Funding research leading to improvements in healthcare and NHSScotland
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FOREWORD
This Annual Report details the many activities and achievements of the Chief Scientist Office in 2007-8. These will lead to improvement in health and patient benefit in Scotland, the UK and further afield. These outcomes will be the fruit of a close partnership between the Scottish public, patients, carers, the health research community in Scotland, expert advisors from many countries, the staff of the Chief Scientist Office and my predecessor, Professor Roland Jung, to whom special thanks are due upon his retirement. The quality, strength and superb collaborative ethos defining this partnership were immediately evident when I took up the part-time post of Chief Scientist in June 2008. We can now look forward to an important reshaping of health research funding in the UK, in which Scotland is taking a leading role through full membership of the Office for Strategic Coordination of Health Research, thanks to strong support from the Scottish Government and its Health Directorates. We can be confident that the achievements of 2007-8 represent the start of an exciting period for research for patient benefit, especially in Scotland.

Professor Sir John Savill
Chief Scientist

December 2008
A YEAR IN THE LIFE OF SCOTTISH HEALTH AND NHS RESEARCH

APRIL
- National Research Ethics Service (NRES) replaces Central Office for Research Ethics Committees

JUNE
- Biobank begins Scottish recruitment in Glasgow
- Second phase of recruitment to Generation Scotland begins

JULY
- CSO begins process of revising the Research Strategy for Health and Healthcare
- UKCRC National Translation Research Initiative announced

OCTOBER
- Establishment of Office for Strategic Coordination of Health Research

NOVEMBER
- Final issue of National Research Register published
- Professor Neva Haites takes over as Chair of BTRC
- CSO receive bid for Scottish Dementia Research Network which it subsequently funds

DECEMBER
- Dr Hilary Lapsley joins CSO as Health Services Research Manager

JANUARY
- Sandy Allen takes up role as CEO of Scottish Health Innovations Ltd
- Craig Gilbert joins CSO as Senior Manager for Research Governance, Ethics and Funding Policy

FEBRUARY
- CSO hosts Conference on how to best develop NHS services using research
- Professor David Stott takes over as Chair of HSRC
- Launch of NHS Research Scotland coordinated approvals process
- Submission of bid to fund Scottish Translational Research Training Initiative (subsequently funded)

MARCH
- Submission of bid to fund Scottish Health Informatics Platform (subsequently funded)
CSO FUNDING IN ACTION

NHS APPLIED RESEARCH PROGRAMME GRANTS

Since 2003-4 CSO has been funding NHS Priorities and Needs Programme of research. These Programmes were formally evaluated in 2006 and several Programmes which did not meet the quality threshold did not have their funding renewed from 2007-8. This freed up around £1 million per annum from the NHS Research Support Budget which CSO undertook to reinvest in new Programmes better focussed on quality and managed independently from the general research support allocation.

It was decided to reinvest through a pilot scheme for NHS Applied Research Programme Grants. These grants aim to provide evidence to improve health outcomes in Scotland through promotion of health, prevention of ill health, and management of change to NHS service delivery with particular emphasis on conditions causing significant disease burden. One of the key criteria for these grants was that they should include work which, within the period of grant funding, will either definitively show the value of a treatment, package of care or service improvement, enabling it to be implemented appropriately within the NHS, or demonstrate justification for, and feasibility of, a larger scale evaluation.

The application process took place in the second half of 2007-8. Following an outline stage, where 34 applications were received, nine teams were invited to submit full applications. These were considered by both external expert peer review and a panel including researchers, NHS R&D Directors and patient representation. They were then scored on the basis of quality, value for money and relevance to NHSScotland. Four programmes of research into issues of key importance for NHSScotland and the health of the Scottish public were successful, totalling funding of almost £4 million.

A team led by Professor Graham Watt at the University of Glasgow, and including several GPs who are both researchers and practitioners, will develop and evaluate a change to the way primary care is delivered for patients in deprived areas who have more than one enduring condition. It is likely that the new mode of service delivery will include longer consultations and the provision of additional support for self management. This programme will determine how best to identify and target patients with multiple chronic conditions who would benefit from the new model of service delivery.

The second programme will design and test a comprehensive intervention to improve the safety and quality of medicine prescribing in general practice, focussing on patients prescribed particular combinations of drugs and how best to ensure they are monitored and reviewed, with a view to improving patient safety. This programme is being led by Professor Bruce Guthrie, a GP by training, and has the full support of NHS Tayside and Fife, where the study will be carried out. The findings will be applicable to all Scottish Health Boards.

Patients in the Lothians with a range of long term conditions including high blood pressure and diabetes will be able to participate in research to investigate whether or not home monitoring (telemetry) of their conditions is safe and effective in managing their condition. Use of telemetry is increasing, however an evaluation of the scale of this programme has not been carried out in the past therefore this programme will provide the necessary evidence as to whether patients offered telemetry have better disease management. The group, led by Dr Brian McKinstry who is a researcher and practising GP, are experts in this type of research and will also be investigating patients’ views of this type of care.

The fourth programme is in an area of great importance, aiming to produce a national resource which will support more effective and safer use of medicines in children. Professor Peter Helms and colleagues will be carrying out important research using national clinical datasets held by the Information Division of NHSScotland (ISD). One key aim is to identify ways for early detection of potential adverse drug reactions in children. Most drugs given to children have not been assessed in this age group in clinical trials, although such trials are now increasing, and so this programme will provide key information on safety in this area.
The successful Programmes have a good geographical spread with one being led from each of the four main Boards. Three of the Programmes will be carried out in Primary Care demonstrating significant strengths in this type of research. Two of these involve researchers who have previously been supported by Research Training Fellowships by CSO. Two Programmes involve researchers recently supported by CSO Primary Care Research Career Awards, one of which (Dr Brian McKinstry) is the Chief Investigator. Involvement of these researchers, demonstrates the value of such investments in developing research capacity.

This is the largest ever single investment in specific health research studies made by the CSO and marks a move towards more targeted investments in relevant and applicable research.

HELPING STROKE RESEARCH TO PERFORM

The Scottish Stroke Research Network was established in 2006 with funding from the Chief Scientist Office. It operates through four main regional areas (Glasgow & the West of Scotland, Edinburgh & South East Scotland, Tayside & East Scotland, Grampian & North Scotland) and has close links with the wider UKCRC developments. Although it has distinct and separate structures from the rest of the UK it is designed to compliment developments in the rest of the UK (UK Stroke Research Network).

Over the last two years the Scottish Stroke Research Network has become very active. It has developed the trial portfolio over the past 12 months, including both academic and commercial studies throughout Scotland. It has increased our active sites from 12 to 21 sites and is actively encouraging new sites to join the network. In addition the recruitment rate to eligible studies more than doubled from 24 patients per month during the first 6 months of the network (April-September 2006) to 51 per month a year later (April-September 2007). During the last reporting year (April 2007-March 2008) recruitment has averaged 49 patients per month representing about 5% of all new stroke patients in Scotland. However maintaining this level of activity will prove challenging.

One useful case study for the potential value of Stroke Research Networks comes from the PERFORM Study (Prevention of cerebrovascular & cardiovascular Events of ischaemic origin with teRutroban in patients with a history of ischaemic strOke or tRansient ischaeMic attacks). PERFORM is an international randomised double-blind study comparing a novel anti-platelet agent (S1886) with aspirin. The multinational study was one of the first to be adopted into the UK Stroke Research Network portfolio of studies. The active involvement of the SRN saw an increased rate of recruitment of new study sites, the development of more flexible staffing to support the study, and the more rapid achievement of recruitment targets. In total 49 UK sites were identified and opened during 2006 with an ambitious UK target of 800 participants. This was achieved in January 2008, slightly ahead of target. When the funder Servier analysed their experience of working with Stroke Research Networks, they found it to have been very positive with higher recruitment rates in Stroke Research Network-based sites than non-network sites and the successful achievement of an ambitious recruitment target for the UK. The experience in Scotland was particularly positive with two of the three highest recruiting UK sites coming from the Scottish Stroke Research Network.

The investment by the CSO into the Scottish Stroke Research Network has seen an increase in stroke research activity across the country. The experience with the PERFORM study demonstrates how challenging multi-centre research trials can be greatly facilitated through the Research Network initiative.
References

1. Living Well With Multiple Morbidity: the development and evaluation of a primary care-based complex intervention to support patients with multiple morbidities (led by Professor Graham Watt, Glasgow)

2. Data-driven quality improvement in primary care: integrating better quality measures and better information technology with aligned incentives and support for change (led by Professor Bruce Guthrie, Dundee)

3. Telemetric supported self-monitoring of long-term conditions (led by Dr Brian McKinstry, Edinburgh)

4. Pharmacovigilance for children: Signal generation from linked NHS administrative data (led by Professor Peter Helms, Aberdeen)
CHAPTER 3
FACILITATING THE RESEARCH APPROVALS PROCESS

2007-8 saw the continuation of the push towards simplifying the process of getting permission to conduct a piece of research. These initiatives are both Scotland- and UK-wide and are often linked through the relevant workstream of the UK Clinical Research Collaboration. The next two pieces detail two of the key developments.

NHS RESEARCH SCOTLAND (NRS)

It has been generally recognised that adjustments to the complex and time consuming nature of obtaining approval for multicentre research were needed. NHS Research Scotland (NRS) has evolved since MRAD (Multi-centre Research and Development) and CAP (Common Access Point) (see Annual Reports 2005-6 and 2006-7 for background) to address this. Its remit is to streamline governance review and the R&D approval processes for multicentre research in NHS Scotland. It does this by separating generic criteria, which are reviewed centrally once only, from local site specific issues. NRS also forges links with similar initiatives in England, Northern Ireland and Wales.

As part of the national system, NRS has a coordinating centre (NRS CC) which undertakes the administration associated with multicentre research in NHS Scotland. It works with local R&D Offices to agree which Office will conduct the generic review and subsequently issue the Certificate of Compliance when legal and research governance criteria are met, and alerts each local site that the study documentation is available to download. NRS CC subsequently follows up with Chief Investigators, generic reviewers and local R&D Offices, to ensure the process of approval is conducted as speedily as possible. The anticipated benefits of this approach are to enhance the attractiveness of NHS Scotland as a site for large scale research projects.

NRS CC acts as a central contact point for Chief Investigators and for other agencies undertaking multicentre research within Scotland. Together with the generic reviewer, requests for the Chief Investigator from local R&D Offices for further information or to answer queries are funnelled through the two main contact points of NRS CC and the generic reviewer. This helps to relieve Chief Investigators and research teams from receiving numerous duplicate, and otherwise uncoordinated, requests.

An unexpected but welcome consequence of the system of generic review is that local R&D Offices are further considering their own processes and how they are aligned with each other. This has created willingness to develop further national guidance, for example on the need to collect certain documents for review.

NRS CC has the responsibility for obtaining and holding the complete valid document set for each study; it receives and collates the agreed national document set. It also allocates a unique identifier before alerting local R&D Offices to initiate their review. Documents are held both in hard copy and electronically and are uploaded to the national web based database (SReDA).

Initially the focus of NRS was non-commercial research. From March to the end of July 2008, NRS CC coordinated 29 non-commercial studies. However, in May 2008, the first commercial study was received which was preceded by the development of Confidentiality Agreements with the companies so that documents could be sent to local R&D Offices. To the end of July 2008, NRS CC had received two commercial studies. The number of studies that NRS CC has been asked to coordinate has increased since March 2008, from around two studies per week, to July 2008 where around one study per day has been received. Chief Investigators and research teams have also contacted NRS to seek advice on whether their studies could be appropriately handled by through the process.
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FACILITATING THE RESEARCH APPROVALS PROCESS

Studies currently arrive from two sources: 1. directly from Chief Investigators and research teams who have become aware of the existence of NRS CC, or 2. directly from local R&D Offices, who have noted in the first stages of their document review that a study has more than one site and have referred to NRS CC. In the latter instance, the National Coordinator contacts the Chief Investigator to ask if he or she would like NRS CC to be involved, before sending documents to the other local Offices. To date studies have been received without publicising the Centre’s work.

NRS CC is overseen by a Steering Group, led by the R&D Director from NHS Grampian. It comprises the five R&D Directors (one from each of the four medical school boards and one representing the smaller health boards), the Deputy Director from the Chief Scientist Office of the Scottish Government, a member from Scottish Enterprise and the National Coordinator. The group meets by teleconference every two weeks and in person as required. A further consequence of nationally coordinated R&D approvals is that the Steering Group gain a more detailed overview of issues arising nationally in R&D. This enhances co-ordination of strategic decisions particularly in UK-wide initiatives, such as Scotland’s involvement in the development of IRAS.

The initial NRS CC consists of one National Coordinator, one Senior Administrator, and one Administrator. The work that is undertaken at the CC does not cut across the work of the local R&D Offices, but provides national coordination for studies where access to two or more health boards is needed. Following submission of bids from the 4 large teaching hospital Boards, from April 2009 the Coordinating Centre will be based within NHS Grampian under the continuing leadership of Professor Alison Macleod.

The next step is to create a webpage so that Chief Investigators and research teams can download NRS document requirements. It is hoped that they will also be able to track the progress of their approvals. It is also anticipated that the webpage will incorporate a chat room for R&D staff. Any queries should be sent by email to GG-UHB.NRS@nhs.net

INTEGRATED RESEARCH APPLICATION SYSTEM (IRAS)

It has been a long-held criticism from researchers that applying for approvals to conduct a piece of research involving the NHS involves grappling with a huge array of forms, many of which require the same details. It has been up to the researcher to duplicate this information on each separate review body’s application form, which has been a time-consuming process. The process of developing the Integrated Research Application System (IRAS) arose from a UKCRC Working Group chaired by Sir John Lilleyman, who has said that:

“There was ready agreement within the health sector that the duplication of effort in providing information for different bodies was time-consuming and potentially avoidable.”

The system was launched in January 2008 for ‘consultation-in-use’ and has the sole aim of, making the process of applying for approval to conduct research in the health sector easier and less bureaucratic. The project has been led by the National Research Ethics Service (NRES), with sustained input from CSO, and run under the umbrella of the UK Clinical Research Collaboration (UKCRC).

IRAS, which was built on the system for applying for NHS Research Ethics Committee approval, combines seven review bodies’ applications, so researchers only need to enter their study information once. Once the information is entered into IRAS, it will populate the applications relevant to the type of research being undertaken. There is also potential to extend the system further to include additional partners such as funding bodies. Researchers using IRAS to submit their
applications to the various regulatory bodies were encouraged to give feedback on their experiences with the system. Many suggestions were received and either have been, or will be, incorporated into the system. The consultation-in-use phase finished at the end of June 2008 and received very positive feedback. This first phase of the system’s introduction has been deemed to be successful by the numerous organisations involved in this collaborative project. Uptake of the system has also been good, with Scotland leading the way in its use of the system at the time of going to print.

Further improvements and functionality are being added to IRAS on an ongoing basis. IRAS is not yet mandatory, however researchers are strongly urged to begin new applications on IRAS to take advantage of the increased functionality and benefits of the integration the system offers. As data cannot be transferred from the old ethics online application form to IRAS researchers and research managers are strongly encouraged to familiarise themselves with the system and start using IRAS now. The system can be accessed directly at www.myresearchproject.org.uk
CSO RESEARCH ADVISORY COMMITTEES

CSO has two research advisory committees whose main purpose is to consider applications for funding and make recommendations to CSO based on research quality, value for money and relevance to NHSScotland. The committee members are drawn from the Scottish research community and their participation, which can be demanding, is on a voluntary basis. During 2007-8 the Chairs of both committees reached the end of their tenures, which spanned times of significant change in the funding landscape. They have both kindly agreed to share their reflections on their time as a committee Chair.

HEALTH SERVICES RESEARCH COMMITTEE (HSRC)

Marie Johnston, University of Aberdeen

The HSRC assesses about 100 new grant applications per year (full and small grants), evaluates all the final reports and typically awards grants worth approximately £2.5 million per annum. As chair of the Committee from 2003 to 2007, I was impressed by the effective multidisciplinary working, the effort made to improve rather than simply 'judge' applications, the commitment to building and maintaining research capacity and the active role of CSO staff in promoting and protecting HSR in Scotland.

It is a truly multidisciplinary committee representing a spectrum from clinical disciplines to the behavioural and social sciences; for example, 2007 membership included experts in primary care, surgery, psychiatry, sociology, statistics, health economics and health psychology. Multidisciplinarity has its pros and cons. The most obvious advantage is that each application gains the benefit of thorough input from all relevant disciplines, and so results in enhanced quality. But of course it was disappointing to see applications that addressed important questions for NHSScotland fail because they could not achieve the quality standards required. It was also great to be able to learn so much from other disciplines. On the other hand, it is hard to manage the tension between ensuring the highest standards of each discipline while maintaining a feasible project with relevance to Scotland’s health. As a health psychologist, I wanted to offer the best theory and methods of my discipline without overwhelming my colleagues with its intellectual gymnastics and idiosyncracies!

Unlike other grant-awarding bodies I have served on, the HSRC does not simply accept or reject applications, but is active in offering suggested improvements to applications. Frequently applicants are invited to ‘resubmit’, a process which gives applicants the opportunity to either clarify points or to improve their application using expert comments from the Committee and external reviewers. These re-submissions have a high success rate and applicants (including myself!) have commented that this process enabled them to conduct better research.

This process depends not only on the talents of the committee but also on the comments received from external reviewers. They play an important role in providing specialist input and it can seriously hinder the processing of an application if nominated reviewers cannot provide a review in time for the committee meeting. HSRC think it important to give due credit to reviewers who provide these reports in competition with all of their other commitments. The Committee is therefore developing a Panel of Experts – reviewers who will be invited to be a recognised member of this panel for a time-limited period.

The CSO has a strong commitment to developing research capacity and as Chair of HSRC, I also chaired the panel selecting and interviewing candidates for fellowships. It was inspiring to see so many early career researchers with so much passion for their research areas and the wealth of HSR training opportunities that Scotland offers. While it would be wonderful to be able to support more CSO fellows, we are lucky to have this training scheme in Scotland.
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CSO RESEARCH ADVISORY COMMITTEES

A further CSO innovation is to invite fellows supported by CSO (as well as Wellcome and MRC fellows in Scotland) to attend a committee meeting as observer. I suspect this is something that more senior researchers would also like to do – to check on our fairness, thoroughness and competence. Fellows who have attended comment on the large amount of work, the depth of discussion of each application, our strenuous attempts to be fair, the range of expertise of the Committee and the input of both external reviewers and of internal reviews from Scottish Government Policy advisors who focus on the relevance of the research to current strategy in the NHS. Of course, I assume their less flattering comments are reserved for colleagues in their home departments, but both the members of HSRC and the supporting CSO staff would be keen to hear of ways in which committee practice could be improved.

The Chair of HSRC also represents the committee, and the wider HSR community, on the Chief Scientist Committee. This Committee takes a wider view of CSO’s work and addresses strategic issues. During my period as Chair the most important issue was the relationship between CSO and the changing structures of the Medical Research Council and the English National Institute for Health Research. HSRC members were strongly of the view that CSO should participate in these new structures to ensure that Scottish HSR researchers could access the new funding streams so that we in Scotland could continue to play our part in achieving UK HSR excellence and that we retained this excellence within Scotland.

The work of the HSRC is very ably assisted by a wonderful group of office staff. They are all experienced researchers, who are committed to supporting the research and the researchers, and who ‘really’ understand the administrative processes required. Their work tends to be invisible to the research community at large, but they give great support to individual researchers, including offering support when in the depths of problems in carrying through a project, as well as handling the ‘bad’ news messages when grants are not funded and pursuing researchers who are having difficulties in delivering their projects for whatever reason. They ensure that the Committee runs smoothly, including briefing the Chair so that, on the day, I could give the impression of being well informed!

You’ll note I have not said much about the downside of chairing this committee. Yes it was a lot of work and occupied a lot of time – but that’s academic life isn’t it? Having served on many committees, including several grant awarding committees, this is the only one which I have felt sad to leave – due to the pleasure of working with a committee of such entertaining, generous and talented researchers, being able to read so much interesting, innovative and relevant research, meeting the future HSR researchers and, being supported by such willing, able and fun office staff.

BIOMEDICAL AND THERAPEUTIC RESEARCH COMMITTEE (BTRC)
Lewis D Ritchie, University of Aberdeen

Background – the role of BTRC
As health services continue to evolve rapidly in Scotland, it is essential that both health policy and clinical practice are underpinned by robust research. The Biomedical and Therapeutic Research Committee (BTRC) of CSO covers research relevant to Scotland’s health, which may be clinical or laboratory based – including public health, disability and continuing care research, using biomedical technology.1 In practice, this means that BTRC seeks to fund translational projects that links the innovation chain between fundamental research as a source of knowledge, and its application for clinical benefit or health gain.
Committee Membership and Process

BTRC members are drawn from a wide array of bioscientific and clinical expertise throughout Scotland, reflecting the range of applications which are submitted for funding consideration. There are presently 22 members on BTRC, chaired by my successor, Professor Neva Haites (see Annex B). Since 2004, BTRC (and HSRC) has also had the benefit of the input of two lay members, who are also members of the CSO Public Involvement Group. BTRC meets three times a year and, as with HSRC, uses a two-stage grant application process. In the first of these stages, applicants are invited to submit a project proposal outline, which is then assessed and peer reviewed. BTRC members are involved as reviewers at this stage, helping to identify issues to be addressed and to refine those applications that are then invited to submit a full proposal. Constructive advice and feedback is also offered to unsuccessful outline applicants, in order to help shape future research grant proposals. In the second stage, full applications are then considered by BTRC in committee, having been both internally and externally peer reviewed. Again, feedback is offered, both to improve the quality of successful, funded applications and also to assist unsuccessful applicants, when submitting future funding proposals. In this way, BTRC not only attempts to adjudicate fairly on the merits of individual submitted applications, but also exercises a crucial role in encouraging and promoting high quality in future research applications.

As chairman, it is imperative to ensure that all applications are treated equitably and that due process is followed, in order to secure a fair outcome for each application. Many hours and much effort are expended by applicants in the process – therefore committee appraisal and funding recommendations must be resilient. A key role of the two lay members is to act as scrutineers of the committee process itself, in order to underpin thoroughness and effective decision making. Lay members are also often able to bring to bear a broader perspective on the merits of individual applications, before a final funding recommendation is made. As such, I believe their role is not only welcome, but is also now an essential part of the effective working of BTRC.

A number of changes have taken place in recent years, with a view to enhancing the effectiveness of BTRC, including:

- Membership is regularly refreshed each year, with 2-3 new scientific members replacing retiring colleagues. This provides the opportunity annually to recalibrate the range of available expertise within the committee, taking account of the evolving nature of bids for funding.
- Increased emphasis has been placed on the assessment of final reports. This serves as an important check and balance on the quality of earlier BTRC decision making, the conduct and outcomes of funded research, and the effectiveness of dissemination of research findings.
- In order to add resilience, BTRC instigated a specific Code of Conduct for Committee Members, which now applies to all CSO committees with funding responsibilities. This includes fixed term memberships for both committee members and the chairman, and the ability to self-nominate as a potential committee member.

A further welcome CSO development has been the invitation extended to research fellows in Scotland (funded by CSO and other bodies) to attend committee meetings as observers. This innovation has also been shared by HSRC and Professor Marie Johnston in her accompanying article, describes the benefits experienced by attending fellows.

Another important dimension is the contribution of BTRC and HSRC to strategic research priorities in Scotland. Figure 1 illustrates the priority spend by BTRC and HSRC for the five year period 2003-8, showing for example, a declining trend in the proportion of BTRC (and overall) funding allocated to cancer projects and an increased trend in BTRC funding of mental health. It is important that these figures and comparisons are kept under regular review, in relation to ‘strategic spend’ on priority areas.
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CSO RESEARCH ADVISORY COMMITTEES

Reflecting back

During my six-year tenure as chairman of BTRC between 2001 and 2007, the committee disbursed just over £21 million in research grants, covering over 200 research projects (both full and small grants). These numbers reveal both the level of ongoing CSO commitment in supporting and encouraging laboratory and clinical research in Scotland, and also the endeavours of very many colleagues, who have supported the work of the committee. BTRC, like HSRC, is highly dependent on the dedication of its members and on the goodwill of our external peer reviewers.

So what of my valedictory thoughts? It has been a great privilege to serve as a member, then chairman of BTRC – and is one of the undoubted highlights of my professional career. In addition to the committee itself, I have been able to represent the views of BTRC on the Chief Scientist Committee, and have separately chaired Translational Research, Applied Research Programme Grants Awards and the Clinical Academic Training Fellowship Scheme panel (in 2006, the year of its inception). These have afforded welcome opportunities to meet and share with the enthusiastic researchers of today, and the potential research leaders of tomorrow.

There are several other reflections I would like to share. The first is a sense of humility – I cannot recall making the return journey home following a committee meeting, without mulling over the fairness, rightness and future implications of our decision making that day. The second is a sense of common purpose – the effectiveness of BTRC is dependent on the collective efforts of all involved in the work of the committee. The third is a sense of good humour – research grant assessment is a serious business, but I don’t recall a meeting, where laughter – strictly in its place – did not reverberate from time to time around the deliberations of BTRC. Finally, a genuine sense of satisfaction – from seeing funded applications delivering new and exciting research findings, ultimately translating as improved care for patients.
I cannot end without a chairman’s hearty vote of thanks -- starting with my fellow committee members, of many talents (and the occasional foible -- not excluding the chair). However, my special thanks are reserved for the steadfast support of Dr Roma Armstrong, BTRC Research Manager over six memorable and happy years, and all of the hard work and unsung ‘back office’ team at CSO, underpinning all of our endeavours. I join with Marie Johnston’s eloquent words of appreciation, in saluting them all.

References
CSO continues to endeavour to ensure that the funding it provides, be it for project grants, personal awards or NHS infrastructure is truly making an impact on NHSScotland. This is an area which will receive greater emphasis in the future, but the following three examples demonstrate the utility of firstly a personal award in building research capacity, secondly a research project and finally a sustained investment in a particular area over a number of years through several grants.

**CSO CLINICAL ACADEMIC TRAINING FELLOWSHIP – WHAT HAS IT DONE FOR ME?**

*Dr William Whiteley, University of Edinburgh*

*(first Fellow to take up award and currently reaching the end of year 2 of Fellowship)*

A clinical academic needs more than just clinical acumen. They must systematically review the medical literature, design good research studies, deal with the increasing burden of research regulation, recruit patients and analyse data using statistical and epidemiological skills. An academic training fellowship gives the time and opportunity for an aspiring researcher to grasp a new topic, and the know-how to start new projects.

Stroke is the third most common cause of death in Scotland and responsible for a quarter of deaths under the age of 65. Most strokes are ischaemic, due to blockage of blood vessels to the brain. We know that, for patients who arrive at hospital soon after the onset of an ischaemic stroke, thrombolytic drugs (‘clot busters’) reduce the chance of becoming dependent on other people. In the very early stages of ischaemic stroke, when thrombolytic drugs are most likely to be effective, diagnosis can be difficult. CT scanning is easily available but is often normal; more sensitive magnetic resonance scanning may either not be available, or if it is, may not be feasible because of the patient’s unstable condition. Blood tests – so called ‘biomarkers’ – could make it possible to diagnose ischaemic stroke more easily, even in the very early stages. They may also better predict the outcome after stroke and so avoid potentially risky treatment for patients likely to do very well or very badly, no matter what is done.

I have chosen to study blood biomarkers of ischaemic stroke, to determine whether they have a role in the diagnosis or prognosis of ischaemic stroke in the emergency department. My research covers three main areas.

**Systematic review:** Careful review of existing literature is an essential first step in any research project. I have taken an unbiased and comprehensive approach to ensure that no potentially useful studies of blood markers for stroke diagnosis and prognosis have been overlooked. Unfortunately, there are no diagnostic markers that are quite ready to use in clinical practice, though there are some that need meticulous assessment of their performance in realistic settings to see whether they add to current techniques. Markers of inflammation, damage to brain cells and cardiac stress all show promise in predicting outcome after stroke, though it is uncertain whether or not they provide additional information to existing clinical predictors of poor outcome such as the severity of stroke or the age of a stroke patient.

**Testing blood markers for the diagnosis of ischaemic stroke:** More rapid triage of ischaemic stroke patients might lead to faster thrombolysis and stroke unit admission. In other conditions, such as myocardial infarction or pulmonary embolism there are useful blood tests that are used in every day practice to help guide investigations or treatment. I am testing whether blood markers add to the diagnostic performance of emergency department staff, in patients where stroke is suspected. The potential markers in stroke are proteins released after damage to brain cells (either neurones or glia, the supporting cells of the brain), endothelium or the heart.
CHAPTER 5
POSITIVE OUTCOMES FROM CSO FUNDING

The prediction of outcome by blood markers after stroke: Predicting whether a patient will do well or badly after their stroke is very difficult. I am examining whether blood markers from the systematic review add to established predictive models, and so whether they have a place in clinical practice. Blood is drawn very soon after a stroke, and after 3 months, outcome is measured using a standard stroke assessment scale. Professor Gordon Lowe and Dr Anne Rumley at the University of Glasgow will analyse the serum and plasma samples once recruitment is complete.

The Division of Clinical Neurosciences of the University of Edinburgh is an excellent place to study. With a large number of stroke researchers, there are plenty of people to provide helpful criticisms of new research designs, comment on analysis and presentation of findings. Not only do my new colleagues have decades of experience in clinical epidemiology, trials and statistical analysis, but the department is centred on the care of people with stroke. Good clinical care makes good research much easier!

My fellowship allows the time for training in research methods. I have taken courses in epidemiology, statistics, good clinical practice and trial management, all of which have borne fruit in improved design and analysis of my stroke biomarker projects. Communication of my work is very important, and CSO has supported presentations to stroke conferences, where meetings with other researchers have generated ideas and potential for collaboration. By teaching students and organising educational events I have worked with colleagues in many neuroscience disciplines across the University.

A clinical academic training fellowship is a stepping stone to further research. Once this project is complete, I hope to continue investigating the role of markers in predicting outcome and response to treatment in stroke and other neurological diseases. Academic clinical research – studying patients rather than cells or animals – is essential for a modern health service. Without independent researchers who understand both clinical practice and research methods, doctors and policy makers cannot draw reliable conclusions about new developments in diagnosis and treatments.

EVALUATION OF SIGN GUIDELINE ON RAPID TREATMENT OF PATIENTS SUFFERING FROM MYOCARDIAL INFARCTION

Myocardial Infarction (MI), more commonly referred to as a ‘heart attack’ is caused by rupture of a narrowing in one of the heart’s arteries, and subsequent blockage of the artery by a thrombus (clot). Within 10-15 minutes of clot formation, death of heart muscle begins and the life of the patient is placed at significant risk.

Despite significant advances across the modern world MI continues to be a leading cause of mortality and morbidity. Much of the ongoing MI research around the globe is focused around improving the outcomes of patients through better clot-busting strategies.

Clot-busting therapy (thrombolysis) was first administered in UK hospitals in the early 1980’s. This treatment was found to be very effective in reducing deaths. Thrombolysis was administered in Coronary Care Unit’s (CCU’s) through intravenous infusion and was quickly found, through major international trials, to be very much a time-dependent treatment, ie the quicker it is administered, the greater the benefit in reducing deaths. This presented significant challenges for most hospitals where, even in those having a heart attack, the flow of patients from the ambulance to A&E to the CCU was very slow and therefore delivery of the thrombolytic drug could take some time. These logistical problems continue to this day in hospitals across the UK, although there have been significant improvements. Hospitals are now measured against a 30-minute “door-to-thrombolysis” target and results of these audits are published nationally.
In 2002-3 the Scottish Ambulance Service (SAS) were embarking on an ambitious programme of pre-hospital thrombolysis whereby thrombolytic therapy was delivered to MI patients by paramedics in the ambulance. Through local negotiation, the pre-hospital thrombolysis (PHT) programme began in NHS Lothian in May 2004. This programme had significant successes and there were visible benefits for MI patients, namely significant reductions in mortality. However, due to the restrictive nature of the national guidelines regulating the administration of PHT, only 22% of MI patients received PHT, and of those, 30% required an emergency procedure within six hours of PHT due to a failure to open the blocked artery.

Over the course of 2005, three important documents were published:

- The American Heart Association/American College of Cardiology guidelines on the management of MI
- The European Society of Cardiology guidelines on Percutaneous Coronary Intervention (a procedure involving the inflation of a small balloon and deployment of metal mesh (stent) in a heart artery to open it up and allow blood flow back to the heart)
- (In draft form) The Scottish Intercollegiate Guideline, SIGN 93, for Acute Coronary Syndromes.

These documents were/are key to the evolution of MI services across Scotland. All three documents recommended the use of Primary Percutaneous Coronary Intervention (PPCI) for MI patients, where it could be delivered quickly. SIGN 93 specified that in cases where the PCI balloon could be inflated within 90-minutes of diagnosis, then MI patients should receive PPCI. Where this was not possible, then patients were to receive immediate thrombolysis.

Building on a successful PHT programme and with a desire to improve MI treatment even further colleagues in NHS Lothian and the SAS (South-East division) approached the Scottish Government Health Department (SGHD) with a proposal to test the SIGN 93 guidance. The key question to be answered were as follows:

- Do the technologies exist and are they robust enough to allow live reperfusion decision-making in MI?
- Can CCU nurses and ambulance paramedics make sufficiently robust decisions to support a live optimal reperfusion programme?
- Can a major teaching hospital organise its services to support a programme based around SIGN 93 guidance?

Following discussion within SGHD it was decided to provide funding for a feasibility study focussed around SIGN 93 and the questions above. The 12-month study began in December 2006. The monies provided by CSO paid for clinical staff, the additional PCI procedures required as a result of the study, a research nurse and miscellaneous research costs.

Results

By the end of November 2007, 416 patients had been admitted to the three Lothian hospitals with heart attacks. Primary PCI was delivered to 68% of patients, thrombolysis to 11% and no reperfusion treatment to 20%. MI patients arrived at hospital by ambulance in 87% of cases, a significantly higher proportion than patients in other studies.

Patients undergoing PPCI stayed in hospital for a significantly shorter period of time (3.6 days versus an average of 6.1 days). PPCI patients were also much less likely to die on first admission (3.2% versus an average of 12%), and within 30 days (4.8% versus 14%).
CHAPTER 5
POSITIVE OUTCOMES FROM CSO FUNDING

Only 5% of patients received PHT during the course of the study. This is likely due to the urban nature of NHS Lothian where 79% of patients reside within 30-minutes of the cardiac catheterisation lab, and the remaining 21% have access to major motorway and dual-carriageway road networks. In general the time taken from diagnosis to undergoing PCI was within the 90 minutes recommended in SIGN 93.

Conclusion
The 12-month feasibility study has answered the questions posed at its beginning, and has informed the national debate on the provision of MI services across Scotland. A short-life working group of the National Advisory Committee on Coronary Heart Disease (chaired by Dr Paul MacIntyre, Lead Clinician on CHD) has commended the results and is in the process of utilising them to inform national practice.

The investigators concluded as follows:

- Technologies and logistical processes are sufficiently robust to support an programme in MI that meets the recommendations in SIGN 93
- CCU nurses and paramedics make consistently appropriate decisions on allocating therapy within such a programme
- Pre-hospital decision-making is absolutely key in reducing the time taken for patients to get from hospital door-to-procedure
- A major teaching hospital in Scotland can reorganise its services to facilitate an optimal reperfusion programme and can achieve commendable performance against time indicators
- Even in an urban area like NHS Lothian, thrombolytic therapy continues to be a major part of the treatment of MI. This will be even more important in more rural areas of Scotland where prompt PPCI is not possible.

COLORECTAL CANCER GENETICS RESEARCH IN EDINBURGH

Professors Malcolm Dunlop and Harry Campbell
Colon Cancer Genetics Group, Institute of Genetics and Molecular Medicine, University of Edinburgh

Long-term investment by the CSO has provided the Edinburgh Colon Cancer Genetics Group with essential support and enabled us to make substantial progress in understanding the genetic contribution to colorectal cancer. CSO funding has enabled us to leverage substantial partner funding from Cancer Research UK, the Medical Research Council and Core (a charity that funds research into the entire range of gut, liver, intestinal and bowel illnesses). Our group made a major investment in recruiting several thousand patients with colorectal cancer and matched population controls from across Scotland. This was successfully achieved through excellent collaboration with the Scottish Cancer Registry and staff from surgical units across Scotland. We assembled detailed demographic, lifestyle, clinical, pathological and follow up data on each of these individuals. We gave particular emphasis to early onset cases and have recruited more than 1,500 patients who developed colorectal cancer before the age of 55 years.

This unique dataset gave us a powerful resource for our research programme investigating genetic and lifestyle determinants of cancer risk and prognosis. Most recently this has included a genome-wide association study (GWAS) involving genotyping 2,000 individuals each for 550,000 genetic markers. We were in the vanguard of the new GWAS investigations of the genetic basis of cancer. To date this work has resulted in the identification of a total of 10 new common genetic variants that impart risk of colorectal cancer. These discoveries implicate novel pathways of cancer
development and so these genetic markers are now the focus of intense research to understand the underlying mechanisms of the increased risk. We are also working to apply this new genetic information through genetic risk profiling approaches to allow the development of risk stratification that could be applied to the entire population in order to target screening to those at highest risk.

The scientific value of this work is illustrated by the large number of publications advancing knowledge of the causation of colorectal cancer across a number of areas and including six articles in the past 2 years in Nature Genetics and the New England Journal of Medicine (see * below for references). The translational importance of this work is exemplified by our application of new knowledge generated by our research to the development of UK clinical guidelines for the management of genetic high risk groups including carriers of mutations in mismatch repair genes (those that recognise and repair mismatches between the two strands of DNA). These guidelines are currently being ratified by the Association of Coloproctology of GB and Ireland and the British Society of Gastroenterology, and will also be taken up by the respective organisations in the Republic of Ireland.

The next exciting challenges are to continue to identify novel genes predisposing to colorectal cancer and related interactions between genes and also between genes and the environment. We will also test the utility and accuracy of genetic profiling using the novel markers that we have identified in order to develop approaches in which we might implement on a population scale in the healthy population over the coming years. This could lead to stratifying risk within populations such that those at highest risk can be offered appropriately intensive colonoscopic screening, while those at low risk may be able to avoid screening altogether. This next phase of research will also employ new technologies such as resequencing and collaboration with the Edinburgh parallel computing centre and will require even larger sample sizes. To this end we are currently seeking to extend this research together with the Managed Clinical Networks in colorectal cancer throughout Scotland. This partnership between NHS clinicians and our established research programme with its clear aims and strategies and demonstrated track record of achievement is well placed to deliver important new scientific insights which will open up real opportunities to influence cancer incidence and death rate in Scotland and the UK as a whole.

*Selected publications in high impact journals arising from CSO funding the last 2 years


FINANCIAL SUMMARY

EXPENDITURE PROFILE

CSO made £16 million available in 2007-8 for direct expenditure. Funding is divided into a number of streams and a breakdown is shown in Figure 6.1.

Figure 6.1 – Breakdown of CSO direct expenditure

Provisions are also made within the budget to allow funding of specific programmes or commissioning of work on urgent policy or NHS interests. The majority of this funding remains responsive, but with the continuing implementation of policy-led initiatives research focussed on priority areas are beginning to attract a greater share of the resources.

1. Projects

The largest single commitment of this portion of CSO funds is spent on funding response mode research projects following peer review and on the recommendation of the two standing committees:

- Health Services Research Committee (HSRC)
- Biomedical and Therapeutic Research Committee (BTRC).

These committees each meet three times yearly to consider applications, and their membership is detailed in Appendix B. CSO pays 80% of the FEC up to a maximum of £225,000 (spread over up to 3 years) for a project grant and £50,000 (for up to 1 year) for small grants in Health Services and Public Health Research. Programme grants in Public Health, Mental Health and Cancer are also available and 58 awards were made in 2007-8 (see Appendix D).

Committee expenditure on the 207 projects ongoing in 2007-8 totalled £7.6 million. £4.4 million of this was on projects in priority areas (78 projects), illustrating the commitment to research in these areas.

Final reports accepted during 2007-8 are listed in Appendix C.
CHAPTER 6
FINANCIAL SUMMARY

Projects approved for funding in 2007-8 are listed in Appendix D and the value and number of these, broken down into topics, is shown in Figure 4.2. 58 new projects were approved for funding (30 full and 28 small grants) with a total value of over £6.6 million.

2. CSO Training Schemes
The Health Services Research training awards give opportunities for healthcare professionals in NHSScotland and academic researchers with a commitment to NHS research to gain research experience and skills. The Clinical Academic Training Fellowships are specifically for doctors and dentists to gain an MD or PhD. Newly funded individuals through CSO schemes and their projects are listed in Appendix E. Of the 12 new awards made in 2007, eight were in priority areas. Expenditure in this area was £1.2 million in 2007-8, which also includes joint awards with the MRC and funding for Career Scientists.

3. Research Units
In 2007-8 CSO provided funding of £3.7 million for seven units (listed in Appendix F) which is core funding for agreed programmes of research on some of the major topics of concern for health in NHSScotland.

4. Strategic Initiatives
In 2007-8 continued emphasis was placed on research in certain key areas including the clinical priorities of Cardiovascular Disease/Stroke, Cancer and Mental Health, including funding for:
• the two Scottish Experimental Cancer Medicine centres
• UK Biobank
• NMAHP consortia
• Genetics and Healthcare Initiative
• National Prevention Research Initiative
• Translational Infection Research Initiative
• UKCRC (note the majority of funds for UKCRC are not included in the total direct expenditure figure above as they are allocated through NHS support mechanisms – see Appendix H).

Support was also provided to Primary Care research (£594k) including Primary Care Research Career Awards, the Scottish School of Primary Care and the Scottish Primary Care Research Network.

5. Information and Dissemination
In fulfilment of our R&D Strategy commitment, CSO contributes to UK-wide resources to support the collection and dissemination of, and access to, research findings. Included within this was support for the Cochrane Collaboration and the National Research Register. Expenditure in this area in 2007-8 was £388k.
Cooperation with other funders

The role of CSO is to support and promote research aimed at improving the services offered by NHSScotland, and the health of the people of Scotland, which reflects the funding priorities of other bodies such as MRC. As such, CSO is party to the formal Department of Health Concordat with MRC and is also signatory to Concordats between other research councils and the Departments of Health. We also have a Strategic Alliance with the Scottish Higher Education Funding Council and are actively involved in the formulation of research policy. CSO also has a Partnership Agreement with funders whose studies are eligible for Support for Science funding within the NHS. CSO’s involvement in, and commitment to the principles of, the UK Clinical Research Collaboration involves considerable partnership working to progress this initiative to patient benefit.
APPENDIX A

CHIEF SCIENTIST OFFICE DIRECTORY

Initial Enquiries
Chief Scientist Office
Scottish Executive Health Department
St Andrew’s House
Regent Road
Edinburgh EH1 3DG
Fax: 0131 244 2285

NHS funding and policy, research ethics and governance, IP, CSO training schemes, information and communication
Karen Ford – 0131 244 2246

Response mode funding, core-funded units, general enquiries
Nick Gosling – 0131 244 2248

Website: CSO web pages can be found on the SHOW website at:
http://www.sehd.scot.nhs.uk/cso/

All email addresses are
firstname.lastname@scotland.gsi.gov.uk

Chief Scientist
Professor Sir John Savill
(from June 2008)

CSO Director
Dr Alison Spaull
Tel: 0131 244 2320

CSO Deputy Director
Mr Mike Stevens
Tel: 0131 244 2259

Funding Policy Manager and Research Governance
Mr Craig Gilbert
Tel: 0131 244 2655

1. Biomedical and Therapeutic Research Committee
2. Cardiovascular Disease/Stroke and Cancer
Research Manager
Dr Roma Armstrong
Tel: 0131 244 2255

Administrator
Tel: 0131 244 2248

1. Health Services Research Committee
2. Health Services Research Unit
3. Health Economics Research Unit
4. Dental Health Services Research Unit
5. Nursing, Midwifery and Allied Health Professions Research Unit
Research Manager
Dr Hilary Lapsley
Tel: 0131 244 2254

Administrator
Tel: 0131 244 2248

1. Public Health
2. MRC Social and Public Health Sciences Unit
3. Research Unit in Health, Behaviour and Change
4. Scottish Section of the MRC Institute of Hearing Research
Research Manager
Dr Peter Craig
Tel: 0131 244 2077

Administrator
Tel: 0131 244 2248

Mental Health
Research Manager
Ms Beatrice Cant
Tel: 0131 244 0335

Administrator
Tel: 0131 244 2248

1. NHS Priorities and Needs Programmes
2. Primary Care Research
Programme Manager
Dr Chiara McCormack
Tel: 0131 244 3469

1. Information and Communication
2. NHS Support for Science
3. CSO Training Schemes
Communication and Support Manager
Dr Elaine Moir
Tel: 0131 244 2215
APPENDIX B
MEMBERSHIP OF CSO STANDING COMMITTEES AT 31 MARCH 2008

CHIEF SCIENTIST COMMITTEE
Vacant, Chief Scientist (Chair)
Dr Roma Armstrong, Research Manager, Chief Scientist Office
Dr Harry Burns, Chief Medical Officer, Scottish Executive Health Department
Ms Beatrice Cant, Research Manager, Chief Scientist Office
Dr Peter Craig, Research Manager, Chief Scientist Office
Mr Simon Denegri, Association of Medical Research Charities
Dr Martin Donaghy, Clinical Director, Health Protection Scotland
Mr Brian Fagg, Lay member
Dr Allan Gunning, Chief Operating Executive, NHS Ayrshire and Arran
Mr John Hall, President, European Operations for AAI Pharma
Professor Neva Haites, Department of Medicine and Therapeutics, University of Aberdeen/Chair of BTRC
Dr Russell Hamilton, Deputy Director of Research and Development, Department of Health
Dr Hilary Lapsley, Research Manager, Chief Scientist Office
Professor Steve Logan, Head of College of Life Sciences and Medicine, University of Aberdeen
Dr Margaret McGuire, Deputy Chief Nursing Officer, Scottish Government
Mrs Helen Millar, Lay member
Professor Lewis Ritchie, Department of General Practice, University of Aberdeen
Professor George Sarna, Chief Executive, Medical Research Council
Dr Alison Spaull, Director, Chief Scientist Office
Dr David Steel, Chief Executive, NHS Quality Improvement Scotland
Mr Mike Stevens, Deputy Director, Chief Scientist Office
Professor David Stott, Academic Section of Geriatric Medicine, University of Glasgow/Chair of HSRC

Dr Mark Walport, Director, Wellcome Trust
Professor Tony Wells, Chief Executive, Tayside NHS Board
Mrs Pam Whittle, Director of Health Improvement, Scottish Executive
In attendance, Rosemarie Pelosi (Secretary), Chief Scientist Office

HEALTH SERVICES RESEARCH COMMITTEE
Professor David Stott (Chair), Academic Section of Geriatric Medicine, Glasgow Royal Infirmary
Professor Siladitya Bhattacharya, Department of Obstetrics and Gynaecology, Aberdeen Maternity Hospital
Professor Christine Bond, Department of General Practice and Primary Care, University of Aberdeen
Professor Andrew Briggs, Section of Public Health and Health Policy, University of Glasgow
Professor Harry Campbell, Department of Public Health Sciences, University of Edinburgh
Ms Beatrice Cant, Research Manager, Chief Scientist Office
Dr Peter Craig, Research Manager, Chief Scientist Office
Dr Rob Durham, Department of Psychiatry, University of Dundee
Dr Hilary Lapsley, Research Manager, Chief Scientist Office
Dr Gillian Mead, Department of Geriatric Medicine, University of Edinburgh
Mrs Helen Millar, Lay member
Professor Ronan O’Carroll, Department of Psychology, University of Stirling
Professor Gillian Raab, Community Health Science, Napier University
Dr Alison Spaull, Director, Chief Scientist Office
Professor Robert Steele, Department of Surgery and Molecular Oncology, University of Dundee
Professor Frank Sullivan, Tayside Centre for General Practice, University of Dundee
Dr Bernard Swift, Lay member
Dr Alison Tierney, Adjunct Professor of Clinical Nursing, University of Adelaide

Professor David Weller, Department of Community Health Sciences, University of Edinburgh

Dr Brian Williams, Department of Epidemiology and Public Health, University of Dundee

BIOMEDICAL AND THERAPEUTIC RESEARCH COMMITTEE

Professor Neva Haites (Chair), Department of Medicine and Therapeutics, University of Aberdeen

Dr Roma Armstrong, Chief Scientist Office

Dr Salah Beltagui, Lay member

Dr Elaina Collie-Duguid, Department of Medicine and Therapeutics, University of Aberdeen

Professor Hilary Critchley, Centre for Reproductive Biology, University of Edinburgh

Professor Malcolm Dunlop, MRC Human Genetics Unit, Western General Hospital, Edinburgh

Professor Ian Ford, Robertson Centre for Biostatistics, University of Glasgow

Professor David Goldberg, Scottish Centre for Infection and Environmental Health

Professor David Harrison, Department of Pathology, University of Edinburgh

Professor Ronald Hay, Centre for Inter-Disciplinary Research, School of Life Sciences, University of Dundee

Professor Ruth Jarrett, Department of Veterinary Pathology, University of Glasgow

Dr Graham Leese, Medicine and Cardiovascular Group, University of Dundee

Professor George Macfarlane, Microbiology and Gut Biology Group, University of Dundee

Professor Alison MacLeod, Department of Medicine and Therapeutics, University of Aberdeen

Professor John McMurray, BHF Glasgow Cardiovascular Research Centre, University of Glasgow

Dr Keith Muir, Division of Clinical Neurosciences, University of Glasgow

Dr Walter Muir, Department of Psychiatry, University of Edinburgh

Ms Joan Munro, Lay member

Professor David Newby, Department of Cardiology, University of Edinburgh

Professor Jill Pell, BHF Glasgow Cardiovascular research Centre, University of Glasgow

Dr Simon Powis, Department of Immunology, University of St Andrews

Professor Ian Reid, Department of Mental Health, University of Aberdeen

Professor Tariq Sethi, MRC Centre for Inflammation Research, University of Edinburgh
APPENDIX C

FINAL REPORTS ACCEPTED IN 2007-8

BIOMEDICAL AND THERAPEUTIC RESEARCH COMMITTEE

Professor R Barker, Dr W Pickford, Mr A Watson (CZB/4/128)
Overcoming immune tolerance to tumour antigen in colorectal cancer patients

Professor M Johnston, Professor P Hannaford, Dr D Dixon, Dr A Elliott (CZG/1/146)
Disability in the community: the role of chronic pain and illness related cognitions

Dr C Sutherland, Dr D Cuthbertson, Dr J Petrie, Dr M Murphey, Professor A Morris (CZB/4/125)
An analysis of the molecular and biochemical defects in insulin action that correlate with the development of obesity-induced insulin resistance

Dr I Kane, Professor P Sandercock, Professor J Wardlaw, Dr W Whiteley (CZG/1/116)
Practical streamlined and optimal use of imaging in acute stroke

Professor B Dhillon, Dr C Hayward, Dr A Armbrecht, Professor A Wright (CZB/4/79)
Investigating the genetic basis of age-related maculopathy

Professor D Melton, Dr V Doherty, Dr N Anderson, Dr G Kavanagh, Professor H Campbell, Professor J Rees (CZB/4/248)
The importance of cell cycle control and DNA repair gene polymorphisms in genetic predisposition to melanoma

Dr P Fowler, Professor S Bhattacharya (CZG/1/109)
Optimisation of an in-vitro model to investigate the human fetal testis

Dr S Farrington, Professor H Campbell, Professor M Dunlop, Dr R Barnetson (CZB/4/94)
Association of mutations in the human homolog of the muty gene with early onset colorectal cancer (graded excellent)

Professor B Frier, Professor I Deary, Dr J Geddes (CZB/4/423)
The effects of hypoglycaemia on psychomotor function in adults with and without type I (insulin-treated) diabetes

Dr R Al-Jamal, Professor D Harrison, Dr W Wallace (CZB/4/129)
Novel treatment targets for lung disease

Professor N Thomson, Dr S Wood, Dr G Vallance, Dr L McAlpine, Dr S Howieson, Dr A McMahon, Dr R Chaudhuri, Dr C McSharry, Dr A Lawson, Dr R Brooks (CZB/4/47)
Randomised controlled trial to evaluate the effect of domestic mechanical heat recovery ventilation on asthma control of patients allergic to the house dust mite

Professor J Belch, Dr S Greene, Professor A Anderson, Dr G Kennedy, Dr F Khan, Dr A Craigie, Dr A Greene, Dr M Roberts (CZB/4/96)
Changing lifestyle in children – all change: can this reduce cardiovascular risk?

Professor D Stott, Professor I Ford, Professor G Lowe, Professor N Sattar (CZB/4/530)
Proinflammatory cytokines as biomarkers for risk of stroke

Mr F Sutherland, Dr C Connelly, Mr R Thompson, Mr W Richardson (CZG/1/155)
Design and evaluation of a device for rapid deployment of a prosthetic heart valve

Professor I Poxton, Professor J M Starr (CZG/1/159)
The host response to clostridium difficile in health and disease

Dr Z Miedzybrodzka, Professor D St Clair, Dr J Williams, Ms M Neves-Pereira, Dr B Mueller (CZB/4/294)
Molecular analysis of breakpoint regions of a de novo reciprocal translocation associated with autism

Professor G Gould, Professor J Connell, Dr C Perry (CZB/4/112)
Compartmentalisation of insulin signalling in human adipocytes: role of associated structures (accepted)

Professor T MacDonald, Professor H Parthasarathy, Professor J Connell, Professor K Alhashmi, Professor G Mclnnes, Professor A Struthers, Professor I Ford (CZB/4/38)
Does the aldosterone: renin ratio predict the efficacy of spironolactone over bendrofluemethiazide in hypertension? a clinical trial protocol for renaldo (renin-aldosterone) study
Gene expression in healing wounds with the use of topical negative pressure: a pilot study (unsatisfactory)

Dr A McIntosh, Dr S Lawrie, Professor E Johnstone, Dr J Hall, Dr K Lymer, Dr M Bastin (CZB/4/434)

White matter integrity in bipolar disorder and schizophrenia (graded excellent)

Professor A Struthers, Dr J Davies, Dr R Walter, Professor A Morris, Dr G Houston (CZB/4/145)

Left ventricular hypertrophy in normotensive individuals: would reducing blood pressure further enhance left ventricular regression?

Professor J Wardlaw, Dr C Sudlow, Professor J McCulloch CZB/4/517

A systematic review of experimental models of lacunar stroke: linking models to the human disease

Professor J Satsangi, Dr E Nimmo, Professor D Porteous, Professor M Dunlop, Dr D Wilson, Dr N Anderson (CZB/4/146)

An investigation of the genetic determinants of susceptibility to Crohn’s disease in the Scottish population

Dr C Dibben, Dr I Atherton, Dr A Baldacchino, and Professor J Doherty (CZG/2/256)

Scoping a homelessness and drug/alcohol cohort dataset from routine information

Professor J Morrison, Ms M Maxwell, Ms R Munoz-Arroyo, Dr A Power, Dr M Smith, Mr M Sutton, Dr P Wilson (CZG/4/198)

An exploratory study of antidepressant prescribing in Scotland

Dr B McKinstry, Professor A Sheikh, Dr H Pinnock, Mr D Heaney, Dr J Dowell, Dr R Slack, Professor G Edwards (CZG/2/245)

How do telephone consultations differ from face to face consultations in content and quality? A pilot comparative study using tape recorded consultations

Dr B Williams, Dr J Coyle, Dr G Hoskins, Ms A Greene, Dr R Neville, Dr S Mukhopadhyay, Ms J Pow (CZH/4/152)

An exploration of reasons for low physical activity levels among children with moderate to severer asthma: informing the development of new interventions (graded excellent)

Dr C Thomson, Dr I Beggs, Dr D Martin, Ms D McCaldin, Dr R Edwards, Dr D Russell, Ms S Yeo, Professor I Russell, Mr J Gibson (CZH/4/88)

A patient blind multicentred randomised controlled trial to investigate the effectiveness of methylprednisolone injections in the treatment of Morton’s neuroma

Dr S Bonellie, Professor S Jarvis, Dr R Gray, Dr E Hey, Dr J Chalmers, Professor I Greer (CZH/4/293)

The changing influences of fetal gender and maternal social deprivation on three singleton pregnancy outcomes in Scotland 1981-2001 (graded excellent)

Dr P Wilson, Dr C Puckering, Dr N Reissland, Dr H Marwick, Professor C Gillberg, Dr A McConnachie (CZH/2/217)

A pilot study to establish the feasibility of parental targeted video recording for studies of social communication in early childhood

Dr J Pell, Professor G Smith (CZG/2/205)

Retrospective cohort study of the association between pre- and peri-natal factors and special educational needs

Dr J Pell, Professor S Cobbe, Dr N Mills, Dr R Anderson (CZG/2/240)

Air pollution and risk of pre-hospital cardiopulmonary arrest

Dr J Pell, Dr D Newby, Professor S Cobbe, Dr N Mills, Dr R Anderson (CZG/2/240)

Genetic epidemiology of epilepsy and fetal anticonvulsant syndrome in Scotland

Dr J Dean, Dr A Rasalam (CZG/2/198)

Effect of exercise on cognitive function in children: a pilot study

Dr J Reilly, Mr J Boyle, Dr J Paton, Mr J McColl, Dr P Tomporowski, Miss A Fisher (CZG/2/236)

A systematic review of experimental models of lacunar stroke: linking models to the human disease

Dr C Dibben, Dr I Atherton, Dr A Baldacchino, and Professor J Doherty (CZG/2/256)

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Dr J Pell, Dr D Newby, Professor S Cobbe, Dr N Mills, Dr R Anderson (CZG/2/240)

Air pollution and risk of pre-hospital cardiopulmonary arrest

Dr J Pell, Professor G Smith (CZG/2/205)
APPENDIX C

FINAL REPORTS ACCEPTED IN 2007-8

(continued)

Professor A Sheikh, Dr E Grant, Dr S Murray, D A Worth, Professor R Bhopal, Dr M Kendall, Dr D Brown, Dr D Brown, Dr J Adam, Dr R Gardee, Ms N Aslam, Dr J Lawton (CZH/4/242)
Developing services to meet the end of life care needs of South Asian Sikh and Muslim patients and their families in Scotland

Dr A Green, Professor M Power, Mrs A Hawkins (CZH/4/197)
A follow-up study of the quality of life of adults with intellectual disabilities discharged from a long stay learning disabilities hospital

Professor I Crombie, Dr L Irvine, Dr V Swanson, Professor K Power, Dr P Slane, Dr W Wreiden, Dr J Coyle (CZH/4/205)
How can we improve the diet of young children living in areas of high deprivation

Professor S Amyes, Dr L Vali, Ms S Davies (CZG/2/227)
The effect of biocide usage on clinical MRSA

Professor S Bhattacharya, Dr H Lyall, Dr A Harold, Dr C Tay, Dr D McQueen, Dr J Mills, Ms S Wordsworth, Professor A Templeton (CZH/4/17)
A randomised controlled trial of clomiphene citrate versus intra-uterine insemination for the management of unexplained infertility

Dr M Sharpe, Professor D Weller (CZH/4/37)
Patients frequently referred from primary to secondary care for medically unexplained symptoms

Dr B Cuthbertson, Mr G Prescott, Dr G Christie, Dr S Close (CZG/2/202)
A scoring system to allow early recognition and intervention of critical illness in acute medical admissions in a medical admissions and respiratory unit environment

Professor B Smith, Professor M Pope, Professor P Hannaford, Dr A Elliot, Professor M Johnston, Professor W Chambers (CZH/4/248)
Development study for a complex intervention for chronic low back pain in NHS primary care: identifying its likely components and assessing its likely acceptability

Ms A Cardy, Dr Z Miedzybrodzka, Dr L Sharp (CZH/4/221)
Does second Trimester amniocentesis increase the risk of clubfoot in the offspring?

Professor A Sheikh, Dr C Anandan, Dr C Fischbacher, Dr C Simpson, Dr R Gupta (CZG/2/252)
The health burden of allergic disease in Scotland: secondary analysis of databases (graded excellent)

Dr M Witham, Professor M McMurdo (CZG/2/233)
Validation of the patient generated index in older, frail patients attending a medicine for the elderly day hospital

Professor M McMurdo, Professor D Johnston, Professor P Boyle, Dr P Donnan, Dr F Sniehotta (CZH/4/310)
An open pilot randomised trial of the feasibility of using pedometers plus systematic advice to increase physical activity levels in sedentary older women living in the community

Dr K Cooper, Dr A Sambrook, Professor M Campbell, Dr J Cook, Ms M Kilonzo, Dr L Vale (CZH/4/117)
Microwave endometrial ablation versus thermal balloon endometrial ablation – a randomised comparison of treatment in the post menstrual phase: clinical outcomes, patient acceptability and cost

Dr C Lambert, Dr E McRorie, Dr E Suresh, Dr N Hurst, Dr V Dhillon (CZH/4/194)
Comparison of two pragmatic strategies for management of newly diagnosed polyarthritis using disease modifying anti-rheumatic drugs

Dr C Williams, Dr P Wilson, Dr A Walker, Dr I Wallace, Professor J Morrison, Dr G Whitfield, Dr A McMahon (CZH/4/61)
An evaluation of the effectiveness of structured cognitive behaviour therapy self-help materials delivered by a self-help support worker within primary care

Dr T Ali, Dr C Black, Dr G Prescott, Professor A MacLeod, Dr C Simpson, Dr I Khan, Professor C Smith (CZG/2/239)
Preventing end stage renal disease: informing the development of a public health strategy (graded excellent)
Ms H Cheyne, Dr V Hundley, Dr D Dowding, Professor C Niven, Professor I Greer, Professor J Bland, Dr L Aucott, Dr P McNamee (CZH/4/245)
A cluster randomised trial to investigate the use of a decision aid for the diagnosis of active labour in term pregnancy (graded excellent)

Professor G Raab, Ms H Storkey, Dr M Henderson, Dr J Davis, Professor L Elliott (CZG/2/264)
Development of instruments and procedures for a randomised controlled trial to evaluate the zero tolerance respect package in Midlothian primary schools

Dr R Milne, Dr B Torsney (CZG/2/184)
The impact of outreach on non-attendance at psychiatric out-patient clinics: does it raise non-attendance?

Professor C Espie, Dr N Broomfield (CZG/2/187)
a pilot investigation of autonomic and cortical arousal in adults diagnosed with psychophysiological (primary) insomnia

Professor M Johnston, Dr M Ietswaart, Dr R MacWalter, Dr S Hamilton, Dr H Dijkerman, Ms C Scott (CHZ/4/153)
Can motor imagery enhance recovery of hand function after stroke? an evaluation of motor imagery training

Dr K Fairhurst, Professor Sheikh, Dr S Ziebland (CZG/2/244)
Access to emergency contraception: a systematic review of the effectiveness of intervention to increase use and research on facilitators and barriers

Dr J Lawton, Dr E Peel, Dr M Douglas (CZG/2/241)
Diabetes service provision: a follow-up study of user experiences (graded excellent)

Dr P Hoddinott, Ms J Britten, Dr A Ludbrook, Dr D Tappin, Ms J Mollison, Dr R Melnnes, Dr D Godden (CZH/4/156)
The big trial: a randomised controlled trial to evaluate the clinical and cost effectiveness of breastfeeding support groups in improving breastfeeding initiation, duration and satisfaction (graded excellent)

Dr M King, Professor C Hughes, Mr P McNamee, Dr W Primrose, Dr A Lee, Dr C Bond (CZG/2/243)
An evaluation of an adapted United States model of pharmaceutical care to improve psychoactive prescribing for care home residents in Scotland

Dr P Donnan, Dr C Tilley, Dr C Fischbacher, Dr C Simpson, Dr B Guthrie, Mr M Sutton, Professor J Morrison, Dr B McKinstry (CZH/4/374)
Development and validation of an algorithm to predict emergency hospital admissions in Scotland

Dr J McLay, Dr K Mearns, Dr R Milne, Dr C Simpson, Professor P Helms, Dr C Bond (CZG/2/224)
Implementation of a computerised decision support system to GPASS practices to reduce the level of off-label paediatric prescribing in primary care: a feasibility study

Dr B Duncan, Ms J McIntosh, Dr C Johnman, Dr J Galloway (CZG/2/278)
Exploring understandings of sexual risk and sexual health among heterosexual young people with antisocial behaviour problems

Dr R Robertson, Dr M Hickman, Dr J MacLeod (CZH/4/318)
The Edinburgh addiction cohort – a follow-up study to describe the life course of injecting drug use (including treatment pathways, imprisonment, mortality, and rates of cessation); and to identify and recruit a community matched control

Dr S Cameron, Dr H Young, Dr G Scott (CZH/4/127)
Novel interventions to reduce re-infection amongst women with chlamydia trachomatis

Professor A Sheikh, Dr A Worth, Dr U Nurmatov (CZG/2/296)
Anaphylaxis management plans for children and adults in the community in the UK: a systematic review and e-delphi study
APPENDIX D

RESEARCH GRANTS AWARDED DURING 2007-8

BIOMEDICAL AND THERAPEUTIC RESEARCH COMMITTEE

Dr I Johannessen, Dr S Talbot, Professor D Crawford (CZB/4/521)
Targeting influenza A H5N1-infected cells using novel antibody targets and ‘t bodies’
£224,510 over 1 year

Dr P De Sousa, Dr M Head, Dr M Turner, Professor J Manson (CZB/4/588)
Proof of principle validation of a human embryo stem cell based screen for susceptibility to infections prion transmission
£125,438 over 18 months

Dr R Reynolds, Dr A Drake, Professor J Seckl, Professor K Godfrey, Dr K Lillycrop, Professor C Cooper (CZB/4/582)
Epigenetic modification of glucocorticoid receptors by early life events
£103,532 over 1 year

Professor T Sethi, Dr P Hodkinson, Professor S Howie, Dr W Wallace, Dr L Williams (CZB/4/504)
The role of CD45 as a novel prognostic marker of survival and treatment response in patients with small cell lung cancer
£203,495 over 2 years

Dr E Nimmo, Professor J Satsangi, Professor M Dunlop, Dr S Farrington, Dr M Aldhous, Dr S Guichard (CZB/4/585)
Genetic and functional investigations of the Nod2/CARD15 interacting proteins vimentin and ERG1 in ulcerative colitis and Crohn’s disease
£207,603 over 3 years

Professor S Barnett, Miss L Clark, Mr D Allan, Dr J Riddell (CZB/4/592)
Characterisation of olfactory glial and stem cells from human olfactory mucosa
£220,226 over 30 months

Dr W Carman, Dr S Cameron, Dr J Kean (CZB/4/591)
Developing antibody avidity assays to differentiate acute and chronic infection
£79,573 over 18 months

Professor A Riches, Professor C Herrington, Professor K Dholakia, Mr C Goodman, Mr S Kata (CZB/4/571)
Development of a non-invasive screening method for bladder cancer using a novel photonic technique
£209,214 over 2 years (funding is for one year in the first instance, with subsequent funding dependant on progress)

Dr R Al-Jamal, Professor D Harrison, Professor T Sethi (CZB/4/602)
The role of B1 integrin in lung repair
£243,146 over 3 years

Dr S Miller, Prof J Connell, Prof G Gould (CZB/4/445)
Translational analysis of the role of synaptotagmins in the adipocyte, and their relationship to insulin action
£215,791 over 3 years

Dr D Powis, Dr K Morley (CZB/4/562)
Investigation of misfolded HLA-B27 molecules from patient-isolated leucocytes and dendritic cells as a novel biomarker for inflammatory arthritis
£198,026 over 2 years

Dr K Oldroyd, Dr C Berry, Dr R McGeoch, Professor I Ford, Professor H Dargie (CZB/4/572)
Quantifying myocardial no-reflow in patients with STEMI
£203,846 over 2 years

Professor K Lees, Professor I Ford, Dr K Muir, Dr P Langhorne, Dr T Quinn, Dr C Weir, Dr M Walters, Dr J Dawson (CZB/4/595)
Central adjudication of modified rankin scale disability assessments in acute stroke
£211,992 over 18 months
Dr P Martin, Professor D Flint, Dr C Wright (CZB/4/606)
The impact of connexin mimetic peptides and cellular environment on wound healing rates in organotypic living skin equivalents
£223,327 over 2 years

Professor J Fowkes (CZB/4/609)
Cochrane collaboration review group on peripheral vascular diseases 2007
£321,101 over 32 months

Professor N Sattar, Professor C Packard, Dr F Dunn, Professor R Holman, Professor I Ford, Professor S Cobbie, Dr M Fisher, Professor J McMurray (CZB/4/613)
Effect of metformin on progression of carotid atherosclerosis in non-diabetic patients with cardiovascular disease optimally treated with conventional risk reducing agents
£384,901 over 3 years

HEALTH SERVICES RESEARCH COMMITTEE
Professor M McMurdo, Dr M Witham, Professor A Struthers, Professor D Johnston, Professor C Lang (CZH/4/426)
A randomised controlled trial of the effect of exercise training on exercise capacity in older patients with heart failure
£217,428 over 3 years

Professor M McMurdo, Professor D Johnston, Professor P Boyle, Dr P Donnan, Dr F Sniehotta (CZH/4/463)
A randomised controlled trial of the effectiveness of pedometers plus systematic advice to increase physical activity levels in sedentary older women
£218,056 over 27 months

Dr J Tucker, Professor J Farmer, Dr N Smith, Ms A Fitzmaurice, Ms T Humphrey, Dr R Powell (CZH/4/414)
Psychological wellbeing and social support in hospitalised women in the perinatal period: a prospective urban/rural comparison
£105,321 over 21 months

Dr S Turner, Dr S Mukhopadhyay, Dr C Palmer, Professor J Ayres, Dr A Mehta, Dr T McFarlane (CZH/4/418)
Establishing a database to study gene-environment interactions and pharmacogenomics for asthma among Scottish children
£225,000 over 2 years

Dr R O’Connor, Professor M Williams, Dr G Masterton, Dr R Smyth (CZH/4/449)
The role of psychological factors in predicting short-term outcome following suicidal behaviour
£223,998 over 3 years

Dr H Cheyne, Professor L Dagleish, Professor C Niven, Dr J Tucker, Dr A Shetty, Ms S McLeod (CZH/4/417)
Decision to transfer: risk assessment and decision making in labour in remote and rural settings
£100,575 over 20 months

Dr C Matheson, Professor C Bond, Professor A Lee, Dr B Davidson, Mr A Johnstone, Mrs L Skea (CZH/4/421)
A cluster randomised controlled trial of enhanced pharmacy services for methadone patients
£184,003 over 2 years

Dr R Robertson, Dr J MacLeod, Dr M Hickman (CZH/4/440)
Life course predictors and consequences of injecting drug use: a population-based case-control study
£207,662 over 2 years

Professor A Sheikh, Professor S Cunningham-Burley, Dr A Worth (CZH/4/429)
Developing strategies for effective self-management of anaphylaxis in adolescents: in-depth qualitative study of adolescent and parental perceptions of risk, self-management and support needs
£121,762 over 15 months

Dr F Sniehotta, Professor J Speakman, Dr V Araujo-Safoes (CZH/4/458)
Tackling the obesity problem at an early stage: modifiable determinants of physical activity and sedentary behaviour in Scottish primary school children
£76,524 over 15 months
APPENDIX D
RESEARCH GRANTS AWARDED DURING 2007-8
(continued)

Professor S Cobbe, Dr C Jackson, Dr R Myles, Dr M Petrie, Professor J McMurray, Professor J Pell (CZH/4/439)
Microvolt t-wave alternans in chronic heart failure: a study of prevalence and incremental prognostic value
£201,384 over 2 years

Mrs M Maxwell, Dr R Martinez, Mr S Naji, Dr P Watson, Dr C Burton, Professor J Morrison, Dr C Williams (CZH/4/462)
Pilot study of a practice nurse supported psychological self-help intervention for patients with diabetes or coronary heart disease and co-morbid depression
£116,418 over 1 year

Professor P Davey, Dr J Reilly, Dr G Orange, Dr M Phillips, Professor M Schumacher, Mr B Cooper, Professor M Chalkley, Dr J Evans (CZH/4/466)
Longitudinal analysis of bacteraemia caused by Staphylococcus aureus: impact on economic costs and patient outcomes
£89,303 over 1 year

Professor J Reilly, Dr M Pearce, Dr L Basterfield, Dr K Parkinson, Dr A Adamson, Professor C Wright (CZH/4/484)
Role of physical activity and sedentary behaviour in the development of childhood obesity in a socio-economically deprived cohort of contemporary children: longitudinal study
£220,302 over 21 months

Professor A Sheikh, Dr S Cunningham, Dr H Rhodes, Dr G Menon, Dr F Denison, Dr C Anandan (CZG/2/277)
Investigating the effectiveness of primary prevention strategies using hydrolysed milk formula and probiotic supplements to prevent allergic disease in high risk infants: pilot factorial randomised controlled trial
£39,574 over 1 year

Dr B McKinstry, Dr P Watson (CZG/2/299)
Descriptive and comparative study of patients’ recall of the content of face to face and telephone consultations: a pilot study
£39,998 over 1 year

Dr J Rattray, Dr E Myers, Mrs C Johnstone, Professor R Ludwick, Dr W Lauder (CZG/2/289)
Indicators of acute deterioration in adult patients nursed in acute wards: what determines nurses’ decisions?
£18,280 over 7 months

Professor P Davey, Ms L Scahill, Dr C Marwick, Professor MET McMurdo (CZG/2/251)
Pilot study for a cluster randomised controlled trial of a prescribing intervention to reduce risk of hospital acquired infection with Clostridium difficile in older inpatients
£18,250 over 1 year

Dr V Riordan, Dr C Stark (CZG/2/286)
Perinatal circumstances and family composition in a birth cohort and risk of psychiatric morbidity and suicidal behaviour in later life
Support for 1 year through CSO funding to ISD

Dr M Gunning, Professor L Murray, Mr R Rush (CZG/2/294)
A longitudinal analysis of the effects of infant self-regulation, early mother-infant interaction and attachment security on externalising behaviour problems at age 5
£16,093 over 1 year

Dr S Treweek, Professor N Pitts, Dr D Bonetti, Miss C Jones, Dr I Ricketts, Professor M Johnston, Professor M Eccles, Professor F Sullivan, (CZG/2/333)
A web-based platform to support the development, delivery, modelling and evaluation of complex interventions: Intervention Modelling Experiments (IMEs)
£49,995 over 6 months
Dr S Bhattacharya, Professor A Lee, Professor S Bhattacharya (CZG/2/283)
Reproductive outcome following ectopic pregnancy
£47,040 over 1 year

Dr MA Crilly, Dr G Hillis, Professor A Lee, Dr D Williams (CZG/2/318)
Clinical utility of pulse wave analysis (PWA) using applanation tonometry at the radial artery to determine both the presence of coronary artery disease (CAD) and predict future cardiovascular prognosis: a prospective diagnostic-prognostic accuracy study
£50,000 over 1 year

Ms J Bell, Professor S Bhattacharya, Dr J Tucker, Dr D Campbell (CZG/2/307)
An investigation of the relationship between obesity, twinning rates and perinatal outcomes in Grampian
£23,650 over 1 year

Professor G Raab, Dr JM Davis, Professor L Elliot, Ms H Storkey, Ms M Henderson, Ms A Burston (CZG/2/313)
Short term evaluation of the Zero Tolerance Respect package in Midlothian primary schools, a randomised controlled trial
£24,566 over 1 year

Dr E Ferguson, Ms E Shanks, Dr J Chalmers, Professor J Norman (CZG/2/292)
Investigation of the beneficial and adverse effects of induction of labour
£8,048 over 6 months

Professor A Sheikh, Dr C Burton, Ms T Irshad (CZG/2/326)
Understanding the experiences of diagnostic testing for people with perceived allergic problems: an exploratory qualitative study
£40,956 over 6 months

Dr K MacIntyre, Dr M Shepherd, Dr J Lewsey, Professor A Briggs, Dr M Gillies (CZG/2/345)
A pilot study to examine the epidemiology of chronic obstructive pulmonary disease (COPD) in Scotland
£45,206 over 1 year

Dr J Evans, Mr S MacGillivry, Dr A Kirk, Professor I Crombie (CZG/2/309)
Tracking of physical activity behaviours during childhood, adolescence and young adulthood: a systematic review
£38,043 over 5 months

Professor M Bloor, Ms M Gannon, Dr N McKeeganey (CZG/2/332)
Feasibility study for a further data collection sweep for the Drug Outcomes Research In Scotland (DORIS) study
£31,550 over 4 months

Dr K Fairhurst, Ms L Hanna, Professor C May (CZG/2/3240)
Non face to face consultations and communications in general practice: the role and perspective of practice managers
£46,780 over 6 months

Dr B McKinstry, Dr H Hewitt (CZG/2/330)
An exploration of differences between face to face and telephone consulting, focussing on topic management and the introduction and uptake of problems
£49,228 over 1 year

Professor A Sheikh, Dr C Anandan (CZG/2/339)
Assessing the effectiveness of Omega 3 and 6 oils for the primary prevention of eczema, allergic rhinitis and asthma in children and adults: systematic review and meta-analysis
£49,899 over 9 months

Dr A Gillespie, Dr B O’Neill (CZG/2/319)
Developing assistive technology for cognition: a device to guide performance of behavioural sequences
£49,096 over 7 months

Professor S Bhattacharya, Dr M Rajkhowa, Dr A Harrold, Dr H Lyall, Dr J Kurinczuk, Ms K Harrild, Dr G Scotland (CZG/2/361)
Clinical and cost-effectiveness of elective single embryo versus double embryo transfer policy in assisted reproduction
£45,638 over 1 year
Dr J Evans, Professor I Crombie, Mr R Flynn, Ms G Libby (CZG/2/338)
A pilot study to investigate drug prescribing among pregnant women in Tayside, Scotland
£29,115 over 6 months

Dr C Matheson, Dr E van Teijlingen, Professor C Bond (CZG/2/320)
Management of drug misuse in primary care: a seven-year follow-up survey of Scottish general practitioners
£24,749 over 7 months

Professor M Lean, Professor A Crozier (CZG/2/360)
Reducing false-positives in the HVA assay for the diagnosis of catecholamine-secreting tumours: possible dietary interference
£49,046 over 1 year

Dr D Brewster (CZG/2/352)
Risk of skin cancer following phototherapy for neonatal jaundice: population-based retrospective cohort study
£18,118 over 1 year

Dr M Jones, Professor M Johnston, Dr S Joice (CZG/2/317)
Can adherence to a stroke workbook intervention be enhanced if delivered to patients by health professionals in a stroke unit setting?: a feasibility study
£30,849 over 1 year
APPENDIX E

ACTIVITY FUNDED THROUGH CSO TRAINING SCHEMES

POSTGRADUATE STUDENTSHIPS IN HEALTH SERVICES RESEARCH AWARDED IN 2007

Title of project: An ethnographic investigation of the Prevention of Diabetes and Obesity in South Asians (PODOSA) trial
Main Supervisor: Dr Julia Lawton
Host institution: University of Edinburgh
Student: Tania Porqueddu

Title of project: Reintegration after stroke: Quality of life, employment and social capital
Main Supervisor: Professor Rose Barbour
Host institution: University of Dundee
Student: Sian Russell

Title of project: The ongoing care of patients with cancer: what is the appropriate balance between primary and secondary care?
Main Supervisor: Dr Una Macleod
Host institution: University of Glasgow
Student: Fiona Marcuson

Title of project: Investigating the role of a technology based intervention to improve psychosocial determinants of and physical activity behaviour in low active adolescent girls using action research
Main Supervisor: Dr Ailsa Niven
Host institution: Heriot-Watt University
Student: Joan Henretty

HEALTH SERVICES RESEARCH TRAINING FELLOWSHIPS AWARDED IN 2007

Fellow: Fiona Coupar
Title of Fellowship: Exploring new interventions for upper limb problems after stroke
Host Institution: NHS Greater Glasgow and Clyde

Fellow: Audrey Stephen
Title of Fellowship: Exploration and development of bereavement care for older people using NHS services
Host Institution: Robert Gordon University

Fellow: Clare Scott
Title of Fellowship: The influence of mood and emotion perception on social participation in stroke survivors: A longitudinal evaluation.
Host Institution: University of Aberdeen

Fellow: Dr Matt Cox
Title of Fellowship: Geography of childhood Type 1 Diabetes Mellitus in Scotland
Host Institution: St Andrew’s University

CLINICAL ACADEMIC TRAINING FELLOWSHIPS

Fellow: Dr Charis Marwick
Title of Fellowship: Design, implementation and primary evaluation of a complex intervention to improve the management of hospital acquired sepsis
Host Institution: University of Dundee

Fellow: Dr Malcolm Watson
Title of Fellowship: The development of a safe and effective method of providing ultrasound guided pain relief to patients with a broken hip
Host Institution: University of Glasgow

Fellow: Dr Mark Hughes
Title of Fellowship: Assessing the mental health of adults with learning disability: a user led approach
Host Institution: University of Edinburgh

Fellow: Ms Jenny Hally (Dentist)
Title of Fellowship: Understanding effective communication in dental primary care: the dentally anxious patient, an example of special care dentistry
Host Institution: University of Dundee

PRIMARY CARE RESEARCH CAREER AWARD

Researcher: Dr Douglas Murphy (GP)
Title of Programme: Further development and evaluation of workplace-based assessment to monitor and maintain standards of clinical governance within the NHS
Host Institution: University of Dundee
In 2007-8 CSO supported seven Research Units, which are regarded as an essential component of its provision for conducting research. Funding for both the Research Unit in Health, Behaviour and Change and the Dental Health Services Research Unit ends in 2008-9.

**Dental Health Services Research Unit**
Director: Professor Nigel Pitts
Dental School
The McKenzie Building
Kirsty Semple Way
Dundee DD2 4BF
Tel 01382 420050
Web Pages [http://www.dundee.ac.uk/dhsru/](http://www.dundee.ac.uk/dhsru/)

**Health Economics Research Unit**
Director: Professor Bob Elliott
Institute of Applied Health Sciences
Polwarth Building
Foresterhill
Aberdeen AB25 2ZD
Tel 01224 553733
Fax 01224 550926
Web Pages [http://www.abdn.ac.uk/heru](http://www.abdn.ac.uk/heru)

**Health Services Research Unit**
Director: Professor Marion Campbell
University of Aberdeen
3rd Floor, Health Sciences Building
Foresterhill
Aberdeen AB25 2ZD
Tel 01224 553909
Fax 01224 554580
Web Pages [http://www.abdn.ac.uk/hsru](http://www.abdn.ac.uk/hsru)

**Nursing, Midwifery and Allied Health Professions Research Unit**
Director: Professor Kate Niven
Glasgow base: Glasgow Caledonian University
Buchanan House
Cowcaddens Road
Glasgow G4 0BA
Tel: 0141 331 8100

Stirling base: Iris Murdoch Centre
University of Stirling
Stirling FK9 4LA
Tel: 01786 466 341
Web Pages [http://www.nris.gcal.ac.uk](http://www.nris.gcal.ac.uk)

**Research Unit in Health, Behaviour and Change**
Director: Professor Stephen Platt
University of Edinburgh Medical School
Teviot Place
Edinburgh EH8 9AG
Tel 0131 650 6192
Fax 0131 650 6902
Email Steve.Platt@ed.ac.uk
Web Pages [http://www.ruhebc.ed.ac.uk](http://www.ruhebc.ed.ac.uk)

**The Scottish Section of the MRC Institute of Hearing Research**
Research Scientist-in-Charge: Dr Michael Akeroyd
Queen Elizabeth Building
Glasgow Royal Infirmary
16 Alexandra Parade
Glasgow G31 2ER
Tel 0141 211 4694
Fax 0141 552 8411
Web Pages [http://www.ihr.gla.ac.uk](http://www.ihr.gla.ac.uk)

**MRC Social and Public Health Sciences Research Unit**
Director: Professor Sally Macintyre
4 Lilybank Gardens
Glasgow G12 8RG
Tel 0141 357 3949
Fax 0141 337 2389
Web Pages [http://www.msoc-mrc.gla.ac.uk](http://www.msoc-mrc.gla.ac.uk)
### APPENDIX G

**NHS RESEARCH AND DEVELOPMENT SUPPORT ALLOCATIONS FOR 2008-9**

Allocations below total allocations under both Support for Science and NHS Programme Grants.

<table>
<thead>
<tr>
<th>Health Board</th>
<th>Allocation (£)</th>
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<tbody>
<tr>
<td>NHS Ayrshire and Arran</td>
<td>£483,158</td>
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<tr>
<td>NHS Borders</td>
<td>£58,671</td>
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<tr>
<td>NHS Dumfries and Galloway</td>
<td>£156,549</td>
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<td>NHS Fife</td>
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<td>NHS Forth Valley</td>
<td>£486,458*</td>
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<td>NHS Greater Glasgow and Clyde</td>
<td>£13,332,469</td>
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<tr>
<td>NHS Grampian</td>
<td>£7,254,463</td>
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<tr>
<td>NHS Highland</td>
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<td>NHS Lanarkshire – Acute Operating Division</td>
<td>£521,138</td>
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<tr>
<td>NHS Lothian</td>
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<tr>
<td>NHS Tayside</td>
<td>£4,350,028</td>
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*Includes funding for the Social Determinants and Interventions in Health NHS Programme on behalf of former members of the West of Scotland Research and Development collaboration*
## APPENDIX H

### BUDGETS FOR UK CLINICAL RESEARCH COLLABORATION ACTIVITY 2008-9

#### NHS INFRASTRUCTURE

<table>
<thead>
<tr>
<th>NHS Region</th>
<th>Budget</th>
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<tr>
<td>NHS Grampian</td>
<td>£737,638</td>
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<tr>
<td>NHS Greater Glasgow and Clyde</td>
<td>£1,568,629</td>
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<td>NHS Lothian</td>
<td>£800,584</td>
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<td>NHS Tayside</td>
<td>£554,558</td>
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#### CLINICAL RESEARCH NETWORKS

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<th>Research Network</th>
<th>Budget</th>
</tr>
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<tr>
<td>Dementia</td>
<td>£170,455</td>
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<tr>
<td>Diabetes</td>
<td>£486,379</td>
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<tr>
<td>Medicines for Children</td>
<td>£338,099</td>
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<tr>
<td>Mental Health</td>
<td>£455,306</td>
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<tr>
<td>Stroke</td>
<td>£503,143</td>
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</table>