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“The aims of the Regional Drug and Therapeutics Centre are to promote the safe, effective and economical use of medicines in the National Health Service in the former Northern and Yorkshire Region; and other stakeholder areas to promote the highest quality of care for people exposed to the toxic effects of drugs or chemicals; and to disseminate and develop knowledge in these areas through teaching and research”
Foreword

Changes to NHS structures and arrangements for the commissioning of patient care have presented the Regional Drug and Therapeutics Centre and its staff with a unique set of challenges over the last year. We are especially grateful to our RDTC staff for the way that they have dealt with these, maintaining the numerous outputs of the centre in 2012/13, as detailed in this annual report.

Going forward into 2014, we are working with new commissioners across the majority of our services, supporting them with reworked and updated resources to meet the ever increasing pressures on both commissioners and providers. Given the important supporting role the centre played in the achievement of the excellent prescribing profiles found in so many of its previous stakeholder organisations and the effect its information services have had in helping prescribers optimise medicines use, we are confident of the important ongoing role that the RDTC has in supporting medicines optimisation.

We would like to take this opportunity to thank those individuals who have supported and commissioned our services in the past and who have now gone on to find new roles, either personally or professionally.

We look forward to working with stakeholders in developing new projects and work streams responsive to organisational priorities; feedback about our services is always welcome.

Sue Dickinson
Director of Pharmacy

Simon Thomas
Medical Director
Executive Summary  

Prescribing and Medicines Use

The provision of high quality, timely information and expert advice remains essential to the commissioning and delivery of safe, clinically excellent and cost-effective healthcare.

Medicines cost the NHS £13.1 billion in 2011 and will account for around 14% of spending by clinical commissioning groups (CCGs). Therefore making the most of the resource spent on prescribing must be a high priority for all commissioners.

Support provided by the RDTC in prescribing and medicines optimisation aims to help primary care organisations address some of the challenges associated with the medicines optimisation agenda such as high deprivation and high disease prevalence, and manage the impact that this has on the prescribing budget. In addition the unique blend of services and proactive support provided by the RDTC allows specialist knowledge and expertise to be shared across stakeholders reducing duplication of effort and facilitating best and equitable use of limited resources.

Over the last few years the service has become much more responsive to stakeholder needs and to changes in national policy, with support tailored to each commissioning area. Regular review and staff development has ensured that outputs continue to remain fit for purpose.

Work has continued to improve the quality of the prescribing report and data analysis service provided to our stakeholders. Ongoing changes in primary care mean that the RDTC has had to be responsive to changing external circumstances and has needed to provide information in different formats. In order to better engage with different types of users a virtual user forum was established. This has enabled the centre to change outputs in line with changing stakeholder needs. In addition several tools presented in excel format have been developed enabling users to further interrogate cost drivers within the therapeutic areas highlighted.

All primary care prescribing reports and support materials are made available on the RDTC website, easily accessed by stakeholders but with password protection to provide security.

RDTC publications (eg evaluation documents, academic detailing aids) form the basis of a package of support materials for medicines optimisation teams to help them promote good prescribing practice. Highlighting areas where improved cost effectiveness may be possible can allow improvements in productivity by commissioners through the treatment of more patients or targeting of limited NHS resources in other areas of prescribing and other patient focussed services.

Medicines Information / NHS Direct

Enquiry levels remained stable compared with recent years though a notable increase in the numbers of enquiries submitted via email was observed. The centre’s staff contributed to the provision of proactive information such as Medicines Q&As and locally produced Medicines Information newsletters with the intention of reducing duplication of effort and increasing productivity. Work continued across a range of levels from provision of training for Pre-Registration Pharmacists to development of national guidance in specialist areas such as paramedic use of ketamine and midazolam. Our continual programme of quality assurance surveys provided evidence of a high quality and responsive service delivered to stakeholders throughout the year.
Executive Summary

Pharmacovigilance

The Yellow Card Centre Northern and Yorkshire (YCCNY) encourages the appropriate reporting of adverse drug reactions (ADRs) from the North East of England, Yorkshire and Cumbria. During the 2012/13 financial year, 2,169 reports were received from these areas, a 10% increase compared with 2011/12 (Figure 9). Reporting from GPs increased by 21%, whilst increased reporting was also seen for both hospital and community pharmacists.

As part of its promotional activities, the centre circulated a short version of the 2011/12 annual report which summarised Yellow Card reporting in each Primary Care Trust (PCT) area. This was sent to the Heads of Medicines Optimisation of the relevant primary care organisations. PCTs that were priority areas for raising Yellow Card awareness this year all saw increases in reporting.

A short version of the annual report was also sent to the pharmacy department of each hospital trust in the Northern and Yorkshire region. During 2012/13 there was a 19% increase in reporting from this group, building on the 51% increase achieved in 2011/12. A 33% increase in reporting from community pharmacists was associated with local promotional activity and the national promotional campaign run by the MHRA.

The Centre has continued to publish the bulletin series Safer Medication Use, which promotes safer prescribing, highlights emerging or significant drug safety problems, and raises awareness of adverse drug reaction detection and reporting. The MINT (Medicines Information News Today) newsletter, which discusses drug news relevant to primary care health professionals, also continues to promote the Yellow Card Scheme in each issue; five editions were published in 2012/13.

The Centre continued to encourage ADR reporting by health professionals by the provision of education, targeted according to local reporting patterns.

Poisons Information

During 2012/13 the National Poisons Information Service (NPIS) was commissioned by the Health Protection Agency on behalf of UK Health Departments to provide expert telephone advice for frontline healthcare professionals on all aspects of acute and chronic poisoning. The service comprises four individual units, based in Newcastle, Birmingham, Cardiff and Edinburgh. All NPIS units work closely with both the Poisons Information Service in Belfast and the National Poisons Information Centre in Dublin. Each unit is staffed by Consultant Clinical Toxicologists and Specialists in Poisons Information (SPIs).

The Newcastle unit of the NPIS participates in a national rota with two other NPIS units (Birmingham and Cardiff) for provision of out of hours services to the United Kingdom and Ireland. During normal office hours (9 am-6 pm) Newcastle NPIS leads for the provision of information to users in Northern England, Yorkshire, Greater London and Kent.
Poisons Information

The UK Teratology Information Service (UKTIS), based within NPIS (Newcastle), is commissioned to provide advice on all aspects of the fetal effects of medicines, poisonings and hazardous chemical exposures in pregnancy to health professionals across the UK. UKTIS also maintains detailed written reviews (‘monographs’) of animal and human pregnancy safety data for 345 drugs and chemicals which are currently available online to NHS and NHS affiliated departments, units and practices in the UK via the TOXBASE® website (www.TOXBASEx.org). More recently, abstracts of these monographs have been made openly accessible via the UKTIS website (www.UKTIS.org). UKTIS also provide information via a dedicated telephone enquiry line for health professionals in concert with the National Poisons Information Service (NPIS).

UKTIS also conducts surveillance of known and emerging teratogens by collecting pregnancy outcome data about women who have been exposed in pregnancy from health professionals who contact the service. Data obtained in this way are reported in UKTIS monographs, presented at scientific meetings internationally and/or published in peer reviewed journals.

UKTIS also provides advice on drug and chemical exposure during pregnancy on request to official organisations such as the Medicines and Healthcare products Regulatory Agency (MHRA), the Commission for Human Medicines (CHM), the European Medicines Agency EMA, the British National Formulary (BNF) and the National Formulary.

UKTIS works closely with other international teratology services, including the European Network of Teratology Information Services (ENTIS), of which UKTIS is a founder member and the Organisation of Teratology Information Specialists (OTIS) which encompasses teratology services in the USA and Canada.
Introduction

The Newcastle based Regional Drug and Therapeutics Centre (RDTC) is responsible for a range of issues relating to medicines use and drug safety. These include monitoring and advising on prescribing and medicines use in primary and secondary care across stakeholder organisations.

The Centre was established in 1991 as a collaboration between Newcastle University and the former Northern Regional Health Authority. Over the course of the last twenty two years, services provided by the Centre have developed and increased in volume as we have acquired larger contracts and has also expanded the geographical areas covered. The long-term plans for relocation of the RDTC from the University Campus to Trust premises came into effect in June 2013, and we would like to take this opportunity to provide you with our new contact details, (see below). The Centre is hosted by the Newcastle upon Tyne Hospitals NHS Foundation Trust, which is responsible for employing staff.

In 2012/13 core funding for the Centre was obtained from local Primary Care Trusts under a Service Level Agreement, the Centre also has substantial contracts with other organisations (e.g. the Health Protection Agency) which allows a more cost-effective delivery of services for all stakeholders.

The Centre delivers a broad range of services relating to prescribing and the use of medicines. These include:

- Prescribing Analysis and Support Services
- Regional Medicines Information Services
- Regional Yellow Card Centre Northern & Yorkshire
- National Poisons Information Services (NPIS)
- The UK Teratology Information Service (UKTIS)

The Centre is also active in education and training and in research relating to all aspects of medicines and therapeutics, with a particular focus on the safe and effective utilisation of medicines, management of poisoning, prevention of adverse drug reactions and the appropriate use of medicines during pregnancy.
Prescribing and Medicines Use

High quality care for patients remains a central theme for work carried out by Prescribing Support. Supporting decision-making for commissioners and prescribers around new therapies coming to market as well as licence changes and extensions has been a core activity for a number of years. Working across a wide geographical area at various levels from CCGs to SHA-and National level groups facilitates sharing of good practice and in-depth understanding of current issues. Established quality assurance processes monitor feedback from stakeholders and enable a prompt response to any issues which may arise.

Overview

The provision of high quality, timely information and expert advice remains essential to the commissioning and delivery of safe, clinically excellent and cost-effective healthcare.

Medicines cost the NHS £13.1 billion in 2011 and will account for around 14% of spending by clinical commissioning groups (CCGs). Therefore making the most of the resource spent on prescribing must be a high priority for all commissioners.

Support provided by the RDTC in prescribing and medicines optimisation aims to help primary care organisations address some of the challenges associated with the medicines optimisation agenda such as high deprivation and high disease prevalence, and manage the impact that this has on the prescribing budget. In addition the unique blend of services and proactive support provided by the RDTC allows specialist knowledge and expertise to be shared across stakeholders reducing duplication of effort and facilitating best and equitable use of limited resources.

Over the last few years the service has become much more responsive to stakeholder needs and to changes in national policy, with support tailored to each commissioning area. Regular review and staff development has ensured that outputs continue to remain fit for purpose.

Work has continued to improve the quality of the prescribing report and data analysis service provided to our stakeholders. Ongoing changes in primary care mean that the RDTC has had to be responsive to changing external circumstances and has needed to provide information in different formats. In order to better engage with different types of users a virtual user forum was established. This has enabled the centre to change outputs in line with changing stakeholder needs. In addition several tools presented in excel format have been developed enabling users to further interrogate cost drivers within the therapeutic areas highlighted.

All primary care prescribing reports and support materials are made available on the RDTC website, easily accessed by stakeholders but with password protection to provide security.

RDTC publications (eg evaluation documents, academic detailing aids) form the basis of a package of support materials for medicines optimisation teams to help them promote good prescribing practice. Highlighting areas where improved cost effectiveness may be possible can allow improvements in productivity by commissioners through the treatment of more patients or targeting of limited NHS resources in other areas of prescribing and other patient focussed services.

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Prescribing Analysis Reports

Provision of regular comparative prescribing information motivates organisations to make changes to prescribing, particularly in areas where they may be considered to be outliers. Highlighting areas where differences exist assists stakeholders to target therapeutic areas in their localities where further investigation may yield cost savings that enable more patients to be treated, and/or can be invested in other areas of prescribing or other patient focussed services.

Monthly Performance Summary Report

The data presented in our Monthly Performance Summaries assist advisers and commissioners in identifying drugs and therapeutic areas where investment or conversely, disinvestment may be required.

The Monthly Performance Summaries continued to show comparative information on SHA, PCT, CCG and North of England and national level prescribing outturn against budget, cost and item growth, generic prescribing rates, per capita prescribing cost and frequency, and expenditure and cost growth of the Top 40 most costly drugs. Stakeholders can now select how many of these Top 40 drugs to display and how cost growth data are presented (in percentage or monetary terms). Displaying growth in terms of increased expenditure compared with the same period in the previous financial year assists the user in identifying particular drugs that are driving cost growth and ensuring their use is appropriately targeted.

Quarterly Therapeutic Report

The Quarterly Report showed comparative information focussing on therapeutic areas (BNF sections) accounting for the highest expenditure. This report has now been replaced by the Therapeutic Reports (see later).

PCT-level and now CCG-level cost and item growth charts presented in an addendum identify each stakeholder PCTs or CCGs highest cost and item expenditure and growth - the user can choose how many (5 to 40) sections are displayed. Cost and item growth can also be displayed, in a table, as percentages or as increased expenditure / number of items compared with the same period in the previous financial year. This helps the user focus on BNF sections that may require further more detailed investigation at local level. Overall cost trends and detailed breakdowns of the drugs in the therapeutic classes prescribed (cost and frequency) help to highlight where review of drug choice may be appropriate.

Therapeutic Reports

RDTC Therapeutic Reports help to ensure the safe, clinically effective and cost efficient use of medicines. In particular these reports are helpful when introducing and monitoring the use of specialist and high cost drugs, in accordance with NICE recommendations and other national guidance. These reports are now produced in Excel® format, which enables users to further interrogate cost drivers within the therapeutic areas highlighted. Detailed analysis of prescribing costs and trends are presented against national indicators. A dashboard summary is presented at the front of the report which provides an overview of prescribing within the region at CCG level. A “traffic light” system guides users to those areas of prescribing that may warrant action and highlights examples of good practice at a glance. Topics already covered are diabetes mellitus, antibacterial and respiratory prescribing, and a further six areas (cardiovascular, genito-urinary disorders, epilepsy,
Depression, wound dressings and oral nutrition) will be developed to help primary care organisations monitor and compare local and national prescribing trends. The new Excel® Therapeutic Reports provide a dashboard report to be shared with local prescribing and finance leads.

Accompanying supporting documents guide the user to national and local resources to enable best practice to be applied to improve prescribing practice in areas identified within the report whilst minimising duplication of effort across localities.

“I think the charts are great by the way and very helpful for my work”
Medicines Management Team Member, North West

DQF reports in diabetes

QOF Reports

In 2012/13 this report presented comparative PCT- and SHA-level data on prescribing costs per patient on QOF disease registers against QOF target achievement, disease prevalence and hospital admission data for relevant disease areas (against prescribing cost, where appropriate). Again, practice-level QOF charts replicating data presented in the PCT- and SHA-level reports have been very well received by both prescribing advisers, GPs and other practice staff and often form the basis of discussions around prescribing costs and quality at practice meetings. They also provide a starting point for peer review, discussion and sharing of practice among prescribers, practices and groups of practices. Presenting data for QOF target achievement against prescribing costs and prescribing costs against hospital admissions highlights outliers. Further discussion around apparent outliers may help identify differing patterns of service provision, and areas of prescribing where cost effectiveness of prescribing and quality of care could be improved.

CCG level reports have been developed to reflect the new NHS architecture post April 2014.
Cost Impact Estimates Report

Two Cost Impact Estimates were produced in October 2012: Phenytoin and Temazepam. The Phenytoin Capsules Cost Impact report provided PCTs with estimates of the annual cost increases resulting from prescribing Phenytoin Sodium Flynn Hard Capsules in place of Epanutin® capsules, which had been discontinued. The Temazepam Cost Impact report provided PCTs with estimates of potential prescribing cost increases resulting from the granting of concessionary price status to Temazepam 10 mg and 20 mg tablets in October 2012.

Drug Tariff Monitor

This tool was launched in April 2012. It is intended to be used by primary care advisers as an aid to informing budgetary discussions. Monthly potential savings / cost increases are calculated for all generic drugs in the BNF, and include Category M generic drugs as a particular subgroup. The Monitor is updated quarterly to reflect the most recently available Drug Tariff prices.
Cost Comparison Charts

These charts are updated quarterly and show at-a-glance, comparative treatment costs of drugs in therapeutic classes (BNF sections). They continue to be popular with stakeholder and other NHS staff, often generating interest in other outputs.

“I find the cost comparison tables you do invaluable for my GP prescribing visits - so a huge thank you very much to your team for doing these and allowing them to be freely available”

Prescribing Support Pharmacist, a London PCT

Switch Savings Calculators (SSCs)

Developed by the Prescribing Support team based at the RDTC this tool calculates savings that would result from switching one drug or formulation to another with the same/similar therapeutic effect or constituents. It is available from the RDTC website within the password protected area, in a downloadable Excel® format. Two documents were produced highlighting the potential savings that would be available when Atorvastatin moved to category M and from a switch from Seretide 250 Evohaler® to Seretide 500 Accuhaler®.
Horizon Scanning

Planning the introduction of innovative medicines and managing future expenditure are key activities of RDTC stakeholders and these are supported by RDTC Horizon Scanning activities. Nationally the team supports the publication of Prescribing Outlook, a UKMi NHS publication providing advanced notice of new medicines and new licensed indications for existing medicines. The RDTC has led on the production of several sections of the UKMi report providing therapeutic monographs and an assessment of the potential uptake of new drugs and the likely impact of new therapies on NHS services.
Regular monthly *Horizon Scanning Reports* provide updates on new products, significant changes to product licenses, significant new guidance, and other determinations and recommendations of recognised national bodies. Further ad hoc regional reports produced for RDTC stakeholders have helped primary care organisations plan for the introduction of effective new medicines into local care pathways and to facilitate the delivery of integrated healthcare. RDTC Horizon Scanning documents are standard agenda items on several Area Prescribing Committees and at multidisciplinary Drug and Therapeutic team meetings.

As a means of updating stakeholders on new developments within the RDTC and ensuring that they are kept informed of changing clinical evidence or safety issues a regular prescribing support newsletter has been produced. Newsletters are freely available on the RDTC website and are well received.

> “Please pass on my congratulations to the team - this is an excellent newsletter”
> PCT Head of Medicines Management, Yorkshire & Humber

**Safety**

Integrated across all activities is the core principle of assuring patient safety. Analysis of prescribing in key areas of concern, production of publications focused specifically on safety and encouraging reporting of adverse drug reactions through our partnership with the MHRA demonstrate this work. Further information around the work of the Yellow Card Centre can be found in the appropriate section of this report.

This year, we published two *Safer Medication Use* (SMU) reviews around Statin Prescribing: Statins - Managing Drug Interactions and Statins - Managing Adverse Drug Reactions.

**Supporting QIPP**

Prescribing is the most common patient-level intervention in the NHS, and is the second highest area of spending in the NHS, after staffing costs. Therefore improving the quality, cost effectiveness and affordability of prescribing in the context of the overall use of NHS resources is of particular benefit to patients. The National Medicines Use and Procurement QIPP programme aims to maintain or improve quality of care by optimising the use of medicines whilst ensuring that value for money is further enhanced.

The RDTC supports CCGs with this aim by highlighting specific areas where cost savings could be achieved, through an evaluation of the evidence base but also by highlighting variation in prescribing across a locality.

**Prescribing Analysis Reports**

**QIPP Reports**

In 2012/13 we continued to produce these reports, enabling medicines management teams to benchmark and monitor changes in prescribing in therapeutic areas where changes in practice have been initiated. These reports are tailored to the specific requirements of stakeholders working on prescribing aspects of the QIPP agenda. For the North East and North West stakeholders, data on specific key performance indicators related to prescribing were produced quarterly and these data were replicated at practice-level reports for
some stakeholders. The Yorkshire & The Humber quarterly QIPP report presented a PCT-level overview of prescribing in therapeutic areas requested by stakeholder medicines management teams, as well as selected therapeutic areas in the National Prescribing Centre’s *Key Therapeutics Topics for QIPP*. 

**Publications**

To further support the QIPP agenda our *Drug Updates* are produced in response to regular multidisciplinary scoping exercises to identify topics that have the potential to improve the quality of care and release substantial efficiency savings, whilst maintaining or improving patient safety. With the aim of reducing variation in care and outcomes, *Drug Updates* provide concise, structured reviews of drugs which have been available within the UK for some time. Many of these publications include cost charts comparing the range of appropriate products for that particular disease state. These provide a powerful message to prescribers about the wide variation in costings that is often seen. To help support the delivery of QIPP initiatives a number of academic detailing aids have been produced to complement the Drug Update series. Drug updates for the management of Chronic Obstructive Pulmonary Disease and to support the rational prescribing of angiotensin receptor blockers have been provided to stakeholders in 2012/13.

The aims of *Medicines in Practice* publications are to assist medicines optimisation teams and other healthcare professionals in influencing and changing prescribing behaviour (for clinical, financial and/or safety reasons) and to facilitate sharing of experience, good practice and locally developed support materials as part of the QIPP medicines management agenda. Medicines in Practice publications highlight examples of work done by other medicines optimisation teams to allow knowledge and expertise to be shared across stakeholders, reducing duplication of effort and facilitating best and equitable use of limited resources. The Medicines in Practice series replaced the Briefing and Hot Topics series from June 2012 and are restricted for use by NHS healthcare professionals within our stakeholder areas.

> “Superb - much needed - well done (Relating to the New Oral Anticoagulants in Atrial Fibrillation)
>  
> *Medicines in Practice  document*”
>  
> GP Prescribing Lead, North East

Academic Detailing Aids are also published with each of the *Medicines in Practice* publications and provide a tool to support medicines optimisation at the prescriber/pharmacist interface. Academic detailing is one of the few educational methods that have been proven to change prescribing behaviour. RDTC Academic Detailing Aids form the basis of discussion with prescribers and highlight and repeat essential key messages.

Through its horizon scanning role the RDTC aims to identify further areas where it is possible to improve the quality of care and release substantial efficiency savings.

**Managing the entry of New Drugs**

**New Drug Evaluation Publications**

One of the most important objectives of our various publications is to manage the introduction of new medicines into the NHS. The *New Drug Evaluations* are concise, structured reviews of new drugs recently launched within the NHS. Drugs which are considered to be primary care orientated with the potential to have a large financial or clinical impact are selected for evaluation. In addition, drugs that are likely to be initiated in secondary care but transferred to primary care are also evaluated.
In line with current QIPP national initiatives, New Drug Evaluations are designed to support quality and efficacy at a local level by guiding primary care organisations in the promotion of appropriate, safe, effective and efficient prescribing. Recent publications include evaluations of rivaroxaban to treat AF and DVT, and linagliptin for the management of Type II diabetes mellitus.

**Detailed evidence based reviews**

Effective Medicines Optimisation is central to DH policy and NHS England strategy and the quality of patient care has never been more important given the ongoing financial pressures in the NHS.

The RDTC is ideally placed to support the commissioning of medicines locally and to maximise the efficiency of specialist medicines management services across the North of England. Detailed guidance to support the NHS with rational decision-making about medicines is contained in our evaluation reports. These give a comprehensive appraisal of the efficacy, adverse events, place in treatment and arrangements for prescribing of drugs that are likely to have a significant clinical or financial impact on the NHS. The evaluation reports provide advance objective appraisals of the clinical and cost effective use of medicines in secondary care before NICE (National Institute of Health and Clinical Excellence) issues guidance.

These reports describe in more detail the important clinical aspects of a particular disease and also aim to give commissioners estimates of the potential uptake across a population, and where possible, service and financial implications for local health economies. Topics in 2012/13 have included ruxolitinib for myelofibrosis and the use of eculizumab in atypical haemolytic uraemic syndrome.
North East Treatment Advisory Group (NETAG)

During 2012/13 the RDTC, in collaborative arrangement with NETAG, continued to act as the lead author of a number of detailed treatment appraisal reports, which were the principal source of evidence used by NETAG members to make recommendations on the commissioning of treatments within the NHS North East. The principle aims of the work undertaken by NETAG were to provide regionally consistent advice to primary care organisations within the NHS North East and to ensure that patients requiring non-NICE-approved treatments receive equitable access to a clinically defined and appropriate range of treatments. Although NETAG has a remit to consider both drug and non-drug treatments such as medical devices and interventional procedures, the majority of treatment appraisals reports produced by the RDTC have assessed new or unlicensed pharmaceutical treatments.

Recent topics included the use of pasireotide for Cushing’s disease and perampanel for epilepsy. In light of the significant changes in the commissioning structure of the NHS, the RDTC will continue to work with NETAG or its successor to identify potential new treatments and provide commissioners with advance notice of developments, through horizon scanning, signposting and critical appraisal of evidence, safety and cost-effectiveness as appropriate.

Attendance at New Drugs Groups

Further advice is provided by attendance at specific new drugs meetings such as the Greater Manchester Interface and New Therapies meeting. The RDTC provides independent advice alongside CSU support and local CCG medical and pharmaceutical representation in such circumstances.

The aim of the GMMMG Interface Prescribing and New Therapies Subgroup is to make recommendations on new drugs and the Red-Amber-Green (RAG) status to the parent medicines management group (GMMMG) and to local Drug and Therapeutics Committees of Greater Manchester NHS organisations. The group was set up in order to manage the introduction of new medicines which have health economy-wide implications for primary, secondary and specialist care.

Recommendations are based on clinical evidence for new drugs and safety for the RAG status. The RDTC developed the paperwork and decision making processes underpinning the group to ensure that just and fair decisions are made. This group provides prescribers with guidance on newly licensed therapies and indications with regard to the products place in treatment. This will ensure that prescribers have balanced information with which to inform their prescribing decisions. A drugs priority for funding is also discussed and this aims to help commissioners prioritise which treatments should or shouldn’t be funded. All agendas, minutes and recommendations are available on the GMMMG website.

Other groups where the RDTC provides independent advice on new drugs include the North of Tyne APC, County Durham and Darlington APC and D&T, Greater Manchester Neuroscience Medicines Subgroup and the Gateshead Medicines Management Committee. Assistance can be provided as locally agreed by the provision of professional secretarial support, provision of prescribing data, advice on clinical governance and critical appraisals of clinical evidence.
Supporting Local Decision Making Groups

The RDTC prescribing support team provides support to local decision making groups where requested. Support is provided in various ways as outlined below:

- Provision of locally tailored clinical evidence reviews.
- Provision of professional secretarial support including development of paperwork and appropriate frameworks.
- Advice and support around clinical governance structures of APC’s or Medicines Management groups, eg ensuring that decision-making groups adhere to the NHS constitution and DH directions, providing feedback as appropriate.
- Hosting local websites.
- Provision of training around critical appraisal, population v individual decision-making etc.
- Provision of comparative prescribing data to support specific agenda items.

Ensuring consistency of processes and support across all such decision-making groups is increasingly important as membership changes to reflect the changing structures in primary care.

Strategic Medicines Management Support

Members of the RDTC prescribing support team work closely with medicines management groups and staff across the North of England. This includes direct support in the form of attendance at meetings of groups involved in medicines management and also the provision of general support and advice through an ad hoc enquiry answering service. Some specific examples of this strategic advice and support are as follows:

- Key prescribing reports are presented at meetings outlining the key areas for the group to focus on and areas of potential improvement. Support has also been provided at SHA-level for specific disease areas, eg the North East SHA Respiratory Clinical Advisory Group. This localised, specific interpretation of data is highly useful to the group members because it is immediately relevant and points out key areas to consider in improving care of their patients.
- Highlighting areas where costs could be reduced and cost effectiveness improved. This very specific interpretation of local data at meetings accompanied by ad hoc email and telephone queries allows our respective NHS colleagues to be aware of key issues they might otherwise have missed. Information is presented in a variety of formats ensuring the data is understandable and easily interpreted.

Support to Formulary Groups

The RDTC provides support to the Greater Manchester Medicines Management Group’s Formulary subgroup and the County Durham and Darlington Formulary group.

In Greater Manchester, the GMMMG group were tasked with producing a joint primary and secondary care formulary for implementation across the whole of the region, which includes 12 CCGs.
The RDTC facilitates the GMMMG formulary process, coordinating the writing and review of chapters, managing the formulary application process, and updating, developing and managing the website that hosts the formulary. RDTC coordinates and responds to GMMMG formulary enquiries and provides professional secretarial services to the Formulary subgroup. There is ongoing support in ensuring best-practice recommendations and clinical governance guidelines are adhered to. In response to a request to the NHS from Sir David Nicholson, CEO of NHS England, RDTC led the collation and publication of a NICE TA adherence checklist for GMMMG. RDTC facilitates and manages a GMMMG wide ‘Do Not Prescribe’ list which suggests specific drugs for disinvestment.

Similarly in County Durham and Darlington, support is facilitated by giving advice on process, clinical evidence reviews and by providing Professional Secretarial Support.

Support to Individual Localities

Clinical Commissioning Groups are interested in promoting cost effective, evidence-based prescribing, as a means of quickly freeing limited resources to reinvest in other services. Strategic support can be provided at individual commissioning group level to help them in achieving this objective. A senior member of RDTC staff provides regular strategic medicines management advice to a specific locality in Sheffield. This support is in addition to local CSU medicines management team support and includes independent advice on specific projects such as utilising a decision support tool, education and training events, support on the introduction of new drugs, in-depth evaluation of prescribing data and offering advice on clinical care pathways or initiatives.

Strategic meetings that the RDTC prescribing team supported during 2012/13 include:

- The North of Tyne APC
- County Durham and Darlington APC
- County Durham and Darlington Formulary Subgroup
- County Durham and Darlington D&T
- The North East SHA Prescribing Leads meeting
- The North East Senior Pharmacy Managers Meeting
- North East Cardiac Network
- North East Ambulance Service
- Yorkshire & Humber SHA Prescribing Leads
- Central Sheffield Locality Prescribing Subgroup
- Gateshead Medicines Management Committee
- Greater Manchester Medicines Management Group
- Greater Manchester Formulary Subgroup
- Greater Manchester Interface and New Therapies Subgroup
- Greater Manchester and Cheshire Cardiac Network
- Greater Manchester Prescribing Advisers Group
- Greater Manchester & Cheshire Cancer Network
- Greater Manchester Neuroscience Medicines Subgroup

Education and Training

The RDTC prescribing team have provided, when requested, training on various topics over areas such as critical appraisal, academic detailing, management of prescribing and prescribing data.
Planned Changes

The RDTC is continually striving to provide the best possible service to its commissioners. As part of this, the Centre is currently working on some changes to ensure that the service provided changes with the changing needs of its primary care commissioners. Several updates to existing products or information sources are planned. Key product changes are outlined below.

A number of changes to our publication series have been implemented or are planned. These include:

- NICE accreditation for our publication series so that commissioners can be assured that information provided is of high quality. NPC good practice guides suggest that local decision-making groups should use nationally available evidence summaries where possible and if local evidence synthesis and critical appraisal is required, localities will need individuals with the specialist skills and competencies in these areas.
- Making the series less technical so that less experienced healthcare professionals who find themselves involved in decision-making groups can utilise these as a resource to inform their decision making.
- Highlighting the levels of evidence for statements made in the publications.
- ‘Real world’ health economics information to be included for new drugs as appropriate.
- Increasing the focus on patient outcome information is available.
- Development of a patient information leaflet series to help inform decision-making for patients; these will cover clinical trial information for patients, ie why use one drug over another; explaining cardiovascular risk etc.
- Support for individual funding requests (on request).

Prescribing Analysis Reports

Planned changes include the commissioning of an IT system that will allow data/charts to be web based. This would allow users to pull out data on all different therapeutic areas whenever they are wanted directly on the web. This is a major development and is currently in the very early stages awaiting further work with our new commissioners.

Training

Face to face training packages on critical appraisal techniques and skills, information mastery and prescribing data analysis are currently being developed. Short written guides such as ‘a ten minute guide to population decision-making for local decision making groups’ will also be available via the website. Again these are being developed with our new commissioners in mind and will be available once feedback on proposed areas has been received.

Localities may also request bespoke training packages that combine presentation of the clinical evidence alongside the prescribing data, thus highlighting areas where improvements or changes to prescribing behaviours could be made.
Overview

Enquiry levels remained stable compared with recent years though a notable increase in the numbers of enquiries submitted via email was observed. The centre’s staff contributed to the provision of proactive information such as Medicines Q&As and locally produced Medicines Information newsletters with the intention of reducing duplication of effort and increasing productivity. Work continued across a range of levels from provision of training for Pre-Registration Pharmacists to development of national guidance in specialist areas such as paramedic use of ketamine and midazolam. Our continual programme of quality assurance surveys provided evidence of a high quality and responsive service delivered to stakeholders throughout the year.

<table>
<thead>
<tr>
<th>NHS Outcomes framework domain</th>
<th>Preventing people from dying prematurely</th>
<th>Enhancing quality of life for people with long term conditions</th>
<th>Helping people to recover from episodes of ill health or following injury</th>
<th>Ensuring people have a positive experience of care</th>
<th>Treating and caring for people in a safe environment and protecting from avoidable harm</th>
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<tbody>
<tr>
<td>RDTC Contribution</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
</tr>
</tbody>
</table>

Medicines Information Activity

Regional Activity

The RDTC provides medicines information support to a broad range of healthcare professionals with a multidisciplinary staff team including pharmacists, information scientists and nurses answering enquiries. The RDTC hosts the UK Teratology Information Service (UKTIS) and our Medicines Information service also acts as the UKMi national specialist medicines information service for teratology enquiries, providing information on the effects of drug exposures on the foetus.

During 2012/13 the RDTC answered 1,337 MI enquiries across all stakeholders in the former Northern and Yorkshire region. A total of 1,251 (95%) enquiries were from primary care, of which 83% were patient-centred and 341 were therapeutic drugs in pregnancy enquiries. The number of enquiries from Primary Care has increased slightly on last year but has remained relatively stable over the past three years.

<table>
<thead>
<tr>
<th>Total Enquiries Primary Care</th>
<th>2010/2011</th>
<th>2011/12</th>
<th>2012/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of enquiries</td>
<td>1,211</td>
<td>1,165</td>
<td>1,251</td>
</tr>
</tbody>
</table>

Table 1. Enquiry Numbers

The number of enquiries from secondary care is similar to last year (46 compared to 47) reflecting access to MI resources and answering of less complex enquiries at a Trust level in line with the commissioned service.

Most of the enquiries from primary care came from general practitioners (n=408), community pharmacists (n=399), PCT pharmacists (n=296) and primary care nurse/midwives (n=70) (Figure 5). ‘Other NHS’ represents enquirers where the enquirer did not ‘fit’ into the specified categories such as practice managers and receptionists (contacting the service on behalf of a GP or nurse practitioner) and community pharmacy staff (non-registered).
MI enquiries are assigned levels based on complexity. Level 1 is a simple enquiry and an answer is found quite easily in one or two resources. Level 2 requires a lengthier search accessing multiple resources. Level 3 is complex and involves evaluation and an opinion based on the information found.

<table>
<thead>
<tr>
<th>Level of Enquiry</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>551</td>
<td>278</td>
<td>81</td>
</tr>
</tbody>
</table>

Table 2. Enquiry complexity during 2012/13
The additional 341 therapeutic drugs in pregnancy enquiries are likely to be mainly level 3 but are recorded on a different database commissioned by Public Health England which does not assign levels.

All medicines information enquiries received are reviewed monthly to identify any common issues facing those organisations that commission our services. This information is then discussed in our regular publications meetings, with consideration given to an in-depth review of evidence following which a UKMi Q&A or Drug Update on the topic may be published.

Figure 6 provides detail of the types of enquiries answered during 2012/13 from primary care in the former Northern and Yorkshire region. “Other” enquiries include those categorised as renal and hepatic disease, compatibility of injectables and travel medicines.

**National Activity**

The RDTC contributed to the Medicines Question and Answer documents which are available on the NHS Evidence website (www.evidence.nhs.uk). Medicines Q&As are evidence based, fully referenced answers to commonly asked MI enquiries. The RDTC has written and maintains 27 Q&As. Our senior MI pharmacist is accredited to lead on, check and sign off Q&As. Certain Q&As are used by NHS Direct and are available on their intranet. We also reviewed and wrote documents on Travel Health and Medicines Waste Awareness respectively as part of the UKMi ‘Thinking Ahead’ series which is intended to support medicines related public campaigns.

Those Q&As produced by the RDTC include:

- What is the evidence that green coffee extract works to reduce weight?
- What is the evidence for an increased rate of myocardial infarction associated with calcium supplements?
- How do you switch between pregabalin and gabapentin for neuropathic pain, and vice versa?

Some of those Q&As written by the RDTC have been selected to be included in summary form in the *Clinical Pharmacist*:

- Which medicines can cause neuroleptic syndrome? CP 2012;4:175
- How do different enteral feeding tubes affect drug administration? CP 2012;4:142

We are one of the authoring centres for the New Medicines Section of the Prescribing Outlook Series - a horizon-scanning publication providing independent and evaluated information on new drugs and reducing duplication of effort across the UK.

Regular meetings of the local MI Network have been held at the RDTC to promote national UKMi activity, deliver CPD and encourage and support collaboration between MI specialist pharmacists and their respective centres.

The RDTC continues to use Version 3 of MiDatabank which enables submission of adverse drug reaction reports directly to the Medicines and Healthcare Regulatory Authority from enquiries received as part of our routine medicines information activities. The RDTC were one of the early implementers of this development sending our first yellow card report from MiDatabank in June 2011. The MHRA reported on the 17 June 2013 that they had received 800 electronic Yellow Cards from 75 different MI centres, with 552 of these considered
serious. This is a considerable increase from last year when only 32 centres were reporting electronically and a total of 253 eYCs had been transmitted. The RDTC has submitted 37 reports which is the seventh highest number, 19 of which were ‘serious’.

Promotional activities have included developing the medicines information section of the updated RDTC website, supplying promotional material for distribution at conferences, medicines management meetings etc, attendance and presentations about our service at LPC meetings and securing advertisements in their newsletters as well as producing ‘The Medicines Information News Today’ (The MINT) newsletter and ‘Herbal Quick Takes’ for frontline primary care healthcare professionals.

During the last quarter of 2012/13 MI activities at the RDTC were included in the national Specialist Pharmacy Service review originating from the office of the Chief Pharmaceutical Officer. Intended to stabilise specialist services during the transition from PCT led commissioning, the full findings and recommendations from the report have yet to be published but are likely to impact over the next two to three years on the scope of RDTC activities under the UKMi banner. Closer working with other Specialist Pharmacy Service colleagues in Quality Assurance and Procurement will be a necessity along with a revamped national management structure for the service as a whole.

**NHS Direct**

During 2012/13 we continued to provide support to NHS Direct in a number of key areas through the national NHS Direct / UKMi service level agreement. In addition to enquiry answering support the Centre, through its NHS Direct Pharmacist Lead and NHSD Support Pharmacist, has played an active role in delivering the National NHS Direct / UKMi SLA. This work included:

- Collaboration with national colleagues within the UKMi NHS Direct Working Group, to develop national training packages and guidance documents which support the National NHS Direct Medicines, Poisons and Pharmacy procedures and Best Practice documents.
- Exploring new and more efficient ways of training NHSD staff including webinars, podcasts, workbooks etc.
- Continuing support of the local site in implementing national protocols, ‘best practice’ and training.
- Contributing to the NHSD response to the changes required in providing a 111 service in terms of handling medicines-related enquiries.
- Induction, role preparation, assessment and refresher training sessions for nurse advisers and health information advisers. It has been a busy year as we sought to support the altered NHS Direct 111 Strategy and ensure all staff had successfully completed their required medicines training to enable them to handle medicines-related calls safely for both the 111 and the Commissioned Services.
- The NHS Lead has continued to support training and advise on poisons-related issues. A decision support tool for handling double doses of medicines has been completed and NHS Direct’s response to altered MHRA advice about paracetamol overdose was supported by advice and newly drafted documents.
- Reporting or commenting on poisons-related serious untoward incidents.

Perhaps inevitably, reorganisation, cost improvement measures and preparation for the 111 service at NHSD led to a different focus for delivery of the SLA in 2012/13. These changes have prompted the development of alternative support mechanisms (such as additional UKMi prepared fact sheets, Q&As, and delivery and development of different modes of training).
**National Medicines Information Activities**

As in previous years, we have contributed to the work of the UKMi network. The senior MI Pharmacist (Pharmacovigilance) is a member of the UKMi Clinical Governance Working Group. The Principal Pharmacist MI deputised during her maternity cover and contributed to discussions about UKMi Service KPIs, database risk and recommended resource list updates.

We continued to support local Secondary Care Centres in establishing best practice in the provision of Medicines Information Services during 2012/13 by supporting the introduction of national standards for enquiry answering and training through:

- Promoting and training staff on the use of MiDatabank
- Signposting UKMi
- Promoting peer review of enquiries within the Regional MI group
- Guiding the introduction of internal audit procedures with a view to future external audit

**North East Ambulance Service**

The RDTC have a SLA for the equivalent of one day per week with North East Ambulance NHS Foundation Trust for a Pharmacy Adviser whose work included:

**Medicines Management Advice**

- Advising on ad hoc medicines management issues across the service
- Providing advice on the medicines management aspects of the standard A&E service and the HART and newly introduced Enhanced Care service
- Maintenance of the medicines policy for NEAS
- A draft NEAS policy was written for both injectable Medicines and PGD Development

**Attendance at Meetings**

- Chair the quarterly NEAS Medicines Management Group Meetings to address any medicines related issues across NEAS
- Attendance and support for relevant agenda items, at the quarterly NEAS Quality Committee Meetings and NEAS Clinical Advisory Group meetings

**Governance**

- Supporting trust wide medicines management standards and review of audit findings and advise on necessary actions
- Review and advise NEAS appropriately in response to national guidance and alerts from the NHS England or Medicines Healthcare Regulatory Authority or other relevant national bodies. This included contributing to the document outlining a NEAS risk assessment, action plan and mitigation against the NHS Protect ‘Security standards and guidance for the management and control of controlled drugs in the ambulance sector’
- Interpretation of legal frameworks (eg limits and exemptions on supply, possession and administration of medicines) with advice on the implications for NEAS and any necessary actions
- Specialist input into the annual CD report
* Attendance at LIN meetings as a deputy when necessary (quarterly meetings). The NEAS response to the NHS Protect Document was presented to the LIN in April 2013
* Support for the drugs procurement process and tendering of contracts as required. Contribute to the monitoring of the current contract through regular meetings and review of KPI and activity reports
* Respond to relevant consultations. In 2012/13 the Pharmacy Adviser responded on behalf of NEAS to Draft Regulations: The Controlled Drugs (Supervision of Management and Use) Regulations 2013

**PGDs**
* Pharmacist signatory to patient group directions for use by NEAS
* Annual review of the PGDs used by the Occupational Health Team
* Development of PGDs in response to new service developments
  * The introduction of legislation allowing paramedics to possess and administer ketamine and midazolam
  * Provision of Enhanced Care by Advanced Paramedics requiring PGDs for codeine (pain), diclofenac (muscular pain), diazepam (non-traumatic back spasm) and prednisolone (asthma and COPD exacerbation). This new service is intended to allow a patient to remain at home and reduce the need to transfer to A&E or Urgent Care providers for treatment

**Training**
* A member of RDTC staff provides input on to pre-arranged training sessions to inform staff about medicines management issues as necessary

The Pharmacy Adviser is also an active member of the national Ambulance Pharmacist Network (APN) and attends their meetings and makes an appropriate contribution to their national work such as:

* Reviewing and providing feedback on the proposed JRCALC updates and additional monographs
* Writing monographs in collaboration with Oncology Consultant colleagues to provide guidance for paramedics administering drugs in ‘Just in Case’ boxes for ‘end of life’ palliative homecare
* Participating in benchmarking exercises such as drug prices and CD breakages and losses

**Teaching and Training**

As a matter of routine, all enquiry answering staff undertake initial locally-delivered training and assessment in medicines information, teratology and management of poisoning; ongoing learning is supported by regular CPD sessions, courses and attendance, as appropriate, at national training events such as the UKMi National MI training course and UKMi Professional Development Seminars.

Medicines information training delivered during 2012/13 included:

**NHS Direct**
* NA, DA and HIA Medicines training
* Ongoing updating of the Poisons ‘Train-the-Trainer’ package in response to changes in advice or guidance
* Delivery of a ‘calculations’ webinar training package
RDTC

* Internal comprehensive initial training and assessments, ongoing CPD attendance at courses and relevant conferences
* Call review enabling reflective learning and follow up of any complaints

Pre-Registration Trainee Pharmacists

* Regional half day training session and workshop
* 5 x three week and 2 x one week RDTC MI rotations for two local Trust’s Pre-registration trainee pharmacists where in-house MI expertise and appropriate supervision is unavailable

Local Trust Support

* Six monthly meeting of local MI Pharmacists within the region
* Local Trust supported with the introduction of MiDatabank and comprehensive review of their MI resources

Service Developments

The RDTC staff involved in supporting NHSD have led on the development of training and decision support tools which enable NHSD staff to extend their practice and reduce the need to refer enquiries onward such as the one which addresses ‘how to handle a double dose ingestion enquiry’. The final draft has been agreed for submission to the NHSD Clinical Panel.

In response to new service developments within NHSD, the NHSD Leads have explored new ways to deliver medicines training. Economic and time pressures have necessitated a move away from face-to-face training and the Leads have developed and delivered webinars, written the script for podcasts, and investigated the possibility of using interactive training software.

The MI service has also continued to promote the use of email to submit enquiries in addition to the telephone enquiry answering service. The proportion of e-mailed enquiries has increased from 12.5% (2011/12) to 15.2% in 2012/13. This follows a significant increase from just 4.3% of enquiries e-mailed in 2010/11. In response to comments received in the MI Service User Survey service improvements have been made such as all enquirers, including those who have placed their enquiry by telephone, are offered the option of receiving a written answer via email. Thus while 15% written enquiries were received in 2012/13, 36% of responses were in writing. 99% of enquiries were answered within the enquirer’s deadline and 90% enquiries were answered within 24 hours of receipt.

RDTC Herbal Quick Takes are new documents that have been written to meet a need for frontline staff to have good quality, evidence-based information on herbal medicines.

There have been several interesting developments in medicines management for ambulance services in 2012/13, including.

• Changes in legislation to allow paramedics to possess and administer ketamine and midazolam
• NHS Protect published ‘Security standards and guidance for the management and control of controlled drugs in the ambulance sector’
• NEAS introduced the ‘enhanced care’ service, NHS Protect published ‘Security standards and guidance for the management and control of controlled drugs in the ambulance sector’
• JRCALC was reviewed
In response, the Pharmacy Adviser wrote several PGDs to meet these service developments and was involved in the development of the latter two documents.

**Clinical Governance**

Call recording for medicines information enquiries has continued this year and call review has allowed us to monitor the quality of our enquiry answering and offer feedback and reflective learning to improve our service. It is also available in response to any complaints received.

302 quality assurance user survey forms were sent to a random selection of MI service users with a response rate of 50%. UKMi has devised a scoring system out of 6 for responses received as a measure of the service provided. Our scores indicate that users are very happy with the service provided with one exception which was followed up and service changes made.

<table>
<thead>
<tr>
<th>Score</th>
<th>Number of User Survey Forms</th>
<th>% Rating Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Excellent</td>
<td>105</td>
<td>70</td>
</tr>
<tr>
<td>5</td>
<td>35</td>
<td>23</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
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<td>0</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1 poor</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3. The number of MI enquiries which received a UKMi score (0-6) in the UKMi User Satisfaction Survey in 2012/13

The survey asks ten questions to which the enquirer could select yes, no or not applicable. The table below indicates the percentage who answered yes out of those that were counted as applicable.

<table>
<thead>
<tr>
<th>Category Score for Answer Satisfaction</th>
<th>% Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were you able to contact us easily by phone, e-mail or person?</td>
<td>99</td>
</tr>
<tr>
<td>Did our staff interpret your needs correctly?</td>
<td>99</td>
</tr>
<tr>
<td>Was a deadline agreed for a reply?</td>
<td>84</td>
</tr>
<tr>
<td>Did you receive the answer by the agreed time</td>
<td>98</td>
</tr>
<tr>
<td>Did our response answer your question?</td>
<td>98</td>
</tr>
<tr>
<td>Did we offer practical advice where appropriate?</td>
<td>98</td>
</tr>
<tr>
<td>Did we give you enough detail</td>
<td>98</td>
</tr>
<tr>
<td>Were you confident in the answer we gave you?</td>
<td>99</td>
</tr>
<tr>
<td>Did our answer contribute to patient care?</td>
<td>80</td>
</tr>
<tr>
<td>Would you use the service again?</td>
<td>99</td>
</tr>
</tbody>
</table>

Table 4. The percentage of enquirers who answered yes to the questions in the User Survey for 2012/13

The User Survey forms are reviewed and the service arrangements are modified if service improvements are required. Changes were introduced to internal service arrangements in response to comments about difficulties in getting through to the service.

However, we generally receive very positive responses to the request for suggestions as to how to improve the service or other issues related to the MI service they received:
• “My query ‘can drugs be mixed together to make a drink’ was complex and involved many drugs for an individual with learning difficulties and extremely challenging behaviour. The information I received back was brilliant; I was given 5 sound reasons for why not, which was convincing when I responded to the nurses at the home. Thank you.”

• “I value the service as answers are given where other information services procrastinate.”

• “Excellent Service, very quick reply. Written information was also provided. Thank You!”

• “Your service is excellent - long may it continue!”

• “Invaluable Service to rely on.”

• “None - it is an excellent service as it is”.

• “Service is excellent as always

• “Excellent resource, staff have always handled my queries in a very professional manner.”

• “Really excellent service - keep up the excellent work”

Figure 7. The use made of MI answers received during 2012/13 as a % of the total QA responses

In addition to the standard UKMi User Survey questions, the RDTC has added some questions exploring the value of our service by asking about the use to which the answers were put (Figure 8). Several responses chose more than one option from the selection offered. The main use identified was to ‘initiate or modify a patient’s management’. Patient safety features in many of the responses with 2.8% saying that their enquiry answer was used to investigate or report an adverse drug reaction and many of the 3.8% in the ‘other’ category were also safety related including ‘investigate the safety of new route of administration with an established drug’, ‘ensure patient safety’, ‘safeguarding issue re patient unable to consent’. 

<table>
<thead>
<tr>
<th>Use Made of MI Answers</th>
<th>% of Total QA Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update personal knowledge</td>
<td>20%</td>
</tr>
<tr>
<td>Inform Colleagues</td>
<td>19%</td>
</tr>
<tr>
<td>Counsel a Patient</td>
<td>21%</td>
</tr>
<tr>
<td>Initiate or modify a patient’s management</td>
<td>25%</td>
</tr>
<tr>
<td>Investigate or report an adverse drug reaction</td>
<td>16%</td>
</tr>
<tr>
<td>Develop a formulary guideline</td>
<td>3%</td>
</tr>
<tr>
<td>Update personal knowledge</td>
<td>3%</td>
</tr>
<tr>
<td>Assist in the teaching or training of others</td>
<td>6%</td>
</tr>
<tr>
<td>Assist in research or publishing of work</td>
<td>1%</td>
</tr>
<tr>
<td>Inform Colleagues</td>
<td>3%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
</tr>
<tr>
<td>Did not answer</td>
<td>1%</td>
</tr>
</tbody>
</table>
Figure 8. The number of times those enquirers who responded to the User Survey used the Medicines Information Service in the past year.
Pharmacovigilance

Overview

The Yellow Card Centre Northern and Yorkshire (YCCNY) encourages the appropriate reporting of adverse drug reactions (ADRs) from the North East of England, Yorkshire and Cumbria. During the 2012/13 financial year, 2,169 reports were received from these areas, a 10% increase compared with 2011/12 (Figure 9). Reporting from GPs increased by 21%, whilst increased reporting was also seen for both hospital and community pharmacists.

As part of its promotional activities, the centre circulated a short version of the 2011/12 annual report which summarised Yellow Card reporting in each Primary Care Trust (PCT) area. This was sent to the Heads of Medicines Optimisation of the relevant primary care organisations. PCTs that were priority areas for raising Yellow Card awareness this year all saw increases in reporting.

A short version of the annual report was also sent to the pharmacy department of each hospital trust in the Northern and Yorkshire region. During 2012/13 there was a 19% increase in reporting from this group, building on the 51% increase achieved in 2011/12. A 33% increase in reporting from community pharmacists was associated with local promotional activity and the national promotional campaign run by the MHRA.

The Centre has continued to publish the bulletin series Safer Medication Use, which promotes safer prescribing, highlights emerging or significant drug safety problems, and raises awareness of adverse drug reaction detection and reporting. The MINT (Medicines Information News Today) newsletter, which discusses drug news relevant to primary care health professionals, also continues to promote the Yellow Card Scheme in each issue; five editions were published in 2012/13.

The Centre continued to encourage ADR reporting by health professionals by the provision of education, targeted according to local reporting patterns.

<table>
<thead>
<tr>
<th>NHS Outcomes framework domain</th>
<th>Preventing people from dying prematurely</th>
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<th>Treating and caring for people in a safe environment and protecting from avoidable harm</th>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Yellow Card Data

Reports of serious ADRs increased by 2% to 1,027.

The most frequent reporter group was doctors (all types, 47%), but pharmacists (18%), nurses (16%) and patients (including parents and carers, 6%) also made important contributions (Figure 10).

Figure 11 shows that although the mix of reporters has changed slightly over time, GPs have consistently been the largest reporter group, providing roughly one third of all reports received.
Figure 9. Total number of reports received by financial quarter

Figure 10. Total reports for 2012/13 by reporter type

*Other* category includes: healthcare assistants, radiographers, pharmacy assistants, dentists, medical students and paramedics.
Reporting Rates by Geographical Area

Reporting rate by geographical boundaries of the former Strategic Health Authorities (SHAs) show that the largest number of reports (1,352) were received from Yorkshire and the Humber during 2012/13, but the reporting rate per million population was highest in the former North East SHA (Figure 12).
Data are analysed in this way to facilitate the prioritisation of educational initiatives, targeting those with low or falling rates of reporting. It should be noted that for the former North West SHA the YCCNY receives yellow cards from Cumbria only, while YCC North West takes responsibility for other parts of that SHA. The reports per million for North West SHA reflects the population of Cumbria only.

Yellow Card reporting varied widely by Primary Care Trust (PCT) (Figure 13), with the largest number of reports submitted from North Yorkshire and York PCT (245) and the fewest from Hartlepool PCT (8). When analysed by number of reports received per million population Newcastle PCT had the highest and Cumbria Teaching PCT the lowest reporting rates (Figure 14). Those PCT (now CCG) areas with the lowest reporting rates will remain a priority for raising awareness of the Yellow Card scheme in the coming year.

**GP Reporting**

There has been a 21% increase in GP reporting in the 2012/13 financial year compared with the previous year, with 730 reports received. This continues the recent upward trend, with reporting at its highest level in recent years (Figure 15). GP reporting increased in 16 PCTs, with the largest rise seen in Hartlepool, although levels there remain low in absolute terms.

Bradford & Airedale submitted the largest number of reports per million population from GPs, with Redcar and Cleveland submitting the fewest (Figure 16).
Figure 14. Number of reports by PCT per million population

Figure 15. Number of reports by GPs since April 2005
Pharmacist Reporting

Hospital pharmacists submitted 186 reports in 2012/13, an increase of 19% on the previous year. This continues the increase in reporting since last year (Figure 17). To build on this success, each hospital trust in the Northern and Yorkshire region will again receive a summary annual report in the hope of further stimulating reporting and interest in education sessions. Newcastle PCT had the highest level of reporting per million population by hospital pharmacist (Figure 16). There were six PCTs from which no hospital pharmacist reports were received; hospitals in these areas will be targeted in the coming year.

A total of 122 reports were received from community pharmacists in 2012/13, an increase of 33% on the previous year (Figure 18). This continued increase reflects the promotional activities aimed at community pharmacists carried out by the centre this year. Northumberland PCT shows the highest level of community pharmacist reporting per million population, but two PCTs did not submit any reports (Figure 18).

Patient Reporting

Patients, parents and carers have been able to submit Yellow Cards since 2005. The scheme was re-launched in February 2008, with a 6 week promotional campaign in community pharmacies nationwide. During 2012/13, reporting from patients, parents and carers decreased by 29% (Figure 19). Patients, parents and carers in Barnsley, Kirklees and Sunderland PCTs submitted the most Yellow Cards per million population (28 reports per million), while no reports of this type were received from Middlesbrough (Figure 20).

The drop in reporting was recognised in-year, so in addition to existing work with the National Osteoporosis Society and Epilepsy Action, new initiatives with patient groups were undertaken. Notably a new partnership has been established with the Stroke Association, providing training to staff and including Yellow Card leaflets in hospital discharge packs. Promotion of patient reporting remains a key priority for 2013/14.
Figure 17. Reports made by pharmacists since April 2005

Figure 18. Number of reports per million population submitted by pharmacists
Figure 19. Reports made by patients, parents and carers since April 2006

Figure 20. Number of reports per million population by patients, parents and carers
Top 10 Suspect Drugs

The ten most frequently reported suspect drugs during 2012/13 are shown in Table 5. During this period varenicline was the most reported drug in Northern and Yorkshire, contributing more than 7% of all reports. There were 79 reports relating to HPV vaccines, 68 for Gardasil® and 11 for Cervarix®.

<table>
<thead>
<tr>
<th>Drug</th>
<th>No. of Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Varenicline (Champix®)</td>
<td>159</td>
</tr>
<tr>
<td>2  HPV Vaccine (Gardasil®)</td>
<td>68</td>
</tr>
<tr>
<td>3  Dabigatran (Pradaxa®)</td>
<td>43</td>
</tr>
<tr>
<td>4  Simvastatin</td>
<td>39</td>
</tr>
<tr>
<td>5  Ramipril</td>
<td>37</td>
</tr>
<tr>
<td>6  Penicillin V</td>
<td>36</td>
</tr>
<tr>
<td>7  Contraceptive implant Nexplanon® or Implanon®</td>
<td>30</td>
</tr>
<tr>
<td>8  Amlodipine</td>
<td>29</td>
</tr>
<tr>
<td>9  Amoxicillin</td>
<td>28</td>
</tr>
<tr>
<td>10 Flucloxacillin</td>
<td>24</td>
</tr>
</tbody>
</table>

Table 5. Drugs most commonly involved in ADR reports during 2012/13

Promotional Activities

The main activities of the YCC Northern and Yorkshire this year have been to promote the Yellow Card scheme to healthcare professionals and patients and raise awareness of the centre within the region, building on initiatives started during 2011/12, and against the objectives agreed with the MHRA.

Staff at the centre have contributed to educational programs provided to all reporter groups within the region, with the aim of alerting health professionals and patients to the Yellow Card scheme. Nineteen such sessions have been provided this year, including yellow card training as part of medicines information sessions to health information and nurse advisers at NHS Direct. The training focused on informing patients that they may fill in a Yellow Card should they contact NHS Direct regarding an adverse drug reaction.

We have continued to contact local expert patient support groups to promote the Yellow Card scheme directly to patients and their carers. During 2012/13 the Yellow Card scheme was promoted to the Middlesbrough branch of the Polymyalgia Rheumatica and Giant Cell Arteritis North East support group. Promotional material was also distributed to the National Osteoporosis Society (Northern England branch) for distribution at local meetings. We are currently in discussion with this group to provide education sessions in the coming year.

Staff from the centre also attended the North East Regional and Yorkshire Regional AGMs of the Stroke Association, and will continue to work with Stroke Association staff to promote reporting among their service users. Stroke Association activities include the inclusion of paper Yellow Cards in hospital discharge packs, to encourage reporting at a particularly vulnerable time.

We continued to work closely with Newcastle University, supporting undergraduate and postgraduate teaching. All other universities in our region providing education for healthcare professionals were contacted to offer our services to teach on courses, provide professional support or educational materials, or review ADR teaching material. As in previous years, a lecture to non-medical prescribers at Leeds University was also provided.
The centre produced a summary version of the previous year’s annual report which was sent to the Heads of Medicines Management of each Primary Care Trust (PCT) in our region, detailing Yellow Card reporting performance of each PCT. This was a popular and successful strategy, which will be continued annually and may be of particular importance given the recent structural changes in the NHS.

To build on the previous years upward trend in reporting by hospital pharmacists, a summary report was also sent to Directors of Pharmacy in all the hospital trusts within the region. Although it was not possible to provide information by NHS trust (only by the PCT the trust is sited in), it demonstrated the level and variation in hospital pharmacist reporting between geographic areas. The issue was also raised in the UK Medicines Information (UKMi) regional meeting. Pre-registration hospital pharmacists were also targeted with a session delivered to all students in the North East area backed up by a session provided when they were seconded to our centre for medicines information training.

The centre continues to engage community pharmacists via our medicines information newsletter and educational sessions provided to local pharmacist groups.

The Yellow Card scheme continued to be highlighted in the MINT (Medicines Information News Today). This is a newsletter produced quarterly by the Medicines Information department of the centre which is circulated to PCT advisers and health professionals working in primary care. These include practice pharmacists, community pharmacists, nurses and GPs. Five editions were published in 2012/13, each containing a section designed to encourage appropriate Yellow Card reporting.

The centre has continued to publish the bulletin series Safer Medication Use which promotes safer prescribing, highlights emerging or significant drug safety problems, and raises awareness of adverse drug reaction detection and reporting. The bulletin is aimed at prescribers and healthcare professionals who can report ADRs. However, it is also of value to Drug and Therapeutics Committees, Medicines Management Groups, clinical governance leads and non-medical prescribing leads to inform policy decisions and risk management strategies. One bulletin, on managing adverse drug reactions and drug interactions with statins, was published in 2012.

The YCC Northern and Yorkshire has also worked collaboratively with the Newcastle RDTC. Information from Drug Safety Update is included in the RDTC monthly horizon scanning document which is available to pharmacists and doctors in primary and secondary care, particularly those involved with commissioning and providing services to patients. Indeed, all YCC Northern and Yorkshire training materials include reference to this publication. The RDTC publication reviewing the evidence for newly marketed drugs, New Drug Evaluations, continues to include information regarding reporting of suspected reactions to black triangle drugs, and also encourages prescribers to report ADRs via the Yellow Card Scheme. Nine New Drug Evaluations were published in 2012/13.

The YCC Northern and Yorkshire website has been updated regularly with information about emerging safety issues and recently published papers in the field of pharmacovigilance. The site also contains educational materials developed by the centre aimed at health professionals, patients and universities. It also highlights the medicines education modules produced by the MHRA, including one on pharmacovigilance. All the contents have been updated with the new Yellow Card website URL (www.mhra.gov.uk/yellowcard). All users accessing the site for information on the completion of a Yellow Card are encouraged to use the electronic form. In addition, the website address of the electronic Yellow Card appears on all YCCNY publications and correspondence.
Conclusions

YCC Northern and Yorkshire has continued to support the Yellow Card scheme by providing education to healthcare professionals, in line with the objectives set by the MHRA. It is encouraging that the total number of reports has increased in the Northern and Yorkshire region by 10%, particularly from reporter groups that were targeted, such as hospital and community pharmacists. The fact that GP reporting has continued to climb, with 21% increase in the number of reports, is also very encouraging. Work in the coming year will build on the momentum gained in previous years, but will concentrate in particular on the promotion of patient reporting, and to support local NHS organisations where the rates of Yellow Card reporting are below average.
Poisons Information

Overview

During 2012/13 the National Poisons Information Service (NPIS) was commissioned by the Health Protection Agency on behalf of UK Health Departments to provide expert telephone advice for frontline healthcare professionals on all aspects of acute and chronic poisoning. The service comprises four individual units, based in Newcastle, Birmingham, Cardiff and Edinburgh. All NPIS units work closely with both the Poisons Information Service in Belfast and the National Poisons Information Centre in Dublin. Each unit is staffed by Consultant Clinical Toxicologists and Specialists in Poisons Information (SPIs).

The Newcastle unit of the NPIS participates in a national rota with two other NPIS units (Birmingham and Cardiff) for provision of out of hours services to the United Kingdom and Ireland. During normal office hours (9 am-6 pm) Newcastle NPIS leads for the provision of information to users in Northern England, Yorkshire, Greater London and Kent.

<table>
<thead>
<tr>
<th>NHS Outcomes framework domain</th>
<th>Preventing people from dying prematurely</th>
<th>Enhancing quality of life for people with long term conditions</th>
<th>Helping people to recover from episodes of ill health or following injury</th>
<th>Ensuring people have a positive experience of care</th>
<th>Treating and caring for people in a safe environment and protecting from avoidable harm</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDTC Contribution</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Enquiry Activity

During 2012/13 NPIS (Newcastle) answered 17,179 poisons enquiries; an increase of 6.1% compared with the previous year. The service was most frequently used by nurses (45%) and doctors (43%), with most enquiries coming from hospitals (29%), NHS Direct/24 (28%) and General Practitioners (27%). (Figure 21).
Enquiries relating to suspected exposures in children are a major component of workload, with 28% of enquiries involving children under 5 years old. This figure remains unchanged from the previous year.

Accidental poisoning accounted for 44.7% of enquiries, followed by therapeutic error (26%) and intentional self harm (19%), with recreational drug use accounting for 2.6% of enquiries. As in previous years, most (86%) exposures occurred in the home, with exposures in the work place (2.3%) or prisons (1.8%) much less common.

Pharmaceuticals were the substances most commonly involved (64.2%), with industrial chemicals accounting for 14% and household products 12.3% of suspected exposures. Paracetamol was the most common agent involved featuring in more than 14.7% of enquiries. This figure has increased by 3.7% this year, reflecting recent changes in management guidance for paracetamol overdose. Ibuprofen was the second most common pharmaceutical ingested (5.1%); alcohol accounted for 3.6% of enquiries.

The severity of cases is routinely recorded using the Poisons Severity Score (PSS), developed by the European Association of Poisons Centres and Clinical Toxicologists (EAPCCT), which categorises the severity of toxicity as ‘none’, ‘minor’, ‘moderate’, or ‘severe’. This is done at the time of the enquiry and the maximum severity of the patient’s features (Maximum PSS) is also recorded. The maximum PSS defines the most severe symptoms the patient has experienced from the time he/she was poisoned up until NPIS received the call. Of the total enquiries received by NPIS Newcastle 88.4% were recorded as having a PSS of ‘none’ or ‘minor’, 4.2% ‘moderate’ and 1.6% ‘severe’.

Referral to a Consultant Clinical Toxicologist is offered to all enquiries scored as ‘severe’, as well as others where the Specialist Information Scientist or enquirer believes that the patient may benefit from the expert input of a specialist consultant. During 2012/13, 820 cases were referred to a Consultant Clinical Toxicologist. NPIS advice may prevent unnecessary health care consultations, including emergency department visits. Home care or no treatment was advised for 41.3% of NPIS Newcastle enquiries (n = 7,103).
Figure 23. Category of Poison

Figure 24. Poison Severity Score
Cases in which the NPIS Consultant Clinical Toxicologist is involved, including those that are ‘PSS severe’, are routinely followed up by Specialist Information Scientists. Follow up data of patient outcomes could ultimately influence clinical management guidance on a national level.

Enquiries relating to toxic alcohols and pesticides were also reviewed as part of a prospective study. During 2012/13, a total of 782 cases were followed up, of which complete outcome data is available for 429 cases.

**TOXBASE**

TOXBASE is an internet database maintained by the NPIS and the first point of contact for poisons information for health professionals in the UK. NPIS (Newcastle) contributes to TOXBASE by participating in national editing group meetings and updating, reviewing and producing new monographs. In addition monographs prepared by other units undergo a rigorous editorial process which includes staff from NPIS (Newcastle).

NPIS (Newcastle) has continued to increase productivity in development of TOXBASE monographs, with 480 submitted during 2012/13, an increase of 40.3% on the previous year.

**Olympic Period**

In advance and during the Olympic and Paralympic Games in London in 2012, NPIS (Newcastle), along with other NPIS units, undertook additional work. In preparation for the games, a significant proportion of TOXBASE workload involved producing monographs on selected chemicals in case of deliberate release. These TOXBASE entries included additional features, including public information sheets as well as more detailed information on toxicity and management.

In order to ensure more robust telephony, a system was introduced nationally which allowed local control of the number and location of lines receiving telephone enquiries (the BT Cloud system). This system would enable the service to be maintained in the event of NPIS office buildings becoming unavailable. In addition, the BT Cloud system allows a greater number of SPIs to log in and take calls in an emergency.

To make provision for a potential increase in call volume relating to the Olympic Games, between 9 July and 9 September the national out of hours rota was enhanced, with two units rather than one taking telephone enquiries between the hours of 6 and 11 pm.

In order to facilitate a swift response to potential chemical incidents, the NPIS operating procedure relating to “Urgent Alerts” was put in place. Specific TOXBASE monographs are marked as being of special interest. These entries include agents that are highly toxic or have the potential for population exposure. When a TOXBASE monograph flagged as being of special interest is accessed clinicians are asked to indicate whether or not they are treating an exposed patient. SPIs are then notified by an automatically-generated “Urgent Alert” e-mail when these entries are accessed. E-mails relating to patient contacts are followed up immediately in order that NPIS/HPA can be made aware of ongoing incidents.
Quality Assurance

The NPIS Newcastle unit aims to provide a very high quality service and continually seeks to improve by reflecting on feedback of service users and stakeholders. During the period 2012/13, 5.1% of telephone enquiries for the unit were randomly selected and a nationally agreed quality assurance questionnaire was used to collect data. 879 questionnaires were sent out with a response rate of 34.2%. Respondents were asked to agree or disagree with a series of statements relating to the particular enquiry they made to NPIS.

The respondents’ answers to the questions posed in Table 6 show a high degree of satisfaction. The politeness of NPIS staff, promptness of enquiry handling, and the speed of delivery of the information all attained particularly good feedback. In all categories satisfaction scores were slightly higher than last year. With the exception of delay in answering the call, all categories scored over 95%. High call volume trends have been identified nationally and in February 2013 NPIS introduced an additional 14:00 to 22:00 shift to alleviate these particularly busy periods.

<table>
<thead>
<tr>
<th>Question</th>
<th>Satisfaction Score*</th>
<th>Satisfaction Score*</th>
</tr>
</thead>
<tbody>
<tr>
<td>The person I spoke to was polite and pleasant</td>
<td>97</td>
<td>98.3</td>
</tr>
<tr>
<td>Once my call was answered by a Specialist in Poisons Information</td>
<td>95.5</td>
<td>96.9</td>
</tr>
<tr>
<td>the enquiry was dealt with promptly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I had confidence in the reply I was given</td>
<td>96.1</td>
<td>96.2</td>
</tr>
<tr>
<td>The information was given to me at an appropriate speed</td>
<td>96.7</td>
<td>96.9</td>
</tr>
<tr>
<td>I was given an appropriate amount of information for my needs</td>
<td>95.8</td>
<td>96.9</td>
</tr>
<tr>
<td>The reply from NPIS was relevant and useful</td>
<td>94.7</td>
<td>95.6</td>
</tr>
<tr>
<td>My telephone call was answered without delay by a Specialist in Poisons Information</td>
<td>83.9</td>
<td>87.7</td>
</tr>
</tbody>
</table>

Table 6. Summary of Satisfaction Scores
UK Teratology Information Service

Overview

The UK Teratology Information Service (UKTIS), based within NPIS (Newcastle), is commissioned to provide advice on all aspects of the fetal effects of medicines, poisonings and hazardous chemical exposures in pregnancy to health professionals across the UK. UKTIS also maintains detailed written reviews (‘monographs’) of animal and human pregnancy safety data for 345 drugs and chemicals which are currently available online to NHS and NHS affiliated departments, units and practices in the UK via the TOXBASE® website (www.TOXBASE.org). More recently, abstracts of these monographs have been made openly accessible via the UKTIS website (www.UKTIS.org). UKTIS also provide information via a dedicated telephone enquiry line for health professionals in concert with the National Poisons Information Service (NPIS).

UKTIS also conducts surveillance of known and emerging teratogens by collecting pregnancy outcome data about women who have been exposed in pregnancy from health professionals who contact the service. Data obtained in this way are reported in UKTIS monographs, presented at scientific meetings internationally and/or published in peer reviewed journals.

UKTIS also provides advice on drug and chemical exposure during pregnancy on request to official organisations such as the Medicines and Healthcare products Regulatory Agency (MHRA), the Commission for Human Medicines (CHM), the European Medicines Agency (EMA), the British National Formulary (BNF) and the National Formulary.

UKTIS works closely with other international teratology services, including the European Network of Teratology Information Services (ENTIS), of which UKTIS is a founder members and the Organisation of Teratology Information Specialists (OTIS) which encompasses teratology services in the USA and Canada.

UKTIS: Key achievements in 2012/13

In 2012/13 UKTIS provided information on pregnancy exposure in response to over a 140,000 requests. These comprised:

- 58,000 TOXBASE monograph downloads, an increase of 25% from 2011/12
- 82,000 monograph summaries downloaded by users around the globe from www.uktis.org
- 2,888 telephone enquiries

96% of users agreed or strongly agreed that they were highly satisfied with the service they received from UKTIS.

Awareness of the service has increased with new users accounting for forty five percent of telephone enquiries in 2011/12, an increase of 15% from last year and 25% from three years previously.

<table>
<thead>
<tr>
<th>NHS Outcomes framework domain</th>
<th>Preventing people from dying prematurely</th>
<th>Enhancing quality of life for people with long term conditions</th>
<th>Helping people to recover from episodes of ill health or following injury</th>
<th>Ensuring people have a positive experience of care</th>
<th>Treating and caring for people in a safe environment and protecting from avoidable harm</th>
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</thead>
<tbody>
<tr>
<td>RDTC Contribution</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

RDTC ANNUAL REPORT 2012/2013
UKTIS Activity During 2012/13

Number and source of telephone enquiries to UKTIS

During 2012/13 UKTIS answered 2,888 pregnancy-related telephone enquiries, a reduction of 11.4% compared with 2011/12, involving a total of 5,946 exposures. This rate of decline in call numbers is consistent with that observed over the past 5 years and arises from the increased provision by UKTIS of online information that is suitable for use in less complex cases. Analysis of telephone enquiries received by UKTIS suggest an increase in the complexity of telephone enquiries received in 2012/13 with 46% of calls relating to women taking more than one preparation, compared to 40% in 2008/09 and underscores the ongoing demand for a specialist advice line over and above the generic information provided in written monographs.

The geographic distribution of calls to UKTIS by country within the UK is shown in Table 7. UKTIS also took 47 calls from outside the UK, the majority from the Republic of Ireland.

A key role of teratology information services is to prevent birth defects and adverse neurodevelopmental effects due to known teratogens by providing information to healthcare professionals to support preconception prescribing of medicines. Eleven percent of enquiries to the service during 2012/13 related to women on a long-term therapy who were planning a pregnancy or to women of childbearing potential who may require long-term treatment with a drug which has known or suspected teratogenic effects (Figure 26). In these cases, the materno-fetal risks and benefits of both the proposed and potential alternative treatments need to be considered. Where use of a drug which may be associated with adverse fetal effects is deemed essential, advice regarding fetal monitoring and other methods of mitigating risk (eg use of high dose folic acid) is provided.

As in previous years, however, the majority of enquiries (48%) received by UKTIS relate to women who have already been exposed to a drug or chemical in pregnancy (Figure 26). This is not unexpected as up to 50% of pregnancies are unplanned.
<table>
<thead>
<tr>
<th>Country</th>
<th>Number of Enquiries</th>
<th>% of enquiries</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• East Anglia</td>
<td>160</td>
<td>5.5</td>
</tr>
<tr>
<td>• East Midlands</td>
<td>203</td>
<td>7.0</td>
</tr>
<tr>
<td>• Greater London</td>
<td>471</td>
<td>16.3</td>
</tr>
<tr>
<td>• North East &amp; Yorkshire</td>
<td>476</td>
<td>16.5</td>
</tr>
<tr>
<td>• North West</td>
<td>330</td>
<td>13.3</td>
</tr>
<tr>
<td>• South East</td>
<td>392</td>
<td>11.4</td>
</tr>
<tr>
<td>• South West</td>
<td>201</td>
<td>6.9</td>
</tr>
<tr>
<td>• West Midlands</td>
<td>264</td>
<td>9.1</td>
</tr>
<tr>
<td>Scotland</td>
<td>187</td>
<td>6.5</td>
</tr>
<tr>
<td>Wales</td>
<td>126</td>
<td>4.4</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>28</td>
<td>1.0</td>
</tr>
<tr>
<td>Outside of UK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Republic of Ireland</td>
<td>36</td>
<td>1.2</td>
</tr>
<tr>
<td>• Channel Islands</td>
<td>6</td>
<td>0.2</td>
</tr>
<tr>
<td>• Isle of Man</td>
<td>2</td>
<td>0.1</td>
</tr>
<tr>
<td>• Other</td>
<td>3</td>
<td>0.1</td>
</tr>
<tr>
<td>Location not provided</td>
<td>3</td>
<td>0.1</td>
</tr>
<tr>
<td>Total enquiries</td>
<td>2,888</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 7. Distribution of teratology enquiries to UKTIS in 2012/13

![Pie chart showing distribution of teratology enquiries to UKTIS in 2012/13](image)

Figure 26. Telephone enquiries to UKTIS during 2012/13 in relation to pregnancy stage
Therapeutic use of medicines during pregnancy comprises the largest enquiry category (88.6%) (Table 8). UKTIS staff are trained to assess the risk to the fetus as a result of the reported maternal exposure and, where appropriate, advise the enquirer about possible interventions and the need for enhanced fetal or maternal monitoring. In many instances reassurance can be offered, thereby avoiding the unnecessary termination of an otherwise wanted pregnancy. The enquirer will also be provided with an assessment of the fetal risks should continued treatment of the maternal condition be deemed clinically appropriate and when this poses a teratogenic risk, consideration of other treatment options is encouraged and the risks associated with these discussed in the context of the specific individual.

Hospital pharmacists (30.4%) remain the most frequent type of caller (these enquiries commonly originate from the prescriber), followed by GPs (30.3%), consultants (16.2%) and community pharmacists (8.7%) (Figure 27).

During 2012/13 UKTIS also advised on the management of 183 cases of poisoning (either deliberate or accidental) and 83 environmental or occupational exposures during pregnancy (Table 8).

<table>
<thead>
<tr>
<th>Type of Exposure</th>
<th>Number of enquiries</th>
<th>% of enquiries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therapeutic</td>
<td>2558</td>
<td>88.6</td>
</tr>
<tr>
<td>Drug overdose</td>
<td>86</td>
<td>3.0</td>
</tr>
<tr>
<td>Poisoning</td>
<td>97</td>
<td>3.4</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>21</td>
<td>0.7</td>
</tr>
<tr>
<td>Complementary medicines</td>
<td>7</td>
<td>0.2</td>
</tr>
<tr>
<td>Occupational</td>
<td>45</td>
<td>1.6</td>
</tr>
<tr>
<td>Environmental</td>
<td>38</td>
<td>1.3</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>36</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2888</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table 8. Telephone enquiries to UKTIS by exposure category in 2012/13

![Figure 27. Telephone enquiries to UKTIS in 2012/13 by enquirer profession](image)
Substances involved in telephone enquiries
Enquiries relating to antidepressant and antipsychotic medication use in pregnancy continued to be the most frequent, with these agents comprising seven of the ten most frequent enquiries to the service. The selective serotonin re-uptake inhibitor antidepressants (SSRIs) citalopram and fluoxetine were those most commonly enquired about (Figure 28).

![Figure 28. Top enquiries to UKTIS for financial years 2012/13, 2011/12, 2010/11, 2009/10, 2008/09](image)

**Pregnancy Monographs**

UKTIS monographs provide a review of available published, and in some instances unpublished, information relating to the teratogenicity or reproductive toxicology of a specific exposure in pregnancy. Pregnancy surveillance data collected by UKTIS is also reported, and where no published information is available for a substance, available unpublished data will be reviewed. UKTIS recently adopted a new monograph format to facilitate interpretation of the data by service users whilst providing sufficient detail of available studies to permit critical appraisal. All new and updated documents now include an abstract (summary) of the document, a brief overview of animal pregnancy data, with available human data now summarised by potential adverse pregnancy outcome including fetal loss, birth defects neonatal complications, and neurodevelopmental effects. Details of the human studies considered are appended as a table.

A significant portion of the 2012/13 workload involved the production of 63 monographs relating to exposures of special interest in support of the 2012 Olympics planning and preparation, along with monographs relating to anti-infectives and antidotes.
UKTIS has also remained responsive to current events and work completed during 2012/13 included monographs on metal-on-metal hip replacements, breast implants and the pertussis vaccine.

User feedback consistently requests UKTIS to make available more on-line monographs as a priority; achieving this without compromising accuracy is a challenge given the increasing complexity and volume of relevant published data, but UKTIS was able to produce 119 new and updated pregnancy monographs during 2012/13, 10% increase on the previous year.

Access to pregnancy information via TOXBASE.org and UKTIS.org

There were approximately 58,000 downloads of the 345 UKTIS monographs on TOXBASE during 2012/13, a 25% increase compared to 2011/12, continuing the trend for increasing use of this online resource (Figure 25). 2012/13 was the first full 12 month period during which monograph abstracts were also freely available for download from the recently launched UKTIS.org website. 82,000 summary documents were downloaded from all over the world in 2012/13.

The top twenty most downloaded full pregnancy monographs on TOXBASE.org and summary documents on UKTIS.org for 2012/13 are listed in Table 9. The three most frequently accessed documents when downloads for both websites during this period were combined, were trimethoprim, codeine and amitriptyline.

<table>
<thead>
<tr>
<th>TOXBASE.org</th>
<th>UKTIS.org</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy monograph</td>
<td>Number of hits</td>
</tr>
<tr>
<td>Insect repellents</td>
<td>2,785</td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>2,037</td>
</tr>
<tr>
<td>SSRIs</td>
<td>1,150</td>
</tr>
<tr>
<td>Paracetamol overdose</td>
<td>1,084</td>
</tr>
<tr>
<td>Codeine</td>
<td>968</td>
</tr>
<tr>
<td>Antibiotics</td>
<td>964</td>
</tr>
<tr>
<td>Constipation in pregnancy</td>
<td>954</td>
</tr>
<tr>
<td>Malaria Prophylaxis</td>
<td>942</td>
</tr>
<tr>
<td>Corticosteroids</td>
<td>888</td>
</tr>
<tr>
<td>Citalopram</td>
<td>834</td>
</tr>
<tr>
<td>Amitriptyline</td>
<td>786</td>
</tr>
<tr>
<td>Oseltamivir</td>
<td>770</td>
</tr>
<tr>
<td>Sertraline</td>
<td>763</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>757</td>
</tr>
<tr>
<td>Anthelmintics</td>
<td>683</td>
</tr>
<tr>
<td>Metronidazole</td>
<td>671</td>
</tr>
<tr>
<td>Paracetamol</td>
<td>652</td>
</tr>
<tr>
<td>Eye Drops</td>
<td>650</td>
</tr>
<tr>
<td>Chlorphenamine</td>
<td>638</td>
</tr>
<tr>
<td>Clarithromycin</td>
<td>637</td>
</tr>
</tbody>
</table>

Table 9. Top 20: Most accessed pregnancy summaries on TOXBASE.org and UKTIS.org in 2012/13
Teaching and Training

During 2012/13 UKTIS staff have provided training on the principles of teratology and safe use of medications in pregnancy to a number of different audiences including geneticists, paediatricians, obstetricians, dentists, scientists and pharmacists. UKTIS have also presented and discussed surveillance data at national and international teratology and poisoning conferences and this data has also been included in a number of peer reviewed journal articles.

Service Development

In the latter part of 2012, work began on a new public-facing website (Best Use of Medicines in Pregnancy - BUMPS) which will hold information leaflets regarding medication and chemical exposure in pregnancy. The information in these leaflets will be consistent with that in UKTIS monographs, but will be written for the lay reader. The website will also offer women the opportunity to provide information about themselves, their medication use, the outcome of their pregnancy and the health of their child by means of an online pregnancy record. Users will be encouraged to update their information throughout their pregnancy, after the birth of the child and into late childhood. It is hoped that information collected in this way will provide a means of enhanced surveillance of drug use in pregnancy. The website is currently well under development and is anticipated to be completed by the end of 2013.

Research and Development

Pharmacoepidemiological Research on Outcomes of Therapeutics (PROTECT)

UKTIS collaboration in a European multi centre research project with 31 public and private partners is ongoing. The project has been funded by IMI to address limitations of current methods in the field of pharmacoepidemiology and pharmacovigilance. PROTECT will trial direct patient data collection using web-based and telephone systems, test the transferability of the data into a common language and explore linkages to data from electronic health records and registries. In the past financial year the project team from UKTIS have worked on finalising the promotional material and ethical requirements fro the UK arm of the study. Data collection started in autumn of 2012 and recruitment is approximately 30% complete.

Schmallenberg virus (SBV)

In autumn 2011, maternal infection amongst cattle and sheep with the novel Schmallenberg Virus (SBV) resulted in increased rates of stillbirth and congenital malformations including arthrogryposis in lambs and calves. Experience from similar viruses suggested that the risk of human disease was low, but could not be excluded. UKTIS were tasked with coordinating surveillance for any early signals of a teratogenic effect from SBV infection in humans. A two-pronged approach was adopted with ‘astute clinicians’ across the UK and internationally being approached through links with established paediatric pathology, neuromuscular paediatric and genetics networks to report unusual or unexplained cases or clusters of arthrogryposis to UKTIS. In addition, a collaboration with UK congenital malformation registries has been formalised to provide a review of arthrogryposis rates for previous years, with a view to registries analysing arthrogryposis and related malformation rates prospectively over five years on a quarterly basis.

As of April 2013, no cases of suspected SBV teratogenesis in humans had been reported to UKTIS. Baseline analysis of annual arthrogryposis and associated congenital anomaly rates pre-2011 has been undertaken by congenital anomaly registers across the UK, and rates for 2011 and 2012 are currently being analysed.
Mechanisms of teratogenesis

During 2010/11 UKTIS led a collaborative project to improve understanding of the molecular mechanisms orchestrating gene expression during fetal development. This work aims to identify epigenomic signatures during development and then to further interrogate these signatures in relation to exposures known to influence pregnancy outcomes (e.g., potential teratogens, maternal obesity). The ultimate goals are to define epigenetic signatures that may have clinical utility as early biomarkers of exposure thus assisting in more accurate and specific risk prediction and counselling, and to increase our understanding of the molecular mechanisms occurring in fetal development and thus the pathogenesis of health problems later in the life course that have antecedents in utero, therefore informing appropriate interventions. Pilot data, funded by an NIHR FSF grant and Newcastle Healthcare Charity award has been analysed, and is being prepared for submission for publication.

Collaborative projects with other international teratogen information services

Three collaborative peer reviewed journal articles which included pregnancy exposure and outcome data collected for UKTIS surveillance have been published in 2012/13. UKTIS data and data from Europe and Canada were combined to report on the pregnancy outcomes of women exposed to statins, duloxetine and gabapentin in pregnancy.

Clinical Governance

During 2012/13 improvements to the service have been informed by both formal and informal feedback from service users. During the year a random sample of 350 enquiries (12% of the total enquiries) made directly to UKTIS were selected for quality assurance monitoring. Questionnaires were sent out to enquirers between one and four weeks after the enquiry. As of May 2013, 113 (32%) of these forms had been returned.

Over half of responders were GPs (55%); the other responders included other health professionals (17%), hospital pharmacists (14%), hospital consultants (7%), nurses (4%), and junior hospital doctors (3%). Ten percent of responders were frequent users of the service (up to five times per year) and 45% were first-time users, a 25% increase since 2009/10. Of the respondents, 36% reported that they had been informed about UKTIS from a colleague and 32% had found the details for UKTIS in the British National Formulary. Almost all (98%) said they would use the service again with the remaining 2% not completing this question.

Satisfaction scores were increased compared to 2011/12 - in particular, 97% reported that the UKTIS staff member who dealt with their enquiry was polite and pleasant and 93% of responders had confidence in the reply that they were given.

The survey also asked about overall satisfaction with the service using a 6 point scale. There was a very high rating of overall satisfaction, with 98.2% of respondents providing a score of 5 or 6 out of 6, if non-responders are excluded from the denominator (95.6% if they are included). Overall quality scores for 2009/10 to 2012/13, expressed as a percentage of respondents scoring 5 () or 6 () out of a possible 6 (non respondents are excluded from the denominator) are shown in Figure 29.
Figure 29. Overall satisfaction scores for financial years 2012/13, 2011/12, 2010/11, 2009/10
## Appendix I  Prescribing Support Publications

### New Drug Evaluations 2012/13

<table>
<thead>
<tr>
<th>Drug</th>
<th>No.</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linaclotide</td>
<td>125</td>
<td>March 2013</td>
</tr>
<tr>
<td>Rivaroxaban for PE</td>
<td>124</td>
<td>March 2013</td>
</tr>
<tr>
<td>Mirabegron</td>
<td>123</td>
<td>February 2013</td>
</tr>
<tr>
<td>Apixaban</td>
<td>122</td>
<td>December 2012</td>
</tr>
<tr>
<td>Dapagliflozin</td>
<td>121</td>
<td>December 2012</td>
</tr>
<tr>
<td>Racecadotril</td>
<td>120</td>
<td>November 2012</td>
</tr>
<tr>
<td>Glycopyrronium</td>
<td>119</td>
<td>November 2012</td>
</tr>
<tr>
<td>Dapoxetine</td>
<td>118</td>
<td>October 2012</td>
</tr>
<tr>
<td>Aclidinium Bromide</td>
<td>117</td>
<td>October 2012</td>
</tr>
</tbody>
</table>

### Drug Updates 2012/13

<table>
<thead>
<tr>
<th>Drug</th>
<th>No.</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hay fever treatment</td>
<td>69</td>
<td>May 2013</td>
</tr>
</tbody>
</table>

### Medicines in Practice 2012/13

<table>
<thead>
<tr>
<th>Document</th>
<th>No.</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newer combination inhalers for Asthma</td>
<td>5</td>
<td>March 2013</td>
</tr>
<tr>
<td>New Oral Anticoagulants in Atrial Fibrillation</td>
<td>4</td>
<td>December 2012</td>
</tr>
<tr>
<td>Cystine as an aid for smoking cessation</td>
<td>3</td>
<td>September 2012</td>
</tr>
<tr>
<td>Clostridium difficile infection New Treatment Options</td>
<td>2</td>
<td>August 2012</td>
</tr>
<tr>
<td>Statins for the primary prevention of CVD in low-risk individuals</td>
<td>1</td>
<td>August 2012</td>
</tr>
<tr>
<td>Asthma*</td>
<td></td>
<td>April 2012</td>
</tr>
</tbody>
</table>

*Briefing Document - now medicines in practice
### Academic Detailing Aid 2012/13

<table>
<thead>
<tr>
<th>Document</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hay Fever</td>
<td>July 2012</td>
</tr>
</tbody>
</table>

### Evaluation Reports 2012/13

<table>
<thead>
<tr>
<th>Report</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruxolitinib for myelofibrosis</td>
<td>January 2013</td>
</tr>
<tr>
<td>The use of Insulin degludec in Diabetes mellitus</td>
<td>August 2012</td>
</tr>
<tr>
<td>The use of Eculizumab in atypical Haemolytic Uraemic Syndrome</td>
<td>July 2012</td>
</tr>
<tr>
<td>The use of Belimumab for the treatment of Systemic Lupus Erythematosus (SLE)</td>
<td>April 2012</td>
</tr>
</tbody>
</table>

### North East Treatment Advisory Group (NETAG) Appraisals 2012/13

<table>
<thead>
<tr>
<th>Appraisal</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pasireotide for Cushing's disease</td>
<td>June 2012</td>
</tr>
<tr>
<td>Perampanel for epilepsy</td>
<td>October 2012</td>
</tr>
</tbody>
</table>
### Appendix II  Financial Summary

**Regional Drug & Therapeutics Centre Final outturn for the 12 month period to 31 March 2013**

<table>
<thead>
<tr>
<th></th>
<th>Centre</th>
<th>Poisons</th>
<th>Centre Projects</th>
<th>Poisons Projects</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income - Regional core PCTs</td>
<td>692,423</td>
<td></td>
<td></td>
<td></td>
<td>692,423</td>
</tr>
<tr>
<td>Income - Regional core - other</td>
<td>348,317</td>
<td></td>
<td></td>
<td></td>
<td>348,317</td>
</tr>
<tr>
<td>Income - HPA</td>
<td>1,090,000</td>
<td></td>
<td></td>
<td></td>
<td>1,090,000</td>
</tr>
<tr>
<td>Income - Projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deferred income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCT</td>
<td>94,380</td>
<td></td>
<td></td>
<td></td>
<td>94,380</td>
</tr>
<tr>
<td>HPA</td>
<td>479,093</td>
<td></td>
<td></td>
<td></td>
<td>249,840</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>1,040,740</td>
<td>1,090,000</td>
<td>5,824</td>
<td>154,018</td>
<td>2,474,960</td>
</tr>
<tr>
<td><strong>Notional Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newcastle PCT</td>
<td>66,547</td>
<td></td>
<td></td>
<td></td>
<td>66,547</td>
</tr>
<tr>
<td>Clinical excellence</td>
<td>10,315</td>
<td>27,421</td>
<td></td>
<td></td>
<td>47,093</td>
</tr>
<tr>
<td>Superannuation all staff</td>
<td>2,329</td>
<td></td>
<td></td>
<td></td>
<td>2,329</td>
</tr>
<tr>
<td><strong>Adjust for on call notional recharge</strong></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL ANNUAL INCOME</strong></td>
<td>1,129,287</td>
<td>1,117,421</td>
<td>5,824</td>
<td>154,018</td>
<td>2,406,550</td>
</tr>
<tr>
<td><strong>Expenditure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pay - Managers</td>
<td>41,687</td>
<td>52,501</td>
<td></td>
<td></td>
<td>94,188</td>
</tr>
<tr>
<td>Pay - Medical</td>
<td>110,783</td>
<td>286,902</td>
<td></td>
<td></td>
<td>397,685</td>
</tr>
<tr>
<td>Pay - Scientific and Professional</td>
<td>657,811</td>
<td>535,098</td>
<td>0</td>
<td>28,673</td>
<td>1,221,582</td>
</tr>
<tr>
<td>Pay - A&amp;C</td>
<td>131,987</td>
<td>67,402</td>
<td>0</td>
<td>14,650</td>
<td>214,038</td>
</tr>
<tr>
<td>Pay - IT Subsidy</td>
<td>19,924</td>
<td>19,924</td>
<td>0</td>
<td>0</td>
<td>39,848</td>
</tr>
<tr>
<td><strong>Total Pay</strong></td>
<td>962,192</td>
<td>961,827</td>
<td>0</td>
<td>43,322</td>
<td>1,967,342</td>
</tr>
<tr>
<td>NP - S &amp; S Clinical</td>
<td>1,188</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,188</td>
</tr>
<tr>
<td>NP - Supplies &amp; services general</td>
<td>3,764</td>
<td>3,521</td>
<td>0</td>
<td>0</td>
<td>7,285</td>
</tr>
<tr>
<td>NP - Establishment services</td>
<td>28,334</td>
<td>46,722</td>
<td>0</td>
<td>10,315</td>
<td>85,371</td>
</tr>
<tr>
<td>NP - Premises &amp; fixed plant</td>
<td>39,484</td>
<td>42,928</td>
<td>0</td>
<td>65,523</td>
<td>147,935</td>
</tr>
<tr>
<td>NP - External Contract Staff &amp; Consultancy</td>
<td>0</td>
<td>0</td>
<td>27,670</td>
<td>0</td>
<td>27,670</td>
</tr>
<tr>
<td>NP - NHS Exp - non H’care</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NP - Miscellaneous</td>
<td>-403</td>
<td>19,360</td>
<td>0</td>
<td>8,134</td>
<td>27,091</td>
</tr>
<tr>
<td>NP - Recharges Non &amp; Inter-Company</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NP - Reserve</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Non Pay</strong></td>
<td>72,367</td>
<td>112,530</td>
<td>27,670</td>
<td>83,972</td>
<td>296,538</td>
</tr>
<tr>
<td><strong>Expenditure sub total</strong></td>
<td>1,034,559</td>
<td>1,074,357</td>
<td>27,670</td>
<td>127,294</td>
<td>2,263,880</td>
</tr>
<tr>
<td>Overheads contribution</td>
<td>70,723</td>
<td>69,911</td>
<td>0</td>
<td>0</td>
<td>140,634</td>
</tr>
<tr>
<td><strong>TOTAL EXPENDITURE</strong></td>
<td>1,105,281</td>
<td>1,144,268</td>
<td>27,670</td>
<td>127,294</td>
<td>2,404,513</td>
</tr>
<tr>
<td><strong>Surplus/(Deficit)</strong></td>
<td>-24,006</td>
<td>26,847</td>
<td>21,846</td>
<td>-26,724</td>
<td>-2,037</td>
</tr>
</tbody>
</table>
Appendix III  External Training & Development

Academic Training

Advanced Radiation Medicine, REAC/TS, Oakridge University, USA
Postgraduate Certificate in Clinical Education, Newcastle University, UK
Health Economics - Postgraduate Certificate, University of Aberdeen, November 2012 to May 2013

Conferences

EAPCCT Annual Congress, London - May 2012
European Network of Teratology Information Services 23rd annual meeting, Linz, Austria - September 2012
EUROTOX meeting, Stockholm - June 2012
APAMT annual congress, Hong Kong - November 2012
NPIS CPD meeting, Edinburgh - September 2012
Medical Toxicology Update, Cardiff - November 2012
College of Emergency Medicine / NPIS Toxicology Update, Newcastle - November 2012
British Pharmacological Society Winter Meeting, London - December 2012
Teratology Society 52nd Annual Meeting, Baltimore, USA - June 2012
Health Protection Agency annual conference, Warwick - September 2012
PROTECT Annual Conference, Danish Medicines Association, Copenhagen - October 2012

Newcastle University

Dyker AG. Therapeutic drug monitoring. CSIM3 Course, Stage 4 MBBS Hypertension and Heart Failure
Erhorn S. Module Leader, Drug Discovery and Development, MRes Translational Medicine, Newcastle University
Hill SL. Module Leader, Drug Discovery and Development, MRes Translational Medicine, Newcastle University
Hill SL. CSIM 1: Drugs used in heart failure
Hill SL. CSIM 3: Pharmacology of Atrial fibrillation management
Stephens S. CSIM 3: Prescribing in Pregnancy and Lactation
Thomas SHL. Drugs used in heart failure and cardiac arrhythmias. BDS Course - January 2013
Thomas SHL. Antiarrhythmics. MBBS Course. March 2013
Thomas SHL. Management of poisoning. MBBS Course. November 2012
Thomas SHL. Case studies in poisoning and drug overdose. MBBS Course. November 2012
Newcastle upon Tyne Hospitals NHS Foundation Trust

Hill SL. F1 Poisoning management

Northern Deanery

Hill SL. Acute medicine ST training
Hill SL. ACCS training - Acute toxicology
Hill SL. MRCP 1 examination course - Pharmacology

Other

NPIS/CEM training in toxicology, Newcastle, Leeds, London 2012/13 - What is the role of intralipid in the poisoned patient?
NPIS CPD on sodium valproate toxicity, paediatric paracetamol ingestion

Study Days / Workshops / Lectures

Medical registrar training session, Newcastle Northern Deanery Hypertension
Medical core trainee training, Newcastle Northern Deanery Hypertension
Accreditation workshop, NICE, London - 11 June 2012
Appendix IV In-House Training & Development

Mandatory Training
- Fire Safety
- Infection Prevention and Control Level 1
- Equality and Diversity
- Moving and Handling (Office Staff)
- Child Protection (Core)
- Safeguarding Adults Level 1

NHS Job Evaluation and Matching Training
- Appraisal skills for managers and supervisors
- Recruitment and selection
- ERA Management
- Induction training in poisons
- Induction training in teratology

Regular three weekly information service meetings

Sessions this year

- Deadly nightshade
- The New Medicines Service/Hip replacements and cobalt toxicity in pregnancy
- BT Cloud, NHS Direct training
- Introduction to the 12 lead ECG
- Poisoning in pregnancy update and Olympic preparedness
- When is ‘additional fetal monitoring’ required and what is it?
- History and Toxicity of Nerve Agents and crystal meth case
- Paracetamol - changes to national guidance on the management of paracetamol poisoning
- Burzynski: Anatomy of a Quack
- Serotonin syndrome and upcoming MI call listening
- Paracetamol changes and workload.
- Arsenic poisoning and the Marsh test
- CPD TOXBASE work and Jagermeister
- Neuro obs
- HLIbogaine (drug of abuse), PED and TOXBASE update
- Homeopathy and PEG MI enquiry
- Toxic alcohol update
- Ammonia Ingestion
Appendix V Lectures, Workshops and Presentations

Dunstan H, Greenall A. Lecture/Workshop: Antibiotics, antivirals and vaccination during pregnancy. Teaching Day for West Midlands Region Obs & Gynae and Microbiology Trainees - 15 May 2012

Dunstan Hj, Stephens S, Yates LM, Thomas SHL. Presentation: Frequency of congenital malformation following exposure to neuraminidase inhibitors in pregnancy during the influenza A (H1N1) pandemic 2009: a case series. European Network of Teratology Information Services 23rd annual meeting Linz, Austria - September 2013


Erhorn S. Lecture: Critical evaluation of clinical trials and other experimental medicine research - MRes Experimental Medicine and Therapeutics, Newcastle University - 5 December 2012


Greenall A. Presentation: Congenital anomalies following H1N1 vaccination in pregnancy, ENTIS 23rd annual meeting, Linz, Austria - September 2012

Hill SL. The clinical toxicity of 251-NBOMe. At the 3rd International forum on new drugs, Lisbon 2013

Richardson JL. Lecture/Workshop: Pharmacoepidemiological techniques for assessing the risks of medication use in pregnancy, PgC/PgD/MSc Pharmacovigilance programme, Hertfordshire University - 6 February 2012

Russell P. Drugs in Pregnancy. Plenary session as part of ‘Reproductive and child health’ module for year 2 Medical students, Hull York Medical School, University of York - Friday 30 November 2012

Russell P, Erhorn S, Johnson H. Seminar/Workshop: Regional medicines and other information services, cost-effective prescribing, and yellow card reporting. Pre-Registration pharmacists, Newcastle - 20 September 2012

Stephens S. Lecture: Drug safety in pregnancy. Medical Aspects of adverse drug reactions. Drug Safety and Research Unit, Southampton - July 2-12


Thomas SHL. Poisoning and Drug overdose. Royal College of Physicians Northern Region Study Day, Newcastle, 18 April 2012

Thomas SHL. Interpretation of Laboratory drug analyses for forensic and medicolegal purposes. EAPCCT Annual Congress, London - 30 May 2012

Thomas SHL. Lead poisoning in pregnancy - sources, biomarkers, clinical features and management. EUROTOX meeting, Stockholm, 18 June 2012


Thomas SHL. Paracetamol - update in toxicology. Cardiff, 7 November 2012
Thomas SHL. Chronic excess paracetamol ingestion. National Poisons Information Service study day, Newcastle, 15 November 2012


Thomas SHL. Hypertension. Hadrian Primary Care Alliance, Haydon Bridge, 22 November 2012

Thomas SHL. Publishing in peer-reviewed journals. Asia Pacific Association of Medical Toxicology, Hong Kong, 28 November 2012

Yates L. Seminar: What does teratology have to do with genetics? Institute of Genetic Medicine, Newcastle, 1 May 2012


Yates L. Keynote Lecture: Getting your teeth into teratology. The British Society of Paediatric Dentistry annual meeting, Gateshead, 19 September 2012

Yates L. Lecture: Teratology for paediatricians, Paediatric Clinical Pharmacology (CHER), Newcastle, 3 October 2012

Yates L. Congenital anomaly risk following maternal neuraminidase treatment or vaccination against H1N1 influenza in the UK: a role for congenital anomaly registries in pharmacovigilance, Northern Congenital Abnormality Survey (NorCAS) Annual Meeting, the Durham Centre, Durham, 4th February 2013
Appendix VI Publications in Scientific and Medical Journals

**Book Chapters**


**Review Articles**


Thanacoody HKR. Serotonin syndrome. *Medicine* 2012; 40:63-64

Thomas, SHL. Is the cause toxicological? *Medicine* 2012; 40:46-7

Thomas SHL. Low toxicity ingestions. *Medicine* 2012; 40:53-54


Thomas SHL. An agenda for UK clinical pharmacology; developing and delivering clinical toxicology in the UK National Health Service - clinical toxicology. *Brit J Clin Pharmacol* 2012; 73:878-83


**Peer-reviewed Papers**


Thanacoody HKR, Gray A, Dear JW, Coyle J, Sandilands EA, Webb DJ, Lewis S, Eddleston M, Thomas SHL, Bateman DN. Scottish and Newcastle Antiemetic Pre-treatment for Paracetamol Poisoning Study (SNAP). A randomised controlled trial to assess the effectiveness of pre-treatment with ondansetron in reducing nausea and vomiting in patients treated with the conventional regimen or a modified regimen of acetylcysteine for paracetamol poisoning. *BMC Pharmacology and Toxicology* 2013; 14:20


**Abstracts**

Acheampong P, Cooper G, Khazaeli B, Lupton DJ, White S, May MT, Thomas SHL. Effect of safety update on quinine use in leg cramps on prescribing and toxicity in the UK. *Clinical Toxicology* 2013; 51:p294


Brown J, Thanacoody R, Paracetamol-induced hepatotoxicity at therapeutic doses. *Clinical Toxicology* 2013; 269


Crawford CL, Cooper G, Jackson G, Vale JA, Thomas SHL. Thompson JP, Eddleston M. Changes in referral rates for acute toothpaste ingestions reported to the NPIS. *Clinical Toxicology* 2013; 51:p306
DJ, Moggs JG, Bateman DN, Goldring CE, Park BK. Mechanistic biomarkers provide early and sensitive
detection of acetaminophen-induced acute liver injury at first presentation to hospital. *Clinical Toxicology*
2013; 51:255

Elamin M, Thanacoody R, Paracetamol-induced hepatotoxicity despite paracetamol concentrations below
treatment threshold. *Clinical Toxicology* 2013;269

Gilfillan CM, Gilmore P, Lam H, Thomas SHL. Prolonged toxicity and respiratory arrest following phenytoin
overdose. *Clinical Toxicology* 2012; 50:326-67

Good AM, Hulten P, Thomas SHL. EAPCCT survey of European poisons centres: Services provided.
*Clinical Toxicology* 2013; 51:p309

Good AM, Hulten P, Thomas SHL. EAPCCT survey of European poisons centres: Staff profile. *Clinical
Toxicology* 2013; 51: p309

opioid exposures as reported to the Global Toxicosurveillance Network (GTNet) from 2008-2010. *Clinical
Toxicology* 2013; 51:p306

reported to poisons centres from 2007-2010. *Clinical Toxicology* 2012; 50: 293-4

reported to poisons centres from 2007-2010. *Clinical Toxicology* 2012; 50: p312

Hill SL, Cooper GA, Jackson G, Lupton DL, Bradberry S, Thomas SHL. What’s on the ‘Spice’ rack?
Synthetic cannabinoid receptor agonist toxicity reported to the UK National Poisons Information Service.
*Clinical Toxicology* 2013; 51:p345

Methoxetamine toxicity reported to the National Poisons Information Service: Clinical characteristics and the
effect of the UK’s first Temporary Class Drug Order. *Clinical Toxicology* 2013; 51:p345-6

Jones D, Stephens S, Yates L, Dunstan H, Richardson JL, Greenall A, Thomas SHL. Fetal outcomes
following dosulepin exposure in pregnancy. *Clinical Toxicology* 2012; 50: 327-8

Jones D, Stephens S, Yates L, Dunstan H, Richardson JL, Greenall A, Thomas SHL. Fetal outcomes
following fentanyl exposure in pregnancy. *Clinical Toxicology* 2013; 51:p328

Jones D, Stephens S, Yates LM, Thomas SHL. Prospective outcomes following acute exposure to
carbamate insecticides in pregnancy. *Clinical Toxicology* 2013; 51:p355

Lam H, Hayhurst C, Holmes P, Thanacoody HKR, Thomas SHL. Subcutaneous self-injection of tetrodotoxin
and ouabain. *Clinical Toxicology* 2013; 283

Lam H, Gilmore P, Bradley S, Thomas SHL. Cyanide poisoning from chronic ingestion of an amygdalin
containing herbal preparation. *Clinical Toxicology* 2012; 50: p318

Richardson JL, Jones D, Dunstan HJ, Maitra S, Stephens S, Yates LM, Thomas SH. Gestational exposure
to varenicline. *Reproductive Toxicology*, 2013; 37:p85

Thanacoody HKR. Clinical Toxicology of Ayurvedic Medicines. Clinical Toxicology 2013; 51:262-263

Thanacoody HKR, Weatherall I, Davies J, Thomas SHL. Treatment of severe toxic alcohol and glycol poisoning in the UK. Clinical Toxicology 2012; 50:581

Thanacoody HKR, Weatherall I, Davies J, Thomas SHL. Toxic Alcohol and glycol poisoning in the UK - a 12 month prospective follow-up study. Clinical Toxicology 2012; 50:641

Thanacoody HKR, Nash S, Vale JA et al. Antidote stocking in acute hospitals in the United Kingdom. Clinical Toxicology 2012; 50L 300-1

Thomas SHL. Interpretation of laboratory drug analyses for forensic and medicolegal purposes. Clinical Toxicology 2012; 50:277-8

Thomas S. Lead poisoning in pregnancy - sources, biomarkers, clinical features and management. Toxicology Letters 2012; 211S:S25

Thomas SHL. Cardiotoxicity of newer antipsychotics: Mechanisms, diagnosis and management. Clinical Toxicology 2013; 51:299-300
Appendix VII Staffing Establishment

Medical Director
Director of Pharmacy
Consultant in Pharmacology
Consultant Physician / Clinical Toxicologist
Consultant Clinical Pharmacologist
Head of Prescribing Support
Assistant Head of Prescribing Support
Principal Pharmacist - Prescribing Support
Lead Pharmacist - Prescribing Support
Senior Pharmacist - Prescribing Support
Clinical Editor - Prescribing Support
Senior Medical Information Scientist - Prescribing Support
Medical Information Scientist - Prescribing Support
Principal Pharmacist - NHS Direct Lead
Senior Pharmacist - Pharmacovigilance
Senior Pharmacist - Prescribing Support
Lead Pharmacist - Medicines Information
Medical Information Scientist - Medicines Information
Information Services Manager
Senior Medical Information Scientist - Poisons Information
Medical Information Scientist - Poisons Information
Medical Information Scientist - Poisons Information
Medical Information Scientist - Poisons Information
Medical Information Scientist - Poisons Information
Medical Information Scientist - Poisons Information
Medical Information Scientist - Poisons Information
Medical Information Scientist - Poisons Information
Medical Information Scientist - Poisons Information
Medical Information Scientist - Poisons Information
Senior Medical Information Scientist - Teratology
Senior Medical Information Scientist - Teratology
Senior Medical Information Scientist - Teratology
Medical Information Scientist - Teratology
Data Manager
Service Manager
Statistician
Information Officer / Data Analyst
Information Officer
Web Developer / Designer
Secretary, Prescribing Support and Poisons Information
Personal Assistant to the Head of Teratology
Personal Assistant to the Medical Director
Personal Assistant to the Director of Pharmacy

Externally Funded
Senior Medical Information Scientist - Teratology

Professor SHL Thomas
Mrs SL Dickinson
Dr AG Dyker
Dr R Thanacoody
Dr S Hill
Ms B Reddy
Dr S White
Mr P Fieldhouse
Mrs M Mason
Mr D McDermott
Dr S Erhorn
Ms N Kane
Mrs H Sharpe
Ms P Russell
Mrs S Smith
Ms H Johnson
Mr V Cassidy
Mrs S Bradley
Mr D James
Mr N Flockton
Mr N George
Ms C Gilfillan
Mrs P Gilmore
Mr D Gwynnette
Ms R Hadfield
Mr L Hawkins
Mr P Holmes
Mr H Lam
Vacant
Dr L Yates
Dr S Stephens
Ms D Jones
Dr H Dunstan
Dr S Maitra
Mr J Richardson
Mr A Ailsopp
Mrs J Wood
Dr G Masters
Mr B Khazaeli
Mr J Boot
Mr R Gourlay
Ms S Harvey
Ms J Ingram
Mrs A Makepeace
Mrs J Metcalf
Dr A Greenall
Appendix VIII External Positions Held

SL Dickinson

**UK ADVISORY COMMITTEES**
- Member: Poisons Board Home Office
- Member: Medical Education England Modernising Pharmacy Careers Workstream II subgroup

**UK NHS Committees**
- Professional: UKMi Executive Secretary
- Member: North of Tyne APC

AG Dyker

**UK ADVISORY COMMITTEES**
- NICE appraisal committee

**UK Academic Activities**
- Member: British Hypertension Society
- British Association of Stroke Physicians

**Other External Committees**
- Area Prescribing Committee
- Vice Chair: North of Tyne Formulary sub committee

S Erhorn

**UK ACADEMIC ACTIVITIES**
- Associate Lecturer: Medical Sciences Graduate School, Newcastle University

SL Hill

**INTERNATIONAL SOCIETIES**
- Member: European Association of Poisons Centres and Clinical Toxicologists

**INTERNATIONAL JOURNALS**
- Peer Reviewer: Clinical Toxicology, Addiction, European Journal of Clinical Pharmacology

**UK ADVISORY COMMITTEES**
- Member: UK Focal point early warning system on Novel Psychoactive Substances

**UK ACADEMIC ACTIVITIES**
- Examiner: Newcastle University medical school (MOSLER/OSCE/FoCP)
- External peer review
S Stephens

INTERNATIONAL SOCIETIES
Member: European Network of Teratology Information Services (ENTIS)
Member: The Teratology Society
Member: Organisation of Teratology Information Specialists

UK ACADEMIC ACTIVITIES
Associate Researcher, Institute of Cellular Medicine, Newcastle University

HKR Thanacoody

INTERNATIONAL SOCIETIES
Member: European Association of Poisons Centres and Clinical Toxicologists (EAPCCT)

UK ADVISORY COMMITTEES
Member: Independent Scientific Advisory Committee, Medicines and Healthcare products Regulatory Agency
Member: Pharmacovigilance Expert Advisory Group, Medicines and Healthcare products Regulatory Agency

UK ACADEMIC ACTIVITIES
Member: RCPPath Toxicology Specialist Advisory Committee
Member: Question Writing Group: Joint Royal Colleges MRCP (Part 1) Examining Board
Module Leader: Clinical Pharmacology & Therapeutics Course, Stage 4 MBBS, Newcastle University
Module Leader: Experimental Medicine and Therapeutics, MRes in Translational Medicine, Newcastle University
External Examiner: Certificate / Diploma/MSc in Medical Toxicology, Cardiff University

SHL: Thomas

INTERNATIONAL SOCIETIES
Past President: European Association of Poisons Centres and Clinical Toxicologists
Expert Panel Member: European Medicines Agency

INTERNATIONAL JOURNALS
Senior Editorial Board Member: Clinical Toxicology

UK ADVISORY COMMITTEES
Member: Commission for Human Medicines
Chair: National Poisons Information Service Clinical Standards Group
Member: Advisory Council on the Misuse of Drugs, Technical Subcommittee
Member: Ministry of Defence Advisory Group on Military Medicine
Member: Department of Health/HPA Chemical, Biological, Radiation and Nuclear weapons group

UK NHS COMMITTEES
Vice Chair: North of Tyne Prescribing Committee
Chair: North of Tyne APC Formulary Subcommittee

UK ACADEMIC ACTIVITIES
Strand Leader: Translational Medicine and Therapeutics, Newcastle University
Chair: Northern and Yorkshire Specialist Advisory Committee, Clinical Pharmacology and Therapeutics
LM Yates

INTERNATIONAL SOCIETIES
Chair: European Network of Centres of Pharmacoepidemiology and Pharmacovigilance (ENCePP) Working Group 2: Independence and Transparency
Board Member: European Network of Teratology Information Services (ENTIS)
Member: Organisation of Teratology Information Specialists
Member: British Society of Human Genetics
Member: Clinical Genetics Society
Member: South African Society of Human Genetics

UK ADVISORY COMMITTEES
Member: Northern Congenital Abnormality Survey (NorCAS) Steering committee

UK ACADEMIC ACTIVITIES
Member: Organising Committee, British Association for Psychopharmacology (BAP) Guidelines on the Use of Psychotropic Medication Preconception, in Pregnancy and Postpartum
Honorary Senior Clinical Lecturer: Institute of Genetic Medicine, Newcastle University
## Appendix IX Business Plan

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Objectives</th>
<th>Target Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal Management and Administration</strong></td>
<td>Ensure that an up-to-date Service Level Agreement between RDTC and commissioners is maintained</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Ensure that an up-to-date Service Level Agreement between RDTC and Greater Manchester Medicines Management Group is maintained</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Agree a mechanism for annual review of SLAs</td>
<td>Met</td>
<td>Completed</td>
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<td></td>
<td>Ensure contact databases are up-to-date and maintained following NHS reorganisation</td>
<td>Met</td>
<td>Completed</td>
</tr>
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<td></td>
<td>Ensure that the Drug Alert Cascade system remains robust and fit for purpose</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Regularly review changes in IT requirements as agreed by Senior Team</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Contribute to the development of MiDatabank</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Contribute to the development of TOXBASE</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Contribute to the development of UKPID</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Support updating of UKPID source and agent lists nationally</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Maintain relevant sections of NHS ESR system</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Develop the Electronic Rostering and Attendance (ERA) system to meet the requirements of the Centre and thereafter administer the system</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Support continued staff development</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Internal financial controls established with formalised budget setting process</td>
<td>Met</td>
<td>Completed</td>
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<td></td>
<td>Monitor expenditure against income</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Move RDTC Servers to Trust IT Virtual System</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Increase awareness of prescribing support activities to stakeholders</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td><strong>Prescribing and Medicines Usage</strong></td>
<td>Support for the NEAS in the implementation of national guidance / policy around medicines as per SLA</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td><strong>Medicines Management</strong></td>
<td>Support commissioners by collaborating with the North East Treatment Advisory Group</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Support medicines management teams in evaluating sources of evidence</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Support for medicines management groups and related forums in the implementation of national guidance / policy</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Develop appropriate working arrangements with specialist commissioning networks or organisations</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td>Service Area</td>
<td>Objectives</td>
<td>Target Date</td>
<td>Status</td>
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<tr>
<td>Prescribing and Medicines Usage  Prescribing Analysis Reports</td>
<td>Provide support for implementation of non-medical prescribing</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Linking outcome data to Prescribing</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Provide continued support for performance management of primary care prescribing</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Provide primary care organisations with tools to promote cost effective prescribing and make prescribing savings</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td>Prescribing and Medicines Usage Publications</td>
<td>Prepare and distribute a range of documents for primary care prescribers and medicines management teams, including: summary monographs on new active substances introduced to the UK market, existing drugs / groups of drugs and safety of medicines; strategic documents concentrating on therapeutic areas; and brief documents to assist with effecting prescribing change</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Improve provision of evidence-based advice on new drugs for commissioners and horizon scanning for new developments</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Link publications to QIPP agenda to support prescribing reports</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Prepare and distribute detailed reports on agents not covered by the NICE work program, and are excluded from the ‘Payment by Results’ (PBR) tariff</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Produce academic detailing aids to accompany relevant publications</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Produce strategic documents on therapeutic areas of current interest / concern to medicines management teams, area prescribing committees / drug &amp; therapeutics committees and commissioners</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td>Prescribing and Medicines Usage Web</td>
<td>Develop website to allow increased access to the range of publications, and prescribing information / reports</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td>Primary Care Pharmaceutical Services Support</td>
<td>Monitor and report user satisfaction of Poisons Information Service</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td>Education and Training</td>
<td>Continue to provide input into national training events in medicines information and poisons service</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Provide continuing professional development to staff within the RDTG</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Provision of specialist study days (eg New Drugs, Adverse Drug Reactions, Drugs in Pregnancy, Critical Appraisal and Academic Detailing)</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td>Service Area</td>
<td>Objectives</td>
<td>Target Date</td>
<td>Status</td>
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<tr>
<td>**Research and</td>
<td>Contribute to data collection for research projects carried out by NPIS, HPA, EAPCCT, or WHO</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td>Development**</td>
<td>Provide Seminars / Study Days on management of poisoning and TOXBASE use for NHS Direct staff in the region and nationally</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Carry out research in prescribing and medicines management</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td><strong>Medicines Information</strong></td>
<td>Maintain RDTC support for UKMi SLA with NHS Direct delivering against objectives</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Ensuring UKMi clinical governance standards for enquiry answering are adhered to via external audit of local medicines information centres</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Provide professional development seminars for medicines information pharmacists</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Provide regular communication to PCTs on types of enquiries received</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Contribution to UKMi MI Questions and Answers series</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Contribution to abstracts to the Pharmline / NeLM database</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Develop working relationships with Local Hospitals to support local MI service</td>
<td>Me</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Maintain current Medicines Information enquiry services and manage anticipated growth</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Develop working relationships with Local Hospitals to deliver MI services and support publications processes</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td><strong>NPIS</strong></td>
<td>Maintain a robust telephone answering service to cover the Olympic Games period</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Ensure infrastructure in place and working to accommodate BT Cloud Contact</td>
<td>Met</td>
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<tr>
<td></td>
<td>Agree annual contract and KPIs with HPA</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Produce TOXBASE entries as required under terms of contract with HPA</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Ensure infrastructure in place and working to accommodate a new UKPID Server</td>
<td>Met</td>
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<tr>
<td></td>
<td>Annual review of clinical governance arrangements provided in NPIS annual report</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td></td>
<td>Production of a report of the previous years data, benchmarking NPIS (N) against other NPIS units</td>
<td>Met</td>
<td>Completed</td>
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<tr>
<td>Service Area</td>
<td>Objectives</td>
<td>Target Date</td>
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<tr>
<td>UKTIS</td>
<td>Support to Chemical Hazards and Poisons Division of HPA in accordance with contract with HPA</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Continue to deliver the UK Teratology Information Service in accordance with contract with the Health Protection Agency</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Maintain and update the database of summaries on the fetal effects of drugs and chemicals in pregnancy in accordance with our Service Level Agreement with the Health Protection Agency</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Develop a public facing teratology website for UKTIS</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Produce information leaflets on drug use in pregnancy for the general public which are consistent with UKTIS HCP monographs but are openly accessible</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Maintain the research profile of UKTIS</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Provision of education in teratology and poisoning in pregnancy</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td>Yellow Card Centre</td>
<td>Agree contract with MRHA</td>
<td>Met</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Increase awareness of Yellow Card Centre Northern and Yorkshire to stakeholders</td>
<td>Met</td>
<td>Completed</td>
</tr>
</tbody>
</table>