APPENDIX 8

Picture of Health Staffing Model for Anaesthetics & Critical Care

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Questions

- What are the implications for anaesthetic and critical care services of changes to emergency surgical receiving ?
- Can/should critical care (ITU) be sustained on 3 acute sites to support emergency medical receiving / A & E ?
- If yes
  - For how long?
  - What support would be required?
- If no
  - What is the sustainable model?
  - What are the implications for service users?

Short life working group

- Review of anaesthetic staffing to support changes in emergency surgical receiving
  - Size of ITU
  - Other anaesthetic services
- What was the need for critical care for medicine and A & E?
  - Level 2 (HDU) needs currently not met
  - Level 2 dependent on presence of level 3 (ITU)
  - ITU required to support medical receiving and A & E
- Who could provide critical care at different levels?
  - HDU; anaesthetists, physicians, surgeons, A & E, support from critical care practitioners
  - ITU; anaesthetists , support from critical care practitioners
- Need for anaesthetic support on any site without surgical receiving

Aim

- To determine the number of WTE medical staff required in anaesthesia & critical care in order to provide cover for a number of options for service delivery
- All elements of anaesthetic services
  - ITU
  - Obstetrics
  - Emergency theatres
  - Elective sessions
- Consultants rota frequency and balance between core services and elective
- To include trainee rotas within current regulations (EWTD, New Deal & RCoA)

Methodology

- Define demand
  - ITU number of units and size (bed numbers)
  - Obstetric sessions + 24*7*52
  - Emergency and trauma theatres daytime, evening and weekend sessions + 24*7*52
  - Elective commitments
- Acceptable on call frequency
  - minimum 1:8 (Kerr Report)
- Balanced commitment to core services and elective services
  - ?4.5 PA commitment to core services (current job plans)
- EWTD & New Deal compliance for trainee rotas
- Training implications - commitment to ITU

Demand – ITU provision (1)

- Minimum team requirement per site
  - 10 daytime consultant sessions
  - 8 participating consultants out of hours
  - 6/8 person rota at non-consultant (resident) level
- Double team over 8 beds
  - 20 daytime consultant sessions
  - 10 participating consultants out of hours
  - 8/10 person rota at non-consultant (resident) level
- Increased team numbers over 6 beds
  - 15 daytime consultant sessions
  - 8 participating consultants out of hours
  - 8 person rota at non-consultant (resident) level

Demand – *ITU provision (2)*

- Data from SICS Audit program 'Wardwatcher"
  - 2003/04
  - Complete for HM & MDGH, partial for WGH
  - Need to separate ITU from HDU admissions
- Source of admissions
  - Medical/A & E
  - Surgical receiving
  - Surgical electives
- Number of admissions
- Length of stay
- Acceptable occupancy

Demand - ITU provision (3)

	Hairmyres	Monklands	Wishaw	NHSL
Medical/ A & E	501 days (113 pts) 1.8 beds	744 days (108 pts) 2.7 beds	501 days (113 pts) 1.8 beds	1746 days (334 pts) 6.4 beds
Surgical - emergency	590 days (82 pts) 2.2 beds	566 days (83 pts) 2.1 beds	566 days (83 pts) 2.1 beds	1722 days (248 pts) 6.3 beds
Surgical - elective	278 days (42 pts) 1.0 beds	207 days (43 pts) 0.8 beds	207 days (43 pts) 0.8 beds	692 days (128 pts) 2.5 beds
Totals	1369 days (237 pts) 5.0 beds	1517 days (234 pts) 5.5 beds	1274 days (239 pts) 4.7 beds	4160 days (810 pts) 15.2 beds

approx. 30 external transfers = 1 bed

Demand – Obstetric provision

- 14 daytime consultant sessions
  - not currently dedicated consultant cover out of hours
  - cross cover where possible
- 14 x 12 non-consultant shifts
  - dedicated cover
  - SAS grades
  - separate consultant cover if trainee shifts

Demand – Emergency theatre provision

- Trauma & general emergencies
- existing session allocation
- occupancy (no benchmarking)
- adequacy (case mix out of hours, laparoscopic cholecystectomy)
- existing out of hours provision
- occupancy/throughput
- time to theatre v CEPOD status
- #NOF targets

Demand – Trauma theatres (1)

NHSL theatres trauma activity Jan – Mar 05

	Hairmyres	Monklands	Wishaw	NHSL
Theatre sessions per week	5+	5+	5+	
Occupancy	95%	?	?	
No of cases (13 weeks)	299	200	199	
Procedure times; Average hours per day	4:87	3:36	3:01	
Emergency IP Admissions with procedure (2003-04)	925	871	933	
Extrapolated theatre cases in 3 months	**231**	**217**	**233**	
#NOF in 24 hours (STAG 2003)	61.9%	66.3%	75.3%	

Demand – *Trauma theatres (2)*

- Capacity required for trauma on one site
  - 18 hours per day Monday - Friday
  - 6.5 hours per weekend day
  - 103 hours per week
- Capacity from one theatre
  - 9 -9 Mon - Fri,
  - 9 - 5 Sat/Sun
  - 69 hours per week
- Capacity from two theatres
  - 9 -5 Mon - Fri (2) + 5 - 9 pm (1)
  - 9 - 5 Sat/Sun one theatre
  - 104 hours per week

Demand – *Emergency theatres (1)*

NHSL theatres general emergency activity Jan – Mar 05

	Hairmyres	Monklands	Wishaw	NHSL
Theatre sessions per week	5+	7+	10+	
Occupancy	?	?	?	
No of cases (13 weeks)	215	256	241	
Procedure times; Average hours per day	3:11	9:33	3:08	
Emergency IP Admissions with procedure (2003-04)	1796	1995	2135	
Extrapolated theatre cases in 3 months	449	499	534	
Extrapolated theatre cases in 3 months less scopes	373	480	484	

Demand - *Emergency theatres (2)*

- Capacity required for emergencies on one site (based on HM audit)
  - 11.6 hours per day Monday - Friday
  - 3.6 hours per weekend day
  - 65 hours per week

BUT

- Based on all data
  - 16 hours per day 7 days a week
  - Not all procedures captured
  - Differences in clinical practice

Demand - Emergency theatres (3)

Top 20 procedures, 2003 - 04

	Hairmyres	Monklands	Wishaw
Lap cholecystectomy	13 (7%)	82 (37%)	23 (13%)
Abscess NOS	94	65	88
Abscess perianal	46	27	34
appendicectomy	41	74	35
X558	488	735	1136
SUBTOTAL	682	983	1316
scopes	305	75	199
TOTAL	987	1058	1515

Modelling Options

Option A

- status quo

Option B

- single site emergency surgery
- 3 site A & E / medical receiving

Option C

- 2 site emergency surgery
- 2 site A & E / medical receiving
- *No resident anaesthetic cover at 3rd site*

Option A; Status Quo

	Site A	Site B	Site C	NHSL
ITU beds	4.5	5	5.5	15
ITU sessions	10	10	10	30
Obstetric sessions	8	0	6	14
Emergency sessions (daytime)	15	10	12	37
Evening sessions	5 – 9 Mon - Fri	5 – 9 Mon - Fri	General on call	3
Weekend sessions	9 – 5 Sat/Sun Theatres & ITU	9 – 5 Sat/Sun Theatres & ITU	General on call + ITU	8+
Overnight cover	1 + 1 Hybrid + 1 obstetric	1 + 1 Hybrid	1 + 1 Hybrid	3 + 4
Consultants required (WTE)	16	12	14	42
Non-consultants required	21	13	13	47
Risks	Obstetrics 24*7, Training recognition, New Deal			

Option B; single site receiving, 3 ITU's

	Site A	Site B	Site C	NHSL
ITU beds	9.4	4.3	2.5	16.2
ITU sessions	20 + W/E	10	10	40+
Obstetric sessions	8	0	6	14
Emergency sessions (daytime)	40	0	0	40
Evening sessions	5 - 8 Mon - Fri 5 -12mn Mon - Fri	0	0	2
Weekend sessions	9 - 5 Sat/Sun ITU 9 - 9 Sat/Sun trauma 9 - 12mn Sat/Sun general	ITU ward round	ITU ward round	2
Overnight cover	3 + 3 separate	1 + 1 ITU	1 + 1 ITU	5 + 5
Consultants required (WTE)	35	8	8	51
Non-consultants required	28	8	8	44
Risks	ENT & Maxfax IP, GI bleeds, Take backs, ITU training, ITU sustainability			

Option C; two site receiving, 2 ITU's

	Site A	Site B	Site C	NHSL
ITU beds	8.9	8.9	0	17.8
ITU sessions	15 + W/E	15 + W/E	0	30
Obstetric sessions	14	0	0	14
Emergency sessions (daytime)	20	20	0	40
Evening sessions	5 – 9 Mon – Fri	5 – 9 Mon – Fri	0	2
Weekend sessions	9 – 5 Sat/Sun ITU 9 – 5 Sat/Sun trauma 9 – 9 Sat/Sun general	9 – 5 Sat/Sun ITU 9 – 5 Sat/Sun trauma 9 – 9 Sat/Sun general	0	2
Overnight cover	2 + 3 separate	2 + 2 separate	0	4 + 5
Consultants required (WTE)	25	21	0	46
Non-consultants required	26	18	0	44
Risks	Elective only on site C			

Staffing Summary

	Option A**	Option B	Option C
Consultants required (WTE)	42 [0.5]	51 (+8.5)	46 (+3.5)
Non-consultants required	47 (+2)	44[1]	44[1]
Site split consultants	16/12/14	35/8/8	25/21/0
Number of overnight rotas Consultant + non-consultant	3 + 4 *(+1.5)*	5 + 5	4 + 5
ITU training time	50%	75%	50%
Impact of CCP's or trainees	-	58%	33%
Elective sessions	-	-33	-10.9

**assumes full staffing

Summary

Option A

- Interim solution only
- EWTD by 2009, 56 hours until then for anaesthetic training + CCP's
- ?Impact of seamless training

Option B

- Expensive
- Recruitment & retention issues
- Sustainability of 3 ITU's (size and training)
- Risk to elective programme
- Medical receiving issues

Option C

- Sustainable ITU & Anaesthetics
- 2 site A & E / medical receiving
- *? nature of elective surgery at 3rd site*

Requirement to address HDU needs remains

Answers

- Can critical care (ITU) be sustained on three acute sites?
- Yes
  - If all other demands stay the same
  - Only until 2009 (EWTD)
  - Needs transitional resources to ensure stability in 2009
- Beyond 2009
  - Two sites provides optimum staffing/training for critical care and other anaesthetic services & high quality clinical support to users
  - Major implications for acute medical & surgical receiving and A & E