

# South Manchester University Hospitals NHS Trust

## R&D Annual Report 2004

**Signature of Chief Executive or delegated authority:**

I hereby confirm that the following document is the R&D Annual Report 2004 for South Manchester University Hospitals NHS Trust. I also confirm that it has been completed in accordance with the guidance issued by the Department of Health and provides an accurate representation of South Manchester University Hospitals NHS Trust's position.

Signed: \_\_\_\_\_

Designation: \_\_\_\_\_

## Section 1 – Contact details:

**Organisation Name:** South Manchester University Hospitals NHS Trust

**Organisation Code:** RM2

**Strategic Health Authority:** Greater Manchester

**Contact Name:** Dr Andrew Maines

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## Section 2A-2E – NHS research programme: RBV Research, development and clinical application of new cancer therapies

<b>2A</b>	<b>Programme details</b>	
1)	 Programme Identifier:	RBV Research, development and clinical application of new cancer therapies
1b)	Status on 30 June 2004	Unchanged
1c)	Are you the administrative organisation for this programme?	No
2)	Role of organisation in Programme	Contributing site
<b>2B</b>	<b>NHS R&amp;D priority and needs areas</b>	
	<i>Not applicable to this programme</i>	
<b>2C</b>	<b>Parties involved in the programme</b>	
	<i>Not applicable to this programme</i>	
<b>2D</b>	<b>Changes to the programme from description in the 2003 Annual Report</b>	
	<i>Not applicable to this programme</i>	
<b>2E</b>	<b>Research deliverables</b>	
8)	Number of peer-reviewed publications	16 (Calendar year)

9)	Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)
10)	Outcomes	Related impacts
	<p>1. Investigative radiology: Laasch H-U, Tringali A, Wilbraham L, Marriott A, England RE, Mutignani M, Perri V, Costamagna G, Martin DF (2003) Comparison of Standard and Steerable Catheters for Bile Duct Cannulation in ERCP. Endoscopy 35: 669-674</p> <p>2. Colorectal cancer: Cost effectiveness of intensive follow up compared with conventional follow up in patients with colorectal cancer (BMJ. 2004 Jan 10;328(7431):81)</p>	<p>⇒ 1. Dual centre international randomised the study using three different devices with clear benefit of new over traditional devices leading to change in practice.</p> <p>2. Based on the available data and current costs, intensive follow up after curative resection for colorectal cancer is economically justified and should be normal practice. There is a continuing need to evaluate the efficacy of specific surveillance tools: this study forms the basis for economic evaluations in such trials.</p>
11)	Intellectual property outputs	Urine collection device: a novel device to facilitate collection of 24 hour urine samples. License agreement with commercial partner which received a DTI SMART award for exploitation of the device. UK patent filed 13 November 2002. Product development ongoing

## Section 2A-2E – NHS research programme: RM2 A programmed investigation of obstructive and parenchymal lung disease



<b>2A Programme details</b>			
1)	Programme Identifier:	RM2 A programmed investigation of obstructive and parenchymal lung disease	
1b)	Status on 30 June 2004	Unchanged	
1c)	Are you the administrative organisation for this programme?	Yes	
2)	Role of organisation in Programme	Principal investigator site	
<b>2B NHS R&amp;D priority and needs areas</b>			
3)	Primary NHS R&D priority or need area	Respiratory disease	
4a)	Subsidiary NHS R&D priority or need area	Cancer	
4b)	Subsidiary NHS R&D priority or need area	Children's services	
<b>2C Parties involved in the programme</b>			
5)	Party involved in programme	Type	Written agreement?
	Blackpool, Fylde & Wyre Hospitals NHS Trust	NHS	Yes
	University of Salford	Academic	No
	St George's Medical School, London	Academic	No
	University of Edinburgh	Academic	No
	University College London	Academic	No
	University of Nottingham	Academic	No
	University of Aberdeen	Academic	No
	University of York	Academic	No
	University of Cardiff	Academic	No
	Manchester Metropolitan University	Academic	No
	North Cheshire Hospitals NHS Trust	NHS	No
	Sheffield Teaching Hospitals NHS Trust	NHS	No
	Birmingham Heartlands & Solihull NHS Trust	NHS	No
	University Children's Hospital, Copenhagen	Other	No
	University Hospital, Zagreb, Croatia	Other	No
	University of Otago, New Zealand	Academic	No

University of Virginia, USA	Academic	No
Marmaris University Istanbul, Turkey	Academic	No
University of Manchester	Academic	Yes
Christie Hospital NHS Trust	NHS	Yes
Blackpool, Fylde and Wyre Hospitals NHS Trust	NHS	No
Salford Royal Hospitals NHS Trust	NHS	Yes
Central Manchester and Manchester Children's University Hospitals NHS Trust	NHS	Yes
South Manchester Primary Care Trust	NHS	Yes
Central Manchester Primary Care Trust	NHS	No
Manchester Mental Health and Social Care Trust	NHS	Yes
UMIST	Academic	Yes
Penine Acute Hospitals NHS Trust	NHS	No


**2D Changes to the programme from description in the 2003 Annual Report**


*Not applicable to this programme*

**2E Research deliverables**


8)	Number of peer-reviewed publications	55 (Calendar year)
9)	Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)
10)	Outcomes	Related impacts
		 There are currently 11 PhDs, 4 MDs, 1 MPhil and 1MSc supported by this programme
	<p>1. Asthma and Allergy: We have shown that children at age 3 years with symptoms suggestive of asthma are at elevated risk of behavior problems. Children from families without a history of asthma and allergic diseases may be particularly vulnerable to behavioural disturbance.</p> <p>2. Cystic fibrosis: identification of airborne dissemination of epidemic multiresistant strains of <i>P. aeruginosa</i> during cross infection outbreak (Thorax 2003, 58:252-527)</p>	 <p>1. Families may benefit from additional advice on management of their child's behaviour, particularly if parents do not have experience of the illness themselves. Research reported in 2003 on clinical ineffectiveness of allergen-impermeable covers is now being used to modify the British Guideline on the Management of Asthma (a national clinical guideline by the British Thoracic Society and Scottish Intercollegiate Guidelines Network [SIGN]). Also National Asthma Campaign has changed advice given to allergic asthmatic patients on the use of high filtration vacuum cleaners (from results reported in 2003).</p> <p>2. Realisation of the existence of transmissible strains of <i>P aeruginosa</i> has resulted in strict segregation of CF outpatients clinics</p>
11)	Intellectual property outputs	

## Section 2A-2E – NHS research programme: RM2 Arterial and venous diseases, thrombosis, coagulation and blood transfusion

<b>2A Programme details</b>		
1)	 Programme Identifier:	RM2 Arterial and venous diseases, thrombosis, coagulation and blood transfusion
1b)	Status on 30 June 2004	Unchanged
1c)	Are you the administrative organisation for this programme?	Yes
2)	Role of organisation in Programme	Principal investigator site
<b>2B NHS R&amp;D priority and needs areas</b>		
3)	Primary NHS R&D priority or need area	Coronary heart disease

4a)	Subsidiary NHS R&D priority or need area	Older people	
4b)	Subsidiary NHS R&D priority or need area	Vascular disease (except CHD)	
<b>2C Parties involved in the programme</b>			
5)	Party involved in programme	Type	Written agreement?
	Aventis Ltd	Other	Yes
	Imperial College School of Medicine	Academic	No
	AstraTech Ltd	Other	Yes
	University of Manchester	Academic	Yes
	St George's Hospital NHS Trust	NHS	No
	Unomedical Ltd	Other	Yes
	Hammersmith Hospitals NHS Trust	NHS	No
	Birmingham Heartlands and Solihull NHS Trust	NHS	No
	UMIST	Academic	Yes
	Renovo Ltd	Other	Yes
	Intercytex Ltd	Other	Yes
	Central Manchester and Manchester Children's University Hospitals NHS Trust	NHS	Yes
	Wrightington, Wigan and Leigh NHS Trust	NHS	No
	Guy's and St Thomas's Hospital NHS Trust	NHS	No
	University Hospitals Coventry and Warwickshire NHS Trust	NHS	No
<b>2D Changes to the programme from description in the 2003 Annual Report</b>			
<i>Not applicable to this programme</i>			
<b>2E Research deliverables</b>			
8)	Number of peer-reviewed publications	14 (Calendar year)	
9)	Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)	
10)	Outcomes	Related impacts	
	<p>1. Results of the pilot study on acute normovolaemic haemodilution will be presented at the Associations of Surgeons of Great Britain and Ireland and a full manuscript has been prepared for publication.</p> <p>2. Studies of ruptured abdominal aortic aneurysm repair showed intraoperative cell salvage to be associated with improved outcome.</p> <p>3. Blood transfusion research (1)</p> <p>4. Blood transfusion research (2)</p>	 <p>1. Published results of pilot will be used in an application for a large scale multicentre clinical trial to the MRC</p> <p>2. 24h cell salvage service in Feb 2003. Prospective audit of service has shown significant reductions in homologous blood use and improved patient outcome</p> <p>3. As a result of growing reputation and publications, the group has played a key role in developing a national strategy for blood transfusion and has made major contributions to the report "A National Blood Conservation Strategy for NBTC and NBC" to be disseminated and implemented through the NBTC Executive Group.</p> <p>4. Longstanding expertise in cell salvage techniques has lead to the group's involvement in the development of a nationally recognised training scheme</p>	
11)	Intellectual property outputs	<p>Collaboration with university partner to develop custom-made seamless pressure garments for pressure compression of chronic wounds and for controlling oedema. These garments are knitted according to 3D video imaging so that they fit each person's limb exactly. This work is being funded by Catalyst Biomedica Ltd.</p> <p>Novel Tubigrip applicator: currently at concept stage.</p>	



## Section 2A-2E – NHS research programme: RM2 Breast cancer risk, detection and prevention

<b>2A Programme details</b>			
1)	Programme Identifier:	RM2 Breast cancer risk, detection and prevention	
1b)	Status on 30 June 2004	Unchanged	
1c)	Are you the administrative organisation for this programme?	Yes	
2)	Role of organisation in Programme	Principal investigator site	
<b>2B NHS R&amp;D priority and needs areas</b>			
3)	Primary NHS R&D priority or need area	Cancer	
4a)	Subsidiary NHS R&D priority or need area		
4b)	Subsidiary NHS R&D priority or need area		
<b>2C Parties involved in the programme</b>			
5)	Party involved in programme	Type	Written agreement?
	University of Newcastle upon Tyne	Academic	No
	University of Wales College of Medicine	Academic	No
	University of California (Los Angeles), USA	Academic	No
	University of Milan	Academic	No
	The Royal Marsden NHS Trust	NHS	No
	Guy's and St Thomas' Hospital NHS Trust	NHS	No
	University College London	Academic	No
	Southampton University Hospitals NHS Trust	NHS	No
	Hammersmith Hospitals NHS Trust	NHS	No
	Breast Screening Centre, Edinburgh	NHS	No
	Royal Liverpool and Broadgreen University Hospitals NHS Trust	NHS	No
	Leeds Teaching Hospitals NHS Trust	NHS	No
	Sheffield Teaching Hospitals NHS Trust	NHS	No
	Essex Rivers Health Care NHS Trust	NHS	No
	Nottingham City Hospital NHS Trust	NHS	No
	Western Infirmary, Glasgow	NHS	No
	Sandwell and West Birmingham Hospitals NHS Trust	NHS	No
	North Bristol NHS Trust	NHS	No
	University of Manchester	Academic	Yes
	Christie Hospital NHS Trust	NHS	Yes
<b>2D Changes to the programme from description in the 2003 Annual Report</b>			
<i>Not applicable to this programme</i>			
<b>2E Research deliverables</b>			
8)	Number of peer-reviewed publications	12 (Calendar year)	
9)	Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)	
10)	Outcomes	Related impacts	
	<p>1. A scoring system for prioritising breast/ovarian cancer family genetic testing based on detection rates for BRCA1/2 mutations in families from North West and Southern England (Evans DGR, Eccles D, Rahman N, Young K, Bulman M, Shenton A, Howell A, Lalloo F. J Med Genet in press)</p> <p>2. Evaluation of breast cancer risk assessment packages in the family history evaluation and screening programme (Amir E, Evans DG, Shenton A, Lalloo F, Moran A, Boggis C, Wilson M, Howell A.</p>		<p>1. We have shown that a simple scoring devised by examination of the large numbers of families we have in the Northwest with mutations on the breast predisposing genes BRCA1 and BRCA2 can select women in whom it is appropriate to perform gene testing much more accurately than the systems in common use in the USA such as BRCAPro.</p> <p>2. We have evaluated a new risk estimation package for women at risk of breast cancer produced in collaboration with our colleagues at the Institute of Preventive Medicine in</p>


J Med Genet 40(11): 807-814, 2003)	London. This computerised package performs better than any other in our data set and is beginning to be widely used in prevention clinics in Europe and the USA
11) Intellectual property outputs	Temperature data logger. Trust has developed a small, body worn temperature logger (for measuring breast temperature)



## Section 2A-2E – NHS research programme: RM2 Breast Cancer: Imaging and Treatment

<b>2A Programme details</b>			
1) Programme Identifier:	RM2 Breast Cancer: Imaging and Treatment		
1b) Status on 30 June 2004	Unchanged		
1c) Are you the administrative organisation for this programme?	Yes		
2) Role of organisation in Programme	Principal investigator site		
<b>2B NHS R&amp;D priority and needs areas</b>			
3) Primary NHS R&D priority or need area	Cancer		
4a) Subsidiary NHS R&D priority or need area	Older people		
4b) Subsidiary NHS R&D priority or need area	Improving the patient experience		
<b>2C Parties involved in the programme</b>			
5)	Party involved in programme	Type	Written agreement?
	Bolton Hospitals NHS Trust	NHS	Yes
	Blackpool, Fylde & Wyre Hospitals NHS Trust	NHS	Yes
	Trafford Healthcare NHS Trust	NHS	Yes
	National Cancer Institute, USA	Other	No
	University of California (Los Angeles), USA	Academic	No
	Yale University (New Haven), USA	Academic	No
	University College London	Academic	No
	University of Birmingham	Academic	No
	University of Edinburgh	Academic	No
	University of Sheffield	Academic	No
	University of Wales College of Medicine	Academic	No
	University of Aberdeen	Academic	No
	Cranfield University	Academic	No
	The Royal Surrey County Hospital NHS Trust	NHS	No
	The Royal Marsden NHS Trust	NHS	No
	Western General Hospital, Edinburgh	NHS	No
	Velindre NHS Trust	NHS	No
	Leeds Teaching Hospitals NHS Trust	NHS	No
	Nottingham City Hospital NHS Trust	NHS	No
	University of Manchester	Academic	Yes
	Christie Hospital NHS Trust	NHS	Yes
<b>2D Changes to the programme from description in the 2003 Annual Report</b>			
<i>Not applicable to this programme</i>			
<b>2E Research deliverables</b>			
8)	Number of peer-reviewed	10 (Calendar year)	


	publications	
9)	Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)
10)	Outcomes	Related impacts
		 There are currently 3 PhDs and 1 MD supported by this programme
	1. Long term results of a randomised prospective study of preservation of the intercostobrachial nerve (EJSO; 29:213-215). 3y results of only randomised trial to compare preservation or sacrifice of the intercostobrachial nerve (a sensory nerve) passing through the armpit 2. Biological response to hormonal manipulation in oestrogen receptor +ve ductal carcinoma in situ of the breast (Brit J Cancer 2003; 89(2):277-83. This study looked at the role of oestrogen receptor (ER) in predicting fall in tumour proliferation on cessation of hormonal replacement therapy	 1. Indicates that preservation of the nerve is possible and that in those patients randomised to preservation of the nerve there was less sensory deficit and less long term symptoms compared to those where the nerve was sacrificed. This study has led to surgical efforts to preserve the intercostobrachial nerve where possible 2. ER+ve DCIS but not ER-ve DCIS benefitted from withdrawal of HRT indicating that similar to invasive cancer the measurement of OR status is necessary to identify response of tumours and minimise toxicity. This study combined with results of American study NSABP-24 has led to both current DCIS national trials (DCIS II and IBIS II) concentrating only on ER+ve positive patients on adjuvant endocrine therapy
11)	Intellectual property outputs	







## Section 2A-2E – NHS research programme: RM2 Burn, Plastic and Reconstructive Surgery

<b>2A Programme details</b>			
1)	 Programme Identifier:	RM2 Burn, Plastic and Reconstructive Surgery	
1b)	Status on 30 June 2004	Unchanged	
1c)	Are you the administrative organisation for this programme?	Yes	
2)	Role of organisation in Programme	Principal investigator site	
<b>2B NHS R&amp;D priority and needs areas</b>			
3)	Primary NHS R&D priority or need area	Emergency care	
4a)	Subsidiary NHS R&D priority or need area	Rehabilitation	
4b)	Subsidiary NHS R&D priority or need area	Wound healing	
<b>2C Parties involved in the programme</b>			
5)	Party involved in programme	Type	Written agreement?
	Renovo Ltd	Other	Yes
	University of Lancaster	Academic	No
	University of Leicester	Academic	No
	Central Manchester and Manchester Children's University Hospitals NHS Trust	NHS	Yes
	West Hertfordshire Hospitals NHS Trust	NHS	No
	Royal Free Hampstead NHS Trust	NHS	No
	University of Manchester	Academic	Yes
	University College London	Academic	Yes
	University of Salford	Academic	No
	UMIST	Academic	Yes
	Manchester Metropolitan University	Academic	Yes




<b>2D Changes to the programme from description in the 2003 Annual Report</b>	
<i>Not applicable to this programme</i>	
<b>2E Research deliverables</b>	
8) Number of peer-reviewed publications	46 (Calendar year)
9) Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)
10) Outcomes	Related impacts
1. Peripheral Nerve Repair Trial: the first UK clinical trial of bioengineered peripheral nerve repair, to be carried out at Wythenshawe Hospital Manchester and Canniesburn Hospital Glasgow 2. Wound healing - scar reduction trials: trials testing new scar reduction product in collaboration with Renovo Ltd	 <p>1. The results of the trial will pioneer a better surgical treatment of nerve injury, with a foreseeable improvement in functional recuperation for the patient 2. Will confer direct benefit to the patient in the immediate future but will have a greater effect and profound ramifications for the long term future. All these trials will take science a step forward in endeavors to understand the cellular and genetic mechanisms of wound healing.</p>
	 <p>There is currently 1 PhD and 5 MDs supported by this programme</p>
11) Intellectual property outputs	Irrigating vessel dilator: UK and US patents filed. IP assigned to company. Development ongoing



## Section 2A-2E – NHS research programme: RM2 Invasive Fungal Diseases

<b>2A Programme details</b>	
1)  Programme Identifier:	<b>RM2 Invasive Fungal Diseases</b>
1b) Status on 30 June 2004	Modified
1c) Are you the administrative organisation for this programme?	Yes
2) Role of organisation in Programme	Principal investigator site
<b>2B NHS R&amp;D priority and needs areas</b>	
3) Primary NHS R&D priority or need area	Infectious and immunological disease
3b) Justification of primary need's importance for the NHS and the potential impact of the research evidence:	<p>Systemic fungal infections are often fatal: 40% for candidaemia, 60% for invasive aspergillosis. 1 in 15 hospital deaths in the NHS are due to invasive fungal infection. In 2002, the NHS spend on antifungals was £48m in primary care and £50m in secondary/tertiary care. Two new antifungal drugs have been licensed in 2001-2003. The most recent is caspofungin (per diem cost/patient = £280). Antifungal resistance is an increasing problem, and without effective susceptibility testing procedures, combination therapy will become the recommended treatment despite associated patient toxicity and high prescription costs.</p> <p>The key objective of the research programme is to improve survival in invasive fungal infection by:</p> <ul style="list-style-type: none"> <li>- improving diagnosis</li> <li>- standardising antifungal susceptibility testing</li> <li>- sequencing the genome of <i>Aspergillus fumigatus</i>, the most common invasive mould fungus in the UK and worldwide, and linking that analysis with other <i>Aspergillus</i> genomes</li> <li>- disseminating information about <i>Aspergillus fumigatus</i> to patients, doctors and researchers via the World Wide Web</li> <li>- molecular typing methodologies to support epidemiological investigations</li> </ul>
4a) Subsidiary NHS R&D priority or need area	Respiratory disease
4b) Subsidiary NHS R&D priority or need area	Genetics

<b>2C Parties involved in the programme</b>																																		
5)	<table border="1"> <thead> <tr> <th>Party involved in programme</th> <th>Type</th> <th>Written agreement?</th> </tr> </thead> <tbody> <tr> <td>Whitehead Institute, Massachusetts Institute of Technology</td> <td>Academic</td> <td>Yes</td> </tr> <tr> <td>University of Manchester</td> <td>Academic</td> <td>Yes</td> </tr> <tr> <td>Salford Royal Hospitals NHS Trust</td> <td>NHS</td> <td>Yes</td> </tr> <tr> <td>Health Protection Agency</td> <td>Other</td> <td>Yes</td> </tr> <tr> <td>Institute of Genome Research, USA</td> <td>Other</td> <td>Yes</td> </tr> <tr> <td>The Wellcome Trust Sanger Institute, Cambridge</td> <td>Other</td> <td>No</td> </tr> <tr> <td>University of Texas</td> <td>Academic</td> <td>Yes</td> </tr> <tr> <td>MD Anderson Cancer Centre, Houston, Texas</td> <td>Other</td> <td>No</td> </tr> <tr> <td>European Society for Clinical Microbiology and Infectious Diseases, Zurich</td> <td>Other</td> <td>No</td> </tr> <tr> <td>National Institute of Advanced Industrial Science &amp; Technology, Tokyo, Japan</td> <td>Academic</td> <td>Yes</td> </tr> </tbody> </table>	Party involved in programme	Type	Written agreement?	Whitehead Institute, Massachusetts Institute of Technology	Academic	Yes	University of Manchester	Academic	Yes	Salford Royal Hospitals NHS Trust	NHS	Yes	Health Protection Agency	Other	Yes	Institute of Genome Research, USA	Other	Yes	The Wellcome Trust Sanger Institute, Cambridge	Other	No	University of Texas	Academic	Yes	MD Anderson Cancer Centre, Houston, Texas	Other	No	European Society for Clinical Microbiology and Infectious Diseases, Zurich	Other	No	National Institute of Advanced Industrial Science & Technology, Tokyo, Japan	Academic	Yes
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University of Manchester	Academic	Yes																																
Salford Royal Hospitals NHS Trust	NHS	Yes																																
Health Protection Agency	Other	Yes																																
Institute of Genome Research, USA	Other	Yes																																
The Wellcome Trust Sanger Institute, Cambridge	Other	No																																
University of Texas	Academic	Yes																																
MD Anderson Cancer Centre, Houston, Texas	Other	No																																
European Society for Clinical Microbiology and Infectious Diseases, Zurich	Other	No																																
National Institute of Advanced Industrial Science & Technology, Tokyo, Japan	Academic	Yes																																
<b>2D Changes to the programme from description in the 2003 Annual Report</b>																																		
6a) 6b)	Incorporation of deleted programmes <i>Not applicable to this programme</i>																																	
6c)	<p>Summary of programme area and objectives</p> <p>Unchanged from 2003 ie The key objective of the research programme is to improve survival in invasive fungal infection by:</p> <ul style="list-style-type: none"> <li>- improving diagnosis</li> <li>- standardising antifungal susceptibility testing</li> <li>- sequencing the genome of <i>Aspergillus fumigatus</i>, the most common invasive mould fungus in the UK and worldwide, and linking that analysis with other <i>Aspergillus</i> genomes</li> <li>- disseminating information about <i>Aspergillus fumigatus</i> to patients, doctors and researchers via the World Wide Web</li> <li>- molecular typing methodologies to support epidemiological investigations</li> </ul>																																	
7)	How have changes to the programme affected your organisation? No effect. The only change has been to update section 3b "Justification of primary need's importance for the NHS and the potential impact of the research evidence"																																	
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11)	Intellectual property outputs																																	


## Section 2A-2E – NHS research programme: RM2 Medical Education

<b>2A Programme details</b>			
1)	<table border="1"> <tr> <td> Programme Identifier:</td> <td>RM2 Medical Education</td> </tr> </table>	 Programme Identifier:	RM2 Medical Education
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1b)	Status on 30 June 2004	Unchanged	
1c)	Are you the administrative organisation for this programme?	Yes	
2)	Role of organisation in Programme	Principal investigator site	
<b>2B NHS R&amp;D priority and needs areas</b>			
3)	Primary NHS R&D priority or need area	Building capacity to deliver health and social care	
4a)	Subsidiary NHS R&D priority or need area	Education research	
4b)	Subsidiary NHS R&D priority or need area		
<b>2C Parties involved in the programme</b>			
5)	Party involved in programme	Type	Written agreement?
	Central Manchester Primary Care Trust	NHS	Yes
	Central Manchester and Manchester Children's University Hospitals NHS Trust	NHS	Yes
	University of Liverpool	Academic	Yes
	University of Oxford	Academic	Yes
	University of Maastricht	Academic	Yes
	University of Keele	Academic	Yes
	Lancashire Teaching Hospitals NHS Trust	NHS	Yes
	Christie Hospital NHS Trust	NHS	No
	University of Newcastle-upon-Tyne	Academic	Yes
	University of Leeds	Academic	Yes
	University of Sheffield	Academic	Yes
	Harvard University	Academic	Yes
	Royal College of Physicians and Surgeons of Canada	Other	No
	American Board of Internal Medicine	Other	No
	University of Manchester	Academic	Yes
	Salford Royal Hospitals NHS Trust	NHS	Yes
<b>2D Changes to the programme from description in the 2003 Annual Report</b>			
<i>Not applicable to this programme</i>			
<b>2E Research deliverables</b>			
8)	Number of peer-reviewed publications	17 (Calendar year)	
9)	Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)	
10)	Outcomes	Related impacts	
		 There are currently 2 PhDs and 1 MPhil supported by this programme	
	<p>1.Study exploring whether there were any differences between the new problem-based learning programme graduates and traditional course graduates in the types of scenarios they recalled as 'critical incidents', or challenging cases, while working as pre-registration house officers . (Med Educ 2003 37:1100-8). Editorial on Manchester approach (Med Educ 2003; 37: 1050-1)</p> <p>2.Study to evaluate the feasibility and effectiveness of shared learning of clinical skills for medical and nursing students at the University of Manchester (Med Educ 2003 37:630-7)</p>	 1.Series of papers demonstrating that graduates of the new integrated curriculum are better prepared and 'fit for purpose' in working in the NHS, in areas such as dealing with uncertainty, knowing their personal limits and asserting their rights for support when they felt these limits had been reached.The importance and uniqueness of this work in Manchester has been addressed in a specific editorial 2.Inter-professional working and learning is an important element in the NHS modernisation plan. Our study shows that collaborative learning opportunities for nursing and medical students add value to the learning experience. Positive outcomes of learning were increased understanding of others' professional roles and personal	

		development
11) Intellectual property outputs		



## Section 2A-2E – NHS research programme: RM2 Medicines Management

<b>2A Programme details</b>			
1)	Programme Identifier:	RM2 Medicines Management	
1b)	Status on 30 June 2004	Unchanged	
1c)	Are you the administrative organisation for this programme?	Yes	
2)	Role of organisation in Programme	Principal investigator site	
<b>2B NHS R&amp;D priority and needs areas</b>			
3)	Primary NHS R&D priority or need area	Building capacity to deliver health and social care	
4a)	Subsidiary NHS R&D priority or need area	Service delivery and organisation	
4b)	Subsidiary NHS R&D priority or need area	Pharmacy	
<b>2C Parties involved in the programme</b>			
5)	Party involved in programme	Type	Written agreement?
	Christie Hospital NHS Trust	NHS	Yes
	South Manchester Primary Care Trust	NHS	Yes
	Manchester Mental Health and Social Care Trust	NHS	Yes
	Central Manchester and Manchester Children's University Hospitals NHS Trust	NHS	Yes
	University of York	Academic	Yes
	St. Anne's Hospice	Other	Yes
	University of Manchester	Academic	Yes
	Salford Royal Hospitals NHS Trust	NHS	Yes
<b>2D Changes to the programme from description in the 2003 Annual Report</b>			
<i>Not applicable to this programme</i>			
<b>2E Research deliverables</b>			
8)	Number of peer-reviewed publications	19 (Calendar year)	
9)	Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)	
10)	Outcomes	Related impacts	
	<p>Pharmacy practice research is undertaken to investigate problems in day-to-day practice and the results are used to improve services. Examples of R&amp;D work that have been translated into practice include the development of pharmacy ward-based teams, pharmacist interventions to prescribing decisions, drug utilisation and health economic studies and the use of patients' own drugs and self-administration of medicines in hospital.</p> <p>The clinical tutor posts within the three teaching hospitals continue to evaluate the learning environment within which the undergraduate students are placed.</p>		<ol style="list-style-type: none"> <li>1. Implementation of patients own drugs and self administration of medicines</li> <li>2. Rationalisation of supply chain management</li> <li>3. Improvements in undergraduate teaching for pharmacy students leading to improved career preferences within secondary care</li> <li>4. Managing more effectively clinical risk management and medication errors</li> <li>5. Rational use of antimicrobials in the management of patients</li> </ol>



		with infection, reducing resistance and using agents in a more cost effective fashion
11) Intellectual property outputs		

## Section 2A-2E – NHS research programme: RM2 Multidisciplinary research on coronary artery disease, stroke, paradoxical emboli and cerebral injury

<b>2A Programme details</b>			
1)	Programme Identifier:	RM2 Multidisciplinary research on coronary artery disease, stroke, paradoxical emboli and cerebral injury	
1b)	Status on 30 June 2004	Unchanged	
1c)	Are you the administrative organisation for this programme?	Yes	
2)	Role of organisation in Programme	Principal investigator site	
<b>2B NHS R&amp;D priority and needs areas</b>			
3)	Primary NHS R&D priority or need area	Coronary heart disease	
4a)	Subsidiary NHS R&D priority or need area	Older people	
4b)	Subsidiary NHS R&D priority or need area	Vascular disease (except CHD)	
<b>2C Parties involved in the programme</b>			
5)	Party involved in programme	Type	Written agreement?
	Bolton Hospitals NHS Trust	NHS	Yes
	Manchester Mental Health and Social Care Trust	NHS	Yes
	University of Liverpool	Academic	Yes
	The Cardiothoracic Centre Liverpool NHS Trust	NHS	No
	Karolinska Hospital, Stockholm, Sweden	Other	Yes
	Royal Brompton and Harefield NHS Trust	NHS	No
	University of Warwick	Academic	Yes
	Penine Acute Hospitals NHS Trust	NHS	No
	Wrightington, Wigan and Leigh NHS Trust	NHS	No
	St Georges Medical School London	Academic	Yes
	Stockport NHS Trust	NHS	No
	Leeds Teaching Hospitals NHS Trust	NHS	No
	Edinburgh Neurosciences Trials Unit	Other	No
	University of Manchester	Academic	Yes
	Central Manchester and Manchester Children's University Hospitals NHS Trust	NHS	Yes
	Christie Hospital NHS Trust	NHS	No
<b>2D Changes to the programme from description in the 2003 Annual Report</b>			
<i>Not applicable to this programme</i>			
<b>2E Research deliverables</b>			
8)	Number of peer-reviewed publications	20 (Calendar year)	
9)	Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)	
10)	Outcomes	Related impacts	

		There are currently 2 MDs, 3 MPhils and 1 MSc supported by this programme
1. Myocardial Infarction and Stroke in Young Adults The YAMIS Study on the causes of myocardial infarction and stroke in adults aged under 39 is shortly to be published in the Lancet. A substantial proportion of strokes in young adults are related to venous-to-arterial circulation shunts (v-aCS) and are probably due to paradoxical embolism. 2. Dementia studies A major case – controlled study on the cause of both Alzheimer's Disease and Vascular Dementia has been completed and will shortly be published in the New England Journal of Medicine.		1.The presentations of this paper at national and international meetings have encouraged a change in clinical practice towards investigating young adults for patent foramen ovale and other causes of v-aCS. We hope to identify at risk individuals in whom prophylactic treatment may be offered. 2.There is a weak association between dementia and v-aCS suggesting that paradoxical embolism may contribute to the causation of dementia. There is a strong and highly significant association between spontaneous cerebral emboli and both Alzheimer's Disease and Vascular Dementia implying that cerebral emboli may be a cause of dementia. The implications are that we may have identified a potentially preventable cause of dementia.
11) Intellectual property outputs		Identifying gene polymorphisms as markers of heart failure in degenerative mitral valve disease: if such polymorphisms are identified and an assay to identify these is developed, the assay for detecting the polymorphisms could possibly be patented and could have high commercial potential Using stem cells to treat MI patients:if successful the treatment could greatly improve patient recovery following a MI. If new equipment/devices are required to deliver the new treatment, these could have high commercial potential, due to the large number of people surviving a MI

## Section 2A-2E – NHS research programme: RM3 Studies of the gastrointestinal tract in health and disease, and development of methods to improve patient care



<b>2A Programme details</b>	
1)  Programme Identifier:	<b>RM3</b> Studies of the gastrointestinal tract in health and disease, and development of methods to improve patient care
1b) Status on 30 June 2004	Unchanged
1c) Are you the administrative organisation for this programme?	No
2) Role of organisation in Programme	Principal investigator site
<b>2B NHS R&amp;D priority and needs areas</b>	
<i>Not applicable to this programme</i>	
<b>2C Parties involved in the programme</b>	
<i>Not applicable to this programme</i>	
<b>2D Changes to the programme from description in the 2003 Annual Report</b>	
<i>Not applicable to this programme</i>	
<b>2E Research deliverables</b>	
8) Number of peer-reviewed publications	12 (Calendar year)
9) Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)
10) Outcomes	Related impacts
	 There are currently 2 PhDs supported by this programme

	<p>1.Hypnotherapy and IBS: this year published data showing that benefits last many years with little sign of any recurrence of symptoms. 2.Also published on the overlap between IBS and endometriosis and recently had a paper accepted on trying to clinically differentiate between the two conditions 3.Published abstract (paper submitted) suggesting that an elimination diet based on IgG food antibodies may be extremely useful in helping the management of irritable bowel syndrome</p>	<p>⇒ 1.This should have a significant impact on the more widespread acceptance of the value of providing this form of treatment in the NHS. We have also published more evidence on how hypnosis can improve gastrointestinal physiology 2.This should help clinicians avoid confusing these two disorders which should therefore improve patient care 3.If this work is confirmed in larger studies it could revolutionise the treatment of this condition</p> <p>Also some exciting genetic work suggesting an inflammatory component to irritable bowel syndrome</p>
11) Intellectual property outputs	<p>Bloatometer: many patients with IBS complain of abdominal bloating. However, there is no objective measure of this symptom, other than using a tape measure which is subject to user error. A novel "bloatometer" was developed by the Trust to provide objective measurement of bloating in IBS. It is worn around a patient's waist to measure any changes in girth and also includes inclinometers to allow patient position (standing, sitting, lying) to be recorded. Information on the patient's girth and position is collected via a datalogger (digitrapper).</p>	

## Section 2A-2E – NHS research programme: RW3 Clinical Diabetes and Endocrinology




<b>2A Programme details</b>		
1)  Programme Identifier:	RW3 Clinical Diabetes and Endocrinology	
1b) Status on 30 June 2004	Unchanged	
1c) Are you the administrative organisation for this programme?	No	
2) Role of organisation in Programme	Contributing site	
<b>2B NHS R&amp;D priority and needs areas</b>		
<i>Not applicable to this programme</i>		
<b>2C Parties involved in the programme</b>		
<i>Not applicable to this programme</i>		
<b>2D Changes to the programme from description in the 2003 Annual Report</b>		
<i>Not applicable to this programme</i>		
<b>2E Research deliverables</b>		
8) Number of peer-reviewed publications	20 (Calendar year)	
9) Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)	
10) Outcomes		Related impacts
<p>Research in pituitary/adrenal disease, with focus on acromegaly.</p>	<p>⇒</p>	<p>Our studies with the growth hormone receptor antagonism pegvisomant were crucial to establishing the drug as the most potent treatment for acromegaly (Trainer et al NEJM 2000), since when the group have published extensively on the metabolic implications of this novel form of therapy. Cardiovascular disease is common in both acromegalics and GH-deficient adults. We have participated in collaborative studies looking at the cardiovascular system in GH-transgenic mice with giant and dwarf phenotypes, and future plans include in vitro studies of the potential of pegvisomant for the treatment of breast cancer.</p>
11) Intellectual property outputs		

## Section 2A-2E – NHS research programme: RW3 Rehabilitation and Ageing


<b>2A Programme details</b>	
1)  Programme Identifier:	<b>RW3</b> Rehabilitation and Ageing
1b) Status on 30 June 2004	Unchanged
1c) Are you the administrative organisation for this programme?	No
2) Role of organisation in Programme	Contributing site
<b>2B NHS R&amp;D priority and needs areas</b>	
<i>Not applicable to this programme</i>	
<b>2C Parties involved in the programme</b>	
<i>Not applicable to this programme</i>	
<b>2D Changes to the programme from description in the 2003 Annual Report</b>	
<i>Not applicable to this programme</i>	
<b>2E Research deliverables</b>	
8) Number of peer-reviewed publications	6 (Calendar year)
9) Number of higher degrees directly funded by NHS R&D Support Funding	1 (Financial year)
10) Outcomes	Related impacts
<p>1. Study of how many patients with rheumatoid arthritis (RA) may be suitable for anti-TNF drug treatment but are not receiving it. Are patients being adequately assessed and what are their perceptions of this new treatment? (accepted for presentation at the British Society for Rheumatology AGM 2004)</p> <p>2. Do psychological measures predict the ability of lower limb amputees to learn to use a prosthesis? (Clin Rehabil. 2003 Aug;17(5):493-8)</p>	 <p>1. Currently not detecting a large number of RA patients who might benefit from anti-TNF treatment. 10% may be eligible. Patients may be satisfied with their existing drug treatment despite significant disease activity. Provides further justification for setting up specialised clinics providing regular structured assessment of RA</p> <p>2. A simple test of learning ability and the amputation site can help to predict the patient's ability to learn to use a prosthesis following amputation and is recommended as part of the assessment process</p>
11) Intellectual property outputs	Powered wheelchair designs: option agreement signed with manufacturer; this will give option fee for Trust and if licence signed Trust will receive 10% royalty of net sales value, one free device, minimum annual royalties, discount on sales to Trust Tissue viability and mattress products, in collaboration with University and other trust: confidential disclosure agreement signed by the employing organisations to cover their collaboration


## Section 2A-2E – NHS research programme: RW3 Service Delivery and Management Research

<b>2A Programme details</b>	
1)  Programme Identifier:	<b>RW3</b> Service Delivery and Management Research
1b) Status on 30 June 2004	Unchanged
1c) Are you the administrative organisation for this programme?	No
2) Role of organisation in Programme	Contributing site
<b>2B NHS R&amp;D priority and needs areas</b>	
<i>Not applicable to this programme</i>	

<b>2C Parties involved in the programme</b>					
<i>Not applicable to this programme</i>					
<b>2D Changes to the programme from description in the 2003 Annual Report</b>					
<i>Not applicable to this programme</i>					
<b>2E Research deliverables</b>					
8) Number of peer-reviewed publications	5 (Calendar year)				
9) Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)				
10)	<table border="1"> <thead> <tr> <th>Outcomes</th> <th>Related impacts</th> </tr> </thead> <tbody> <tr> <td>           1. Development and implementation of an "Online Drug Calculation Quiz": research addressed the benefits of implementing a computer-based drug calculation self assessment tool            2. Study to evaluate the Emergency Department Specialist Physiotherapist (EDSP) role: service provides alternative pathway for patients entering the Emergency Department. The extended role benefitted 72% of cases         </td> <td>            1. Research identified several benefits to implementing electronic tool including improving access to training, promoting independent learning, effective interaction between learner and trainer. Approach is being implemented in Trust training programmes and developed for other areas.            2. There is a defined role for the EDSP as an independent practitioner managing a wide range of conditions.         </td> </tr> </tbody> </table>	Outcomes	Related impacts	1. Development and implementation of an "Online Drug Calculation Quiz": research addressed the benefits of implementing a computer-based drug calculation self assessment tool 2. Study to evaluate the Emergency Department Specialist Physiotherapist (EDSP) role: service provides alternative pathway for patients entering the Emergency Department. The extended role benefitted 72% of cases	 1. Research identified several benefits to implementing electronic tool including improving access to training, promoting independent learning, effective interaction between learner and trainer. Approach is being implemented in Trust training programmes and developed for other areas. 2. There is a defined role for the EDSP as an independent practitioner managing a wide range of conditions.
Outcomes	Related impacts				
1. Development and implementation of an "Online Drug Calculation Quiz": research addressed the benefits of implementing a computer-based drug calculation self assessment tool 2. Study to evaluate the Emergency Department Specialist Physiotherapist (EDSP) role: service provides alternative pathway for patients entering the Emergency Department. The extended role benefitted 72% of cases	 1. Research identified several benefits to implementing electronic tool including improving access to training, promoting independent learning, effective interaction between learner and trainer. Approach is being implemented in Trust training programmes and developed for other areas. 2. There is a defined role for the EDSP as an independent practitioner managing a wide range of conditions.				
11) Intellectual property outputs	Hospital Incident Reporting Sytem: the Trust has developed a web-based hospital incident reporting system (HIRS) using Microsoft Active Server Pages (ASP) and Microsoft Access. It can be accessed by any member of staff who can use a Trust PC and provides a simple and effective, customisable system for recording and managing hospital clinical and non-clinical, incidents and near-misses, requiring minimal training. It has a considerable advantage over paper-based systems and is integrated with internal and external reporting requirements.				

## Section 2A-2E – NHS research programme: RW3 Wellcome Trust Clinical Research Facility (Manchester)

<b>2A Programme details</b>	
1)  Programme Identifier:	RW3 Wellcome Trust Clinical Research Facility (Manchester)
1b) Status on 30 June 2004	Unchanged
1c) Are you the administrative organisation for this programme?	No
2) Role of organisation in Programme	Contributing site
<b>2B NHS R&amp;D priority and needs areas</b>	
<i>Not applicable to this programme</i>	
<b>2C Parties involved in the programme</b>	
<i>Not applicable to this programme</i>	
<b>2D Changes to the programme from description in the 2003 Annual Report</b>	
<i>Not applicable to this programme</i>	
<b>2E Research deliverables</b>	
8) Number of peer-reviewed publications	0 (unspecified year type)
9) Number of higher degrees directly funded by NHS R&D Support Funding	0 (unspecified year type)

10)	Outcomes	Related impacts
<p>All activity and outputs from Trust research carried out in the Facility are recorded within the Trust's other research programmes.</p> <p>Note: This programme is currently funded directly by the Department of Health and administered by Central Manchester and Manchester Children's University Hospitals NHS Trust. In 2003/04, collaborating partners were also required to make an additional contribution to the facility's running costs as previously agreed.</p>		 <p>1. A higher quality of clinical research for all research projects using the facility. 2. Short term and long term training opportunities for staff, investigators and post-graduate students using the facility with particular emphasis on clinical care, the research process, GCP, clinical and research governance.</p>
11)	Intellectual property outputs	

## Appendix to section 2E – attachment containing list of publications:

Current attachment: RM2Publications03.zip ( 43.1 KB )

## Section 2F – Research activity that does not form part of programmes:

Projects ending after 31st March 2003 ordered by title:

1) Project title	2) Externally funded?	3) Primary funder	4) Ongoing in 2004/05?	5) Main base?	6) External funding 2003/04 (£)
Effect of dichloroacetate infusion on oxygen uptake kinetics during submaximal exercise	Yes	University/HEFCE	Yes	No	0
Effect of nitric oxide synthase inhibition on oxygen uptake kinetics during submaximal exercise	Yes	University/HEFCE	No	Yes	0
Identification of factors important in Urolithiasis - using an In Vitro model of kidney stone formation	Yes	Charity: other	No	Yes	39,164
INIS - International Neonatal Immunotherapy Study	Yes	Research council: MRC	Yes	No	0
Propofol as anti-emetic after major surgery	Yes	Commercial not for commercial gain	Yes	Yes	325
Randomised, double-blind, placebo-controlled trial to identify any morphine-sparing effects of preoperative propacetamol in patients undergoing laparoscopic sterilisation by clip occlusion of fallopian tubes	No		No	Yes	0
The use of Sandostatin and Insulin in modifying protein metabolism in multiple organ failure	Yes	Research council: MRC	No	No	0
Vitamins in Pre-Eclampsia (VIP) trial	Yes	Charity: Wellcome Trust	Yes	No	0

## Section 3 – Financial information and tables

Table 1 – Spend against type of R&D funder in 2003/04:

	A. Total Spend ( £ )	B. Percentage of 1.k	C. Total number of ongoing projects
1.a) Research Council Work	155,326	5 %	13
1.b) University Work	100,505	3 %	6
1.c) Charity Work	1,032,458	36 %	83
1.d) DH/NHS R&D Programme work	246,693	9 %	18

1.e) Other work	100,506	3 %	10
<b>1.f) (Sum 1a - 1e)</b>	<b>1,635,488</b>	<b>57 %</b>	<b>130</b>
1.g) R&D outside of HSG (97) 32	694,396	24 %	45
1.h) R&D that has no external funder	392,882	14 %	23
1.i) Training	41,124	1 %	
1.j) Management costs	113,636	4 %	
<b>1.k) (Sum 1f - 1j)</b>	<b>2,877,526</b>	<b>100 %</b>	<b>198</b>
2.a) External funding for spend shown in 1a - 1e above	3,673,343		
2.b) External funding for spend shown in 1g above	944,803		
3) External income to organisation from externally funded R&D	984,392		

**Table 2 – Spend against programme in 2003/04:**

**Columns A-G**

A) Programme identifier	B) SFS Funding allocated 2003/04 (£)	C) PNF Funding allocated 2003/04 (£)	D) Actual SFS spend (£)	E) Actual PNF spend (£)	F) Variance	G) Explanation of variance
<b>Non-programme activity:</b>						
	57,284	19,095	57,284	19,095	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)	
<b>Programmes from your 2003 Annual Report:</b>						
<b>RBV</b> Research, development and clinical application of new cancer therapies	95,473	57,284	95,473	57,284	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)	
<b>RM2</b> A programmed investigation of obstructive and parenchymal lung disease	458,290	190,946	458,290	190,946	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)	
<b>RM2</b> Arterial and venous diseases, thrombosis, coagulation and blood transfusion	95,474	28,642	95,474	28,642	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)	
<b>RM2</b> Breast cancer risk, detection and prevention	133,658	47,735	133,658	47,735	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)	
<b>RM2</b> Breast Cancer: Imaging and Treatment	124,111	47,735	124,111	47,735	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)	
<b>RM2</b> Burn, Plastic and Reconstructive Surgery	114,568	57,284	114,568	57,284	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)	
<b>RM2</b> Invasive Fungal Diseases	124,116	0	124,116	0	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)	
<b>RM2</b> Medical Education	95,474	47,736	95,474	47,736	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)	
<b>RM2</b> Medicines Management	38,189	28,642	38,189	28,642	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)	
<b>RM2</b> Multidisciplinary research on coronary artery disease, stroke, paradoxical emboli and cerebral injury	181,399	162,305	181,399	162,305	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)	
<b>RM3</b> Studies of the gastrointestinal tract in health and disease, and development of methods to improve patient care	38,189	257,778	38,189	257,778	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)	

<b>RW3</b> Clinical Diabetes and Endocrinology	38,189	47,737	38,189	47,737	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)
<b>RW3</b> Rehabilitation and Ageing	38,189	66,831	38,189	66,831	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)
<b>RW3</b> Service Delivery and Management Research	66,831	85,926	66,831	85,926	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)
<b>RW3</b> Wellcome Trust Clinical Research Facility (Manchester)	32,416	0	32,416	0	SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)
<b>Table 2 Total</b>	<b>1,731,850</b>	<b>1,145,676</b>	<b>1,731,850</b>	<b>1,145,676</b>	<b>SFS: £0 (0%) PNF: £0 (0%) Total: £0 (0%)</b>

**Table 2 – Spend against programme in 2003/04:****Columns H-J**

A) Programme identifier	H) Total external funding 2003/04 (£)	I) Ongoing externally funded projects	J) Ongoing projects without external funding
<b>Non-programme activity:</b>			
	696,982	3	0
<b>Programmes from your 2003 Annual Report:</b>			
<b>RBV</b> Research, development and clinical application of new cancer therapies	107,944	13	2
<b>RM2</b> A programmed investigation of obstructive and parenchymal lung disease	748,039	44	3
<b>RM2</b> Arterial and venous diseases, thrombosis, coagulation and blood transfusion	254,677	6	2
<b>RM2</b> Breast cancer risk, detection and prevention	159,653	12	0
<b>RM2</b> Breast Cancer: Imaging and Treatment	525,470	13	1
<b>RM2</b> Burn, Plastic and Reconstructive Surgery	208,893	11	1
<b>RM2</b> Invasive Fungal Diseases	479,762	12	0
<b>RM2</b> Medical Education	160,404	8	3
<b>RM2</b> Medicines Management	155,643	7	0
<b>RM2</b> Multidisciplinary research on coronary artery disease, stroke, paradoxical emboli and cerebral injury	456,631	23	2
<b>RM3</b> Studies of the gastrointestinal tract in health and disease, and development of methods to improve patient care	288,963	11	2
<b>RW3</b> Clinical Diabetes and Endocrinology	43,083	4	2
<b>RW3</b> Rehabilitation and Ageing	55,355	4	3
<b>RW3</b> Service Delivery and Management Research	276,647	5	1
<b>RW3</b> Wellcome Trust Clinical Research Facility (Manchester)	0	0	0
<b>Table 2 Total</b>	<b>4,618,146</b>	<b>176</b>	<b>22</b>

**Table 2 – Spend against programme in 2003/04:****Columns K-R**

These columns show the best estimate possible of the amount of NHD R&D Funding spent during 2003/04 on each of the specified national priority areas (£)

A) Programme identifier	K) Cancer	L) Coronary heart disease	M) Children's services	N) Diabetes	O) Emergency care	P) Mental health	Q) Older people	R) Reducing inequalities
<b>Non-programme activity:</b>								
	0	9,547	9,547	0	19,095	0	0	0
<b>Programmes from your 2003 Annual Report:</b>								
<b>RBV</b> Research, development and clinical application of new cancer therapies	152,757	0	0	0	0	0	0	0
<b>RM2</b> A programmed investigation of obstructive and parenchymal lung disease	248,231	9,547	162,305	0	0	0	0	0
<b>RM2</b> Arterial and venous diseases, thrombosis, coagulation and blood transfusion	9,547	9,547	0	0	0	0	105,020	0
<b>RM2</b> Breast cancer risk, detection and prevention	181,393	0	0	0	0	0	0	0
<b>RM2</b> Breast Cancer: Imaging and Treatment	171,846	0	0	0	0	0	9,547	0
<b>RM2</b> Burn, Plastic and Reconstructive Surgery	9,547	0	0	0	38,189	0	0	0
<b>RM2</b> Invasive Fungal Diseases	19,095	0	0	0	0	0	0	0
<b>RM2</b> Medical Education	9,547	0	9,547	0	0	0	0	0
<b>RM2</b> Medicines Management	0	0	0	0	0	0	0	0
<b>RM2</b> Multidisciplinary research on coronary artery disease, stroke, paradoxical emboli and cerebral injury	0	343,704	0	9,547	0	19,095	38,194	0
<b>RM3</b> Studies of the gastrointestinal tract in health and disease, and development of methods to improve patient care	9,547	9,547	0	0	0	19,095	0	0
<b>RW3</b> Clinical Diabetes and Endocrinology	19,095	19,095	9,547	73,379	0	0	9,547	0
<b>RW3</b> Rehabilitation and Ageing	9,547	0	0	9,547	0	9,547	28,624	0
<b>RW3</b> Service Delivery and Management Research	9,547	0	0	19,095	0	0	9,547	0
<b>RW3</b> Wellcome Trust Clinical Research Facility (Manchester)	0	0	0	0	0	0	0	0
<b>Table 2 Total</b>	<b>849,699</b>	<b>400,987</b>	<b>190,946</b>	<b>111,568</b>	<b>57,284</b>	<b>47,737</b>	<b>200,479</b>	<b>0</b>

## Table 2 – Spend against programme in 2003/04:

### Columns S-Z

These columns show the best estimate possible of the amount of NHD R&D Funding spent during 2003/04 on each of the specified national priority areas (£)

A) Programme identifier or activity name	S) Waiting times	T) Improving the patient experience	U) Building capacity to deliver health and social care	V) Renal disease	W) Respiratory disease	X) Chronic neurological disease	Y) Genetics	Z) Primary care
<b>Non-programme activity:</b>								
	0	0	0	28,642	9,547	0	0	0
<b>Programmes from your 2003 Annual Report:</b>								
<b>RBV</b> Research, development and clinical	0	9,547	0	0	0	0	0	0

application of new cancer therapies								
<b>RM2</b> A programmed investigation of obstructive and parenchymal lung disease	0	0	0	0	649,236	0	38,188	114,568
<b>RM2</b> Arterial and venous diseases, thrombosis, coagulation and blood transfusion	0	9,547	0	9,547	0	0	9,547	0
<b>RM2</b> Breast cancer risk, detection and prevention	0	0	9,547	0	0	0	19,094	0
<b>RM2</b> Breast Cancer: Imaging and Treatment	0	0	0	0	0	0	9,547	0
<b>RM2</b> Burn, Plastic and Reconstructive Surgery	0	0	0	0	0	0	0	0
<b>RM2</b> Invasive Fungal Diseases	0	0	0	0	124,116	0	38,188	0
<b>RM2</b> Medical Education	0	0	95,474	0	0	0	0	0
<b>RM2</b> Medicines Management	0	0	57,284	0	0	0	0	28,642
<b>RM2</b> Multidisciplinary research on coronary artery disease, stroke, paradoxical emboli and cerebral injury	0	19,095	0	0	19,095	0	9,547	0
<b>RM3</b> Studies of the gastrointestinal tract in health and disease, and development of methods to improve patient care	0	9,547	0	0	0	0	0	9,547
<b>RW3</b> Clinical Diabetes and Endocrinology	0	0	0	0	0	0	0	0
<b>RW3</b> Rehabilitation and Ageing	0	0	0	0	0	0	0	0
<b>RW3</b> Service Delivery and Management Research	0	0	57,284	0	0	0	0	9,547
<b>RW3</b> Wellcome Trust Clinical Research Facility (Manchester)	0	0	0	0	0	0	0	0
<b>Table 2 Total</b>	<b>0</b>	<b>47,736</b>	<b>219,589</b>	<b>38,189</b>	<b>801,994</b>	<b>0</b>	<b>124,111</b>	<b>162,304</b>

## Comments on Table 1 and Table 2

This space is provided for organisations to explain further any variation in finance tables or to provide additional comments as required.

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## Table 3 – Proposals for the next financial year 2005/06:

### Non-programme activity:

A)	B) Total indicative budget 2005/06 (£)	C) Support for Science allocation (%)	D) Priorities and Needs allocation (%)
Non-programme activity	82,611	75	25

### Active programmes declared in Section 2:

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A) Programme identifier	B) Total indicative budget 2005/06 (£)	C) Support for Science allocation (%)	D) Priorities and Needs allocation (%)
<b>RBV</b> Research, development and clinical application of new cancer therapies	165,220	75	25
<b>RM2</b> A programmed investigation of obstructive and parenchymal lung disease	702,209	71	29
<b>RM2</b> Arterial and venous diseases, thrombosis, coagulation and blood transfusion	134,243	77	23
<b>RM2</b> Breast cancer risk, detection and prevention	196,193	74	26
<b>RM2</b> Breast Cancer: Imaging and Treatment	185,867	72	28
<b>RM2</b> Burn, Plastic and Reconstructive Surgery	185,874	67	33
<b>RM2</b> Invasive Fungal Diseases	134,243	100	0
<b>RM2</b> Medical Education	154,894	67	33
<b>RM2</b> Medicines Management	72,284	57	43
<b>RM2</b> Multidisciplinary research on coronary artery disease, stroke, paradoxical emboli and cerebral injury	371,747	53	47
<b>RM3</b> Studies of the gastrointestinal tract in health and disease, and development of methods to improve patient care	320,115	13	87
<b>RW3</b> Clinical Diabetes and Endocrinology	92,937	44	56
<b>RW3</b> Rehabilitation and Ageing	113,588	36	64
<b>RW3</b> Service Delivery and Management Research	165,220	44	56
<b>RW3</b> Wellcome Trust Clinical Research Facility (Manchester)	35,061	100	0
<b>Programme sub-total</b>	<b>3,029,695</b>		
<b>Table 3 Total</b>	<b>3,112,306</b>		

## Section 4 – PCT (Research Management and Governance)

This section does not apply to South Manchester University Hospitals NHS Trust

## Section 5 – Management of intellectual property

1) Name of Lead Person for IP in Organisation	Dr Andrew Maines
2) Position of Lead Person for IP in Organisation	Head of Research & Development
3) Has an internal policy based on the new Framework and Guidance been approved by your board?	Yes
4i) Has the policy been disseminated to employees engaged in research?	Yes
4ii) Has the policy been disseminated to all employees?	Yes
5) Has technology audit as a continuous process begun in your organisation?	Yes
6) Has an external body been engaged for this process?	Yes
7) If 6 is yes, what type of organisation is the external body?	NHS
8) In total, how many items of potentially valuable IP have been identified in 2003/04?	11
9) What is the total number of items still being evaluated including those from previous years?	3
10) Has your organisation contracted with an external body to manage this IP?	Yes
11) If 10 is yes, what type of organisation is the external body?	NHS
12) Are you, or do you intend to become a member of an NHS hub?	Yes
13) How many items potentially valuable IP have arisen from joint work with Universities?	4
14) Have you arrangements in place with universities for management of joint IP?	Yes

15) Total number of patents (including patent applications) held by your organisation	2
16i) Number of patent applications from your organisation filed in the UK in 2003/04	0
16ii) Number of patent applications from your organisation filed outside the UK in 2003/04	1
16iii) Number of patent applications from your organisation published in 2003/04	0
16iv) Number of patent applications from your organisation granted in 2003/04	0
17) Number of licence agreements concluded in 2003/04	0
18) Income from IP received by your organisation in 2003/04	£2,500
19) How much income had been distributed to your employees in 2003/04?	£0