment with the unit at Stoke has just been made and will be on call as part of the Shrewsbury rota. The middle grade rota is separate from general paediatrics during the day but not at night. ***Query for Trust: The information submitted for the designation exercise said that the Trust has three dedicated neonatologists. Information submitted previously indicated that these posts were paediatricians with an interest in neonatology. Could you please clarify?*** The nurse staffing establishment is 21% below the level recommended for the current designation of cots and there are 9.5% vacancies.	start in October 2005, with whole time commitment to neonatology. • During their fortnight on take, besides providing the daytime hands-on cover, the Consultant Neonatologists are also available as a back-up out of hours, providing a neonatologist on call service 24/7. There is a clear guidance for the General Paediatricians about the involvement of the Neonatal Consultant (enclosure 2). • The current nurse staffing arrangements are derived and funded from the BAPM 1996 standards. The stated shortfall is based on the 'aspirational' staffing levels in the 2001 BAPM standards, and not yet funded or agreed in the DoH NIC Review. • There was a small vacancy factor at the time of previous data submission due to reduction in hours following Maternity Leave etc. Both recruitment and staff retention have never been a problem. We have a number of nurses wishing to work with us but we have only been funded as per the present establishment.
Relevant support services should be available, including imaging and anaesthesia.	Access to physiotherapy and dietician support is not at the desired level.	• Access to a paediatric dietician and physiotherapist is readily available with a full-time paediatric dietician in post, and is utilised as necessary. The non-routine use of these services simply reflects the rarity of such problems. • The Consultants have sufficient expertise in the nutritional management of the babies. A recent audit confirmed the achievement of standards set in the Tsang guidelines, and benchmarked as well as the high-performing units in North America. (Encl 3)
Other relevant services should be located close to the neonatal unit.	ITU for mothers are in a different building.	• Although the ITU facilities are in a different building, it is only a few meters away from the maternity block, and is well connected through a dedicated underground tunnel, placed directly below the labour suite.
There should be a willingness to develop a coherent and cohesive service and good collaboration between maternity and neonatal services and between different levels of unit.	A range of meetings take place within Shrewsbury. Staff from the unit participate in network and regional meetings but there	• Geographical considerations do not easily allow move of staff with neighbouring units. Collaboration should not simply mean

	is no evidence of other links or collaboration with different levels of neonatal unit. The joint appointment with Stoke should help collaboration.	physical visit to another nearby unit. • Through the medium of the Regional Neonatal Forum, the Unit has taken lead in various activities such as clinical audit (all three regional neonatal audits - Admission Temperature, Prescribing on Neonatal Units, and Parent Satisfaction Survey were originally developed at RSH and later adopted for regional use), development of regional maternal and neonatal database (MANNERS), training (of regional neonatal SHOs is coordinated by one of RSH Neonatologists), and research (both local and regional). RSH was the first unit to invite neonatal consultants from other units in the region to spend a day on the unit and exchange ideas. One of the neonatologist regularly teaches on Regional NLS courses
Level 3 units should have university links for training and research.	The unit does not consider this to be necessary.	• The reply to the question stated the importance of actual neo-/peri-natal research being performed in the units rather than simply non-productive links with universities. The Unit has a well-established clinical research portfolio of its own, and has published in peer-reviewed journals (encl 4). Additionally, the unit has actively participated in multi-centre studies such as INIS, EPICure, Patient triggered ventilation etc. • The hospital is an Associate teaching hospital of Keele University and the department trains medical students from Keele, Birmingham and London.

Level	Score (out of 10)	Reason for score
2	9	Facilities for parents are not at the level expected. Consultant neonatologist levels may be above the level needed for a level 2 unit.
3	6	Facilities for parents are not at the level expected. A Specialist Registrar with three years higher specialist training and consultant anaesthetist support to the maternity service are not available at all times. There is not a separate middle grade or consultant rota for the neonatal unit. Nurse staffing levels are low.

General:

- **In general, the comments in the report tend to highlight the shortcomings whilst showing little regard for the strengths. The philosophy of collaboration depends upon harnessing the strengths whilst supporting the redressal of the deficiencies. The neonatal service at Shrewsbury has been historically underfunded for the size of its birth population. It is only with the support and investment of the Trust, the commitment of its workforce, and the generosity of its local population that the Unit has increased its capacity, staffing, and equipment portfolio.**
- **As the reports assesses 'the capacity and quality' of the unit, it would be interesting to know the criteria employed to judge the quality. Many domains assessed are administrative and infrastructure-related but what is most important for the neonatal professionals (doctors, nurses and midwives), the parents and the public at large will be the clinical outcomes. The outcomes, parental satisfaction, and clinical audit of various aspects of its services should be taken into consideration whilst assessing quality than mere presence or absence of certain facilities that are easily changed with just modest capital investment. Whilst Shropshire is somewhat geographically isolated from the bigger cities, it does not mean that the local population has been isolated from excellence of care. It is reflected in consistently very low perinatal mortality (encl 5), and key neonatal outcomes (encl 6).**
- **The Neonatal service at Shrewsbury has been at the forefront of innovation. Many newer facilities such as HFOV, iNO, and newer modes of ventilation were introduced here before most other units in the region.**
- **The Feto-maternal consultants and neonatologists along with the well established teams have ensured access to, and local delivery of a high quality perinatal care to the population of Shropshire. Very little recognition of this aspect has been shown in the report.**
- **The DoH NIC Review talked about various 'roles' for level 3 centres. Unit designation exercises need to evaluate such roles of level 3 centres as training & education, innovation & research, and clinical governance including audit in addition to obvious ones such as outcomes.**

List of enclosed documents referenced in RSH comments above

In order to reduce the length of this report the documents listed are not included in this report but are available from the network office.

Encl 1: Calls to Labour room

Encl 2: Contacting Neonatal Consultant

Encl 3: Neonatal Nutrition Audit Summary

Encl 4: Neonatal Research Portfolio (2000-2005)

Encl 5: Perinatal Mortality Rates (1998-2004)

ENCL 6: KEY DEMOGRAPHIC AND OUTCOMES DATA (JAN 1999- DEC 2003)

Section 2

Updated and amended unit information

Capacity and quality of unit: Dudley Group of Hospitals NHS Trust

Number of births July 03 – June 04: 3891

Aspect	Comments
Good facilities and support should be available for parents and families.	The unit is now housed in a modern, purpose-built facility. This has most of the facilities expected but does not have a day room for parents. There are, however, two flats where parents can stay which have kitchens. These can be used by parents who are spending considerable time on the unit.
Maternity services should have the capacity to care for the expected numbers and care required, including: o Obstetrician and midwifery staffing o Training and expertise of obstetricians and midwives, in particular, expertise in feto-maternal medicine for level 3 units. o Facilities and equipment	The expected staffing and facilities are available, with the exception of: • Midwife staffing is not yet at the level expected by Birthrate Plus. Staffing has increased recently but there is not yet a plan, agreed with commissioners, for achieving the recommended level of staffing. • There is one consultant with feto-maternal medicine expertise but not a feto-maternal medicine unit within the maternity service.
Neonatal services should have the capacity to care for the expected numbers and care required, including: o Medical and nurse staffing o Training and expertise of staff on the neonatal unit o Facilities and equipment	Medical staffing meets the standards expected for a level 1 unit. There is a separate SHO/ANNP rota for the neonatal unit during the daytime but not at nights. The middle grade rota is separate from general paediatrics in the daytime but not at night. There is not a separate rota of consultant neonatologists. There is currently one paediatrician with an interest in neonatology although a second will start in August. There will also be a joint neonatologist appointment with Wolverhampton. In February 2005, the nurse staffing establishment was 19% below the level recommended for the current designation of cots.
Relevant support services should be available, including imaging and anaesthesia.	All services are available.
Other relevant services should be located close to the neonatal unit.	All relevant services are located close to the neonatal unit.
There should be a willingness to develop a coherent and cohesive service and good collaboration between maternity and neonatal services and between different levels of unit.	A range of meetings take place within Dudley and there have been joint ward rounds with consultants from New Cross Hospitals. There have been joint nursing meetings with New Cross Hospital staff and joint teaching meetings with Walsall. The unit also participates in other network and West Midlands meetings.
Level 3 units should have university links for training and research.	There are links for nurse and ANNP training but not for research.

Other issues:

1 The facilities in the new hospital place the children's ward, neonatal unit and maternity service in very close proximity.

Capacity and quality of unit: Royal Wolverhampton Hospitals NHS Trust

Number of births July 03 – June 04: 3530

Aspect	Comments
Good facilities and support should be available for parents and families.	All facilities are available. The building is old and in need of upgrade / replacement. There are not yet agreed plans for the development of a new unit.
Maternity services should have the capacity to care for the expected numbers and care required, including: o Obstetrician and midwifery staffing o Training and expertise of obstetricians and midwives, in particular, expertise in feto-maternal medicine for level 3 units. o Facilities and equipment	Most of the standards are met. Midwifery staffing is not yet at the level recommended by *Birthrate Plus* but a plan for reaching this level has been agreed with commissioners. A range of feto-maternal medicine services are available and there is a feto-maternal medicine unit within the maternity service. Feto-maternal medicine specialists do not yet manage all in utero transfers.
Neonatal services should have the capacity to care for the expected numbers and care required, including: o Medical and nurse staffing o Training and expertise of staff on the neonatal unit o Facilities and equipment	The consultant rota is not yet separate from general paediatrics but, with the appointment of one additional consultant, a 1:5 neonatal rota will be established. The middle grade rota is separate from general paediatrics during the week day but not out of hours. The SHO / ANNP rotas are separate from general paediatrics. In February 2005, the nurse staffing establishment was 31% below the level recommended for the current designation of cots (BAPM 2001).
Relevant support services should be available, including imaging and anaesthesia.	These services are available.
Other relevant services should be located close to the neonatal unit.	ITU for mothers is in a different building.
There should be a willingness to develop a coherent and cohesive service and good collaboration between maternity and neonatal services and between different levels of unit.	Collaborative working with Walsall is being discussed. A range of meetings take place within Wolverhampton.
Level 3 units should have university links for training and research.	There are links for nurse and ANNP training but not for research.

Other issues:

1 The proportion of low birth weight babies is the second highest in the network and the rate of car / van ownership is relatively low.

Capacity and quality of unit: Walsall Hospitals NHS Trust

Number of births July 03 – June 04: 3887

Aspect	Comments
Good facilities and support should be available for parents and families.	Most facilities are available. The unit is in a modern building that provides a pleasant environment and good facilities.
Maternity services should have the capacity to care for the expected numbers and care required, including: o Obstetrician and midwifery staffing o Training and expertise of obstetricians and midwives, in particular, expertise in feto-maternal medicine for level 3 units. o Facilities and equipment	Many of the expected standards are met.
Neonatal services should have the capacity to care for the expected numbers and care required, including: o Medical and nurse staffing o Training and expertise of staff on the neonatal unit o Facilities and equipment	The SHO rota is separate from general paediatrics except at nights. There is only one paediatrician with an interest in neonatology (post vacant). There is also a joint neonatologist appointment with Wolverhampton. The middle-grade establishment is appropriate but some problems with recruitment are being experienced. In February 2005, the nurse staffing establishment was 22% below the level recommended for the current designation of cots (BAPM 2001).
Relevant support services should be available, including imaging and anaesthesia.	Other support services are available.
Other relevant services should be located close to the neonatal unit.	
There should be a willingness to develop a coherent and cohesive service and good collaboration between maternity and neonatal services and between different levels of unit.	Collaborative working with Wolverhampton is being discussed. A range of meetings take place within Walsall.
Level 3 units should have university links for training and research.	N/A

Other issues:

1 The number of births would be high for a level 1 unit.

2 The proportion of low birth weight babies is the highest in the network and the rate of car / van ownership is relatively low.

Capacity and quality of unit: Shrewsbury and Telford Hospitals NHS Trust

Number of births July 03 – June 04: 4924 (5100 including births in midwifery-led units)

Aspect	Comments
Good facilities and support should be available for parents and families.	There are two parents' rooms and a shared shower room on the neonatal unit but no discreet area for expressing milk.
Maternity services should have the capacity to care for the expected numbers and care required, including: o Obstetrician and midwifery staffing o Training and expertise of obstetricians and midwives, in particular, expertise in feto-maternal medicine for level 3 units. o Facilities and equipment	Medical staffing is appropriate. There are two feto-maternal medicine specialists in the unit. Midwifery staffing is not yet at the level recommended by *Birthrate Plus* but there is a plan, agreed with commissioners, for reaching this level. There is not a second obstetric theatre close to the labour ward equipped for use in an emergency but five of the labour room may be used as a second theatre and a second anaesthetic machine is available.
Neonatal services should have the capacity to care for the expected numbers and care required, including: o Medical and nurse staffing o Training and expertise of staff on the neonatal unit o Facilities and equipment	Medical staffing meets the standards for a level 2 unit. There is not a separate consultant neonatologist rota but a 'second on call' rota ensures that advice from a consultant neonatologist is always available. There are currently three neonatologists. A joint appointment with the unit at Stoke will also be on call as part of the Shrewsbury rota. The middle grade rota is separate from general paediatrics during the day but not at night. In February 2005, the nurse staffing establishment was 21% below the level recommended for the current designation of cots (BAPM 2001).
Relevant support services should be available, including imaging and anaesthesia.	Support services are available.
Other relevant services should be located close to the neonatal unit.	ITU for mothers is in a different building but there is an underground tunnel connecting the buildings.
There should be a willingness to develop a coherent and cohesive service and good collaboration between maternity and neonatal services and between different levels of unit.	A range of meetings takes place within Shrewsbury. Staff from the unit have been active in the West Midlands Neonatal Forum. The joint appointment with Stoke should facilitate collaborative working.
Level 3 units should have university links for training and research.	Royal Shrewsbury Hospital is an associate teaching hospital of Keele University and the department trains medical students from Keele, Birmingham and London. There is an active in-service research and audit programme.

Capacity and quality of unit: Mid Staffordshire General Hospitals NHS Trust

Number of births July 03 – June 04: 2224

Aspect	Comments
Good facilities and support should be available for parents and families.	Many of the expected standards are met although there is no quiet room. There is the physical space to improve facilities.
Maternity services should have the capacity to care for the expected numbers and care required, including: o Obstetrician and midwifery staffing o Training and expertise of obstetricians and midwives, in particular, expertise in feto-maternal medicine for level 3 units. o Facilities and equipment	The labour ward does not have a dedicated SHO at night. An obstetric anaesthetist is not always available to the labour ward without commitments elsewhere. There is no high dependency facility on the labour ward.
Neonatal services should have the capacity to care for the expected numbers and care required, including: o Medical and nurse staffing o Training and expertise of staff on the neonatal unit o Facilities and equipment	The SHO/ANNP rota is not separate from general paediatrics. In February 2005, the nurse staffing establishment was 11% below the level recommended for the current designation of cots (BAPM 2001).
Relevant support services should be available, including imaging and anaesthesia.	The unit does not have administrative and clerical support
Other relevant services should be located close to the neonatal unit.	Other relevant services are located close to the neonatal unit.
There should be a willingness to develop a coherent and cohesive service and good collaboration between maternity and neonatal services and between different levels of unit.	There is a range of meetings within Stafford. A visiting neonatologist (2 sessions) from Stoke provides some collaboration with the unit there and there is a programme for nurses to visit Stoke.
Level 3 units should have university links for training and research.	N/A

Other issues:

1 The Trust is experiencing some difficulties in sustaining medical staffing of its in-patient paediatric services. A level 1 unit could be sustained if in-patient paediatrics was no longer on site. A level 2 unit could not be sustained without on-site in-patient paediatrics.

Capacity and quality of unit: University Hospitals of North Staffordshire NHS Trust

Number of births July 03 – June 04: 5073

Aspect	Comments
Good facilities and support should be available for parents and families.	Facilities are satisfactory and will improve in the new unit.
Maternity services should have the capacity to care for the expected numbers and care required, including: o Obstetrician and midwifery staffing o Training and expertise of obstetricians and midwives, in particular, expertise in feto-maternal medicine for level 3 units. o Facilities and equipment	There is not always a dedicated SHO on the labour ward. A Specialist Registrar is always available to the delivery suite but may not have three years of higher specialist training. The unit has two feto-maternal medicine specialists and agreement to a third post. Midwifery staffing is at the level recommended by *Birthrate Plus.*
Neonatal services should have the capacity to care for the expected numbers and care required, including: o Medical and nurse staffing o Training and expertise of staff on the neonatal unit o Facilities and equipment	There is a separate rota of consultant neonatologists. The middle grade rota is separate from general paediatrics most of the time. The SHO / ANNP rota is separate from general paediatrics. In February 2005 the nurse staffing establishment was 11% below the level recommended for the current designation of cots (BAPM 2001).
Relevant support services should be available, including imaging and anaesthesia.	The neonatal unit does not have administrative and clerical support.
Other relevant services should be located close to the neonatal unit.	ITU for mothers are in a different building but will be closer in the new building.
There should be a willingness to develop a coherent and cohesive service and good collaboration between maternity and neonatal services and between different levels of unit.	A range of meetings take place within the Trust. There is collaborative working with Stafford for medical and nursing staff.
Level 3 units should have university links for training and research.	There are university links to Keele and Staffordshire Universities and one consultant has an Honorary Reader appointment.

Section 3

Additional Options modelled with Shrewsbury as a level 3 unit

Staffordshire, Shropshire and Black Country Neonatal Network

The following additional options have been modelled in response to comments received from colleagues in Shrewsbury and Walsall and proposed additional model being discussed in the Black Country

Table 1 Additional Options Evaluated

	J	K	L	M	N	O	P	Q
Dudley	2	2	1	1	2	2	1	1
Wolverhampton	2	3	2	3	2	3	2	3
Walsall	1	1	1	1	2	2	2	2
Shrewsbury	3	3	3	3	3	3	3	3
Stafford	1	1	1	1	1	1	1	1
Stoke	3	2	3	2	3	2	3	2

	X	Y	Z	W
Dudley	2	1	2	1
Wolverhampton/ Walsall	3	3	3	3
Shrewsbury	2	2	3	3
Stafford	1	1	1	1
Stoke	3	3	2	2

The Department of Health Neonatal Care Capacity Planning Tool was designed to assist networks in making decisions about the configuration of neonatal units. It models the impact of different configurations on occupancy rates, planned transfers between hospitals, the predicted level of 'cot blocking' (which may result in transfers out of the network or care in inappropriate cots) and costs.

The capacity planning tool allows for a consistent set of assumptions to be used across the units in the network. Various different assumptions were modelled. Different assumptions produced broadly similar results. The following assumptions were used in the evaluation of options:

Assumptions:	
Period of stabilisation of babies needing intensive care	Level 1 Units: 1 day Level 2 Units: 3 day
Period of stabilisation of babies needing high dependency care	Level 1 Units: 1 day
Maximum acceptable cot occupancy	70% in any unit

The model requires the destination of transfers out of each unit to be specified. The following assumptions were made about transfers, based on travel times between units:

- If more than one level 3 unit:
    - Dudley will always transfer mothers and babies needing intensive care to Wolverhampton unless not available, in which case 50:50 split between Stoke and Shrewsbury.
    - Walsall will always transfer mothers and babies needing intensive care to Wolverhampton unless not available, in which case 50:50 split between Stoke and Shrewsbury.
    - Stafford will transfer mothers and babies needing intensive care 70:30 to Stoke / Wolverhampton. If either is not available, then 100% will transfer to the other.
    - If no level 3 unit at Stoke, mothers and babies needing intensive care transfers will all go to Wolverhampton
    - If no level 3 unit at Wolverhampton, mothers and babies needing intensive care transfers will split 50:50 between Stoke and Shrewsbury.
    - If no level 3 unit at Shrewsbury, mothers and babies needing intensive care transfers will split 50:50 between Stoke and Wolverhampton.
- Dudley and Walsall will transfer babies needing high dependency care to Wolverhampton.
- Stafford will transfer babies needing high dependency care 70:30 between Stoke and Wolverhampton

Staffordshire, Shropshire and Black Country Neonatal Network

Unit Designation Analysis Assumptions Table

		Level 3 at Stoke & S'bury			Level 3 at W'ton & S'bury			Level 3 at Stoke & W'ton		
		Transfers To:			Transfers To:			Transfers To:		
		Stoke	S'bury	W'ton	Stoke	S'bury	W'ton	Stoke	S'bury	W'ton
Dudley & Walsall	IC	50%	50%				100%			100%
	HD **			100%			100%			100%
W'hampton*	IC	50%	50%							
Stoke*	IC						100%			
Shrewsbury *	IC							50%		50%
Stafford	IC	100%					100%	70%		30%
	HD **	70%		30%	70%		30%	70%		30%

HD **Only Transferred out for Level 1 options
*** Not considering options at less than Level 2**
Level 1 unit assume transfer out on day 1 for both IC and HD care
Level 2 unit assume transfer out on day 3 for IC

Option J

NETWORK QUICK CALCULATOR

CRITERIA

Group: Network A1 | Blockage < | or Occupancy < 70%

OUTPUT SUMMARY

Total Cots (ICU / HDU / SCU): 22 / 13 / 92 | Total Cot Blocks: 194 | Total Transfers (Mthrs / Babies / Extras): 78 / 237 / 0

Average occupancy: 53.44% | Average %age cot blocking: 8.65% | Total Staff costs £(m): 13.469

	INPUT						CALCULATED					
						LANNED TRANSFER				Likely Cot Blocks		
	Hospital Name	Care Level	BAPM Guide Used	(Incl. Transfers and Activity	Extras	OUT (Mthrs)Ba	IN (Mthrs)Ba	Occupancy	(adjusted automatical Avg. LOS	Cots	Blocks	Block %age	BAPM Staff Costs (£X1000)
1	The Royal Shrewsbury Hospital	ICU	2001	(365 days) 216	0		(32) 70	65.05%	9.39	8	14	6.37%	3000
2	(Level III)	HDU		(365 days) 62	0			63.21%	9.40	2	13	20.81%	345
3		SCU		(365 days) 408	0			69.41%	11.50	18	11	2.78%	673
4													
5	North Staffs Maternity Hospital	ICU	2001	(365 days) 279	0		(46) 104	67.96%	9.46	10	17	5.99%	3391
6	(Level III)	HDU		(365 days) 86	0		15	62.75%	9.43	3	13	15.25%	431
7		SCU		(365 days) 430	0			69.47%	11.50	19	11	2.54%	710
8													
9	Staffordshire General Hospital	ICU (Short Stay	2001	(365 days) 46	0	(14) 34		12.43%	1.00	1	1	1.39%	196
10	(Level I)	HDU (Short Stay)		(365 days) 33	0	22		8.97%	1.00	1	0	0.74%	86
11		SCU		(365 days) 194	0			69.58%	11.50	8	17	8.91%	438
12													
13	New Cross Hospital	ICU (Short Stay	2001	(365 days) 79	0	(22) 34		51.71%	3.00	1	16	20.36%	196
14	(Level II)	HDU		(365 days) 103	0		48	60.32%	9.54	4	11	10.34%	901
15		SCU		(365 days) 327	0			66.71%	11.50	15	9	2.84%	561
16													
17	Wordsley Hospital	ICU (Short Stay	2001	(365 days) 92	0	(18) 40		57.04%	3.00	1	23	24.56%	196
18	(Level II)	HDU		(365 days) 61	0			62.59%	9.40	2	12	20.29%	728
19		SCU		(365 days) 357	0			68.18%	11.50	16	11	2.98%	598
20													
21	Manor Hospital	ICU (Short Stay	2001	(365 days) 86	0	(24) 65		22.55%	1.00	1	4	4.30%	196
22	(Level I)	HDU (Short Stay)		(365 days) 61	0	41		16.32%	1.00	1	1	2.34%	86
23		SCU		(365 days) 354	0			67.72%	11.50	16	10	2.83%	737

Option K

NETWORK QUICK CALCULATOR

CRITERIA

Group: Network A1

Blockage < [ ] or Occupancy < 70%

OUTPUT SUMMARY

Total Cots (ICU / HDU / SCU): 22 / 13 / 92

Total Cot Blocks: 205

Total Transfers (Mthrs / Babies / Extras): 83 / 246 / 0

Average occupancy: 53.85%

Average %age cot blocking: 9.44%

Total Staff costs £(m): 13.75

	INPUT						CALCULATED					
					LANNED TRANSFER					Likely Cot Blocks		
	Hospital Name	Care Level	BAPM Guide Used	(Incl. Transfers and Activity	Extras	OUT (Mthrs)Ba	IN (Mthrs)Ba	Occupancy	(adjusted automatical Avg. LOS	Cots	Blocks	Block %age	BAPM Staff Costs (£X1000)
1	The Royal Shrewsbury Hospital	ICU	2001	(365 days) 114	0		(0) 0	64.16%	7.36	3	19	16.32%	2023
2	(Level III)	HDU		(365 days) 62	0			63.21%	9.40	2	13	20.81%	345
3		SCU		(365 days) 408	0			69.41%	11.50	18	11	2.78%	673
4													
5	North Staffs Maternity Hospital	ICU (Short Stay	2001	(365 days) 102	0	(27) 44		60.65%	3.00	1	28	27.66%	196
6	(Level II)	HDU		(365 days) 86	0		15	62.75%	9.43	3	13	15.25%	902
7		SCU		(365 days) 430	0			69.47%	11.50	19	11	2.54%	710
8													
9	Staffordshire General Hospital	ICU (Short Stay	2001	(365 days) 46	0	(14) 34		12.43%	1.00	1	1	1.39%	196
10	(Level I)	HDU (Short Stay)		(365 days) 33	0	22		8.97%	1.00	1	0	0.74%	86
11		SCU		(365 days) 194	0			69.58%	11.50	8	17	8.91%	438
12													
13	New Cross Hospital	ICU	2001	(365 days) 367	0		(83) 183	67.15%	10.33	15	11	2.98%	4561
14	(Level III)	HDU		(365 days) 103	0		48	60.32%	9.54	4	11	10.34%	518
15		SCU		(365 days) 327	0			66.71%	11.50	15	9	2.84%	561
16													
17	Wordsley Hospital	ICU (Short Stay	2001	(365 days) 92	0	(18) 40		57.04%	3.00	1	23	24.56%	196
18	(Level II)	HDU		(365 days) 61	0			62.59%	9.40	2	12	20.29%	728
19		SCU		(365 days) 357	0			68.18%	11.50	16	11	2.98%	598
20													
21	Manor Hospital	ICU (Short Stay	2001	(365 days) 86	0	(24) 65		22.55%	1.00	1	4	4.30%	196
22	(Level I)	HDU (Short Stay)		(365 days) 61	0	41		16.32%	1.00	1	1	2.34%	86
23		SCU		(365 days) 354	0			67.72%	11.50	16	10	2.83%	737

Option L

NETWORK QUICK CALCULATOR

CRITERIA

Group: Network A1

Blockage < [ ] or Occupancy < 70%

OUTPUT SUMMARY

Total Cots (ICU / HDU / SCU): 22 / 13 / 92 | Total Cot Blocks: 173 | otal Transfers (Mthrs / Babies / Extras): 78 / 308 / 0

Average occupancy: 49.46% | Average %age cot blocking: 6.68% | Total Staff costs £(m): 13.14

	INPUT							CALCULATED					
				(Incl.		LANNED TRANSFER			(adjusted		Likely Cot Blocks		BAPM Staff
	Hospital Name	Care Level	BAPM Guide Used	Transfers and Activity	Extras	OUT (Mthrs)Ba	IN (Mthrs)Ba	Occupancy	automatical Avg. LOS	Cots	Blocks	Block %age	Costs (£X1000)
1	The Royal Shrewsbury Hospital	ICU	2001	(365 days) 231	0		(32) 85	65.81%	8.92	8	16	6.75%	3000
2	(Level III)	HDU		(365 days) 62	0			63.21%	9.40	2	13	20.81%	345
3		SCU		(365 days) 408	0			69.41%	11.50	18	11	2.78%	673
4													
5	North Staffs Maternity Hospital	ICU	2001	(365 days) 294	0		(46) 119	68.56%	9.08	10	18	6.29%	3391
6	(Level III)	HDU		(365 days) 86	0		15	62.75%	9.43	3	13	15.25%	431
7		SCU		(365 days) 430	0			69.47%	11.50	19	11	2.54%	710
8													
9	Staffordshire General Hospital	ICU (Short Stay	2001	(365 days) 46	0	(14) 34		12.43%	1.00	1	1	1.39%	196
10	(Level I)	HDU (Short Stay)		(365 days) 33	0	22		8.97%	1.00	1	0	0.74%	86
11		SCU		(365 days) 194	0			69.58%	11.50	8	17	8.91%	438
12													
13	New Cross Hospital	ICU (Short Stay	2001	(365 days) 79	0	(22) 34		51.71%	3.00	1	16	20.36%	196
14	(Level II)	HDU		(365 days) 144	0		89	66.56%	9.58	5	17	11.93%	1075
15		SCU		(365 days) 327	0			66.71%	11.50	15	9	2.84%	561
16													
17	Wordsley Hospital	ICU (Short Stay	2001	(365 days) 92	0	(18) 69		23.99%	1.00	1	4	4.83%	196
18	(Level I)	HDU (Short Stay)		(365 days) 61	0	41		16.32%	1.00	1	1	2.34%	86
19		SCU		(365 days) 357	0			68.18%	11.50	16	11	2.98%	737
20													
21	Manor Hospital	ICU (Short Stay	2001	(365 days) 86	0	(24) 65		22.55%	1.00	1	4	4.30%	196
22	(Level I)	HDU (Short Stay)		(365 days) 61	0	41		16.32%	1.00	1	1	2.34%	86
23		SCU		(365 days) 354	0			67.72%	11.50	16	10	2.83%	737

Option M

NETWORK QUICK CALCULATOR

CRITERIA

Group: Network A1

Blockage < [ ] or Occupancy < 70%

OUTPUT SUMMARY

Total Cots (ICU / HDU / SCU): 22 / 13 / 92 | Total Cot Blocks: 183 | Total Transfers (Mthrs / Babies / Extras): 83 / 316 / 0

Average occupancy: 49.84% | Average %age cot blocking: 7.45% | Total Staff costs £(m): 13.333

	INPUT						CALCULATED					
				(Incl.		LANNED TRANSFER		(adjusted		Likely Cot Blocks		BAPM Staff
	Hospital Name	Care Level	BAPM Guide Used	Transfers and Activity	Extras	OUT (Mthrs)Ba	IN (Mthrs)Ba	Occupancy	automatical Avg. LOS	Cots	Blocks	Block %age	Costs (£X1000)
1	The Royal Shrewsbury Hospital	ICU	2001	(365 days) 114	0		(0) 0	64.16%	7.36	3	19	16.32%	2023
2	(Level III)	HDU		(365 days) 62	0			63.21%	9.40	2	13	20.81%	345
3		SCU		(365 days) 408	0			69.41%	11.50	18	11	2.78%	673
4													
5	North Staffs Maternity Hospital	ICU (Short Stay	2001	(365 days) 102	0	(27) 44		60.65%	3.00	1	28	27.66%	196
6	(Level II)	HDU		(365 days) 86	0		15	62.75%	9.43	3	13	15.25%	902
7		SCU		(365 days) 430	0			69.47%	11.50	19	11	2.54%	710
8													
9	Staffordshire General Hospital	ICU (Short Stay	2001	(365 days) 46	0	(14) 34		12.43%	1.00	1	1	1.39%	196
10	(Level I)	HDU (Short Stay)		(365 days) 33	0	22		8.97%	1.00	1	0	0.74%	86
11		SCU		(365 days) 194	0			69.58%	11.50	8	17	8.91%	438
12													
13	New Cross Hospital	ICU	2001	(365 days) 396	0		(83) 212	68.12%	9.74	15	13	3.31%	4561
14	(Level III)	HDU		(365 days) 144	0		89	66.56%	9.58	5	17	11.93%	604
15		SCU		(365 days) 327	0			66.71%	11.50	15	9	2.84%	561
16													
17	Wordsley Hospital	ICU (Short Stay	2001	(365 days) 92	0	(18) 69		23.99%	1.00	1	4	4.83%	196
18	(Level I)	HDU (Short Stay)		(365 days) 61	0	41		16.32%	1.00	1	1	2.34%	86
19		SCU		(365 days) 357	0			68.18%	11.50	16	11	2.98%	737
20													
21	Manor Hospital	ICU (Short Stay	2001	(365 days) 86	0	(24) 65		22.55%	1.00	1	4	4.30%	196
22	(Level I)	HDU (Short Stay)		(365 days) 61	0	41		16.32%	1.00	1	1	2.34%	86
23		SCU		(365 days) 354	0			67.72%	11.50	16	10	2.83%	737

Option N

NETWORK QUICK CALCULATOR

CRITERIA

Group: Network A1

Blockage < [ ] or Occupancy < 70%

OUTPUT SUMMARY

Total Cots (ICU / HDU / SCU): 21 / 12 / 92 | Total Cot Blocks: 227 | Total Transfers (Mthrs / Babies / Extras): 78 / 168 / 0

Average occupancy: 58.20% | Average %age cot blocking: 11.46% | Total Staff costs £(m): 13.604

	INPUT						CALCULATED					
				(Incl.		LANNED TRANSFER		(adjusted		Likely Cot Blocks		BAPM Staff
	Hospital Name	Care Level	BAPM Guide Used	Transfers and Activity	Extras	OUT (Mthrs)Ba	IN (Mthrs)Ba	Occupancy	automatical Avg. LOS	Cots	Blocks	Block %age	Costs (£X1000)
1	The Royal Shrewsbury Hospital	ICU	2001	(365 days) 202	0		(32) 56	69.90%	9.88	7	21	10.52%	2805
2	(Level III)	HDU		(365 days) 62	0			63.21%	9.40	2	13	20.81%	345
3		SCU		(365 days) 408	0			69.41%	11.50	18	11	2.78%	673
4													
5	North Staffs Maternity Hospital	ICU	2001	(365 days) 265	0		(46) 90	67.34%	9.83	10	15	5.68%	3391
6	(Level III)	HDU		(365 days) 86	0		15	62.75%	9.43	3	13	15.25%	431
7		SCU		(365 days) 430	0			69.47%	11.50	19	11	2.54%	710
8													
9	Staffordshire General Hospital	ICU (Short Stay	2001	(365 days) 46	0	(14) 34		12.43%	1.00	1	1	1.39%	196
10	(Level I)	HDU (Short Stay)		(365 days) 33	0	22		8.97%	1.00	1	0	0.74%	86
11		SCU		(365 days) 194	0			69.58%	11.50	8	17	8.91%	438
12													
13	New Cross Hospital	ICU (Short Stay	2001	(365 days) 79	0	(22) 34		51.71%	3.00	1	16	20.36%	196
14	(Level II)	HDU		(365 days) 62	0		7	63.27%	9.41	2	13	20.86%	728
15		SCU		(365 days) 327	0			66.71%	11.50	15	9	2.84%	561
16													
17	Wordsley Hospital	ICU (Short Stay	2001	(365 days) 92	0	(18) 40		57.04%	3.00	1	23	24.56%	196
18	(Level II)	HDU		(365 days) 61	0			62.59%	9.40	2	12	20.29%	728
19		SCU		(365 days) 357	0			68.18%	11.50	16	11	2.98%	598
20													
21	Manor Hospital	ICU (Short Stay	2001	(365 days) 86	0	(24) 37		54.68%	3.00	1	19	22.64%	196
22	(Level II)	HDU		(365 days) 61	0			62.59%	9.40	2	12	20.29%	728
23		SCU		(365 days) 354	0			67.72%	11.50	16	10	2.83%	598

Option O

NETWORK QUICK CALCULATOR

CRITERIA

Group: Network A1

Blockage < [ ] or Occupancy < 70%

OUTPUT SUMMARY

Total Cots (ICU / HDU / SCU): 21 / 12 / 92

Total Cot Blocks: 237

Total Transfers (Mthrs / Babies / Extras): 83 / 177 / 0

Average occupancy: 58.50%

Average %age cot blocking: 12.11%

Total Staff costs £(m): 13.884

	INPUT							CALCULATED					
				(Incl. Transfers and		LANNED TRANSFER			(adjusted automatical		Likely Cot Blocks		BAPM Staff Costs
	Hospital Name	Care Level	BAPM Guide Used	Activity	Extras	OUT (Mthrs)Ba	IN (Mthrs)Ba	Occupancy	Avg. LOS	Cots	Blocks	Block %age	(£X1000)
1	The Royal Shrewsbury Hospital	ICU	2001	(365 days) 114	0		(0) 0	64.16%	7.36	3	19	16.32%	2023
2	(Level III)	HDU		(365 days) 62	0			63.21%	9.40	2	13	20.81%	345
3		SCU		(365 days) 408	0			69.41%	11.50	18	11	2.78%	673
4													
5	North Staffs Maternity Hospital	ICU (Short Stay	2001	(365 days) 102	0	(27) 44		60.65%	3.00	1	28	27.66%	196
6	(Level II)	HDU		(365 days) 86	0		15	62.75%	9.43	3	13	15.25%	902
7		SCU		(365 days) 430	0			69.47%	11.50	19	11	2.54%	710
8													
9	Staffordshire General Hospital	ICU (Short Stay	2001	(365 days) 46	0	(14) 34		12.43%	1.00	1	1	1.39%	196
10	(Level I)	HDU (Short Stay)		(365 days) 33	0	22		8.97%	1.00	1	0	0.74%	86
11		SCU		(365 days) 194	0			69.58%	11.50	8	17	8.91%	438
12													
13	New Cross Hospital	ICU	2001	(365 days) 339	0		(83) 155	69.64%	10.97	14	15	4.30%	4365
14	(Level III)	HDU		(365 days) 62	0		7	63.27%	9.41	2	13	20.86%	345
15		SCU		(365 days) 327	0			66.71%	11.50	15	9	2.84%	561
16													
17	Wordsley Hospital	ICU (Short Stay	2001	(365 days) 92	0	(18) 40		57.04%	3.00	1	23	24.56%	196
18	(Level II)	HDU		(365 days) 61	0			62.59%	9.40	2	12	20.29%	728
19		SCU		(365 days) 357	0			68.18%	11.50	16	11	2.98%	598
20													
21	Manor Hospital	ICU (Short Stay	2001	(365 days) 86	0	(24) 37		54.68%	3.00	1	19	22.64%	196
22	(Level II)	HDU		(365 days) 61	0			62.59%	9.40	2	12	20.29%	728
23		SCU		(365 days) 354	0			67.72%	11.50	16	10	2.83%	598

Option P

NETWORK QUICK CALCULATOR

CRITERIA

Group: Network A1

Blockage < [ ] or Occupancy < 70%

OUTPUT SUMMARY

Total Cots (ICU / HDU / SCU)	22 / 13 / 92	Total Cot Blocks	190	otal Transfers (Mthrs / Babies / Extras)	78 / 239 / 0
Average occupancy	53.38%	Average %age cot blocking	8.56%	Total Staff costs £(m)	13.469

	INPUT							CALCULATED					
				(Incl. Transfers and		LANNED TRANSFER			(adjusted automatical		Likely Cot Blocks		BAPM Staff Costs
	Hospital Name	Care Level	BAPM Guide Used	Activity	Extras	OUT (Mthrs)Ba	IN (Mthrs)Ba	Occupancy	Avg. LOS	Cots	Blocks	Block %age	(£X1000)
1	The Royal Shrewsbury Hospital	ICU	2001	(365 days) 217	0		(32) 71	65.02%	9.34	8	14	6.36%	3000
2	(Level III)	HDU		(365 days) 62	0			63.21%	9.40	2	13	20.81%	345
3		SCU		(365 days) 408	0			69.41%	11.50	18	11	2.78%	673
4													
5	North Staffs Maternity Hospital	ICU	2001	(365 days) 280	0		(46) 105	67.95%	9.42	10	17	5.98%	3391
6	(Level III)	HDU		(365 days) 86	0		15	62.75%	9.43	3	13	15.25%	431
7		SCU		(365 days) 430	0			69.47%	11.50	19	11	2.54%	710
8													
9	Staffordshire General Hospital	ICU (Short Stay	2001	(365 days) 46	0	(14) 34		12.43%	1.00	1	1	1.39%	196
10	(Level I)	HDU (Short Stay)		(365 days) 33	0	22		8.97%	1.00	1	0	0.74%	86
11		SCU		(365 days) 194	0			69.58%	11.50	8	17	8.91%	438
12													
13	New Cross Hospital	ICU (Short Stay	2001	(365 days) 79	0	(22) 34		51.71%	3.00	1	16	20.36%	196
14	(Level II)	HDU		(365 days) 103	0		48	60.21%	9.51	4	11	10.28%	901
15		SCU		(365 days) 327	0			66.71%	11.50	15	9	2.84%	561
16													
17	Wordsley Hospital	ICU (Short Stay	2001	(365 days) 92	0	(18) 69		23.99%	1.00	1	4	4.83%	196
18	(Level I)	HDU (Short Stay)		(365 days) 61	0	41		16.32%	1.00	1	1	2.34%	86
19		SCU		(365 days) 357	0			68.18%	11.50	16	11	2.98%	737
20													
21	Manor Hospital	ICU (Short Stay	2001	(365 days) 86	0	(24) 37		54.68%	3.00	1	19	22.64%	196
22	(Level II)	HDU		(365 days) 61	0			62.59%	9.40	2	12	20.29%	728
23		SCU		(365 days) 354	0			67.72%	11.50	16	10	2.83%	598

Option Q

NETWORK QUICK CALCULATOR

CRITERIA

Group: Network A1

Blockage < [ ] or Occupancy < 70%

OUTPUT SUMMARY

Total Cots (ICU / HDU / SCU): 22 / 13 / 92 | Total Cot Blocks: 201 | otal Transfers (Mthrs / Babies / Extras): 83 / 247 / 0

Average occupancy: 53.79% | Average %age cot blocking: 9.36% | Total Staff costs £(m): 13.75

	INPUT							CALCULATED					
				(Incl. Transfers and Extras)		LANNED TRANSFER			(adjusted automatical		Likely Cot Blocks		BAPM Staff Costs
	Hospital Name	Care Level	BAPM Guide Used	Activity	Extras	OUT (Mthrs)Ba	IN (Mthrs)Ba	Occupancy	Avg. LOS	Cots	Blocks	Block %age	(£X1000)
1	The Royal Shrewsbury Hospital	ICU	2001	(365 days) 114	0		(0) 0	64.16%	7.36	3	19	16.32%	2023
2	(Level III)	HDU		(365 days) 62	0			63.21%	9.40	2	13	20.81%	345
3		SCU		(365 days) 408	0			69.41%	11.50	18	11	2.78%	673
4													
5	North Staffs Maternity Hospital	ICU (Short Stay	2001	(365 days) 102	0	(27) 44		60.65%	3.00	1	28	27.66%	196
6	(Level II)	HDU		(365 days) 86	0		15	62.75%	9.43	3	13	15.25%	902
7		SCU		(365 days) 430	0			69.47%	11.50	19	11	2.54%	710
8													
9	Staffordshire General Hospital	ICU (Short Stay	2001	(365 days) 46	0	(14) 34		12.43%	1.00	1	1	1.39%	196
10	(Level I)	HDU (Short Stay)		(365 days) 33	0	22		8.97%	1.00	1	0	0.74%	86
11		SCU		(365 days) 194	0			69.58%	11.50	8	17	8.91%	438
12													
13	New Cross Hospital	ICU	2001	(365 days) 368	0		(83) 184	67.12%	10.29	15	11	2.97%	4561
14	(Level III)	HDU		(365 days) 103	0		48	60.21%	9.51	4	11	10.28%	518
15		SCU		(365 days) 327	0			66.71%	11.50	15	9	2.84%	561
16													
17	Wordsley Hospital	ICU (Short Stay	2001	(365 days) 92	0	(18) 69		23.99%	1.00	1	4	4.83%	196
18	(Level I)	HDU (Short Stay)		(365 days) 61	0	41		16.32%	1.00	1	1	2.34%	86
19		SCU		(365 days) 357	0			68.18%	11.50	16	11	2.98%	737
20													
21	Manor Hospital	ICU (Short Stay	2001	(365 days) 86	0	(24) 37		54.68%	3.00	1	19	22.64%	196
22	(Level II)	HDU		(365 days) 61	0			62.59%	9.40	2	12	20.29%	728
23		SCU		(365 days) 354	0			67.72%	11.50	16	10	2.83%	598

Option W

NETWORK QUICK CALCULATOR

CRITERIA

Group: Network A1 | Blockage < | or Occupancy < 70%

OUTPUT SUMMARY

Total Cots (ICU / HDU / SCU): 21 / 13 / 92 | Total Cot Blocks: 163 | Total Transfers (Mthrs / Babies / Extras): 59 / 210 / 0

Average occupancy: 52.75% | Average %age cot blocking: 7.97% | Total Staff costs £(m): 12.998

	INPUT							CALCULATED					
						PLANNED TRANSFERS					Likely Cot Blocks		
	Hospital Name	Care Level	BAPM Guide Used	(Incl. Transfers and Activity	Extras	OUT (Mthrs)Babie	IN (Mthrs)Babie	Occupancy	(adjusted automatical Avg. LOS	Cots	Blocks	Block %age	BAPM Staff Costs (£X1000)
1	Royal Shrewsbury Hospital	ICU	2001	(365 days) 114	0		(0) 0	64.16%	7.36	3	19	16.32%	2023
2	(Level III)	HDU		(365 days) 62	0			63.21%	9.40	2	13	20.81%	345
3		SCU		(365 days) 408	0			69.41%	11.50	18	11	2.78%	673
4													
5	North Staffs Maternity Hospital	ICU (Short Stay	2001	(365 days) 102	0	(27) 44		60.65%	3.00	1	28	27.66%	196
6	(Level II)	HDU		(365 days) 86	0		15	62.75%	9.43	3	13	15.25%	902
7		SCU		(365 days) 430	0			69.47%	11.50	19	11	2.54%	710
8													
9	Staffordshire General Hospital	ICU (Short Stay	2001	(365 days) 46	0	(14) 34		12.43%	1.00	1	1	1.39%	196
10	(Level I)	HDU (Short Stay)		(365 days) 33	0	22		8.97%	1.00	1	0	0.74%	86
11		SCU		(365 days) 194	0			69.58%	11.50	8	17	8.91%	438
12													
13	Wordsley Hospital	ICU (Short Stay	2001	(365 days) 92	0	(18) 69		23.99%	1.00	1	4	4.83%	196
14	(Level I)	HDU (Short Stay)		(365 days) 61	0	41		16.32%	1.00	1	1	2.34%	86
15		SCU		(365 days) 357	0			68.18%	11.50	16	11	2.98%	737
16													
17	Manor Hospital	ICU	2001	(365 days) 420	0		(59) 147	67.31%	9.05	15	13	3.03%	4561
18	(Level III)	HDU		(365 days) 166	0		48	65.22%	9.47	6	15	9.10%	690
19		SCU		(365 days) 692	0			69.67%	11.50	31	6	0.92%	1159

Option X

NETWORK QUICK CALCULATOR

CRITERIA

Group: Network A1 | Blockage < | or Occupancy < 70%

OUTPUT SUMMARY

Total Cots (ICU / HDU / SCU)	20 / 12 / 92	Total Cot Blocks	198	Total Transfers (Mthrs / Babies / Extras)	52 / 136 / 0
Average occupancy	58.28%	Average %age cot blocking	10.53%	Total Staff costs £(m)	12.941

	INPUT						CALCULATED					
			BAPM Guide	(Incl. Transfers and		PLANNED TRANSFERS		(adjusted automatical		Likely Cot Blocks		BAPM Staff Costs
	Hospital Name	Care Level	Used	Activity	Extras	OUT (Mthrs)Babie	IN (Mthrs)Babie	Occupancy	Avg. LOS	Cots	Blocks	Block %age	(£X1000)
1	Royal Shrewsbury Hospital	ICU (Short Stay	2001	(365 days) 95	0	(19) 39		58.17%	3.00	1	24	25.50%	196
2	(Level II)	HDU		(365 days) 62	0			63.21%	9.40	2	13	20.81%	816
3		SCU		(365 days) 408	0			69.41%	11.50	18	11	2.78%	673
4													
5	North Staffs Maternity Hospital	ICU	2001	(365 days) 193	0		(20) 44	68.17%	8.69	6	21	11.00%	2609
6	(Level III)	HDU		(365 days) 86	0		15	62.75%	9.43	3	13	15.25%	431
7		SCU		(365 days) 430	0			69.47%	11.50	19	11	2.54%	710
8													
9	Staffordshire General Hospital	ICU (Short Stay	2001	(365 days) 46	0	(14) 34		12.43%	1.00	1	1	1.39%	196
10	(Level I)	HDU (Short Stay)		(365 days) 33	0	22		8.97%	1.00	1	0	0.74%	86
11		SCU		(365 days) 194	0			69.58%	11.50	8	17	8.91%	438
12													
13	Wordsley Hospital	ICU (Short Stay	2001	(365 days) 92	0	(18) 40		57.04%	3.00	1	23	24.56%	196
14	(Level II)	HDU		(365 days) 61	0			62.59%	9.40	2	12	20.29%	728
15		SCU		(365 days) 357	0			68.18%	11.50	16	11	2.98%	598
16													
17	Manor Hospital	ICU	2001	(365 days) 316	0		(32) 70	66.61%	8.88	11	15	4.66%	3587
18	(Level III)	HDU		(365 days) 125	0		7	67.92%	9.40	4	20	15.65%	518
19		SCU		(365 days) 692	0			69.67%	11.50	31	6	0.92%	1159

Option Y

NETWORK QUICK CALCULATOR

CRITERIA

Group: Network A1 | Blockage < | or Occupancy < 70%

OUTPUT SUMMARY

Total Cots (ICU / HDU / SCU)	20 / 13 / 92	Total Cot Blocks	166	Total Transfers (Mthrs / Babies / Extras)	52 / 206 / 0
Average occupancy	52.89%	Average %age cot blocking	7.62%	Total Staff costs £(m)	12.61

	INPUT							CALCULATED					
						PLANNED TRANSFERS			(adjusted automatical		Likely Cot Blocks		BAPM Staff Costs
	Hospital Name	Care Level	BAPM Guide Used	(Incl. Transfers and Activity	Extras	OUT (Mthrs)Babie	IN (Mthrs)Babie	Occupancy	Avg. LOS	Cots	Blocks	Block %age	(£X1000)
1	Royal Shrewsbury Hospital	ICU (Short Stay	2001	(365 days) 95	0	(19) 39		58.17%	3.00	1	24	25.50%	196
2	(Level II)	HDU		(365 days) 62	0			63.21%	9.40	2	13	20.81%	816
3		SCU		(365 days) 408	0			69.41%	11.50	18	11	2.78%	673
4													
5	North Staffs Maternity Hospital	ICU	2001	(365 days) 193	0		(20) 44	68.17%	8.69	6	21	11.00%	2609
6	(Level III)	HDU		(365 days) 86	0		15	62.75%	9.43	3	13	15.25%	431
7		SCU		(365 days) 430	0			69.47%	11.50	19	11	2.54%	710
8													
9	Staffordshire General Hospital	ICU (Short Stay	2001	(365 days) 46	0	(14) 34		12.43%	1.00	1	1	1.39%	196
10	(Level I)	HDU (Short Stay)		(365 days) 33	0	22		8.97%	1.00	1	0	0.74%	86
11		SCU		(365 days) 194	0			69.58%	11.50	8	17	8.91%	438
12													
13	Wordsley Hospital	ICU (Short Stay	2001	(365 days) 92	0	(18) 69		23.99%	1.00	1	4	4.83%	196
14	(Level I)	HDU (Short Stay)		(365 days) 61	0	41		16.32%	1.00	1	1	2.34%	86
15		SCU		(365 days) 357	0			68.18%	11.50	16	11	2.98%	737
16													
17	Manor Hospital	ICU	2001	(365 days) 345	0		(32) 99	67.82%	8.32	11	18	5.19%	3587
18	(Level III)	HDU		(365 days) 166	0		48	65.22%	9.47	6	15	9.10%	690
19		SCU		(365 days) 692	0			69.67%	11.50	31	6	0.92%	1159

Option Z

NETWORK QUICK CALCULATOR

CRITERIA

Group: Network A1

Blockage < [ ] or Occupancy < 70%

OUTPUT SUMMARY

Total Cots (ICU / HDU / SCU): 20 / 12 / 92

Total Cot Blocks: 202

Total Transfers (Mthrs / Babies / Extras): 59 / 140 / 0

Average occupancy: 58.39%

Average %age cot blocking: 11.01%

Total Staff costs £(m): 13.133

	INPUT							CALCULATED					
						PLANNED TRANSFERS					Likely Cot Blocks		
	Hospital Name	Care Level	BAPM Guide Used	(Incl. Transfers and Activity	Extras	OUT (Mthrs)Babie	IN (Mthrs)Babie	Occupancy	(adjusted automatical Avg. LOS	Cots	Blocks	Block %age	BAPM Staff Costs (£X1000)
1	Royal Shrewsbury Hospital	ICU	2001	(365 days) 114	0		(0) 0	64.16%	7.36	3	19	16.32%	2023
2	(Level III)	HDU		(365 days) 62	0			63.21%	9.40	2	13	20.81%	345
3		SCU		(365 days) 408	0			69.41%	11.50	18	11	2.78%	673
4													
5	North Staffs Maternity Hospital	ICU (Short Stay	2001	(365 days) 102	0	(27) 44		60.65%	3.00	1	28	27.66%	196
6	(Level II)	HDU		(365 days) 86	0		15	62.75%	9.43	3	13	15.25%	902
7		SCU		(365 days) 430	0			69.47%	11.50	19	11	2.54%	710
8													
9	Staffordshire General Hospital	ICU (Short Stay	2001	(365 days) 46	0	(14) 34		12.43%	1.00	1	1	1.39%	196
10	(Level I)	HDU (Short Stay)		(365 days) 33	0	22		8.97%	1.00	1	0	0.74%	86
11		SCU		(365 days) 194	0			69.58%	11.50	8	17	8.91%	438
12													
13	Wordsley Hospital	ICU (Short Stay	2001	(365 days) 92	0	(18) 40		57.04%	3.00	1	23	24.56%	196
14	(Level II)	HDU		(365 days) 61	0			62.59%	9.40	2	12	20.29%	728
15		SCU		(365 days) 357	0			68.18%	11.50	16	11	2.98%	598
16													
17	Manor Hospital	ICU	2001	(365 days) 391	0		(59) 118	69.85%	9.55	14	17	4.39%	4365
18	(Level III)	HDU		(365 days) 125	0		7	67.92%	9.40	4	20	15.65%	518
19		SCU		(365 days) 692	0			69.67%	11.50	31	6	0.92%	1159

Additional Network Options Analysis 70 % occupancy

Option	Total IC Cots	Total HD Cots	Total SC Cots	Average % Occupancy	Total cot blocks	Transfers Mothers	Transfers Babies	Total transfers	Average % cot blocking	Total staff costs (£m)	Total transfers plus cot blocks
J	22	13	92	53.44%	194	78	237	315	8.65%	13.47	509
K	22	13	92	53.85%	205	83	246	329	9.44%	13.75	534
L	22	13	92	49.46%	173	78	308	386	6.68%	13.14	559
M	22	13	92	49.84%	183	83	316	399	7.45%	13.33	582
N	21	12	92	58.20%	227	78	168	246	11.46%	13.60	473
O	21	12	92	58.50%	237	83	177	260	12.11%	13.88	497
P	22	13	92	53.38%	190	78	239	317	8.56%	13.47	507
Q	22	13	92	53.79%	201	83	247	330	9.36%	13.75	531
W	21	13	92	52.75%	163	59	210	269	7.97%	13.00	432
X	20	12	92	58.28%	198	52	136	188	10.53%	12.94	386
Y	20	13	92	52.89%	166	52	206	258	7.62%	12.61	424
Z	20	12	92	58.39%	202	59	140	199	11.01%	13.13	401

Section 4

Work to take account of deprivation

Modelling to take account of Deprivation

The variation of deprivation and the effects of such on the proposed unit designations within the Staffordshire, Shropshire & Black Country Neonatal Network have been considered.

Low Birth Weight Rate and Car/Van Ownership were identified as two indicators of deprivation of particular relevance to this project.

The first (Low Birth Weight Rate) as an indicator of increased activity seen within a neonatal unit whose population has a higher rate of Low Birth Weight. This is not reflected in the Department of Health Capacity Planning tool which applies a consistent split to the number of babies for each weight category based on the total number of births in the year.

The second (Car/Van Ownership) as an indicator of ease of accessibility for families. When the proposed unit designation across the network is implemented the small, sick babies who require specialist intensive care will be cared for in the two level 3 units within the network. This will result in a small number of babies * and women being moved from their local hospital to receive this specialist care within the network, being returned to their local hospital once the specialist level of care is no longer necessary. Car/Van ownership rates in deprived areas are lower therefore reducing the access for partners and families whilst their baby is receiving specialist care.

*SSBC Network Total number of babies less than 27 weeks = 63
SSBC Network Total number of babies less than 29 weeks = 152
Source: West Midlands Neonatal Report January 2005.

Figure 1 below identifies the boundaries of the local authorities in the west midlands

Table 1 below lists the percentage of births from each local authority that are delivered in each of the hospitals within the Staffordshire, Shropshire & Black Country Neonatal Network. The Low birth weight rate and percentage of households with no car or van by local authority are given.

Low birth weight rates higher than the West Midlands rate and local authorities with a quarter or more households not owning a car/van are highlighted.

Table 2 below gives the approximate LBW rate per Hospital Trust within the SSBC Neonatal Network

1.3 The local authorities[1] of the West Midlands

1 Boundaries as at 1 April 1998. See Notes and Definitions.

Source: Office for National Statistics.

Table 1.

Manor Hospital, Walsall		**Low Birth Weight Rate % < 2500g**	**Car/Van Ownership % Households with no Car/Van**
Walsall MD	88%	**10.51**	**31.05**
South Staffordshire LD	15%	7.99	14.36
Cannock Chase LD	10%	8.93	21.80
Lichfield MD	6%	6.81	15.38
Sandwell MD	5%	**10.65**	**37.48**
Wolverhampton MD	2%	**10.20**	**35.15**
Russells Hall Hospital, Dudley			
Dudley MD	87%	7.91	**25.33**
South Staffordshire LD	19%	7.99	14.36
Sandwell MD	10%	**10.65**	**37.48**
Bridgnorth LD	5%	6.74	14.77
Wyre Forest	5%	8.75	19.52
Bromsgrove LD	4%	6.07	13.32
Wolverhampton MD	2%	**10.20**	**35.15**
New Cross Hospital, Wolverhampton			
Wolverhampton MD	94%	**10.20**	**35.15**
South Staffordshire LD	35%	7.99	14.36
Bridgnorth LD	6%	6.74	14.77
Dudley MD	4%	7.91	**25.33**
Walsall MD	4%	**10.51**	**31.05**
Cannock Chase LD	2%	8.93	21.80
Telford & Wrekin UA	1%	8.46	22.39
Sandwell MD	1%	**10.65**	**37.48**
Staffordshire General Hospital, Stafford			
Stafford LD	84%	6.89	18.73
Cannock Chase LD	77%	8.93	21.80
South Staffordshire LD	27%	7.99	14.36
Lichfield MD	3%	6.81	15.38
East Staffordshire LD	1%	9.02	23.25
Telford & Wrekin UA	1%	8.46	22.39
University Hospital of North Staffordshire, Stoke on Trent			
Stoke on Trent UA	99%	**9.23**	**34.61**
Newcastle Under Lyme LD	97%	7.36	**24.59**
Staffordshire Moorlands LD	73%	6.82	17.21
Stafford LD	14%	6.89	18.73
North Shropshire LD	7%	5.68	16.07
Congleton LD	7%	7.3*	14.53
Crewe & Nantwich LD	1%	7.3*	22.00
Royal Shrewsbury Hospital, Shrewsbury			
Shrewsbury & Atcham LD	99%	6.82	20.03
North Shropshire LD	78%	5.68	16.07
Telford & Wrekin UA	77%	8.46	22.39
Bridgnorth LD	65%	6.74	14.77
South Shropshire LD	64%	6.06	15.69
Oswestry LD	62%	7.11	19.96
Powys UA	36%	6.5	17.45
South Staffordshire LD	2%	7.99	14.36

* Cheshire & Merseyside LBW Rate 2002

Table 2.

Manor Hospital, Walsall			**Low Birth Weight Rate % < 2500g**	**No. LBW Babies**	**Hospital LBW Rate % < 2500g**
Walsall MD	88%	2921	10.51	306.99	347.73 =
South Staffordshire LD	15%	128	7.99	10.22	3470
Cannock Chase LD	10%	107	8.93	9.55	
Lichfield MD	6%	57	6.81	3.88	**10.00**
Sandwell MD	5%	196	10.65	20.87	
Wolverhampton MD	2%	61	10.20	6.22	
Russells Hall Hospital, Dudley					
Dudley MD	87%	2889	7.91	228.51	297.36 =
South Staffordshire LD	19%	162	7.99	12.94	3611
Sandwell MD	10%	392	10.65	41.74	
Bridgnorth LD	5%	24	6.74	1.61	**8.2**
Wyre Forest	5%	49	8.75	4.28	
Bromsgrove LD	4%	34	6.07	2.06	
Wolverhampton MD	2%	61	10.20	6.22	
New Cross Hospital, Wolverhampton					
Wolverhampton MD	94%	2849	10.20	290.50	348.46 =
South Staffordshire LD	35%	298	7.99	23.81	3521
Bridgnorth LD	6%	29	6.74	1.95	
Dudley MD	4%	133	7.91	10.52	**9.9**
Walsall MD	4%	133	10.51	13.97	
Cannock Chase LD	2%	21	8.93	1.87	
Telford & Wrekin UA	1%	19	8.46	1.60	
Sandwell MD	1%	39	10.65	4.15	
Staffordshire General Hospital, Stafford					
Stafford LD	84%	962	6.89	66.28	162.98 =
Cannock Chase LD	77%	825	8.93	73.67	2077
South Staffordshire LD	27%	230	7.99	18.37	
Lichfield MD	3%	29	6.81	1.97	**8.0**
East Staffordshire LD	1%	12	9.02	1.08	
Telford & Wrekin UA	1%	19	8.46	1.61	
University Hospital of North Staffordshire, Stoke on Trent					
Stoke on Trent UA	99%	2926	9.23	270.06	418.23 =
Newcastle Under Lyme LD	97%	1170	7.36	88.92	4965
Staffordshire Moorlands LD	73%	595	6.82	40.47	**8.40**
Stafford LD	14%	160	6.89	11.02	or
North Shropshire LD	7%	40	5.68	2.27	410.60 =
Congleton LD	7%	62	7.3*	4.52	4891
Crewe & Nantwich LD	1%	12	7.3*	0.87	**8.4**
Royal Shrewsbury Hospital, Shrewsbury					
Shrewsbury & Atcham LD	99%	996	6.82	67.92	274.84 =
North Shropshire LD	78%	445	5.68	25.27	4108
Telford & Wrekin UA	77%	1463	8.46	123.76	
Bridgnorth LD	65%	313	6.74	21.09	**6.7**
South Shropshire LD	64%	228	6.06	13.81	
Oswestry LD	62%	233	7.11	16.56	
Powys UA	36%	413	6.5	26.84	
South Staffordshire LD	2%	17	7.99	1.35	

* Cheshire & Merseyside LBW Rate 2002

Staffordshire, Shropshire & Black Country Service Births in Local Authorities
(Based on ONS data for year 2003 – Source DoH Neonatal Capacity Planning Tool)

Manor Hospital, Walsall

Walsall MD	88%
South Staffordshire LD	15%
Cannock Chase LD	10%
Lichfield MD	6%
Sandwell MD	5%
Wolverhampton MD	2%

Russells Hall Hospital, Dudley (DoH NICU Tool Name = Wordsley Hospital)

Dudley MD	87%
South Staffordshire LD	19%
Sandwell MD	10%
Bridgnorth LD	5%
Wyre Forest	5%
Bromsgrove LD	4%
Wolverhampton MD	2%

New Cross Hospital, Wolverhampton

Wolverhampton MD	94%
South Staffordshire LD	35%
Bridgnorth LD	6%
Dudley MD	4%
Walsall MD	4%
Cannock Chase LD	2%
Telford & Wrekin UA	1%
Sandwell MD	1%

Staffordshire General Hospital, Stafford

Stafford LD	84%
Cannock Chase LD	77%
South Staffordshire LD	27%
Lichfield MD	3%
East Staffordshire LD	1%
Telford & Wrekin UA	1%

University Hospital of North Staffordshire, Stoke on Trent (DoH NICU Tool Name = North Staffs Maternity Hospital)

Stoke on Trent UA	99%
Newcastle Under Lyme LD	97%
Staffordshire Moorlands LD	73%
Stafford LD	14%
North Shropshire LD	7%
Congleton LD	7%
Crewe & Nantwich LD	1%

Royal Shrewsbury Hospital, Shrewsbury

Shrewsbury & Atcham LD	99%
North Shropshire LD	78%
Telford & Wrekin UA	77%
Bridgnorth LD	65%
South Shropshire LD	64%
Oswestry LD	62%
Powys UA	36%

South Staffordshire LD	2%

Variation in low birth weight (<2500g) across the West Midlands 2000-2002

		95% Confidence Interval	
Local Authority	%	Lower Limit	Upper Limit
Sandwell	10.65	10.09	11.24
Birmingham	10.62	10.33	10.91
Walsall	10.51	9.91	11.14
Wolverhampton	10.20	9.57	10.86
Coventry	9.69	9.14	10.26
Stoke-on-Trent UA	9.23	8.62	9.87
Worcester	9.14	8.21	10.13
East Staffordshire	9.02	8.12	10.00
Cannock Chase	8.93	7.95	9.98
Nuneaton & Bedworth	8.77	7.92	9.69
Wyre Forest	8.75	7.74	9.85
Malvern Hills	8.60	7.35	9.99
Telford & Wrekin UA	8.46	7.75	9.21
Rugby	8.37	7.39	9.43
Tamworth	8.27	7.27	9.36
South Staffordshire	7.99	6.98	9.10
Dudley	7.91	7.40	8.45
Redditch	7.87	6.92	8.91
Wychavon	7.55	6.66	8.51
Solihull	7.48	6.82	8.19
Newcastle-under-Lyme	7.36	6.51	8.30
Warwick	7.24	6.44	8.11
Oswestry	7.11	5.61	8.85
Stafford	6.89	6.05	7.80
North Warwickshire	6.84	5.74	8.07
Shrewsbury & Atcham	6.82	5.95	7.78
Staffordshire Moorlands	6.82	5.86	7.88
Lichfield	6.81	5.87	7.86
Bridgnorth	6.74	5.45	8.22
County of Herefordshire UA	6.73	6.04	7.48
Stratford on Avon	6.14	5.35	7.01
Bromsgrove	6.07	5.16	7.08
South Shropshire	6.06	4.69	7.68
North Shropshire	5.68	4.64	6.87
West Midlands	9.06	8.92	9.20
England	8.11	8.07	8.16

Source: ONS PHO annual birth data

Notes: These figures are based on the NCHOD Compendium of Clinical Indicators definition in which the denominator is all births.

Car / Van Ownership West Midlands

Source:

Census 2001: Key Statistics for local authorities — **Table KS17**

Cars or vans[1] - *continued*

All households — **England and Wales**

Area	All households	Percentage of households (number of cars or vans) None	One	Two	Three	Four or more	All cars or vans in the area[2]
a	b	c	d	e	f	g	h
Shropshire County	117,301	17.66	44.34	29.42	6.46	2.12	154,779
Bridgnorth	20,925	14.77	40.96	33.30	8.22	2.76	30,217
North Shropshire	23,149	16.07	42.71	31.65	7.02	2.56	32,037
Oswestry	15,657	19.96	46.02	26.41	5.75	1.86	19,492
Shrewsbury and Atcham	40,308	20.03	46.38	26.99	5.05	1.55	49,342
South Shropshire	17,262	15.69	44.38	30.14	7.50	2.29	23,691
Staffordshire County	328,234	19.72	42.93	29.59	5.91	1.85	420,164
Cannock Chase	37,102	21.80	43.19	28.19	5.31	1.50	45,266
East Staffordshire	42,717	23.25	44.11	26.49	4.77	1.38	50,171
Lichfield	37,500	15.38	39.80	34.57	7.71	2.54	53,746
Newcastle-under-Lyme	50,738	24.59	44.76	24.69	4.67	1.30	57,776
South Staffordshire	41,973	14.36	40.48	35.13	7.45	2.58	60,624
Stafford	50,025	18.73	43.57	30.05	5.83	1.82	64,666
Staffordshire Moorlands	38,799	17.21	43.68	30.21	6.60	2.30	52,050
Tamworth	29,380	21.75	43.14	28.41	5.23	1.47	35,865
Warwickshire	210,898	19.03	42.30	30.49	6.17	2.01	275,730
North Warwickshire	25,174	17.90	41.73	31.16	6.94	2.26	33,931
Nuneaton and Bedworth	48,683	24.14	44.29	25.65	4.71	1.22	55,997
Rugby	36,483	19.47	43.82	29.31	5.59	1.81	46,410
Stratford-on-Avon	47,202	13.62	39.27	35.94	8.19	2.99	70,411
Warwick	53,356	19.38	42.41	30.59	5.74	1.88	68,981
West Midlands (Met County)	1,032,944	33.70	42.51	19.42	3.42	0.95	989,284
Birmingham	390,792	38.49	41.71	16.31	2.73	0.77	335,662
Coventry	122,353	33.09	44.23	18.71	3.13	0.83	115,930
Dudley	124,988	25.33	43.21	25.26	4.86	1.33	142,582
Sandwell	115,426	37.48	43.15	16.04	2.69	0.64	99,353
Solihull	80,930	20.59	40.97	30.52	5.97	1.95	103,991
Walsall	101,333	31.05	42.84	21.37	3.74	0.99	102,513
Wolverhampton	97,122	35.15	42.88	18.04	3.12	0.81	89,253
Worcestershire County	223,049	17.64	41.96	31.32	6.83	2.25	301,460
Bromsgrove	35,168	13.32	39.73	36.35	7.82	2.78	52,122
Malvern Hills	30,069	14.86	41.30	32.63	8.38	2.83	43,441
Redditch	31,652	21.34	42.05	28.97	5.78	1.85	39,717
Worcester	39,060	22.64	45.72	26.37	4.22	1.03	45,238
Wychavon	46,819	14.37	40.02	34.61	8.13	2.87	68,591
Wyre Forest	40,281	19.52	42.94	28.77	6.65	2.13	52,351
*Herefordshire and Worcestershire**	*297,331*	*17.77*	*42.67*	*30.61*	*6.71*	*2.24*	*398,638*
*Former county of Shropshire**	*181,069*	*19.33*	*44.73*	*28.22*	*5.83*	*1.88*	*229,985*
*Former county of Staffordshire**	*431,430*	*23.28*	*43.46*	*26.53*	*5.15*	*1.58*	*513,178*
EAST	2,231,974	19.80	44.10	28.31	5.86	1.93	2,831,718
WEST MIDLANDS	2,153,672	26.77	42.89	24.21	4.69	1.44	2,406,815
Herefordshire, County of UA	74,282	18.16	44.80	28.47	6.35	2.22	97,178
Stoke-on-Trent UA	103,196	34.61	45.15	16.79	2.75	0.70	93,014
Telford and Wrekin UA	63,768	22.39	45.45	26.02	4.68	1.45	75,206

Notes: *1. Includes any company car or van if available for private use.*
2. 'All cars or vans in the area' includes only those cars and vans owned by or available for use by households. This count is not exact as households with more than 10 cars or vans are counted as having 10 cars or vans.
** A description of the geographical constitution of each area shown in italics is provided in the Notes to Tables section.*

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Car/Van Ownership Congleton, Crewe & Nantwich and Powys

Source: Census 2001.

	Households with no cars or vans *Households* *Count* Apr01 *Households* *Count* Apr01	All Households *Households* *Count* Apr01 *Households* *Count* Apr01
Congleton *Non-Metropolitan District* *Non-Metropolitan District*	5,419	37,283
Crewe and Nantwich *Non-Metropolitan District* *Non-Metropolitan District*	10,057	45,699
Powys *Unitary Authority* *Unitary Authority*	9,404	53,865

Section 5

Additional travel distances/times considered

Travel distances and times

All travel distances and times are shown from the centre of the town. Travel distances and travel times for private transport are off-peak, mid-week, for the quickest route available. This may not always be the shortest route. All distances and times are one-way only.

Table A6.1 Travel distances (miles)

From town centre of:	To the neonatal unit at:		
	New Cross Hospital, Wolverhampton	Royal Shrewsbury Hospital	City Hospital, Stoke on Trent
Dudley	8	50	45
Wolverhampton	N/A	36	34
Walsall	6	41	35
Shrewsbury	35	N/A	42
Telford	21	19	32
Stafford	17	40	17
Stoke	34	50	N/A
Whitchurch	42	27	23
Oswestry	54	18	42
Ludlow	42	30	68
Bridgnorth	17	24	43
Welshpool	54	18	58

Table A6.2 Travel times (private transport)

From town centre of:	To the neonatal unit at:		
	New Cross Hospital, Wolverhampton	Royal Shrewsbury Hospital	City Hospital, Stoke on Trent
Dudley	30min	1hr 10min	1hr 5min
Wolverhampton	N/A	53min	1hr
Walsall	25min	55min	50min
Shrewsbury	1hr	N/A	1hr 15min
Telford	39min	25min	1hr
Stafford	35min	1hr	30min
Stoke	51min	1hr 20min	N/A
Whitchurch	1hr 25min	40min	50min
Oswestry	1hr 30min	30min	1hr 20min
Ludlow	1hr 30min	45min	1hr 55min
Bridgnorth	45min	40min	1hr 20min
Welshpool	1hr 30min	30min	1hr 40min

Table A6.3 Quickest of average daytime rail travel (including average daytime bus travel time from station to hospital) OR average daytime bus travel times

From town centre of:	To the neonatal unit at:		
	New Cross Hospital, Wolverhampton	Royal Shrewsbury Hospital	City Hospital, Stoke on Trent
Dudley	35min	1hr 20min	2hr
Wolverhampton	N/A	1hr 10min	1hr 20min
Walsall	35min	1hr 55min	2hr
Shrewsbury	1hr	N/A	1hr 50min
Telford	40min	45min	1hr 50min
Stafford	35min	1 hr 30min	50min
Stoke	55min	2 hr	N/A
Whitchurch	1hr 45min	1hr	1hr 40min
Oswestry	1hr 40min	1hr 10min	2hr 45min
Ludlow	1hr 30min	1hr	2hr 10min
Bridgnorth	1hr	1hr 20min	2hr 10min
Welshpool	1hr 20min	55min	2hr 40min

Section 6

Summary of Visits to Individual Units/Trusts

Individual Unit/Trust Visits

Between 7 July – 3 October Ruth Moore, Network Manager and Andy Spencer, Network Lead Clinician visited each unit/Trust to discuss the unit designation process and the implications of the proposed designation for the unit/Trust

Each meeting was attended by representatives from the Trust including;
Trust Managers, Neonatal Clinicians (Medical and Nursing) and Maternity Services Representatives (Obstetricians and/or Midwives). A Parent representative attended the meeting held at University Hospital of North Staffordshire

Unit/Trust	Date	Present
Russells Hall Hospital, Dudley Group of Hospitals Trust	7 July 2005	Les Williams, Yvonne O'Conner, Dr. Sharma, Dr. Mohite, Doreen Quammie, Lorna Meer, Steph Mansell
Staffordshire General Hospital, Mid Staffordshire General Hospitals Trust	25 July 2005	Jill Landon, Jill Dixon, Dr. Gupta, Gina Hartwell
New Cross Hospital, Royal Wolverhampton Hospitals Trust	11 August 2005	Mark Edwards, Clare Steggle, Dr. P W Lee Dr Janet Anderson, Dr. Kumararatne, Dr Churchill
University Hospital of North Staffordshire	8 September 2005	Diane Dawson, Sue Malbon,Dr Palmer, Jackie Harrison, Julie Ebrey, Pat Coombs, Jackie Jenkinson, Anne Beard
Manor Hospital, Walsall Hospitals Trust	3 October 2005	Liz McMillan, Sue Stewart, Karen Palmer, Doreen Humphries, Simon Langford, Chandrika Balachandar
Royal Shrewsbury Hospital, Shrewsbury and Telford Hospitals Trust	3 October 2005	Eric Roe, Martyn Rees, Wendy Tyler, Catherine Woodward, Sanjeev Deshpande, Trish Mason, Tom Taylor, Adam Gornall, Simon Brake

Summary of the implications of the proposed designation raised at the meetings

- Size of the level 3 units required to be viable and ensure the necessary amount of work to keep 10 consultants, 8 specialist registrars and 8 SHO/ANNP's competent
- Boundaries of the networks, implications for cross boundary work eg Crewe/Stoke, Sandwell/Dudley
- Increased workload for maternity services linked to level 3 neonatal units regarding in-utero referrals and the associated midwifery staffing levels required
- Increasing capacity in the network to ensure the Trusts with the level 3 neonatal units have the capacity in both the maternity and neonatal units to take the woman and the baby from the other hospitals in the network when required
- Transport service for in-utero and postnatal transfers within the network
- Consistent application of the risk assessment to determine when babies should be moved to a different level of unit within the network
- The effect a proposed designation as level 1 or 2 will have on the ability to recruit both medical and nursing staff
- Practicalities of appointing staff to work flexibly across units within the Black Country needs to be negotiated with each Trust and the commissioners in order to safeguard the investment made for additional staff in light of alterations to designation of units in the future following the outcome of the Black Country review
- The ability to meet the required staffing levels, particularly medical, to meet the BAPM standards identified in the neonatal review due to;
  - Cost (New consultant contract, Junior doctors hours)

- Ability to recruit to the specialty (Doctors and nurses)
- Sufficient activity/workload in each unit to maintain individual staff competence