ANNEX 6.1

NHS LANARKSHIRE

MONKLANDS ACCIDENT AND EMERGENCY REVIEW

MEDICAL WORKFORCE MODELLING
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1. INTRODUCTION

This paper sets out the detailed medical modelling that has been undertaken to inform the development of the scenarios for the Monklands Accident and Emergency Review. Modelling was undertaken with medical staff for all key specialities affected by the Accident and Emergency and unscheduled care scenarios.

The methodology used was a triangulation approach, considering:

- Calculations based on rota frequencies, junior and middle grade doctor availability and Consultant Programme Activities
- Benchmarking against other Health Boards
- Experience/Professional guidelines and the recognition that services should respond to increased public expectations and best practice guidance

The modelling considered and excluded from the costing staffing enhancements required irrespective of the scenario adopted (this was using the investment envisaged under A Picture of Health as a baseline to work from). The assumptions used for the A Picture of Health baseline were that staffing levels should be adequate to:

- Deliver acute care to safe, modern standards
- Make high intensity rotas sustainable (i.e. a minimum of 1:8)
- Backfill for Modernising Medical Careers and European Working Time Directive and to achieve elective outpatient targets

The modelling identified scenario-dependent staffing enhancement required to ensure the above assumptions continued to be met, and to allow for a reasonable level of subspecialisation (comparable to other Scottish Health Boards).

2. BACKGROUND

Nationally, medical manpower is undergoing a period of substantial change with both the implementation of new training arrangements under MMC and with the full implementation of the EWTD and New Deal for Junior Doctors.

MMC provides a new set of training arrangements for the medical workforce and is helping to drive the redesign of the whole clinical workforce. It aims to improve patient care by delivering a modernised and focussed career structure for doctors and aims to develop demonstrably competent doctors who are skilled at communicating and working as effective members of a team. This will provide an opportunity for NHS Lanarkshire to streamline a range of services in maximising the use of medical staff available, which will result in increased efficiency and effectiveness. In the first two foundation years of post graduate training, junior doctors will have a wider, broad brush training and will then specialise earlier.
The EWTD and New Deal are having a major impact on the availability of junior doctors for service delivery. They are required to work no more than:

<table>
<thead>
<tr>
<th>Maximum contracted hours for each working pattern</th>
<th>New Deal</th>
<th>European Working Time Directive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007</td>
<td>2009</td>
</tr>
<tr>
<td>On-call rotas (resident)</td>
<td>72</td>
<td>56</td>
</tr>
<tr>
<td>(non-resident)</td>
<td>64</td>
<td>72</td>
</tr>
<tr>
<td>Partial shifts and 24-hour partial shifts</td>
<td>64</td>
<td>56</td>
</tr>
<tr>
<td>Full shifts</td>
<td>56</td>
<td>56</td>
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</table>

These changes mean the utilisation of the medical workforce has to be maximised with efficient models for providing on call cover. With regard to consultants, their working hours have to be prioritised to first support emergency care through on call commitment and then to maintain their professional development and support for elective or planned care. For junior medical staff, their patterns of work are focused on meeting the training requirements set by the Postgraduate Medical Education and Training Board (PMETB) as well as compliance with EWTD and New Deal. This means they are increasingly less available for on call provision.

When developing job plans for consultants their input to out-of-hours cover is a major consideration, as this impacts on the attractiveness of the post for recruitment and retention. This consideration relates to both the frequency of on call and its intensity (i.e. how often a consultant will be contacted when on call, either to attend hospital or to provide telephone advice). Some specialties are contacted more frequently than others. These include General Medicine, General Surgery, Anaesthetics, Emergency Medicine (Accident and Emergency) and Orthopaedics. NHS Lanarkshire has used, as set as a minimum in its medical modelling, an on call rota of 1:8 as this is in line with recommendations in the Kerr Report and is in line with the balance set out for in-hours and out-of-hours work for junior doctors under the New Deal.

In considering the Accident and Emergency scenarios, NHS Lanarkshire undertook modelling on medical rotas for the specialties key to the delivery of unscheduled care. This modelling informed the development of the scenarios and their costings. Detailed information on the modelling is set out for key specialties affected by the Accident and Emergency and unscheduled care scenarios in the sections below.

The medical workforce models developed for the scenarios were also informed by extensive clinical modelling, which has been undertaken by all acute specialties over the last year. This work has had a major focus on redesigning the “front door” for unscheduled care and considering how whole system care pathways can shift the balance.
of provision from acute to primary care. As a result, proposals have been developed for an Emergency Referral Service and greater integration of Accident and Emergency services with emergency receiving, targeting increased clinical expertise at the front door thus enabling patients to be directed to the right specialist for their care first time.

A clear aspiration in A Picture of Health was to enable increased sub specialisation. Within medicine, agreement has been reached to progress this through the appointment of Acute Physicians. These Acute Physicians have been included against all seven scenarios. For the scenarios where there are medical receiving beds on two hospital sites the Acute Physicians will cover receiving within working hours, freeing up the existing acute physicians who are currently providing specialist care to focus on further sub specialisation. Out-of-hours sub speciality physicians will be part of a general rota covering for emergencies. Supporting the provision of sub specialisation will be harder to maintain if medical receiving takes place on three sites due to reduced economies of scale.

The changes to acute services will take a number of years to implement, and planning has already taken place to increase medical staffing numbers in order to backfill for MMC. Similarly when planning A Picture of Health redesign, assumptions were made about the development of new roles such as Acute Physicians and Advanced Nurse Practitioners in Critical Care. These developments are identified in the detailed medical modelling, however their cost is not included because this will be incurred across the scenarios and does not differentiate between them.

Similarly, over the next couple of years NHS Lanarkshire will need to increase its acute services capacity to meet the target patient waiting time of 18 weeks. This will require additional consultant capacity as well as additional infrastructure such as theatre sessions, diagnostics and other staff. This additional capacity is still to be scoped. For the Anaesthetic staffing model under scenarios E and G an additional eight consultants are required to put in place rota cover. It is recognised that if these consultants are in place they could also support the 18-week elective guarantee. Therefore, to have parity on costing between the scenarios, the cost of the potential capacity for electives has been removed under scenarios E and G by costing all the Anaesthetic consultants as 11 Programme Activities rather than 12 Programme Activities.

Table 1 below provides some benchmarking information comparing main receiving specialities with other Scottish Health Boards. This information was used to sense check the medical staffing requirement in the modelling. This table shows consultant in post numbers in Lanarkshire for these specialities at the low end per 100,000 population but that when these numbers are utilised across three receiving sites then the number of consultants per site is significantly lower than other Boards. The comparison to the Glasgow part of NHS Greater Glasgow and Clyde is even more pronounced if it is considered that by 2014 Glasgow will be moving to two Accident and Emergency departments. The number of new attendances, in bottom section of the table, demonstrates that the Accident and Emergency departments in Lanarkshire are in line with the mean attendances for other Boards.

This table uses ISD data to compare Boards for consistency. NHS Lanarkshire has a higher establishment than the number of consultants in post and these figures do not include locums, however the figures for the other Boards will also include these caveats.
### Table 1: Consultant in post staffing comparisons (as at March 2007)

<table>
<thead>
<tr>
<th>NHS BOARD</th>
<th>WTE Consultants per 100,000 population</th>
<th>A&amp;E</th>
<th>Anaesthetics</th>
<th>General Medicine</th>
<th>General Surgery</th>
<th>Orthopaedics</th>
<th>Total</th>
</tr>
</thead>
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<tr>
<td>Lothian</td>
<td></td>
<td>1.4</td>
<td>12.8</td>
<td>9.5</td>
<td>8.0</td>
<td>3.2</td>
<td>34.8</td>
</tr>
<tr>
<td>Forth Valley</td>
<td></td>
<td>1.0</td>
<td>6.6</td>
<td>6.3</td>
<td>8.0</td>
<td>2.8</td>
<td>24.8</td>
</tr>
<tr>
<td>Tayside</td>
<td></td>
<td>1.5</td>
<td>11.9</td>
<td>9.4</td>
<td>11.0</td>
<td>4.4</td>
<td>38.2</td>
</tr>
<tr>
<td>Greater Glasgow</td>
<td></td>
<td>2.0</td>
<td>17.5</td>
<td>11.0</td>
<td>4.0</td>
<td>11.5</td>
<td>46.0</td>
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<tr>
<td>Argyll and Clyde</td>
<td></td>
<td>2.2</td>
<td>8.2</td>
<td>5.6</td>
<td>1.9</td>
<td>6.9</td>
<td>24.8</td>
</tr>
<tr>
<td>Lanarkshire</td>
<td></td>
<td>1.3</td>
<td>6.1</td>
<td>7.1</td>
<td>6.9</td>
<td>1.8</td>
<td>23.2</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td>1.6</td>
<td>11.7</td>
<td>8.7</td>
<td>6.4</td>
<td>5.7</td>
<td>34.1</td>
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</table>

<table>
<thead>
<tr>
<th>NHS BOARD</th>
<th>No of A&amp;E Dept 2007</th>
<th>Consultant WTE by A&amp;E Unit</th>
<th>A&amp;E</th>
<th>Anaesthetics</th>
<th>General Medicine</th>
<th>General Surgery</th>
<th>Orthopaedics</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lothian</td>
<td>2</td>
<td></td>
<td>5.5</td>
<td>51.1</td>
<td>38.2</td>
<td>31.9</td>
<td>12.8</td>
<td>139.4</td>
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<tr>
<td>Forth Valley</td>
<td>1</td>
<td></td>
<td>3.0</td>
<td>19.0</td>
<td>18.0</td>
<td>23.0</td>
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<tr>
<td>Tayside</td>
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<td>18.5</td>
<td>21.5</td>
<td>8.6</td>
<td>74.9</td>
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<td>Greater Glasgow</td>
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<td>30.4</td>
<td>19.2</td>
<td>7.0</td>
<td>20.1</td>
<td>80.1</td>
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<tr>
<td>Argyll and Clyde</td>
<td>2</td>
<td></td>
<td>4.5</td>
<td>17.0</td>
<td>11.5</td>
<td>4.0</td>
<td>14.3</td>
<td>51.2</td>
</tr>
<tr>
<td>Lanarkshire</td>
<td>3</td>
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<td>2.3</td>
<td>11.3</td>
<td>13.2</td>
<td>12.9</td>
<td>3.3</td>
<td>43.1</td>
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<table>
<thead>
<tr>
<th>NHS BOARD</th>
<th>Baseline Activity as at 2006</th>
<th>Population 2006 mid year</th>
<th>No of A&amp;E Departments</th>
<th>A&amp;E Attendance</th>
<th>Population per A&amp;E Department</th>
<th>Attendance per A&amp;E Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lothian</td>
<td></td>
<td>801,310</td>
<td>2</td>
<td>155,729</td>
<td>400,655</td>
<td>77,865</td>
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<tr>
<td>Forth Valley</td>
<td></td>
<td>286,053</td>
<td>1</td>
<td>73,519</td>
<td>286,053</td>
<td>73,519</td>
</tr>
<tr>
<td>Tayside</td>
<td></td>
<td>391,639</td>
<td>2</td>
<td>82,256</td>
<td>195,820</td>
<td>41,128</td>
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<tr>
<td>Greater Glasgow</td>
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<td>869,471</td>
<td>5</td>
<td>297,413</td>
<td>173,894</td>
<td>59,483</td>
</tr>
<tr>
<td>Argyll and Clyde</td>
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<td>413,503</td>
<td>2</td>
<td>104,798</td>
<td>206,752</td>
<td>52,399</td>
</tr>
<tr>
<td>Lanarkshire</td>
<td></td>
<td>558,139</td>
<td>3</td>
<td>166,748</td>
<td>186,046</td>
<td>55,583</td>
</tr>
<tr>
<td><strong>Total/Average</strong></td>
<td></td>
<td>3,320,115</td>
<td>15</td>
<td>880,463</td>
<td>221,341</td>
<td>58,698</td>
</tr>
</tbody>
</table>

Data Sources: Staffing - ISD Scotland; A&E Attendances - SEHD; Population - RGO Scotland
3. EMERGENCY MEDICINE

3.1 Future Role of the Emergency Referral Service
Under any of the scenarios, a future Emergency Referral Service (ERS) is anticipated to have an important role in co-ordinating the admissions process for patients. The ERS will, for example, co-ordinate the response to GP calls, ensuring that patients are admitted to an appropriate hospital and department, depending on the presenting complaint. This becomes particularly important under Scenarios A-D, where the medical cover at Monklands Hospital will be limited and unwell patients must be diverted to either Hairmyres or Wishaw General Hospitals.

3.2 Current Models for Emergency Medicine
All 3 Lanarkshire Hospitals have got Emergency Medicine Departments (or Accident and Emergency Departments). These departments at the moment see all presentations whether major, minor, GP referred or self-referrals. Of patients seen in the department approximately 65% are categorised as minor illness and injury and are seen, treated and discharged. Of the remainder, approximately 25%, are admitted to the Inpatient Specialties. The three Emergency Medicine Units in Lanarkshire are categorised as moderately large units seeing approximately 60,000 patients per year. Monklands and Wishaw see slightly more than this at around 65-66,000 patients and Hairmyres sees 56,000 patients a year.

All departments are supported by Inpatient Specialties, principally General Medicine, General Surgery and Trauma and Orthopaedics. Availability of Intensive Care, Radiology and Laboratory services are integral to patient care.

All three departments are staffed by Emergency Medicine Consultants, Middle Grade Staff and more Junior Staff. They all also have a model of care involving MINTS (major and minor injury and illness nurse treatment service) and Hairmyres also has Physician Assistants working in the department.

3.3 Consultants Staffing for Emergency Medicine
The current consultant establishment is 12; four on each site. This provides clinical leadership on each site, Review clinics and in Monklands the care of some inpatients.

In Hairmyres the consultants provide shop floor cover as follows. Two consultants running majors and minors 9am – 5pm and one consultant 5pm – 10pm Monday to Thursday. On-call cover is provided on a 1 in 4 basis outside these hours. This is done prospectively, which is effectively a 1 in 3.

Monklands consultants do not provide extended cover into the evening. Instead clinical time is consumed by ward rounds at weekends.

Wishaw has only recently appointed three new consultants, but it is likely that they will follow the same work pattern as Hairmyres.

As there is no Middle Grade cover in Hairmyres overnight, during the week the number of calls to Consultants is proportionately more.

In relation to sustainability of Consultant staffing, all three departments are effectively running a 1 in 3 rota, which is at the extreme limit of acceptability. Modern practice is increasingly leaning towards consultants providing extended direct supervision of patient care. With four consultants we can only provide extended four nights a week.
with no one on annual leave. It is not possible to provide consultant supervision at weekends as well, with four consultants. This is despite weekends being busier than many weekdays.

3.4 Middle Grade Staff for Emergency Medicine
Wishaw and Monklands have around the clock, i.e. “24/7” Middle Grade cover. Hairmyres Hospital at present has around the clock Middle Grade cover on Friday, Saturday and Sunday night but does not have Middle Grade cover during the week. This is unique in the West of Scotland and exposes NHS Lanarkshire to increased clinical risk and is considered unacceptable in present day practice.

The three Lanarkshire hospitals have five SpRs between them. There are 28 SpRs in the West of Scotland in total. We have a smaller proportion than the city hospitals and hence have more junior Middle Grade rotas.

3.5 Impact of Modernising Medical Careers
MMC resulted in many posts previously allocated to Middle Grade staff being reallocated to GPVTS and FTSTA posts. This year uniquely many of the GPVTS post holders are senior and have been able to act at middle grade level. This will not continue in subsequent years. FTSTA posts have an uncertain future and will probably be phased out.

The net result of this will be difficulty in running three, already incomplete rotas and unless another pool of individuals is found with the skills of Middle Grade doctors, these changes will result in significant gaps in expertise on all three sites. It is difficult to see how these gaps can be filled in any way other than with Consultant/Specialist Staff.

3.6 Future Staffing Requirements Under Scenarios
The consultant body in Lanarkshire advises that all the departments should have extended hours working as a matter of priority and patient safety. The minimum number of Consultants to extend hours during the week to 9am–10pm is four but this does not allow any weekend working. To extend Consultant hours to a shop floor presence during the weekend 9am–5pm would require a minimum of five Consultants. To extend this to 9pm in the evening on weekends and during the week would require six Consultants. This may not give full cover at the time of annual leave and study leave. This would mean that Scenarios D-G would require a minimum of 18 Consultants in Lanarkshire to run three Accident and Emergency Departments to modern standards.

Table 2 sets out the consultant staffing requirement for Emergency Medicine.
Table 2: Future Emergency Medicine staffing requirements for clinical scenarios A – G

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| A Picture of Health | Two very large departments needing extended consultant cover 9am - 9pm, 7 days per week. Monklands minor injury unit has no Consultant cover.  
  - Two consultants in each dept 9am - 5pm, Monday to Friday  
    = 2 x 2 x 40 hours = 160 hours.  
  - One in each dept 5pm - 9pm, Monday to Friday and 9am - 9pm, Saturday and Sunday  
    = 2 x 44 = 88 hours.  
  - 29 of these hours are in premium time so add on 1/3 = 10 x 2 Total out-of-hours = 108  
  - Total consultant hours = 268  
  - A 10 PA Consultant works 30 clinical hours per week 42 weeks a year. Averages at 24 hours per week.  
  - NHSL require 268/24 = 12  
  - Total = 12 |
| Scenario A | Based on extended day working and two on each of the two busier sites 9am - 9pm.  
  - Requires six on two sites plus two to cover Monklands equates to 14 therefore two additional  
  - Total = 14 |
| Scenarios B, C | Includes inpatients therefore require cover 5pm - 9pm Monday to Friday + 9am – 9pm at weekends in Monklands in addition to above.  
  - This equals 3 x 5 = 15 of ordinary hours + 29 hours of premium time = 15 + 29 + 10 = 54 hours  
  - This will equate to two additional consultants  
  - Total 16 |
| Scenarios D, E, F & G | These are all variations on the status quo. To provide the APoH cover which we feel is for patients etc we will need six consultants on each site = 18 |
4. GENERAL MEDICINE

4.1 Current Models for Acute Medical Receiving

Acute medical receiving currently takes place at all three Lanarkshire Hospitals. Patients who self-present to hospital are initially assessed and stabilised by the Accident and Emergency Team prior to referral to General Medicine (approximately 50% of patients), whilst direct GP referrals account for the majority of the remainder. These are busy units, typically seeing 20 - 40 admissions in each hospital per 24 hour period (50+ not uncommon in the winter months), with a total of 12,300, 8,100 and 9,200 patients being admitted acutely to medical specialities at Monklands, Hairmyres and Wishaw Hospitals respectively during the year ending March 2007.

The current models for acute receiving differ somewhat between the hospitals. However, in general terms, a Consultant Physician with a sub-specialist interest (e.g. a Consultant Respiratory Physician or a Consultant Endocrinologist) who also has General Internal Medicine (GIM) training will participate in an on-call rota for General Medical receiving duties. The frequency of participation in these rotas is currently in the region of 1:11 to 1:12 (accounting for 1.5 - 2 PAs of a typical 11.5 - 12 PA contract), although this may be reduced for Consultants who have a commitment to an additional sub-specialist on-call rota and/or responsibilities for directly admitted admissions to their units (examples include cardiology, renal medicine and infectious diseases).

In all three hospitals, the time commitment of Consultant Physicians to acute receiving has increased significantly in recent years for a number of reasons. This has been of benefit as far as consultant supervision of acute receiving is concerned, but it has to be recognised that there are adverse consequences for other areas including a reduced consultant availability for clinics and procedure sessions, along with potential negative impacts on the development of high quality sub-specialist services.

Care of the Elderly (COE) services also have a major potential role to play within acute receiving. In Lanarkshire, COE Physicians do not participate in the General Medical on-call rotas. However, over the last two years, an enhanced role of the on-call COE Physician in the assessment of acute admissions has developed at Monklands and Hairmyres hospitals, with the COE Physician now seeing many frail elderly patients without the involvement of the on-call General Physician. This has helped to improve the efficiency of the system and to reduce the workload of the General Physicians.

Junior doctors have always made a very large contribution to the acute receiving process in all UK hospitals and this remains the case at present, despite aspirations to move further towards a ‘consultant provided service’. NHS Lanarkshire has traditionally relied heavily on the SHO grade in this respect (now replaced by FY2, CMT 1-2, FTSTAs and ST3s), with relatively few higher trainees or Staff Grades. Consequently, no middle grade rotas are in operation in NHS Lanarkshire at present. This places additional responsibilities on the Junior Doctors and Consultants alike.

4.2 The ‘Front Door’ of the Future

Considerable work has gone into developing a clinical model for an enhanced ‘front door’, as envisaged under the original A Picture of Health proposal. In this model all acute admissions were to be assessed at one of two large level 3 Hospitals (Wishaw General and Hairmyres) with no direct medical admissions at Monklands Hospital. The clinical model proposes close working between Emergency Medicine, General (Acute) Medicine and Care of the Elderly. Redesigned premises with significantly enhanced capacity would be required to deliver this.
Under Scenarios A-D, the proposals for ‘front door’ redesign at Wishaw General and Hairmyres are still anticipated to go ahead, although there would be an additional requirement to service Acute Medicine at Monklands Hospital under Scenarios C and D. The front door redesign under Scenarios E – G, following the principles above, would be much more modest in its extent.

4.3 Future Role of the Acute Physician

Current arrangements for Acute Medical Receiving at all three sites are seen as precarious and unsustainable in the face of the steadily increasing demands arising from growing numbers of admissions, challenging targets for performance and efficiency, and increasing patient expectations. In addition, the junior medical workforce is less experienced and less flexible than was the case in the past. A greater presence in future of Consultant staff with specific training and interest in Acute Medicine in the Emergency Receiving Unit environment is therefore seen as essential. Nationally, there is now a drive to train Acute Physicians and it is anticipated that these Consultants will have a major role within NHS Lanarkshire in the future. This development is anticipated irrespective of which of the seven scenarios is chosen, although some have higher requirements for Acute Physicians than others.

It is unrealistic to expect that Acute Physicians will take over all of the daytime and out-of-hours on-call duties. A major contribution will still be required from the existing Physicians on the Acute Receiving on-call rota. However, the presence of Acute Physicians should reduce the burden on existing Physicians, allowing them to concentrate further on their specialist areas. Furthermore, Acute Physicians will often have developed a limited sub-specialist interest of their own, and typically have one or two sessions per week to pursue this within their job plan. This will further help to support specialist areas.

Acute Physicians have a substantial contribution to make to the front door of the future, with an anticipated requirement in Scenarios A and B for five Acute Physicians at each of the two level three Hospitals and for the scenarios C - G with three medical receiving hospitals an additional three Acute Physicians are required to provide a total of 13 across the three Hospitals.

4.4 Developing Specialist Units

A key aspiration under the original A Picture of Health proposal was to develop sub-specialist services in Lanarkshire of comparable quality to those in neighbouring Health Boards such as Greater Glasgow and Clyde. This is still seen as critical for the enhancement of the quality of care provided to patients as well as being central to the development of attractive Consultant posts that NHS Lanarkshire is able to recruit to. A critical number of Consultants on site is required for the establishment of specialist units. If out-of-hours sub-specialist on-call rotas are proposed, staffing requirements are increased. Concentrating the existing Consultant resource within a smaller number of hospitals, reducing the time commitment that existing consultants have to areas such as Acute Medical Receiving and/or boosting the number of consultants in certain areas are all potential ways to develop and strengthen sub-specialist services.

4.5 Modernising Medical Careers and European Working Time Directive for General Medicine

The introduction of MMC run-through training in 2007 and the anticipated introduction of a 48-hour working week through the EWTD in 2009 both pose significant challenges. Work is currently ongoing to identify service gaps resulting from the introduction of MMC and to address these, but much work remains to be done in this area. Business cases for additional Staff Grade posts are being developed in a number of specialities. The
introduction of Acute Physicians, allowing Consultant Physicians with a specialist interest to concentrate more on their specialist work, is also seen as an important part the solution here.

4.6 Consultant Staffing for General Medicine
Many of the issues relating to Consultant staffing have already been discussed above. At present, there are three Consultant Physicians on-call at any given time in NHS Lanarkshire for General Medical Receiving (one each at Hairmyres, Wishaw General, Monklands). Whilst the rotas being worked at present are reasonable (1:11 to 1:12) in terms of on-call frequency, these rotas would be affected adversely if certain specialities were to withdraw or reduce their contribution to General Medical Receiving (e.g. Cardiology, to establish an interventional on call rota) without backfill from additional Acute Physicians.

For the future scenarios that are similar to the status quo for General Medicine (i.e. Scenarios D-G), enhanced support for the three on-call General Physician (via Acute Physicians, Care of the Elderly input and closer working with A&E) are essential for sustainability. If Acute Receiving was confined to two large level 3 Hospitals (Hairmyres and Wishaw General), then two on call Consultants would be required per hospital at any one time (i.e. four in total for Lanarkshire) due to the increased volume of admissions. Scenario C poses particular challenges for Consultant Physician cover given the requirement to maintain two major level 3 hospitals whilst also covering for Acute Medical admissions at Monklands Hospital (see discussion under scenarios).

4.7 Middle Grades Staffing for General Medicine
There have been few middle grade staff and no medical rotas up until now. Additional Middle grade staff have now been allocated to Medicine in Lanarkshire under MMC. It would be desirable to establish Middle grade rotas to help supervise Acute Receiving on e.g. 9am to 9pm basis in Lanarkshire. This will be challenging, however, due to the limited number of middle staff and the fact that, to date, the deanery has indicated that ST3 trainees should be participating in high intensity General Medicine and hence the junior on-call rota rather than a Middle grade rota (this may well change with time). Overall, it is easier to envisage how Middle grade rotas could be successfully introduced in the model that has two, rather than three, Emergency Hospitals.

4.8 Junior Staffing for General Medicine
This tier consists mainly of the previous SHO grade. Key issues here relate to enhanced training requirements under MMC resulting in more time away from service, the reduced clinical experience and competency of FY2s compared to the SHOs that they replaced, uncertainty regarding the future of the FTSTA grade, as well as the uncertainty surrounding the current inclusion of ST3s (in place of previous first year SpRs and SHO3s) within this group. Nevertheless, these doctors continue to have a key role in Acute Receiving. Exact rotas and junior doctor deployment varies between the three hospitals at present and the detail is complex. However, all these doctors are currently on a band 2B rota. Average working hours are currently in the region of 49 to 50 hours per week (this needs to be reduced to 48 by 2009). The three hospitals currently have two juniors on call at any one time (usually referred to as the 1st on and 2nd on junior) although this is enhanced at Monklands Hospital with a 3rd on junior during evenings and weekends (9am to 5pm) to cover sub-speciality areas. General Medical and Care of the Elderly trainees are typically combined within these rotas, for out-of-hours cover at least.

These are hard pressed rotas where junior doctors work full shifts and are usually very busy both during the daytime and at night. As there is no slack in the current arrangements, there would only be very limited ‘rota efficiency savings’ of moving from
three to two Acute Hospitals, as additional manpower would be required to service the increased number of admissions coming to the two larger hospitals. In broad terms, instead of having two on-call juniors based at three Hospitals, a two-hospital model would require three on-call juniors at two Hospitals. If a successful middle grade rota could be introduced, this would help support the junior rota and might enable a reduction in ‘overlap’ periods between shifts to be introduced, thus helping to reduce the overall average number of hours to 48. However, taking any juniors out of this tier to service a Middle grade rota could obviously have the opposite effect.

At present, FTSTAs, make a significant contribution at this level as well as the middle grade level. Future plans entail replacing FTSTAs, possibly with Staff Grades. However, Staff Grades have not traditionally been used to provide on call cover at this level, and may fit more naturally within a middle grade tier.

4.9 FY1s Staffing for General Medicine
The clinical responsibilities of this group of doctors (formerly Junior House Officers) have reduced significantly in recent years. They no longer provide overnight cover, this now being provided by the Hospital Emergency Care Team (nursing staff within enhanced skills working in conjunction with junior doctors of FY2 level experience and above).

4.10 Future Staffing Requirements Under Scenarios
Table 3 and 4 below set out the future staffing requirements against the scenarios for General Medicine.
# Table 3: Future General Medical Consultant Staffing Requirements for Clinical Scenarios A- G

<table>
<thead>
<tr>
<th>Specialty group: MEDICINE</th>
<th>Grade of staff: CONSULTANT</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Staffing enhancement required irrespective of scenario adopted (use original APoH proposal as a baseline)</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>To deliver acute care to safe, modern standards</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>B. Additional scenario-dependent Staffing Enhancement required</strong></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>?</td>
</tr>
<tr>
<td>To deliver acute care to safe, modern standards</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To make high-intensity rotas sustainable (1:8)</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>?</td>
</tr>
<tr>
<td>To allow for a reasonable level of sub-specialization comparable to other Scottish Health boards)</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>?</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td></td>
<td>11</td>
<td>11</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
</tbody>
</table>

**Breakdown of staff sub-specialities**<sup>2</sup>

- Acute Medicine +/- subspecialty (12)<br>  - Renal Medicine (12).<br>

This should indicate minimum staffing requirements for safe, modern, sustainable services and to meet legislative requirements, but should not include major service developments. The number will be the same for all scenarios – any differences are to be included under ‘B.’

Please indicate anticipated number of PAs per sessions for the given post in brackets to allow for cost calculations (e.g. Anaesthetics (12))

---

<sup>1</sup> This should indicate minimum staffing requirements for safe, modern, sustainable services and to meet legislative requirements, but should not include major service developments. The number will be the same for all scenarios – any differences are to be included under ‘B.’

<sup>2</sup> Please indicate anticipated number of PAs per sessions for the given post in brackets to allow for cost calculations (e.g. Anaesthetics (12))
Table 4: Future General Medical Middle Grade and RMO Staffing Requirements for Clinical Scenarios A- G

<table>
<thead>
<tr>
<th>Specialty group: MEDICINE</th>
<th>Grade of staff: Middle Grade and Resident Medical Officer</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>A. Staffing enhancement required irrespective of scenario adopted (use original PoH proposal as a baseline)¹</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>To deliver acute care to safe, modern standards</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To make high-intensity rotas sustainable (1:8)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To backfill MMC &amp; EWTD²</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Additional scenario-dependent Staffing Enhancement required</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>To deliver acute care to safe, modern standards</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To provide RMO cover at Monklands hospital³</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>To make high-intensity rotas sustainable</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOTAL:</th>
<th>16</th>
<th>+</th>
<th>16</th>
<th>+</th>
<th>16</th>
<th>+</th>
<th>16</th>
<th>+</th>
<th>16</th>
<th>+</th>
<th>16</th>
<th>+</th>
<th>16</th>
<th>+</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMOs</td>
<td>RMOs</td>
<td>RMOs</td>
<td>RMOs</td>
<td>RMOs</td>
<td>RMOs</td>
<td>RMOs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Breakdown of staffing</th>
<th>Staff Grade (12)</th>
<th>16</th>
<th>16</th>
<th>16</th>
<th>16</th>
<th>16</th>
<th>16</th>
<th>16</th>
</tr>
</thead>
<tbody>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

¹ This should indicate minimum staffing requirements for safe, modern, sustainable services and to meet legislative requirements, but should not include major service developments. The number will be the same for all scenarios – any differences are to be included under ‘B.’

² This is the calculated 16 Staff Grade posts required to backfill the 12 existing FTSTA posts. An enhanced number is required given the additional hours that FTSTAs contribute to out-of-hours cover.

³ There is a scenario-dependent requirement for RMO middle-grade staffing for Monklands that varies with scenario. However, this is being dealt with elsewhere in a separate paper on HECT so numbers have not been included here to avoid double counting.
5. GENERAL SURGERY

5.1 Modernising Medical Careers and European Working Time Directive for General Surgery
In planning for future staffing situations for General Surgery, through the various scenarios, a number of assumptions have been considered. Some of these assumptions are clear but others are more difficult to quantify at this stage. These include the following:
- All grades of staff must work within the EWTD of 48 hours per week.
- All job plans for doctors in training posts must be New Deal compliant.
- The advent of MMC and seamless training will mean an increased portion of training will be structured, with many tasks requiring one-to-one consultant supervision with the trainee. This will happen during outpatient clinics and theatre sessions, which will tie up staff at these times. This will not only impact the availability of junior staff but will also increasingly impact on consultant availability and activity.

5.2 Consultant Staffing for General Surgery
None of the scenarios identified should cause a problem with staffing of vascular surgery.

For Scenarios A to C for general surgery, it should be possible to run two receiving units with our current complement of consultant numbers, with a probable split by sub-speciality across the sites. This would leave two rotas with 1:10 and 1:11 each.

Scenarios D to G will, however, require expansion of the number of consultants in order to provide on call cover with a minimum of a 1:8 rota. We estimate that this will require at least up to three additional consultants.

For Scenarios A to C, we will, however, have to find an additional rota to provide cover for the Monklands Hospital site. This could possibly be provided by stand-alone breast surgeons who would then not contribute to General Surgery. This would of course be dependent upon the future of breast surgery in general, and on the current breast surgeons in particular. Over time it may become inappropriate for them to continue providing cover to the emergency receiving rota due to sub-specialisation, because surgeons contribute to more than one rota then this would adversely affect their core hours. Furthermore, it is becoming increasingly difficult to appoint new substantive breast surgeons who are also trained to participate on the emergency receiving rota. There will be two retirements from the breast service over the next few years, hence it may be appropriate to appoint both breast surgeons and general surgeons into these posts to maintain on call rotas.

5.3 Junior Staffing for General Surgery
As can be seen in the following table, for each of the scenarios there is a very heavy demand on doctors in FTSTA posts and equivalents to help staff the rotas. In all of the scenarios in question, there requires to be some expansion of other doctors at this level in order to maintain rotas in the future. At present, it is unclear where these doctors will come from and at what their level of experience will be.

For doctors in run-through posts, their commitment to out-of-hours work will become increasingly curtailed in the future in order to maximise their core curriculum training.

5.4 Future Staffing Requirements Under Scenarios
Table 5 below sets out the future staffing requirements under the scenarios for General Surgery.
### Table 5: Future General Surgery Staffing Requirements for Clinical Scenarios A-G

<table>
<thead>
<tr>
<th>Scenario</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant Staffing – current</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Consultant Staffing – required</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>23   (21 + 2)</td>
<td>24   (21 + 3)</td>
<td>24   (21 + 3)</td>
<td>24   (21 + 3)</td>
</tr>
<tr>
<td>FTSTA Current</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Replacement doctors following FTSTA withdrawal (figure includes current establishment)</td>
<td>15   (11 + 4)</td>
<td>15   (11 + 4)</td>
<td>15   (11 + 4)</td>
<td>15   (11 + 4)</td>
<td>15   (11 + 4)</td>
<td>15   (11 + 4)</td>
<td></td>
</tr>
<tr>
<td>Consultant Vascular Surgery – current establishment – no increase</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Consultant in Breast Surgery – New</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>(Could include conversion of one Associate Specialist)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Middle Grade 1:8
6. RESIDENT MEDICAL OFFICER

6.1 Role of Resident Medical Officer
It had always been envisaged under A Picture Of Health workforce planning that there would be a requirement for resident medical support for the planned care site at Monklands Hospital. The nature of this cover had not yet been described in detail as it was recognised that the volume and nature of surgery carried out on the site would determine the skills and competencies that the Resident Medical Officer (RMO) would require.

All elective surgical patients on the planned care site would have been assessed pre-operatively according to agreed criteria for surgical procedure and individual patient risk factors. This would minimise the need for medical intervention out-of-hours. However, it was recognised that skills would fall into three main categories:

- Immediate resuscitation and stabilisation
- Initial diagnosis and management of acute medical conditions arising in the post-operative surgical patient
- Recognition and initial management of common post-operative complications across a range of surgical specialties

It was felt that the need for these skills would require an experienced Middle Grade doctor with some surgical / trauma background.

Initial discussions agreed that, rather than a separate pool of doctors within a ‘free-standing’ rota, the RMO function would be best achieved by contributions from a number of specialties. This may increase the rota frequency in some areas, but was felt to be manageable with an expansion of the Middle Grade pool by 4 WTE. (9pm – 9am x 7 = 84 hours/week).

6.2 Future Staffing Requirements Under Scenarios
The workforce requirements for the seven scenarios A – G, alter with the nature and volume of activity to be managed by the RMO. Within Scenarios A and B, there should be little variance from the activity described above. The RMO would be responsible for medical support, as required, for the inpatients on the planned care facility and dedicated Middle Grade staff would support the Accident and Emergency separately (although some team working would be anticipated).

In Scenario C, the situation changes. There is still the same level of staffing required for both Accident and Emergency and the planned care facility out-of-hours, but the 48-hour medical admissions ward may increase the possibility of patients deteriorating and requiring transfer to a level 3 site. Not all of these patients will require a critical care team transfer, but many may require a medical escort. It is not felt that this would routinely require an additional doctor to be either resident or on call from home solely for these duties. However, the skills required for transfer of such patients would require regular exposure to the management of critically ill patients as part of daytime training experience. To achieve this would require Middle Grades to have normal daytime duties cross-covered by other staff and, for this reason, this requires the ‘pool’ of doctors to be expanded to 8 WTE (an additional 4 WTE with respect to A Picture Of Health).

From Scenario D onwards, there is no longer a requirement to provide a separate RMO, as the HECT team now has resident medical support for medical receiving and resident anaesthetic support for intensive care.

The staffing requirement for RMOs is shown in table 4.
7. TRAUMA AND ORTHOPAEDICS

7.1 Current Models for Orthopaedics and Trauma Surgery

Elective Orthopaedic surgery and emergency receiving of trauma patients currently takes place at all three Lanarkshire Hospitals. Whilst there is a seasonal variation in the level of trauma admitted to the department at Wishaw, which is largely due to the concentration of inpatient paediatric services at this site, the three sites generally deal with similar volumes of emergency activity. Elective activity is greater at Hairmyres Hospital, where additional resources have been used to support fully flexible working with optimum use of the current staffing and infrastructure.

The current staffing models for the three departments are not consistent. At Wishaw and Monklands, the resident doctor for the service is part of the HECT (Hospital Emergency Care Team), with a Middle Grade (Staff Grade or Senior Specialty Registrar) available for advice from home supported by a Consultant on call from home. At Hairmyres, the first on call doctor for the service is a basic specialist trainee in the specialty who is on duty until 12 midnight. Following this, resident duties are absorbed by the surgical participants in the HECT (generally the HECT nurses) with a Middle Grade Surgeon available for advice from home supported by a Consultant on call from home. This hospital at night approach has substantially reduced the amount of theatre cases overnight and the need for this level of support, particularly three Middle Grade doctors on call, is under review.

Releasing a consultant from elective duties for one week at a time in order to ensure trauma cases are managed within an appropriate timescale, supports effective management of cases. However, this separation of planned care from emergency care is limited, as the service has to compete for in-patient beds and emergency theatre time with other specialties. Whilst every effort is made to keep cancellations to a minimum, it is a regular feature of winter months that the elective orthopaedic surgical programme is affected. It is also inevitable at times of increased pressure on in-patient beds, that non-orthopaedic cases are admitted to the same wards as elective arthroplasty patients, which, from an infection control perspective is far from ideal.

7.2 Separation of Trauma and Elective Services

Current arrangements for Trauma Receiving at all three sites are seen as inefficient, as the lack of all day availability of a trauma theatre does not allow effective planning of the daily workload. However, the creation of three full time trauma theatres would also bring inefficiency, in that there is not sufficient activity to support this. In the view of the Orthopaedic surgeons, the preferred option for the management of operative trauma would be one large trauma centre. However, recognising that this would be detrimental to local access to services for patients, and acknowledging that it is unlikely to be able to secure sufficient operating theatre capacity on one site within the current infrastructure, it has been accepted that moving to two trauma centres would be an acceptable compromise.

In relation to the development of elective services, it was the clear view that, of all the surgical specialties, there is the strongest argument for separation of planned orthopaedic services, as far as it is possible, from emergency activity.

This proposal would have created an elective service at Monklands Hospital supported by the HECT (similar to the current Hairmyres model) with the need to provide two instead of three resident rotas, two Middle Grade Surgeons on call from home and two Consultants, also on call from home, who would support the two
trauma sites where major elective cases would also be managed. This concentration of operative trauma would also facilitate the possible development of new roles to support the impending changes with MMC.

7.3 Future Services

For scenarios A - D Trauma Receiving, these models are similar to the original A Picture of Health proposals in terms of staffing required. The two larger Hospitals at Wishaw General and Hairmyres Hospital would be developed as larger trauma centres which would also manage the major elective and high-risk cases (e.g. revision arthroplasty, patients with multiple co-morbidity). GP and ambulances would be directed to take trauma cases to these centres. At the Accident and Emergency department at Monklands, the support would be enhanced to develop stronger links with the MINTS (Major and Minor Injuries Nurse and Illness Treatment Service).

For Consultant and Middle Grade staff, Scenarios A - D can be managed within existing staffing complements, with two consultants working a trauma week at a time across the two sites, and the remainder free to concentrate on elective duties. The Middle Grade staff would also probably mirror this working pattern. More junior surgical staff would be employed as basic surgical trainees out-of-hours with a contribution along with general surgical trainees to the HECT. Consideration would have to be given to what kinds of staff would be best employed to replace the service commitments of FTSTA posts, which will gradually be removed from the training grades. This may be a mixture of Staff Grades and Physician’s Assistants.

Scenario E would appear at first glance to give the benefits of concentration of trauma services and separation of planned care from emergencies and, in terms of Consultant and Middle Grade staffing support, this is indeed the case. It could be argued that there may need to be increased Middle Grade support out-of-hours as it may be more likely that trauma cases requiring immediate surgical assessment present more frequently at the Monklands A&E department, but this would need further assessment. However, in terms of junior surgical staffing, general surgical receiving and trauma receiving can no longer function as one large basic specialist training team out-of-hours.

Under Scenario E, three sites need to be covered with resident junior surgical staff, which is a serious stretch of resources and would require replacement of FTSTA’s with Staff Grades with attendant recruitment and retention issues. The utilisation of trainees in orthopaedics in a basic surgical trainee rota, where the majority of the workload is in fact general surgery, is likely to be contentious with the training Committees in the specialty. However, the consultant body is confident that this could be supported as the trainees would undertake fewer nights in total, thereby increasing availability for daytime training, and that when on call they would be responsible for managing patients in their own specialty. However, Monklands will have surgical cases only and it would therefore be seen by training Committees that it would be inappropriate for trainees in trauma and orthopaedics to participate in this rota. This is likely to precipitate a requirement for entirely separate rotas out-of-hours for the two main surgical specialties, with orthopaedics following the model currently used at Hairmyres (late shift until 12 midnight then HECT on two sites).

Scenario F represents the status quo, with its concerns over clinical quality, a lack of ability to develop sub-specialist services and problems with Consultant recruitment and retention. Three-site resident rotas will have to be supported, and, with similar pressures on General Surgery, it is unlikely that the solution for Orthopaedics and Trauma will be to pull back resident cover to midnight. Rather, they will need to share
the burden of out-of-hours cover with general surgery, and this will require a significant increase in staffing, probably at Staff Grade.

Development of other roles is likely to be less efficient and therefore less likely to be approved on economic grounds.

Scenario G is essentially the same as Scenario E in relation to orthopaedics and trauma with all the same pressures as described above.

Table 6 below sets out the future staffing requirements against the scenarios for Trauma and Orthopaedics.
Table 6: Future Trauma and Orthopaedics Staffing Requirements for Clinical Scenarios A-G

<table>
<thead>
<tr>
<th>Scenario</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant staff required</td>
<td>Current funded 13 (18)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24</td>
<td>Current 13 (18)</td>
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<tr>
<td>Consultant recruitment *</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 x 3 sites</td>
<td></td>
</tr>
<tr>
<td>Middle Grade / Staff Grade current</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>FTSTA **</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Projections (figure includes current</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>establishment)</td>
<td></td>
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</tr>
<tr>
<td>Juniors Resident Rota – combined rota</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>22+1</td>
<td>4</td>
<td>22+1</td>
</tr>
<tr>
<td>surgical and orthopaedics</td>
<td></td>
<td></td>
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<tr>
<td>***</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>22</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

* 4 Associate Specialists convert to Consultants over time  
** Need replaced  
*** Contained Rotas  
(Wouldn’t get training recognition as currently stands)
8. ANAESTHETICS

8.1 Modelling assumptions
The implications for the Anaesthetic and Critical Care workforce required in order to support various models of service for acute hospital care on each of the three general hospitals in Lanarkshire has been considered. For each option described, the detailed staffing requirements have been considered that will ensure the following:
- All grades of medical staff to work within the EWTD of a 48 hour per week maximum
- New Deal compliance for all doctors working in training grades
- Doctors working in training grades to be within new seamless training grades (MMC), with an increased proportion of their work being fully supervised training, and with the required balance of training across the sub-specialties, with particular reference to limited exposure to training in Intensive Care Medicine (Post Graduate Medical Education and Training Board (PMETB) approved training)

The modelling also takes into account a number of challenges that the service will require to meet by 2009 or shortly thereafter. These include:
- Quality standards that the specialty will be involved in achieving e.g.
  - All patients with a fractured neck of femur being managed within 24 hours necessitating increased access to trauma theatres
  - Time from diagnosis to surgery for patients diagnosed with cancer to be no more than 2 months, necessitating increased access to scheduled theatres
- An expectation from patients and professional bodies that an increasing amount of care (including emergency care), will be delivered by Consultants
- Staff and Associate Specialist doctors to have a new contract, similar to that of Consultants, which recognises out-of-hours working and the need for protected time for Continuing Professional Development

8.2 Doctors in Training for Anaesthetics
In either Anaesthesia and Intensive Care Medicine or Acute Care, Common Stem Programmes (from Emergency Medicine or Acute Medicine specialties) have constraints placed upon them, not only in relation to hours of work and shift patterns, but also in terms of minimum and maximum exposure to certain elements of subspecialty training. These restrictions are laid out in detail in the training programmes approved by the (PMETB).

The most relevant restrictions in relation to rota planning are that trainees in Anaesthesia and Intensive Care Medicine should spend no more than three months of daytime training in Intensive Care during the first two years of basic training. The remainder of training in Intensive Care is at a later stage of run-through training in recognised Intensive Care Units. Trainees in Anaesthetics and Critical Care Specialist (ACCS) programmes can spend six months of daytime training in Intensive Care.

The implications of these restrictions are that Year 1 and 2 trainees can only contribute 6.5 weeks per year towards Intensive Care rota shifts (assuming no leave), although ACCS trainees can contribute 20 weeks (six months less pro rata leave). Additional restrictions that apply in relation to obstetric anaesthesia where it continues to be a requirement that trainees have a minimum of one year’s experience in anaesthesia before training commences in this sub-specialty area. All
trainees should spend approximately 50% of daytime shifts in supervised training duties.

8.3 Consultants Staffing for Anaesthetics
Consultants require balance in their job plans and failure to incorporate this into regular job plans results not only in loss of clinical skills and a lesser quality service to patients, but also results in difficulties with recruitment and retention. For reasons of clinical governance (and individual job satisfaction), there must also be a balance within daytime duties to ensure maintenance of all core clinical skills. This has been factored into the staffing requirements as an average commitment of three sessions per week to core services, leaving three or four sessions (depending on individual job plans) as commitments to the delivery of the elective services.

8.4 Associate Specialists Staffing for Anaesthetics
Associate Specialists work a maximum 38.5 hours per week within a sessionally based contract and, as more senior and clinically experienced doctors, are more frequently required to back-fill elective duties for Consultants. It is not common place or desirable to have Associate Specialists participating in resident rotas.

Trainees require supervised daytime training to be incorporated into any duty rota, but Staff and Associate Specialist (SAS) doctors also require a similar balance between out-of-hours and regular daytime work in order to ensure maintenance of clinical skills and professional development. They also require some direct consultant supervision in order to assess continuing satisfactory performance. The New Deal for doctors in training agreed principles regarding the proportion of time spent working in ‘unsocial’ hours and the need for regular rest breaks and shift patterns that allow an acceptable work-life balance. It would seem reasonable to assume that any new contract agreed for SAS would embrace the same principles.

8.5 Staff Grade Doctors Staffing for Anaesthetics
Currently Staff Grade doctors have a contract based on four hour sessions up to a maximum of 12 sessions per week, but with many longer term substantive appointees choosing to work less than this. Staff Grade doctors enter the grade with a minimum of three years training in the specialty, which is often sufficient to provide cover for general duties and, with consultant support, for obstetric anaesthesia. In current UK practice, it is unusual to have Staff Grades making a major contribution to Intensive Care shifts as the doctors who have gone on to acquire and maintain these skills have usually re-entered the training grades in order to progress to full specialist registration.

8.6 Future Staffing Requirements Under Scenarios
Incorporating the above into duty rotas has been done by applying the following guidelines:

- No doctor, regardless of grade, to be working a rota which is more frequent than 1:8 for every out-of-hours emergency duty (1:4 weekends)
- No doctor to spend more than 50% of daytime duties on the delivery of emergency services allowing a reasonable remainder for the delivery of the elective service.
- Resident rotas not to exceed 48 hours per week on average
- Resident rotas to comply with New Deal Band 1A requirements
- Trainees within resident rotas to comply with PMETB approved training programmes in respect of the limitations on exposure to both Intensive Care Medicine, Obstetric Anaesthesia and the inclusion of sufficient other supervised training sessions (theatres, Acute & Chronic Pain, Preassessment etc)
The trainee/SAS duty rotas associated with these guidelines and the calculations relating to the numbers of consultants required to cover have been completed. The summary below of the staffing numbers required per site and a calculation of the number of elective sessions covered in each model.

In order to best describe the complex implications of the various scenarios, it has been assumed that, as far as possible, all doctors of any given grade will do equivalent and transferable duties. It should be noted that this is not the case in practice, as the three anaesthetic departments have, when previously under separate management structures, negotiated contracts with substantive post holders to best suit the needs of the individual hospital services. For all the rotas described, there would need to be a renegotiation of contracts with many of the participants, with attendant risks to retention of existing staff.

In addition, for the purposes of modelling the staffing requirements, it has been assumed that trainees and Staff Grade doctors are equal participants in any rota, although it has clearly been identified above that, in terms of skills and competencies, as well as hours of duty, that this is not the case currently and is unlikely to change for the future. The rotas described therefore are best case scenarios, with maximum flexibility of all staff.

Consultant Anaesthetists currently provide fully flexible out-of-hours cover for all Anaesthetic and Critical Care activities. However, there is continuing concern regarding the ability to maintain skills and competence over such a wide and diverse range of clinical duties, and a clear desire to provide separate Consultant cover for Intensive Care out-of-hours as well as daytime sessions by Consultants with a specialist interest in this area. It is possible that similar pressures may develop around the provision of obstetric anaesthesia. It is undoubtedly the case that such clinical governance concerns will escalate with the full implementation of PMETB approved training. Trainees who have experienced only this capped amount of training in Intensive Care are unlikely to undertake or be suitable for consultant cover for this area of clinical practice.

As the various Scenarios progress along the clinical spectrum, there is an increase in the activity anticipated through the Accident and Emergency Department at Monklands. From the perspective of the Anaesthesia and Critical Care staffing required to support these service models, Scenarios A and B can be supported with the staffing that was originally envisaged for A Picture of Health and it is possible to still realize the benefits that these economies of scale bring to this part of the Acute Division Services:

- Intensive Care cover provided by Consultants Intensivists on a 24/7 basis
- Resident cover for ITU provided by Specialty Registrars within full PMETB compliance
- Economies of scale allowing medical duties to be shared by Advanced Nurse Practitioners in Critical Care
- Training recognition for higher training in Intensive Care Medicine
- Improved quality of care
- Improved recruitment & retention for Consultant Intensivists and General Consultant Anaesthetists (no longer required to cover areas with clinical governance concerns)
- Ample training opportunities in other anaesthetic services
Table 7 below sets out the future staffing requirements against the scenarios for Anaethetics.
<table>
<thead>
<tr>
<th>Scenario</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant Staffing Required (WTE)</td>
<td>42</td>
<td>42</td>
<td>44</td>
<td>50.5</td>
<td>58</td>
<td>50</td>
<td>58</td>
</tr>
<tr>
<td>Trainee &amp; Staff Grades required (WTE)</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>46</td>
<td>46</td>
<td>43</td>
<td>46</td>
</tr>
<tr>
<td>Consultant recruitment</td>
<td>(8.5)</td>
<td>(8.5)</td>
<td>(8.5)</td>
<td>0</td>
<td>8</td>
<td>0</td>
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<tr>
<td>Staff Grade Recruitment</td>
<td>(3.5 existing requirement)</td>
<td>(3.5 existing requirement)</td>
<td>(3.5 existing requirement)</td>
<td>2 + (3.5 existing requirement)</td>
<td>2 + (3.5 existing requirement)</td>
<td>(3.5 existing requirement)</td>
<td>2 + (3.5 existing requirement)</td>
</tr>
<tr>
<td>Staff Grade Recruitment following FTSTA withdrawal</td>
<td>9 + (3.5 existing requirement)</td>
<td>9 + (3.5 existing requirement)</td>
<td>9 + (3.5 existing requirement)</td>
<td>11 + (3.5 existing requirement)</td>
<td>11 + (3.5 existing requirement)</td>
<td>9 + (3.5 existing requirement)</td>
<td>11 + (3.5 existing requirement)</td>
</tr>
<tr>
<td>Intensive Care cover dependent on Staff Grades</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td>PMETB compliance</td>
<td>97%</td>
<td>97%</td>
<td>97%</td>
<td>57%</td>
<td>57%</td>
<td>50,50 &amp; 69%</td>
<td>57%</td>
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<tr>
<td>Recruitment retention risk</td>
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<td>NO</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td>Transfer of unstable patients increased</td>
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<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
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<tr>
<td>THEATRE COVER</td>
<td>TWO SITES CONSULTANT + TRAINEE OR STAFF GRADE</td>
<td>TWO SITES CONSULTANT + TRAINEE OR STAFF GRADE</td>
<td>TWO SITES CONSULTANT + TRAINEE OR STAFF GRADE</td>
<td>TWO SITES CONSULTANT + TRAINEE OR STAFF GRADE</td>
<td>THREE SITES EVE &amp; WEEKEND SESSIONS CONSULTANT + TRAINEE OR STAFF GRADE OVERNIGHT COMBINED WITH ITU</td>
<td>THREE SITES EVE &amp; WEEKEND SESSIONS CONSULTANT + TRAINEE OR STAFF GRADE OVERNIGHT COMBINED WITH ITU</td>
<td>THREE SITES EVE &amp; WEEKEND SESSIONS CONSULTANT + TRAINEE OR STAFF GRADE OVERNIGHT COMBINED WITH ITU</td>
</tr>
<tr>
<td>ITU COVER</td>
<td>TWO SITES CONSULTANT INTENSIVISTS AND TRAINEES 24/7 INPUT FROM ANPCC</td>
<td>TWO SITES CONSULTANT INTENSIVISTS AND TRAINEES 24/7 INPUT FROM ANPCC</td>
<td>TWO SITES CONSULTANT INTENSIVISTS AND TRAINEES 24/7 INPUT FROM ANPCC</td>
<td>THREE SITES GENERAL CONSULTANT COVER AND STAFF GRADE + TRAINEE</td>
<td>THREE SITES GENERAL CONSULTANT COVER AND STAFF GRADE + TRAINEE</td>
<td>THREE SITES GENERAL CONSULTANT COVER AND STAFF GRADE + TRAINEE</td>
<td>THREE SITES GENERAL CONSULTANT COVER AND STAFF GRADE + TRAINEE</td>
</tr>
<tr>
<td>OBSTETRIC COVER</td>
<td>1:8 STAFF GRADE</td>
<td>1:8 STAFF GRADE</td>
<td>1:8 STAFF GRADE</td>
<td>1:8 STAFF GRADE</td>
<td>1:8 STAFF GRADE</td>
<td>1:8 STAFF GRADE</td>
<td>1:8 STAFF GRADE</td>
</tr>
<tr>
<td>PLANNED CARE COVER</td>
<td>Just balances</td>
<td>Just balances</td>
<td>1:8</td>
<td>++</td>
<td>+++</td>
<td>++</td>
<td>+++</td>
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<tr>
<td>(AVERAGE 12 PA CONS)</td>
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