NHS SCOTLAND

YCC Scotland

Annual Report April 2010 to March 2011

ANNUAL REPORT OF THE YELLOW CARD CENTRE SCOTLAND TO THE MEDICINES AND HEALTHCARE PRODUCTS REGULATORY AGENCY

2010-2011

1. STAFF

Professor Simon Maxwell – Consultant Clinical Pharmacologist, Medical Director YCC Scotland

Mrs Melinda Cuthbert – Lead Pharmacist Medicines Information / YCC Scotland

Dr James Dear, Consultant Clinical Pharmacologist, Deputy Medical Director YCC Scotland

Professor Nick Bateman – Professor in Clinical Toxicology, Consultant Physician, Director NPIS and Ex-Medical Director YCC Scotland.

Mrs Sheila C Noble – Senior Pharmacist Medicines Information / YCC Scotland

Mrs Sinéad McGhee – Information Officer Medicines Information / YCC Scotland

2. SUMMARY

Yellow Card Scotland has had another active and productive year and there have been three meetings of the Management Board and two Advisory Group meetings.

Members of the team have participated in and provided 13 ADR specific presentations to different groups of professionals and students and supported a number of research projects. We have also been actively working with the Scottish Immunisation Programme, the Scottish Oncology Pharmacy Practice Group, the Scottish Health Informatics Programme, and Health Improvement Scotland to promote pharmacovigilance throughout the country. A paper entitled “Promoting Safer Medicines in Scotland” has been produced and has subsequently been sent to the Chief Pharmaceutical Officer at the Scottish Government.

YCC Scotland has developed an e-mail cascade system to ensure that the MHRA monthly summaries of ‘Dear Healthcare Professional’ letters reach as wide an audience of healthcare professionals throughout Scotland as possible.

In January 2011 we ran a six week promotion via the Scottish Community Pharmacy Public Health Service Campaign. A poster was designed on the theme “Did you know that herbal medicines may cause side effects just like prescription and over the counter medicines?” and distributed together with information sheets for community pharmacists. The posters together with MHRA Patient Reporting leaflets were displayed in every community pharmacy throughout Scotland between 3rd January and 13th February. We have not yet analysed the data on patient reporting as a result of this campaign although we are conscious that severe weather conditions during that period may have had a detrimental effect.

There were 17 Yellow Cards send directly to YCC Scotland known as “Legacy Yellow Cards” processed throughout the year many of which had been sent using Yellow Cards from superseded versions of the BNF which still carried the YCC Scotland address. All processing of follow up data has now been transferred to the MHRA.

During February 2011 Dr James Dear was welcomed to the Management Board as Deputy Medical Director. In March Sinead McGhee left us to move to New Zealand. Her efficient expertise and friendly manner will be sadly missed.

In July 2010 YCC Scotland applied to join the European Network of Centres for Pharmacoepidemiology and Pharmacovigilance (ENCePP).

During the year the YCC Scotland Mission Statement was developed.
“The mission of YCC Scotland is to enhance and safeguard the public's health in Scotland by seeking to minimise the adverse effects of medicines. To meet this objective we will seek (i) to raise the profile of adverse drug reactions (ADRs) as an important health issue amongst both professionals and the public in Scotland, (ii) to enhance the quality and quantity of spontaneous ADR reports, (iii) to improve education about ADRs for undergraduates and clinicians, and (iv) to promote research that helps to better understand the causes, effects and avoidance of ADRs.”

Melinda Cuthbert collaborated with the United Kingdom Medicines Information (UKMI) executive in the roll-out of an electronic Yellow Card linked to the MiDatabank computer system which is used in nearly all Medicines Information centres throughout the country.

3. YELLOW CARD DATA

	Reports in 2009-10	% of UK Total	Reports in 2010-2011	% of UK Total	% Change on Previous Year
(3.1) Total UK Reports (exc. MAH holders)	11819		12196		3%↑
(3.2)Total Scottish Reports	1105	9%	1008	8%	9%↓
	Reports in 2009-10	**% of Scottish Total**	**Reports in 2010-2011**	**% of Scottish Total**	
(3.3)Serious Reports Scotland	568	51%	641	55%	13%↑
(3.4)Black Triangle Reports Scotland	723	65%	363	31%	50%↓
(3.5)Fatal Reports Scotland	32	3%	34	3%	6%↑

3.1 Total UK Reports (excluding Market Authorisation Holders reports)

The total number of UK reports for England and Wales increased from 11819 in 2009/10 to 12196 in 2010/11 demonstrating an increase of 3%.

3.2 Total Scottish Reports (excluding Market Authorisation Holders reports)

The total Scottish Reports decreased by 9% from 1105 in 2009/10 to 1008 in 2010/11. Although Serious and Fatal reporting had increased, there was a significant decrease in Black Triangle drug reporting.

3.3 Serious Reports (Scotland)

Serious reports from Scotland increased from 568 in 2009/10 to 641 in 2010/11 showing a 13% rise. In 2010/11 55% of all Scottish reports were classified as serious compared with 51% the previous year.

Following the HPV vaccine having had its Black Triangle status removed in 2010/11 16 of the 51 HPV vaccine reports were classified as serious (31%) compared with 38 out of 157 reports the previous year (24%). This is to be expected once Black Triangle status is removed the shift should move from non-serious to serious reporting.

3.4 & 3.11 Black Triangle Reports (Scotland)

Black Triangle reporting in Scotland reduced dramatically from 723 in 2009/10 to 363 in 2010/11 i.e. a drop of 360 reports resulting in a 50% reduction. Whereas in 2009/10 Black Triangle reports had comprised 65% of all Scottish reports, they were only responsible for 31% of all reports in 2010/11.

This can be at least partly explained by the removal of Black Triangle status for the HPV vaccine. There were 157 reports for the HPV vaccine in 2009/10 and this dropped by 106 resulting in only 51 reports in 2010/11.
Varenicline was the most frequently reported Black Triangle drug in Scotland in 2010/11 with 119 reports.

3.5 Fatal Reports (Scotland)

The number of fatalities reported for Scotland increased from 32 in 2009/10 to 34 in 2010/11 i.e. a 6% increase. In 2009/10 3.1% of all reports involved a fatal outcome and this had increased to 3.4% in 2010/11. Although this is only a slight increase, it corresponds with the overall trend in Scotland of a shift from non-serious to serious ADR reporting.

3.6. Age Banding Reports Scotland 2010-2011

Age Banding	Reports in 2009-10	% 2009-10 Total	Reports in 2010-2011	% 2010-2011 Total	% Change on Previous Year
Child <18	231	21%	116	11%	50%↓
18-24	57	5%	49	5%	14%↓
25-34	96	9%	91	9%	5%↓
35-44	119	11%	129	13%	8%↑
45-54	147	13%	157	15%	7%↑
55-64	167	15%	180	18%	8%↑
65-74	125	11%	121	12%	3%↓
75-84	85	8%	89	9%	5%↑
>85	22	2%	17	2%	23%↓
Age not specified	56	5%	59	6%	5%↑
TOTAL	**1105**		**1008**		

3.7 Age Banding Paediatric Reports Scotland 2010-2011**

ICH Age Range	Paediatric Yellow Card Reports	% of Paediatric Yellow Card Reports
Preterm newborn infants	0	0
Term newborn infants (0-27 days)	0	0
Infants & toddlers (28 days – 23 months)	24	20%
Children (2-11 years)	26	21%
Adolescents (12-18 years)	71	59%
TOTAL	**121**	

****Please note that reports for patients aged 18 years old have been included in paediatric report numbers, these patients are part of the 18-24 year old age banding in the Age Banding Reports Scotland 2010-2011 table.

3.6. & 3.7 Age Banding (Scotland)

The most notable change in reporting by age band is within the Child under 18 years group where there was a 50% decrease in reporting in 2010/11 compared with the previous year from 231 to 116 (a difference of 115 reports). This is almost completely accounted for by the drop in reporting for HPV vaccines of 106 reports.

Within other age bands there were similar trends to the previous year in a reduction of reporting although it may be of note that in 45-54, 55-64 and 75-84 age bands the level of ADR reporting had increased in comparison with the previous year.

When reporting regarding children was broken down by age band, as in the previous year, there were no reports for infants under 27 days of age. Adolescents (12 to 18 years) again were the age group with the highest number of reports with 71 reports being submitted. The majority of these reports, approximately 51, will be for the HPV vaccine which is normally given to young women in this age band. It is also clear that the reduction in adolescent reporting in 2010/11 of 108 compared with the previous year directly correlates with the reduction of 106 in HPV reporting since the Black Triangle was removed.

3.8 Sources of Yellow Card Reports (Scotland)

Source of Reports Scotland	Reports in 2009-2010	% of 2009-2010 total	Reports in 2010-2011	% of 2010-2011 total	% Change on Previous Year
Carer	7	1%	5	<1%	-29%
Community Pharmacist	37	3%	55	5%	+49%
Consumer	2	<1%	0	0%	-100%
Dentist	3	<1%	1	<1%	-67%
GP	230	21%	244	24%	+6%
Hospital Doctor	176	16%	200	20%	+14%
Hospital HCP	69	6%	61	6%	-12%
Hospital Nurse	61	6%	40	4%	-34%
Hospital Pharmacist	98	9%	77	8%	-21%
Nurse	162	15%	118	12%	-27%
Optometrist	3	<1%	0	0%	-100%
Other HCP	94	9%	67	7%	-29%
Parent	8	1%	10	1%	+25%
Patient	104	9%	89	9%	-14%
Pharmacist	27	2%	22	2%	-19%
Physician	23	2%	19	2%	-17%
TOTAL	**1104**		**1008**		

HCP = Health Care Professional

3.8 Sources of Yellow Card Reports (Scotland)

Healthcare Professionals submitted 904 reports comprising 90% of all Scottish reports while **Patient Groups** submitted 104 reports making up the remaining 10%. This ratio is very similar to the previous year when Healthcare Professionals submitted 89% of reports and Patient Group submitted 11%

82 of the 104 Patient Group reports (79%) were considered to be serious which is above the overall Scottish average of 55% of all reports being deemed serious. This is perhaps because patients, parents and carers often only think it appropriate to submit a Yellow Card if they think it is a serious reaction. It must also be borne in mind that if a report is submitted as “serious” by the reporter, the MHRA do not down-grade this even if it does not specifically meet criteria for being serious.

GPs reporting increased by 6% from 230 to 244 in 2010/11. Thus the overall percentage of GP reporting in Scotland increased from 21% to 24%. This is the first increase in GP reporting for several years. GPs continue to be the group who submits the most Yellow Cards in Scotland. GPs submitted 124 serious reports i.e. 51% of all their reports were classified as serious.

Hospital Doctors reporting also increased from 176 in 2009/10 to 200 in 2010/11 showing a 14% increase and giving them 20% of all Yellow Card reports. 149 (75%) of all hospital doctor reports were classed as serious. This is higher than the national average. This could be because hospital doctors come across so many ADRs that they tend to only report the more serious ones.

Nurses (unspecified) reporting has dropped from 162 to 118, a 27% decrease. Part of this will be due to the fact that the HPV vaccine was no longer Black Triangle status and hence nurses were no longer obliged to report non-serious reactions for this product. During the previous year this group of nurses were responsible for submitting the majority of Yellow Card reports for the HPV vaccine. Serious reports comprised 43 (36%) of all reports. Compared with the previous year when approximately 23% of all nurse reports were serious, there has been an increase in the ratio of serious reports. This is as expected now that the HPV vaccine is no longer Black Triangle status so fewer non-serious reports would be required.

Patient, Consumer, Parent and **Carer reporting.** It is disappointing to observe that the overall patient reporting including patient, carer, consumer and parent reporting fell from 121 in 2009/10 to 104 in 2010/11 Although **parent** reporting alone did increase from 8 to 10 reports, **patient** reporting dropped by 14% while still providing 9% of all Scottish Yellow Card reports which was the same as the previous year. **Carer** reporting dropped from 7 to 5 and there were no **consumer** reports submitted in 2010/11. An increase in Patient/Parent/Carer reporting might have been expected during the Patient Reporting poster campaign which was run during January and February of 2011 however it is possible that the severe weather during much of that period may have reduced patient exposure to the campaign. We will have a clearer picture once all the data have been analysed.

Hospital Pharmacists reporting was lower than in the previous year by 21% and this group submitted 8% of all Scottish Yellow Card reports compared with 9% the previous year. Of the 77 hospital pharmacist reports 76 were serious (99%). This suggests that, similarly to hospital doctors, these pharmacists only submit reports if considered serious. This might indicate that hospital pharmacists are not reporting non-serious reactions to Black Triangle drugs and this is an area that perhaps should be addressed.

Other Healthcare Professionals (unspecified) reporting dropped by 29% compared with the previous year and the overall percentage of the Scottish Yellow Card total dropped from 9% in 2009/10 to 7% in 2010/11. Of the 67 reports submitted 19 (28%) were classified as serious which is lower than the Scottish average.

Hospital Healthcare Professional reports reduced by 12% compared with the previous year however this group continued to provide 6% of all Scottish Yellow Card reports. Of the 61 reports, 39 (64%) were serious. This continues the trend

that hospital professionals in general are more likely to be reporting more serious reports and fewer minor ADRs.

Hospital Nurse reporting was reduced by 34% in 2010/11 compared with the previous year. The overall percentage of Scottish Yellow Card reports submitted by hospital nurses reduced from 6% to 4%. Of the 40 reports 16 (40%) were classified as serious. Again it appears that hospital nurses are more likely to be reporting serious ADRs than their community colleagues possibly because more serious ADRs occur in secondary care where higher doses of more potent drugs are often used.

Although the level of **Community Pharmacist** reporting did increase by 49% during 2010/11 from 37 to 55 reports, this did not appear to be specifically due to the Community Pharmacist Patient Reporting poster campaign which was run in January and February 2011 as only 12 (22%) community pharmacy reports were received during the fourth quarter (January to March 2011) while the poster campaign was running. The majority of community pharmacy reporting occurred during the first quarter (April to June 2010) when 30 ADR reports were submitted by community pharmacies and it appears that 26 of these came from community pharmacies in the Ayrshire and Arran health board area and these were all reporting adverse reactions to varenicline. It is understood that from about April 2010, a group of six community pharmacy independent prescribers in Ayrshire and Arran were involved in setting up varenicline clinics and this would probably explain the increase in varenicline reporting from community pharmacists at that time.

Only 27% of the community pharmacy Yellow Card reports submitted were classified as serious and this is below the overall average of 55% for all Scottish reports.

Unspecified Pharmacists provided 22 reports which was a 19% reduction on the previous year while still retaining 2% of all Scottish reports. 9 (41%) of these reports were recorded as serious.

Physicians submitted 19 reports which was a 17% decrease on the previous year while still retaining 2% of all Scottish reports. 15 (79%) were recorded as being serious ADRs.

Optometrists did not submit any Yellow Card reports in 2010/11. YCC Scotland met with Frank Munro, Professional Executive Advisor of Optometry Scotland on 31st March 2011 to promote reporting of ADRs by optometrists so it is hoped that optometrist reporting will improve in the future.

Dentist reporting dropped from 3 to 1 in 2010/11 and this was classified as a non-serious adverse reaction.

3.9 Top Ten Medicines reported 2010-2011

Ranking	Scotland Medicine Name	Number of reports (Direct only)	UK Medicine Name	Number of reports (Direct and Indirect)
1	Varenicline	119	Clozapine	2581
2	HPV Vaccines	51	HPV Vaccine	1182
3	Diphtheria containing vaccine	31	Varenicline	1003
4	Pandemic Influenza Vaccine (H1N1)	25	Ranibizumab	494
4	Influenza Vaccine	25	Etonogestrel	438
6	Simvastatin	16	Influenza Vaccines	413
7	Pneumoccocal vaccines	14	Adalimumab	377
8	Etonogestrel	13	Infliximab	280
8	Fluorescein sodium	13	Risperidone	260
10	Etanercept	12	Simvastatin	260
	Venlafaxine	12	Etanercept	238

* Reports that listed an unspecified HPV vaccine were included in this count as the brand Cervarix was contracted to supply NHS Scotland.

3.10 Top Five Medicines reported in Paediatric Reports 2010-2011

Paediatric Ranking	Medicine Name
1	Human papilloma virus vaccine
2	Pneumococcal conjugate vaccine
3	DTPA IPV vaccine
4	DTPA IPV HIB vaccine
5	Meningococcal group C conjugate vaccine

3.11 Top Five Black Triangle Medicines (Scotland) 2010-2011

Brand Name (Generic Medicine Name)	Yellow Card Reports
Varenicline	119
Pandemic Influenza Vaccine (H1N1)	25
Etanercept	12
Exenatide	11
Quetiapine	11

3.9, 3.10, 3.11 Top Ten Medicines Reported (Scotland) including Black Triangle and Paediatric Reports

Varenicline was the most reported drug for ADRs in Scotland in 2010/11 with 119 Yellow Card submissions, 41 (34%) of which were classified as serious including 7 reports of suicidal ideation, 2 attempted suicides and 2 completed suicides. Varenicline continues to have Black Triangle status and it is therefore expected that a high proportion on non-serious ADRs should be being reported compared with the national average of 55%. Varenicline is in 3rd position in the UK Top Ten.
The majority of clozapine reports are submitted direct from the manufacturers who closely monitor all blood dyscrasias associated with clozapine use rather than being reported direct from the healthcare professionals. As the manufacturers are based

outside Scotland, this means that there are far more clozapine reports nationally than from Scotland.

HPV vaccines ADRs were the second most frequently reported in Scotland and in the rest of the UK in 2010/11.During the previous year when this product (Cervarix) still had Black Triangle status there had been 157 Scottish Yellow Cards submitted, mainly by nurses. In March 2010 Cervarix was no longer listed on the MHRA Drugs Under Intensive Surveillance list and the Black Triangle was officially removed from the Cervarix SPC in October 2010. Hence for most of the vaccination season Cervarix no longer bore a Black Triangle. The Scottish nurses responded appropriately and the overall number of Yellow Cards submitted for the HPV vaccine was reduced to one third of that in the previous year i.e. from 157 reports in 2009/10 to 51 in 2010/11. 16 of the 51 reports were classified as serious (31%).

Diphtheria Containing Vaccines were the third most reported product in Scotland for the third year running although they do not appear in the UK Top Ten. They also appear in the top 5 Paediatric products reported in Scotland. Although none of these products has had Black Triangle status during 2010/11 nurses and other health care professionals are still very vigilant at reporting ADRs to them with only 6 of 31 reports being classed as serious.

Pandemic Flu Vaccine and the Influenza Vaccine were classified separately in the Scottish report and each were associated with 25 Yellow Card reports putting them in equal 4th place.17 of the ADRs associated with the pandemic vaccine were classified as serious compared with only 7 of the 25 reports for the triple influenza vaccine. Influenza vaccines held 6th position in the UK Top Ten. The Pandemic Flu Vaccine was the second most frequently reported Black Triangle product in Scotland during 2010/11.

Simvastatin remains in both the Scottish and the UK top ten again this year, this time holding 6th position in Scotland and 10th equal in the UK as a whole. Simvastatin is a very widely prescribed drug. 50% of the ADRs were classified as serious including reports of muscle damage and abnormal liver function tests.

The **Pneumococcal Vaccines** are in 7th position in the Scottish Top Ten having been in 4th position the previous year. These are not Black Triangle products and the number of ADRs reported in 2010/11 has decreased from 17 the previous year to 14 with only 4 of the 14 reports being classed as serious. These vaccines are not in the UK Top Ten. Pneumococcal Vaccines are the second most commonly reported product amongst paediatric reports.

In 8th equal position we have **Etonogestrel** with 13 reports which was originally the active ingredient of Implanon however this has been replaced with Nexplanon also containing etonogestrel which has Black Triangle status. Seven of the 13 ADRs reported for etonorgestrel products have been identified as serious. Etonogestrel was also in 5th position in the UK Top Ten.

Also in 8th equal place is **Florescein sodium** with 13 reports. All 13 reports were submitted from the same Health Board area however reports were submitted during every quarter of the year with 8 of the 13 considered serious.

In 10th equal position are **Etanercept** and **Venlafaxine** with 12 Scottish reports each.

Etanercept had Black Triangle status and was previously in 7th position in Scotland however it is not in the UK Top Ten at all this year. Seven of the twelve Scottish reports are identified as serious.

Venlafaxine was not under intensive surveillance, was not in the 2009/10 Top Ten for either Scotland or the UK and it is not in the UK list either in 2010/11. Seven of the twelve reports this year have been classified as serious.

4. Interpretation of Reporting Figures

A total of 1008 Yellow Card reports were submitted from Scotland covering 396 different drugs. As in the previous year, in 2010/11 the top three reported products were varenicline, HPV vaccine and diphtheria containing vaccine although the HPV vaccine was relegated from top to second position this year by varenicline.

Varenicline continues to carry a Black Triangle and be under intensive surveillance while the HPV vaccine Cervarix is no longer a Black Triangle product. The other products listed in the Top Ten are mainly as in previous years although the presence of fluoresceine is somewhat unexpected and all the reports emanate from the same Health Board.

Although reporting in Scotland has decreased overall by 9%, the proportion of serious reports has increased from 51% to 55% of all reports while the number of Black Triangle Reports has reduced by 50% compared with the previous year. The fact that the HPV virus vaccine had its Black Triangle status removed appears to have had a significant influence upon these figures resulting in fewer non-serious Black Triangle reports as would be anticipated.

5. Follow Up Reports

All Follow-Up reports are now being managed by the MHRA directly and YCC Scotland is no longer involved in this activity.

6. Promotional Activities

Detail talks given and audience

Cuthbert M. Helping pharmacists contribute more to ADR reporting via the Yellow Card Scheme. Scottish Pharmaceutical Board. February 2011

Dear J. Clinical pharmacology and therapeutics. General Internal Medicine training day, March 2011

Dear J. Marker and Mediators of drug toxicity in humans. Edinburgh University Pharmacology Society, February 2011

Dear J. Cyclophilin A is a damage associated molecular pattern that mediates paracetamol-induced livery injury. British Pharmacological Society, December 2010

Dear J. Capacity. National Poisons Information Service CPD Meeting, November 2010

Dear J. Cyclophilin A is a key mediator of paracetamol poisoning. European Association of Poisons Centres and Clinical Toxicology, August 2010

Noble S. Adverse Reactions to Biopharmaceuticals. Grand Round presentation at Western General Hospital Edinburgh. March 2011

Noble S. Significant Adverse Reactions to Biopharmaceuticals. NES Symposium for pharmacists on Biopharmaceuticals, Glasgow. October 2010

Noble S. Adverse Drug Reactions with Vaccines. Scottish Immunisation Programme Communications and Information Advisory Group, March 2011

Detail training and audience

Cuthbert M Pharmacists ADR Reporting via the Yellow Card scheme… a professional obligation. NES National Pre-registration Pharmacists Study Day, February 2011

Cuthbert M ADRs lecture and workshop for Independent Prescribers. University of Dundee. September 2010 and March 2011

Maxwell S Year 3: Adverse drug reaction session within Clinical Pharmacology module Year 3 Medical Students, Edinburgh University, 2 hours – September 2010

Maxwell S : Safe prescribing session Year 4 Medical Students Edinburgh University, afternoon June 2010

Maxwell S.: Combined ADR session with pharmacy students Aberdeen University, Friday afternoon in February 2011

Maxwell S: Preparation for prescribing practice Year 5 Medical Students. Edinburgh University, afternoon June 2010

Noble S. ADR lecture to University of Edinburgh Biomedical 4th Year Students, November 2010

Noble S Adverse Drug Reactions lecture and workshop for Podiatrists. Queen Margaret University, Edinburgh. September 2010 and January 2011.

Noble S ADR Reporting lecture and workshop for non-medical prescribers. Napier University Edinburgh. October 2010 and February 2011-12-01

Detail meetings (non MHRA) attended in YCC capacity

Scottish Oncology Pharmacy Practice Group. M Cuthbert invited to participate in Strategic research event to give perspective on researching/reporting oncology ADRs

Detail materials developed to promote YCS

Yellow Card Scotland designed a poster and developed a practice guide for community pharmacists for the Scottish Public Health Service Campaign on Patient Reporting of Adverse Drug Reactions with Herbal Medicines.

Detail development of YCC website

During 2010/11 we were awaiting permission from the IT department at NHS Lothian to begin developing a new YCC Scotland website and were therefore only performing basic updates to the current website. Unfortunately the NHS Lothian resources were subject to considerable delay outwith our control however we are now working with an experienced webmaster and are aiming to have the new website launched during the early part of 2012.

Anything else applicable to promotion within your region

Brown N, Noble S, Leitch L. Poster on the Evaluation of the Community Pharmacy Patient Yellow Card Reporting Campaign by the Yellow Card Centre Scotland presented at the Scottish Pharmaceutical Conference, Edinburgh. March 2011

Kitto L, Cuthbert M, Noble S, Maxwell S,2, Bateman DN Poster on **Patient Reporting of Adverse Drug Reactions** A Qualitative Study presented at The British Pharmacological Society, London December 2010

7. Publications

Adams RD, Gibson AL, Good AM, **Bateman DN**. Systematic differences between healthcare professionals and poison information staff in the severity scoring of pesticide exposures. Clin Toxicol 2010; 48: 550-8.

Adams RD, Gibson AL, Lupton D, Good AM, **Bateman DN**. Enhanced monitoring of fumigant pesticide exposures by TOXBASE. The NPIS pesticide surveillance project 2004-2009. Clin Toxicol 2010; 48: 302.

Adams RD, Gibson AL, Lupton D, Veiraiah A, Good AM, Jackson G, McGrory C, Dow M, **Bateman DN**. The NPIS pesticide surveillance project 2004–2010: acute pesticide poisoning in the older person (>=65 years). Clin Toxicol 2011; 49: 251.

Adams RD, Gibson AL, Lupton D, Veiraiah A, Good AM, Jackson G, McGrory C, Dow M, **Bateman DN**. The NPIS pesticide surveillance project 2004–2010: fly and wasp killer exposures. Clin Toxicol 2011; 49: 264.

Benitez JG, Seger D, Good AM, **Bateman DN**. International comparison of poisons information computer support systems: TOXBASE and Poisindex. Clin Toxicol 2010; 48: 640.

Bennie M, **Dear J**, Hems S, Black C, McIver L, Webb DJ. An investigation into the effect of advice from the Scottish Medicines Consortium on the use of medicines in Scotland's Health Service. Br J Clin Pharmacol. 2011 Feb;71(2):283-8.

Crawford CL, Lupton DJ, McGrory CE, Good AM, **Bateman DN**. Legal highs: analysis of the use of National Poisons Information Service resources and newspaper coverage. Clin Toxicol 2011; 49: 239.

Davidson K, Kerr S, Kinnear M, **Bateman DN**. Yellow card reports add to data. British Medical Journal 2010; 341: c3697. Letter.

Dear JW. New marker for paracetamol poisoning-revolution or evolution? Clin Toxicol (Phila). 2010 Oct;48(8):785-6.

Dear JW, Nicolai MPJ, Catterson JH, Huizinga T, Dhaliwal K, **Bateman DN**, Waring WS, Webb DJ, Simpson K. Cyclophilin A is a key mediator of paracetamol poisoning. Clin Toxicol 2010; 48: 266-7.

Dow MA, Pettie JA, Lupton DJ, Good AM, **Bateman DN**. Introduction of web-based nursing guides for toxicology. Clin Toxicol 2011; 49: 239.

Eddleston M, **Bateman DN**. Major reductions in global suicide numbers can be made rapidly through pesticide regulation without the need for psychosocial interventions. Soc Sci Med 2011; 72: 1-2.

Ferner RE, **Dear JW, Bateman DN**. Management of paracetamol poisoning. BMJ. 2011 Apr 19;342:d2218. doi: 10.1136/bmj.d2218.

Good AM, Adams RD, **Bateman DN**. Slug killers: a common UK enquiry. Clin Toxicol 2011; 49: 264-5.

Good AM, **Bateman DN**. Surrogate markers for swine flu using TOXBASE - antivirals, cough and cold preparations. Clin Toxicol 2010; 48: 274.

Good AM, Lupton D, **Bateman DN**. TOXBASE in Europe. Clin Toxicol 2010; 48: 279.

Gordon LD, Good AM, **Bateman DN**. Quality assurance and an internet poisons database. Clin Toxicol 2010; 48: 279.

Jackson G, McGrory CM, Crawford C, Adams RD, **Bateman DN**. Severity of iron poisoning reported in telephone enquiries to the National Poisons Information Service in the UK. Clin Toxicol 2011; 49: 239.

Kapur N, Clements C, **Bateman N**, Foex B, Mackway-Jones K, Hawton K, Gunnell D. Self-poisoning suicide deaths in England: could improved medical management contribute to suicide prevention? Q J Med 2010; 103: 765-75.

Kapur N, Clements C, **Bateman N**, Foex B, Mackway-Jones K, Huxtable R, Gunnell D, Hawton K. Advance directives and suicidal behaviour. BMJ 2010; 341: 590-1.
Analysis.

Laing WJ, Lupton DJ, Veiraiah A, **Bateman DN**. Legislation and acetaminophen overdose in a UK hospital 2000-2008. Clin Toxicol 2010; 48: 605.
Maxwell S. Good prescribing: better systems and prescribers needed. CMAJ. 2010;182:540-1.

McGrory CE, Casey PB, Tracey JA, Good AM, **Bateman DN**. Nine years of TOXBASE in Ireland: the impact of an online poisons database. Clin Toxicol 2011; 49: 238-9.

McGrory CE, Good AM, **Bateman DN**. Plant and fungi poisoning incidents: enquiries to UK National Poisons Information Service (Edinburgh). Clin Toxicol 2011; 49: 232.

McGrory CE, Laing WJ, Good AM, **Bateman DN**. Therapeutic errors involving Spiriva (tiotropium bromide): enquiries to UK National Poisons Information Service. Clin Toxicol 2010; 48: 289-90.

Oliver JJ, **Dear JW**, Webb DJ. Clinical potential of combined organic nitrate and phosphodiesterase type 5 inhibitor in treatment-resistant hypertension. Hypertension. 2010 Jul;56(1):62-7.

Pettie JM, Dow MA, Thanacoody HKR, Sandilands EA, **Bateman DN**. Integrated care pathway for the management of the paracetamol poisoned patient. Clin Toxicol 2010; 48: 276-7.

Sandilands EA, Crookes D, **Bateman DN**. Co-proxamol withdrawal - five years on. Clin Toxicol 2010; 48: 259.

Sandilands EA, Reid K, Shaw L, **Bateman DN**, Webb DJ, Shaun N, Kluth DC. Impact of a focussed programme on practical prescribing skills among final year medical students. Br J Clin Pharmacol 2011; 71: 29-33.

Street JM, **Dear JW**. The application of mass-spectrometry-based protein biomarker discovery to theragnostics. Br J Clin Pharmacol. 2010 Apr;69(4):367-78.

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8. Research

Improving Standards of Pharmacovigilance Practice in Oncology. M.Phil awarded to Melinda Cuthbert from the University of Strathclyde July 2010

Acute Renal Adverse Drug Reactions. MSc in Clinical Pharmacy awarded to Katherine Davidson from the University of Strathclyde July 2010

Evaluation of the Community Pharmacy Patient Yellow Card Reporting Campaign by the Yellow Card Centre Scotland as part of HNC Pharmacy services Development and Management awarded to Nicola Brown from Telford College Edinburgh. July 2010