Vision: The 2020 Vision for health and social care is that everyone is able to live longer healthier lives at home, or in a homely setting, supported by sustainable high-quality health and social care services in Scotland. Within GGC, Research, Development & Clinical Innovation has a key role to play in helping to deliver this vision.

Mission: Our mission is to fully embed a research culture within GGC and thereby maximise the opportunities and support for our researchers in order to increase the volume of high quality clinical research that will ultimately deliver improved health for our population and beyond.

Purpose: It is well recognized that investment in clinical research leads to improved quality of care, better outcomes and more cost-effective treatments. Our patients expect to be offered the opportunity to take part in high quality research and to access state of the art therapeutics. Patients who participate in clinical research generally enjoy better individual outcomes. Clinicians who are research active are likely more attuned to the topical ideas and treatment strategies and are better placed to translate research findings into benefits for patients in GGC.

Clinical research drives innovation. Accordingly, it is an essential component in the Government's drive to increase growth in the healthcare and life sciences sectors. It also generates income and is estimated to lead to savings of £300m for the NHS - a return of £147 for every £1 of public money invested in healthcare research.

Strategic Objectives

The strategy for research and innovation aims to contribute to realising the goals of GGC;

- GGC mission: To deliver “effective and high quality health services, to act to improve the health of our population and do everything we can to address the wider social determinants of health care inequalities”
- GGC Clinical Services strategy: “A balanced system of care where people get the right care in the right place”
The 5 core objectives of the Research, Development & Clinical Innovation Strategy are to:

- Deliver high quality research which will directly impact on and improve patient care to a high level of *operational* fidelity
- Fully embed a *research and innovation culture* within GGC
- Promote patient/public *engagement and participation* in translational and clinical research
- Optimise our use of *informatics* to support all domains of our research programmes
- Actively *support innovation and early adoption (or early rejection)* of novel medicines, devices and new models of service delivery throughout GGC

In order to achieve these objectives, GGC must recognise:

- The key role of research & clinical governance in ensuring that research is conducted to high scientific, ethical & financial standards
- The value of our strong academic partnership with Glasgow University and the role of our clinical academics in delivering clinical research within GGC
- The expanding role of our nurses, pharmacists, allied health professionals, translational scientists and associated academic partnerships in clinical research
- Our close collaboration with other boards within the NHS research West node
- Our areas of current strength and research expertise
- The value of existing key research partnerships through Glasgow Biomedicine, NHS Research Scotland, local and national charities, trusts and voluntary organisations
- The role of research and innovation to drive evidence based practice
Research, Development & Clinical Innovation: National Context

The Scottish Government Health and Social Care Research Strategy “Delivering Innovation through Research” was published in October 2015. It aims to “increase the level of high-quality research conducted in Scotland, for the health and financial benefits of our population”. It builds upon the success of the 2009 strategy “Investing in Research: Improving health” which following on from the Cooksey report aimed to stimulate translational research. Since then there have been numerous advances in the way in which clinical research is supported and directly funded within the NHS and facilitated by key collaborations between the NHS, Universities & Industry. Despite this, obstacles still remain in the ability to translate basic science discoveries into clinical trials and clinical trials into medical practice and policy health care decisions. While health service research, pragmatic clinical trials and NIHR commissioned research remain as priority areas, there are numerous critical new developments in the areas of experimental medicine, health care informatics and precision medicine that have the ability to further improve patient outcomes.

The CSO through NHS Research Scotland (NRS) currently allocates over £42million to NHS Boards to support research. Two areas which are highlighted within the current CSO strategy as being essential to achieving success are the need for efficient R&D Support for Research and the Targeted Deployment of Resources by the CSO. Funding by the CSO encompasses 5 funding streams - two of these are paid directly to the board, namely NRS Researcher support and NRS Service support. These are allocated according to research activity levels, which are based on 3 year cycles. NRS Researcher support ensures protected time for research active consultants and is calculated based on the type of project (single or multicentre; led by the board or hosted; involvement of investigational medicinal compound) and recruitment premium. NRS Service support is allocated depending on the number of patients recruited to a study and a “per-patient” cost. This applies to studies which are funded by an “eligible funder”, through a competitivite process. These studies address a clear research question of relevance to the NHS and require NHS Research Ethics Committee approval and NHS (R & D) permission.

Non-eligibly funded and less resource intense studies such as registry and tissue based studies are not included in these activity based funding streams. The other funding streams include NRS infrastructure, NRS management and NRS Career Researcher Fellowships. From 2016-17, NRS infrastructure funding will also be allocated based on activity and a number of functions funded through this financial stream will be reviewed. This is likely to include clinical research facilities. Two key resources – NRS Biorepository and NRS Safe
haven - which were previously considered within the infrastructure budget are now separately contracted, and costs for these activities will need to be charged, and cost-recovered where possible, within grants in a manner which allows us to remain competitive. This comes at a time when the rapid growth of Precision, Translational Medicine and bioinformatics are likely to lead to an increase demand on both of these key resources.

**CSO Funding Allocation 2016-17**

<table>
<thead>
<tr>
<th>Network &amp; specialty support</th>
<th>Fixed Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRS Fellowships</td>
<td></td>
</tr>
<tr>
<td>NRS Infrastructure</td>
<td></td>
</tr>
</tbody>
</table>

Activity-dependent

<table>
<thead>
<tr>
<th>NRS Biorepository</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>NRS Researcher Support</th>
<th>30% costs must now be recovered</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRS Service Support</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project type</th>
<th>Weighted score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead site for multi-site Clinical Trial of IMP (drug)</td>
<td>5</td>
</tr>
<tr>
<td>Host site for CTIMP</td>
<td>1.25</td>
</tr>
<tr>
<td>Lead site for other (non-CTIMP) multi-site project</td>
<td>2</td>
</tr>
<tr>
<td>Host site for other (non-CTIMP) project</td>
<td>0.75</td>
</tr>
<tr>
<td>Single site CTIMP</td>
<td>2.5</td>
</tr>
<tr>
<td>Single site for other (non-CTIMP) project</td>
<td>1</td>
</tr>
</tbody>
</table>

R&D Management contribution

% of allocation

NHS-GGC also supports the West of Scotland Research Ethics Service which runs four fully accredited NHS research ethics committees. A total of 227 new clinical research studies were reviewed in 2015.
Local Context

GGC Research, Development and Clinical Innovation in collaboration with the two Glasgow University Clinical Trial Units support all of our researchers across the breadth of our clinical research portfolio. We provide a wide range of services which ensure scientific and financial integrity, fast approvals, effective governance, active project management, and robust analytical and reporting processes. This is supported by state-of-the-art joint NHS GGC and University of Glasgow Clinical Research Facilities and research imaging capabilities. GGC is the largest health board in Scotland, and the NHS Research Scotland West node oversees a clinical research program supported by our 2.8million population (52% of the Scottish population). In 2015-16 GGC took part in 669 eligibly funded or commercial studies, which comprise a wide portfolio of studies ranging from observation to interventional, of which half involved clinical trials (phase I-IV) of investigational medicinal products (appendix A). These figures exclude non-eligibly funded studies such as the large number of student led projects and other less resource intense studies such as registry and tissue based studies which do not count towards our activity based NRS funding streams.

Of the non-commercial studies which are eligibly funded, we lead/sponsored 13% of the studies; the remainder are sponsored by other health boards/universities. The most active speciality areas for studies lead/sponsored by GGC are: cancer (22%), mental health (14%), stroke (13%), cardiovascular (6%) and neurology (5%) (appendix B).

The majority of eligibly funded non-commercial studies which we perform are hosted studies, that is lead by another institution, In particular, the CTU within the Beatson West of Scotland Cancer Centre is one of the major Cancer Research UK trial Units in the UK and research in the field of cancer accounts for 40% of our hosted clinical research within GGC. Other areas in which we are active in terms of the number of hosted clinical studies include cardiovascular (5%), paediatrics (5%), mental health (5%), stroke (5%), and diabetes (4%) (appendix B).

Approximately a third of our studies are commercial; half of these generate a per-patient fee of approximately £5,000, and a further quarter has a fee in excess of £10,000. This leads to an annual income of approximately £2 million from commercial research. Furthermore, the close relationship between research and innovation has led to increased opportunities to attract funding to help develop, test and deploy novel technologies. Currently within NHS GGC there are at least 35 active innovation projects in a variety of different areas (Data n=11, Therapeutic n=9; Imaging n=7; Open innovation n=4; Tissue n=3; Sensors n=1). It is difficult to determine the exact number and income generated through innovation projects as
some do not involve a direct clinical research component and therefore are not captured through our approval systems.

Key challenges
Challenges exist at the national level and at the local level and accordingly will merit distinct strategies to be effectively addressed.

The obvious barriers to performing clinical research are capacity and funding.

- Clinical researchers in the consultant career track need to deliver and maintain clinical practice whilst also allocating and protecting sufficient sessions to prepare for, and perform research “in real-time”.
- Investigators need essential support with grantsmanship, methodological design, protocol/trial literature preparation, trial procedures and informatics/statistics to optimise their competitiveness to secure eligibly funded grant income.
- Once funding is in place, investigators must navigate regulatory hurdles and then deliver studies to timelines, demonstrating agility as problems arise. Recruiting patients to clinical trials in particular may be challenging and time consuming. Indeed in large multicentre studies only 55% were found to have recruited to the original target sample size, 78% recruited 80% of the original target, and one third of trials required an extension to the projected recruitment time\(^2\). While R & D resources, including research nurses, administration support, use of our safe haven to identify potential patients and project management may all help, the rate limiting step is often lack of principal investigator’s time to provide essential medical oversight.
- The current medical research funding landscape also imposes challenges with significantly less money being spent per head of the population in Scotland compared to England (ref). Obtaining funding from research bodies such as the National Institute in Health Research (NIHR) which is static and in some areas decreased may also be a major challenge for our researchers \(^3,4\).
- A particular local challenge is a relative insufficiency of academic clinicians to provide the leadership and bridgehead to the funding agencies that can empower the growth in locally led studies.
• A further local challenge is diminished ability to deliver future capacity at the level of medical and allied health professional research training. In particular, we do not effectively expose our clinical trainees to research and do not attract sufficient numbers of clinical trainees who are willing to embark on full time research training. Furthermore, there is a lack of funding and too few programmatic clinical fellowships (as opposed to response mode applications).

The key challenges involving innovation are the need to establish a single point of contact, and a process to capture, approve and effectively manage innovation projects which are not considered to be research and ensure appropriate governance. Strategic oversight is also required to allow translation of effective innovative solutions from the test environment to delivery of services, a key ambition of government and of our industry and academic collaborators. This infrastructure is currently in place for clinical research and can be extended to cover innovation.

This strategy will focus on ways that we can overcome these challenges and increase the volume of high quality research & innovation for the benefit of our population. We have concentrated on areas that our stakeholders consider to be essential some of which involve operational change and will allow for quick returns others will take time and require a change in culture. Our Key performance indicators are ambitious and set by the CSO. However, they are not inclusive of all research and innovation we support and do not address the key role of sponsorship in particular protocol development and the large volume of non-eligibly funded projects which require appropriate permissions. We will work closely with our university partners to streamline and ensure appropriate resource for these areas. The objectives, delivery plan and key performance indicators are outlined below.
Objective 1: Deliver high quality research which will directly impact on and improve patient care to a high level of operational fidelity

1.1 Increase the number of eligibly funded studies which are initiated and led by local chief investigators by actively working with our University partners
   - We will actively seek and promote funding opportunities to our researchers
   - We will actively promote endowment, charity and other sources of pump-funding grants
   - We will facilitate a mentoring program
   - We will increase awareness and provide ease of access for our researchers to the methodological design and statistical expertise that is available through our CTUs
   - We will ensure that appropriate costings are provided for the use of all resources
   - We will work closely with the diagnostic directorate in order to facilitate access to our clinical research imaging facilities for both developmental/pilot work and clinical trials
   - We will invest in state of the art LIMS system for the biorepository to support the central collection and distribution of trial tissue samples

1.2 Increase the participation in hosted eligible funded & commercial studies
   - We will increase the number of new principal investigators as well as supporting established principal investigators by working with NRS networks and speciality groups to identify potential studies
   - We will actively support commissioned and response mode NIHR funded multicentre studies by identifying and supporting local principal investigators
   - We will actively facilitate study feasibility assessments
   - We will facilitate access to and use of the clinical research facilities (CRF), staff and resources for our investigators involved in eligibly funded research
   - We will increase capacity by providing medical cover within our CRF to work within our speciality teams
   - We will use the edge IT system to support delivery of clinical trials at site level, enabling permissions-based access to NHS and university staff.

1.3 Ensure that delivery and recruitment targets of eligibly funded and commercial studies are met.
• We will work with university partners to reduce our local sponsor timelines, through more efficient streamlined processes and close working with our project management teams
• We will ensure rapid R & D approval times
• We will streamline set up times and early bird project meetings in which patient pathways and processes will be established
• We will ensure pro-active project management of all locally lead studies
• We will undertake performance management of studies within our key research active specialty teams
• We will use our safehaven where possible to help identify patients for specific studies

**Objective 2: Fully embed a research culture within GGC**

2.1 Promote the participation in clinical research as a key quality indicator

• We will establish research champions to act as department/directorate research leads
• We will promote the benefits of research and innovation through job planning, objective setting and performance targets
• We will facilitate the conduct of high quality research through training & professional development of all staff
• We will ensure that research active consultants have appropriate protected research time
• We will support newly appointed consultants, pharmacists, nurses and allied health professionals who may wish to become research active to apply for NRS fellowships and other funding sources

2.2 Provide directorates with regular activity reports

• We will provide customised annual activity and performance reports to research active directorates
- We will provide details of costing and financial management of research at a directorate level on an annual basis
- We will set up processes to provide reimbursement in a timely manner

**Objective 3:** Promote patient/public engagement and participation in translational and clinical research

- We will provide support and advice on patient/public involvement
- We will promote and encourage participation in the SHARE registry
- We will actively increase public awareness of local research studies including those in the laboratory, clinic and public health domains
- Whenever possible we will offer patients the opportunity to take part in all types of clinical research
- Whenever possible we will inform patients on the outcome of research studies

**Objective 4:** Optimise our use of informatics to support all domains of our research and innovation programmes

* safehaven in this context refers to NHS data repository/GU secure platform

4.1: We will develop our research consultancy service supporting clinical and other researchers who wish to use the Safe Haven providing expertise both in study design and governance issues increasing the number of users of the data

4.2 We will streamline our safe haven approval times and processes to ensure efficient delivery of a quality assured research extract either for analysis on our secure analytical platform or through another NRS safe haven or approved site

4.3: We will actively promote the role of the safe haven in pharmacovigilance within clinical service and trial delivery

4.4: We will increase collaboration between the safe haven and biorepository and establish a single point of contact and complementary approval processes for studies that use both of these resources, both locally and across Scotland
4.5: We will promote the use of safe haven to support clinical trial activity through electronic eligibility searching for both accurate feasibility and patient identification as well as electronic follow up using health care records

4.6: We will set up a Research & Innovation data laboratory hub to promote safe access to synthetic linked patient-level data for both industry and researchers to stimulate innovative approaches to data interrogation

**Objective 5: Actively promote innovation involving medicines, devices and new models of service delivery throughout GGC**

5.1: We will increase the number of commercially sponsored trials that are undertaken in GGC

5.2: We will achieve joint Phase I accreditation for our CRF and CTUs

5.3: We will work with our partners in the Medical Devices Unit to increase our expertise in and support for non CE marked device trials

5.4: We will utilise R & D resources to capture all innovation projects within GGC and provide regular activity reports to innovative directorates and the biomedicine board

5.5: We will enable and facilitate increased collaboration with our academic partners, innovation centres and industry at an early stage to ensure that research innovation is driven through partnership to meet NHS needs

5.6: We will facilitate collaboration with our academic partners and industry through governance procedures and transparent contracts

5.7: We recognise the importance of intellectual property assets in driving innovation and will facilitate access to legal advice and appropriate contractual arrangements through Scottish Health Innovation Limited (SHIL)
## Research & Innovation Strategy Delivery plan

<table>
<thead>
<tr>
<th>Objective</th>
<th>Action</th>
<th>Timescale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1 Seek &amp; promote funding opportunities</strong></td>
<td>Distribution of 6 monthly e-mail of funding opportunities to active PIs/CIs  Promote participation in eligibly funded &amp; commercial studies through bi-monthly speciality group meetings in the CRF and our portfolio teams. Targeted team building to link experienced investigators to new investigators to obtain funding in new areas</td>
<td>2017</td>
</tr>
<tr>
<td><strong>1.1 Facilitate a mentoring Program</strong></td>
<td>Initially for new PIs/CIs through our speciality champions &amp; key academics</td>
<td>2017/18</td>
</tr>
<tr>
<td><strong>1.1 Study design and statistical expertise</strong></td>
<td>Set up metrics through our SLA to provide number &amp; details of locally led projects supported by the Clinical Trial Units</td>
<td>2017/18</td>
</tr>
<tr>
<td><strong>1.1 Increase awareness and provide ease of access for our researchers to facilitates</strong></td>
<td>Establish a website to provide information on all aspects of the researcher pathway for planning and delivering research</td>
<td>2018</td>
</tr>
<tr>
<td><strong>1.1 Facilitate access to our clinical research imaging facilities for both developmental/pilot work and clinical trials</strong></td>
<td>Set up a Clinical Research Imaging Scientific Access group to review and approve applications and access to scanners for developmental/pilot work</td>
<td>2017</td>
</tr>
<tr>
<td><strong>1.2 Increase capacity by providing medical cover within our CRF</strong></td>
<td>Set up joint funded (R &amp; D and service/academic) CRF fellow posts which will involve the fellow work 50% FTE on clinical studies within the portfolios of our speciality teams</td>
<td>2017</td>
</tr>
<tr>
<td><strong>1.2 /1.3 Close working with NRS networks and speciality groups to identify potential studies &amp; ensure delivery</strong></td>
<td>Joint CRF &amp; network performance meetings within the CRF</td>
<td>2017</td>
</tr>
<tr>
<td><strong>1.3 Regulatory timelines</strong></td>
<td>Ensure that all e-mail and telephone correspondence is acknowledged within 48 hours  In conjunction with our university partners develop metrics and pool resources to help drive forward a more streamlined sponsor approval process  Streamline protocol development through closer working between project managers, transforming research managers &amp; R&amp;D co-ordinators. Provision of appropriate training, agreed delegation of duties and oversight  Training &amp; involvement of project managers in NHS costing processes where appropriate  Audit the approval timeline (ethics, sponsorship, R &amp; D)</td>
<td>2017/18</td>
</tr>
</tbody>
</table>
| 1.3 Pro-active project management of all locally lead studies | Part costing for project management time to be included when possible at grant application stage  
Development of SOPs to ensure uniformity of project management activities & standards | 2017 |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----|
| 1.3 Project delivery | Quarterly activity and performance reports  
Performance management of studies within CRF  
Individual PI monthly activity report  
Targeted use of the safehaven to direct efficient recruitment | 2016 |
| 2. Embed a research culture within NHS GGC | Promote the benefits of research through job planning, objective setting and performance targets (number of research active consultants/number of active eligible studies in department)  
Encourage participation in the CRF -Clinical Research Pathway 1, 2, 3, 4 (a step by step training guide to support researchers in the conduct of clinical research).  
Promote benefits of research at grand rounds and departmental meetings | 2017/2018 |
| 2 Activity reporting | Provide training for study team members in order for activity to be captured on the EDGE IT system  
Provide customised annual activity reports, detailing commercial and non-commercial income and projected savings (drugs & imaging) reports to research active directorates  
Establish a league table of the top 100 principal investigators  
Provide quarterly reports to the Biomedicine board | 2017  
2018  
2017  
2017 |
| 3. Patient/public engagement and participation in research | Set up patient groups within the CRF, promote SHARE and include invitation letter with all new patient appointments. Engage with science centre and local scientific outreach programmes, café scientifique, clinical research festivals | 2017/18 |
| 3. Patient participation in research | Pilot an electronic “opt in” option for patients to be contacted for future research  
Set up an annual half day conference for the public detailing involvement with clinical research. | 2019  
2018 |
| 4. Optimise are use of informatics | Set up a Clinical Research & Innovation data laboratory hub at QEUH  
Achieve accredited status in from the Scottish Government accreditation scheme for Data Safe Havens; | 2017  
2018 |
### 5.1 Phase I accreditation

Undertake piloting of rapid study feasibility searches for SHARE & other stakeholders to identify registrants eligible for research studies;  
Develop metrics to drive forward delivery times

| 2017 | 2017-18 |

### 5.4 Utilise R & D resources to capture all innovation projects within GGC

Use of the Innovator Champion and manager and other dedicated core infrastructure R & D staff (eg safe haven, biorepositories, imaging) to develop, review, approve and manage projects  
Provision of templates for confidentiality, data sharing and material transfer agreements as well as standard commercial and academic contracts by R & D.  
Use of R&D database (SReDA) to capture all innovation projects  
Quarterly reporting of innovation activity to the Biomedicine board

| 2017/18 | 2017/18 | 2017 | 2018 |
Key performance indicators

*These are defined by the CSO and are detailed in our annual Research Activity & Expenditure Report

Note there are no outcomes relating to 1) sponsorship workload and protocol development and 2) non-eligibly funded studies which encompass the majority of student projects


<table>
<thead>
<tr>
<th>Key performance Indicator</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Number of eligibly funded studies which are initiated and led by local chief investigators</td>
<td>10% increase per annum (averaged over 3 years)</td>
</tr>
<tr>
<td>*Number of eligibly funded &amp; commercial studies</td>
<td>10% increase per annum (averaged over 3 years)</td>
</tr>
<tr>
<td>*Recruitment to eligibly funded &amp; commercial studies</td>
<td>10% increase per annum (averaged over 3 years)</td>
</tr>
<tr>
<td>*Delivery and recruitment targets of commercial studies</td>
<td>no more than 10% ‘zero recruiting’</td>
</tr>
<tr>
<td></td>
<td>90% with “First Subject In” within 30 calendar days of R&amp;D permission or Site Initiation Visit</td>
</tr>
<tr>
<td></td>
<td>85% recruiting equal to or greater than 100% of target</td>
</tr>
<tr>
<td>**Delivery and recruitment targets of non-commercial studies</td>
<td>80% recruitment to target rate</td>
</tr>
<tr>
<td>*Grant funded income to our academic partners</td>
<td>10% increase per annum</td>
</tr>
<tr>
<td>*R&amp;D permissions</td>
<td>90% of studies with local review within 15 calendar days; and generic review within 10 calendar days</td>
</tr>
</tbody>
</table>
Appendix A: Research Portfolio (2015-16)

Study Type CTIMP (clinical trials involving an investigating medicinal products)

<table>
<thead>
<tr>
<th>CTIMP</th>
<th>Non-Commercial Hosted</th>
<th>Non-commercial Sponsored</th>
<th>Commercial</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>4</td>
<td>1</td>
<td>17</td>
<td>22 (6%)</td>
</tr>
<tr>
<td>Phase I/II</td>
<td>16</td>
<td>4</td>
<td>17</td>
<td>37 (10%)</td>
</tr>
<tr>
<td>Phase II</td>
<td>33</td>
<td>2</td>
<td>45</td>
<td>80 (22%)</td>
</tr>
<tr>
<td>Phase II/III</td>
<td>24</td>
<td>4</td>
<td>6</td>
<td>34 (10%)</td>
</tr>
<tr>
<td>Phase III</td>
<td>58</td>
<td>1</td>
<td>96</td>
<td>155 (44%)</td>
</tr>
<tr>
<td>Phase IV</td>
<td>17</td>
<td>3</td>
<td>7</td>
<td>27 (8%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>152</td>
<td>15</td>
<td>188</td>
<td>355</td>
</tr>
</tbody>
</table>

Study Type Non-CTIMP

<table>
<thead>
<tr>
<th>Non-CTIMP</th>
<th>Non-Commercial Hosted</th>
<th>Non-commercial sponsored</th>
<th>Commercial</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interventional</td>
<td>267</td>
<td>63</td>
<td>200</td>
<td>530</td>
</tr>
<tr>
<td>Observational</td>
<td>89</td>
<td>25</td>
<td>25</td>
<td>139</td>
</tr>
<tr>
<td>Total</td>
<td>356</td>
<td>88</td>
<td>225</td>
<td>669</td>
</tr>
</tbody>
</table>
Appendix B

Study numbers by disease speciality

Fig 2: Participant recruitment by disease specialty - commercial (2015-16)
Fig 3. Participant recruitment by disease specialty- eligibly funded and sponsored/co-sponsored studies (2015-16)

1. (http://www.ed.ac.uk/news/2015/nhssavings-020415)
4. ST Tunis, JAMA 2011