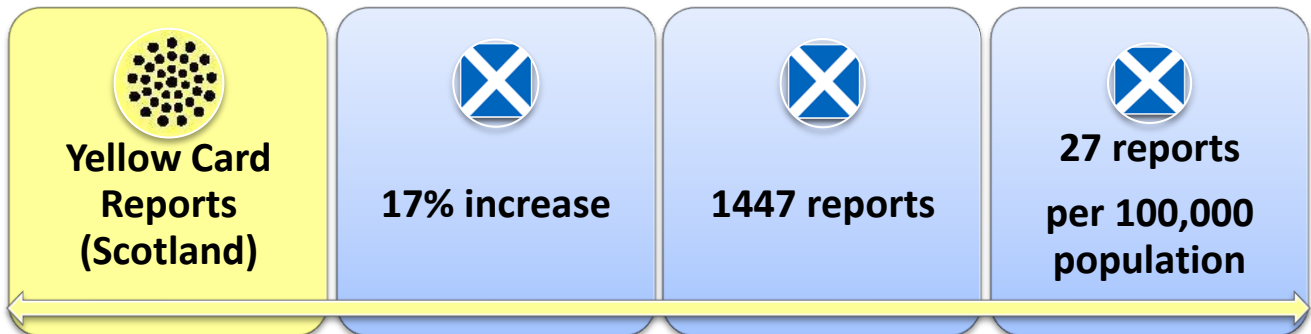
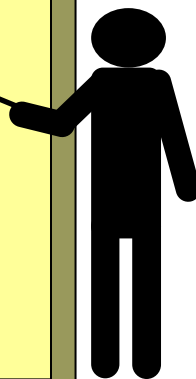


# Yellow Card Centre Scotland

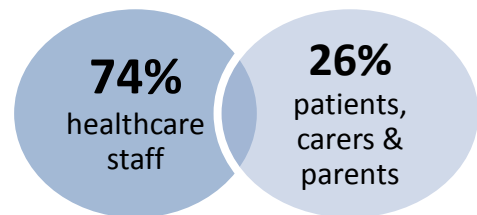


### YCC Scotland Training

- 29** hours of teaching
- 2072** Healthcare & Student attendees
- 210** Patients attended YCC presentations
- 2819** online modules completed



### Source of Reports



## Top Reported Medicines



# Annual Report April 2015 to March 2016

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

2015-2016

## 1. STAFF

Professor Simon Maxwell	Consultant Clinical Pharmacologist, Medical Director YCC Scotland
Professor Angela Timoney	Director of Pharmacy, NHS Lothian
Dr James Dear	Consultant Clinical Pharmacologist, Deputy Medical Director YCC Scotland
Mrs Melinda Cuthbert	Lead Pharmacist Medicines Information / YCC Scotland [Until January 2016]
Mrs Sheila C Noble	Senior Pharmacist Medicines Information / YCC Scotland
Ms Alison Paterson	Senior Pharmacist Medicines Information / YCC Scotland [Since August 2015]
Mrs Donna Watson	Information Officer Medicines Information / YCC Scotland

## 2. Executive Summary

2015/16 has been a busy year for YCC Scotland (YCCS); with the organisation and delivery of three roadshow events across Scotland in November. The roadshows aimed both to raise awareness of Yellow Card (YC) reporting amongst healthcare professionals, and to seek suggestions for future improvements to the scheme. Guest speakers were invited from the MHRA, Scottish Government and Health Improvement Scotland. Feedback was invited from attendees with regard to future activities of the YC scheme in Scotland, which led to a number of improvement initiatives in collaboration with the MHRA. The YCCS team took on board suggestions including the development of promotional posters and flyers for the new YC app (linking to the Scottish portal), improvements to the YCCS website and production of 1-page infographics summarising YC data for dissemination with the Scottish Annual Report. Individual health boards in Scotland will also now receive a local infographic summary. (See appendix 1 "You said- we did" for full details of the completed actions).

Following the success of the YCCS roadshows, YCCS have been working in collaboration with the Royal Pharmaceutical Society (Scotland branch) and Health Improvement Scotland to develop Medicine and Pharmacy 'Quality Road shows'. The programme content will be developed for delivery in the autumn of 2016, and will include ADR reporting.

A number of improvements have been made to the YCCS website in 2015/16, providing more links to our new promotional material and lectures, resulting in a 260% increase in unique visitors to the site.

YCCS continues to exceed targets with regard to education, through provision of evaluated and updated training and education to undergraduates and postgraduate students and healthcare professionals highlighting the importance of the scheme. The YCCS stand has proven popular at various conferences/ events in 2015/16, resulting in the wider distribution of new promotional materials to large numbers of delegates and raising the profile of YCCS. YCCS have established new links with patient groups, resulting in invitations to present at key events hosted for specialist groups.

The 6 ADR e-learning modules developed by YCCS were updated in June 2015. YCCS continued to promote the use of these e-learning modules to healthcare professionals during 2015/16; and collaborated with the Scottish Government (SG) to incentivise community pharmacists and technicians to complete these. In November 2015 all community pharmacists were offered a one-off fee in addition to the establishment payment if they supported YC reporting conditional on completion of the six interactive e-learning modules by 31<sup>st</sup> March 2016. The ADR e-learning modules were also promoted via The Knowledge Network in November 2015, a widely used online information resource available to all healthcare professionals in NHS Scotland. YCCS are currently working with the Royal Pharmaceutical Society towards endorsement of these modules. The e-learning modules have been extremely successful and in 2015/16, 2819 modules were completed; more than five times the number completed between launch and March 2015. YCCS continue to use these in blended learning, and the feedback in 2015/16 has been very positive.

A Community Pharmacy Public Health Campaign was launched in April/ May 2015, to promote patient reporting. The poster was displayed in all community pharmacies in Scotland, with a link to the YCCS website, encouraging patients to report any suspected side effects to their medicines. It is therefore encouraging to see a further increase in patient group reporting, who account for 26% of all Scottish reports in 2015/16, and remain the highest reporting group.

Overall, Yellow Card reporting in Scotland has increased by 17%, from 1242 in 2014/15 to 1447 in 2015/16. This is notably much higher than the 6% increase in the previous year, and an encouraging continuation of the positive upward trend over the last 3 years. However, GP reporting continues to decline with a further 15% decrease from the previous year, and community pharmacist reporting remains static. This is despite wider promotion of the e-learning ADR modules and ADR reporting generally to both GPs and community pharmacists. Embedding electronic YC reporting into GP systems will be critical to the reversal of this trend, as has been demonstrated in England (with SystmOne). YCCS continue to be proactive in facilitation of integration of YC reporting into GP (Vision and EMIS) and hospital systems (HEPMA).

An increase in electronic YC reporting by hospital pharmacists via MiDatabank (medicines information network software), provides further evidence of the positive effects of embedding electronic YC reporting in clinical systems. Of the 188 reports, 45 were submitted via MiDatabank (24%), an increase on the previous 17% submitted via MiDatabank in the previous year.

At a national strategic level, YCCS have continued to engage with the Scottish Government, Health Improvement Scotland (HIS) and Health Facilities Scotland Incident Reporting and Investigation centre (IRIC) in 2015/16 over the development of an integrated platform to support pharmacovigilance in Scotland. As part of this work, YCCS continues to be engaged with the National Safety Alerts Oversight Group and the National Safer Use of Medicines group.

There have been significant changes to the YCCS team this year with Melinda Cuthbert (Lead Pharmacist Medicines Information / YCC Scotland) leaving officially in January 2016 (following secondment to another position in October 2015). Alison Paterson (Senior Pharmacist) joined the team on a temporary basis in August 2015, to support YCCS in meeting its objectives for 2015/16, and Sheila Noble drove forward the road shows, and initiatives which followed. Tracy Duff was subsequently appointed as the new Lead Pharmacist for YCCS (April 2016).

Looking ahead, future growth in reporting will very much depend on the successful embedment of electronic reporting into clinical systems in Scotland (Vision, EMIS and HEPMA). Expansion of electronic reporting via MiDatabank, and continued promotion of the YC app will also be key to future growth. Other priorities for YCCS in 2016/17 include the continued engagement with patient groups, demonstrating to HCP how ADR reporting can provide evidence for core competencies related to health and safety (for revalidation and development reviews), and working with Toxicology to ensure reporting of adverse events related to overdose.

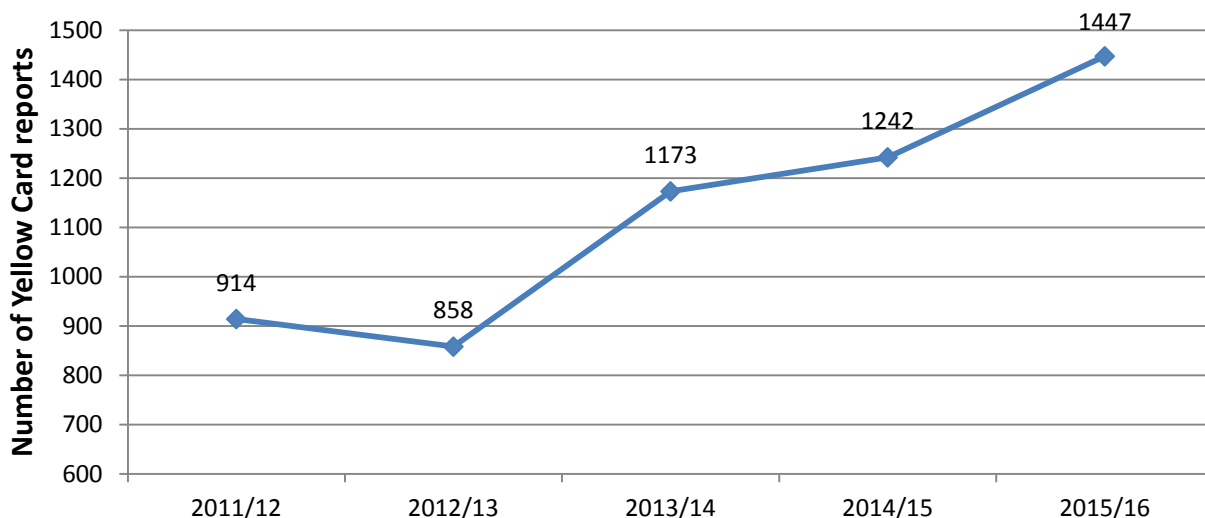
**3. Yellow Card Data**

**3a Total Scottish Reports**

*Table 1 – Yellow Card reporting for Scotland 2011/12 to 2015/16*

<b>Year</b>	<b>Number of reports</b>	<b>Percentage change on previous year</b>
2015/16	1447	+17%
2014/15	1242	+6%
2013/14	1173	+37%
2012/13	858	-6%
2011/12	914	-9%

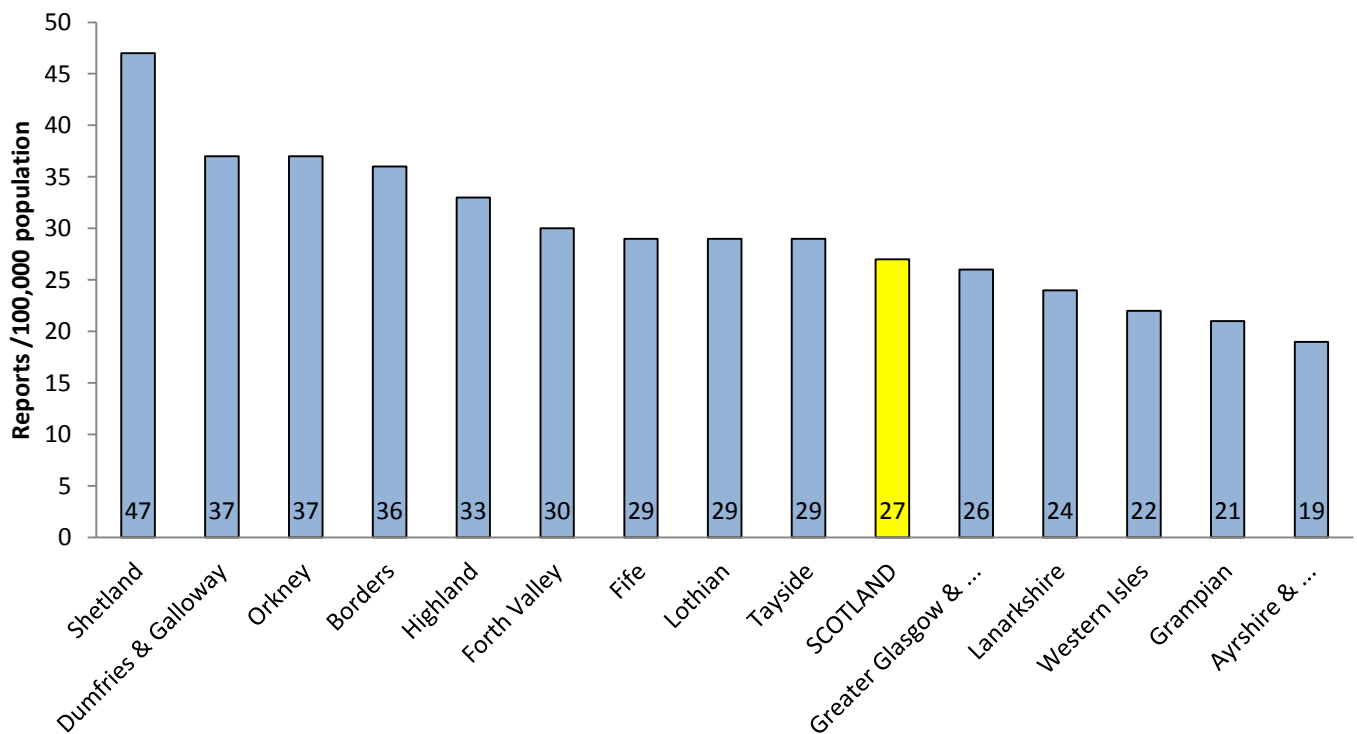
Figure 1- Total number of Yellow Card Reports in Scotland 2011/12- 2015/16



The total number of Scottish direct YC reports increased by 17%, from 1242 in 2014/15 to 1447 in 2015/16. This is notably much higher than the 6% increase in the previous year, and a continuation of the positive upward trend over the last 3 years.

The total number of direct UK YC reports increased by 21% from 19466 in 2014/15 to 23477 in 2015/16. This includes direct GP reports from GP practice clinical software (SystemOne), which has had a significant impact on total direct UK reports. Scotland does not currently have the IT systems in place to enable direct reporting by GPs through GP systems, therefore the slightly lower increase in Scotland, despite this, is very positive.

Figure 2- Health board Yellow Card Reporting per 100,000 population (Scotland 2015/16)



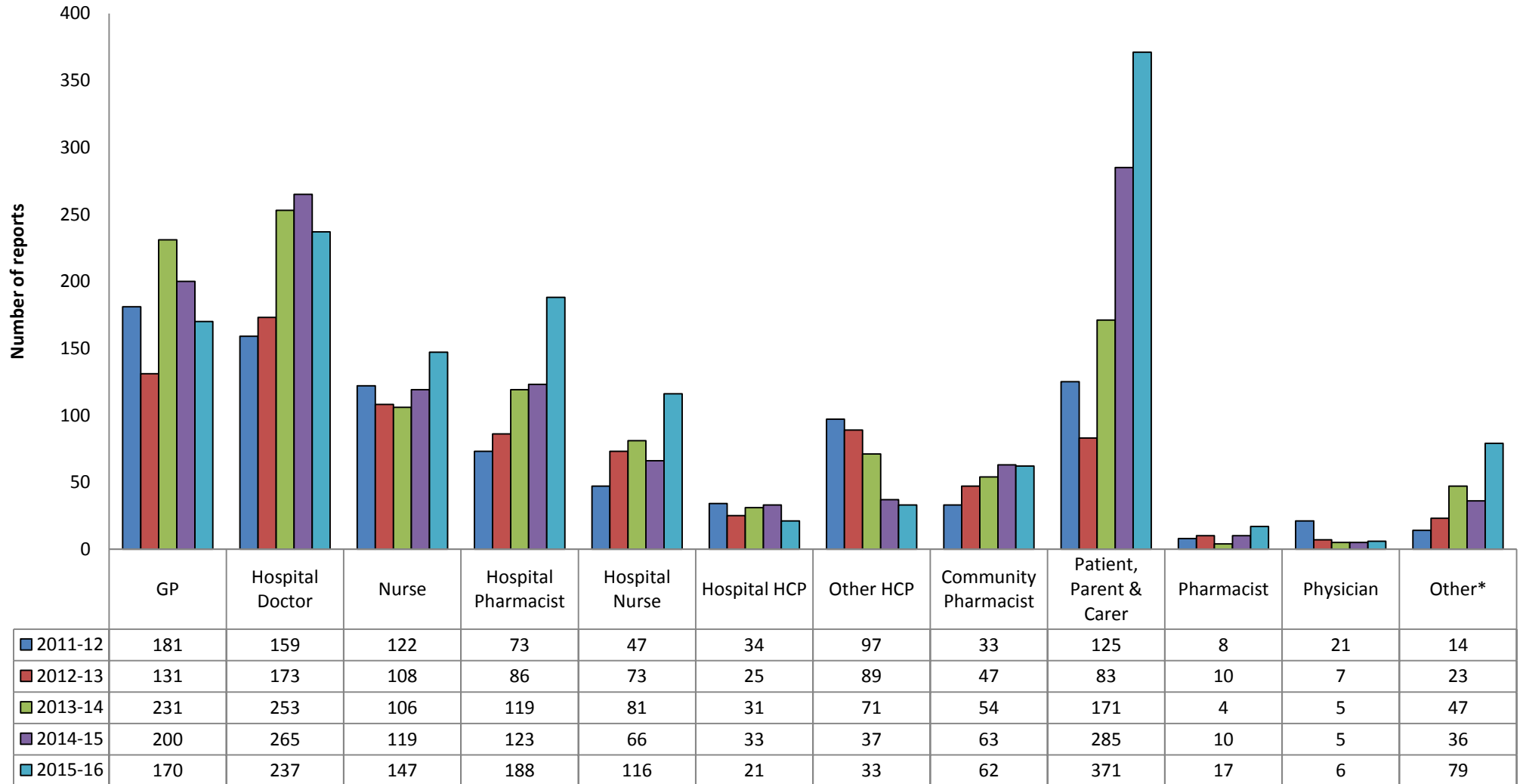
Statistics from National Registers of Scotland, Population estimates mid-2015.

Figure 2 demonstrates that the average number of YC reports per 100,000 population in Scotland is 27; an increase from 23 in the previous year. Most health boards have demonstrated an increase in reporting from the previous year (per 100,000 population), with reporting in the Highlands, Shetland and Tayside remaining constant. The exceptions are Ayrshire & Arran and the Western Isles, which have experienced a downward trend in the number of reports per 100,000 population, and have fallen below the Scottish average (both exceeded the Scottish average in the previous year). Although Greater Glasgow & Clyde (GG&C), Grampian and Lanarkshire remain below the Scottish average, they have all increased reporting compared to the previous year.

YCCS were especially active in Glasgow, Edinburgh and Aberdeen with the YCC roadshows in November, and may have contributed to increased reporting in these areas.

### 3b Reporter Qualifications

Figure 3 – Scotland total Yellow Card reports by reporter qualification 2011/12 to 2015/16



\*Other = dentist, healthcare assistant, optometrist, medical student, radiographer, chiropodist, midwife, pre-registration pharmacist, pharmacy assistant

## **The main points of note are as follows:**

**Healthcare Professionals (HCPs)** accounted for 74% of the total reports; with an increase in the total number of reports from 957 in 2014/15 to 1076 in 2015/16 (an increase of 12% in comparison to a decrease of 4.5% in the previous year).

**GP** reporting continues to decline, and decreased a further 15% from the previous year (13% decline). It is hoped that embedding electronic YC reporting into GP systems will reverse this trend, as has been demonstrated in England (with SystmOne). Of those reported, 50% were serious, and 23% were black triangle. The most frequently reported of these were apixaban, rivaroxaban, mirabegron, and the newer vaccines Bexsero (meningococcal B vaccine), Nimenrix (meningococcal ACWY) and Fluenz (intranasal influenza).

**Hospital doctor** reporting decreased 11% from 265 in 2014/15 to 237 in 2015/16. However they still remain the highest reporting group of healthcare professionals accounting for 22% of all HCP reports (and 16% of the total). For the fourth year running, hospital doctors have greatly exceeded GP reports. It is possible that the decline could be a result of the increase in reporting by hospital pharmacists and nurses, and reflect a shift in reporting behaviour in hospitals. YC reporting remains embedded in undergraduate and postgraduate training.

**Nurse (incorporating all community), and hospital nurse** reporting increased by 24% and a huge 76% respectively, compared to the previous year. The most commonly reported medicine by hospital nurses was varenicline (Black Triangle) representing 22% (26/ 116) of the total; the majority of which were non-serious. 31% of reports by hospital nurses were serious, with a diverse range of medicines implicated (no particular pattern). In contrast, the majority of nurse reports (incorporating community) involved vaccines (various of both Black Triangle and non Black Triangle status), although varenicline comprised 6% of the reports.

**Hospital pharmacist reporting** also increased substantially by 53%, compared to the previous year. This coincides with an increase in electronic YC reporting by hospital pharmacists via MiDatabank (medicines information network software), providing further evidence of the effects of embedding electronic YC reporting into clinical systems. Of the 188 reports, 45 were submitted via MiDatabank (24%), an increase on the previous 17% submitted via MiDatabank in the previous year. Lothian contributed to 65% of the total reports submitted via MiDatabank. The UKMI executive, in collaboration with YCC are continuing to promote reporting via this route, and it is anticipated that the number of reports will continue to increase as more medicines information centres come on board. GG&C undertook a project to explore and overcome barriers to reporting via this method, and it is hoped this work will result in an increase in hospital pharmacist reports in future. Grampian also intends to start using this reporting function.

**Community pharmacist** reporting remains static, following an encouraging 17% rise in the previous year. Although an increase in reporting from pharmacists (unspecified) may at least in part be from community. Of the 62 reports in total, 38 (61%) were neither black triangle nor serious. A diverse range of medicines were reported (no particular pattern); the majority of Black triangle (BT) reports were for varenicline.

In 2015/16 YCCS collaborated with the Scottish Government (SG) over incentives to improve YC reporting by community pharmacists in Scotland. In November 2015 all community pharmacists were offered a one-off fee in addition to the establishment payment if they supported YC reporting (as part of the wider Scottish Patient safety Programme). To be eligible, contractors were required to ensure that all employed pharmacists, pharmacy technicians and locums completed the six interactive e-learning modules on ADRs



[Type text]

developed by NES and the YCCS by 31<sup>st</sup> March 2016. It is hoped this incentive will result in an increase in the quality and quantity of YC reporting by community pharmacists (in alignment with SPSP).

**Patient groups** accounted for 26% of the total reports. This reflects a further increase in the proportion of reports submitted by patient groups (compared to 23% in the previous year); remaining the highest reporting group. The total number of reports submitted by patient groups increased by 30%. Of these reports, 75% were from patients; 23% from parents and 2% from carers. Vaccines were the top reported medicines by parents (Human Papillomavirus, Fluenz intranasal, Measles Mumps & Rubella and meningococcal ACWY); whereas patient and carer reporting was diverse.

This is much higher than the UK proportion of direct reports submitted by patients (14% for 2015). A number of YCCS initiatives directly targeted patient groups in 2015/16, including presentations at the genetic Alliance UK information day and at the Epilepsy Connections study day. A Community Pharmacy Public Health Campaign was launched in Spring 2015, to promote patient reporting. The poster was displayed in all community pharmacies in Scotland, with a link to the YCCS website, encouraging patients to report any suspected side effects to their medicines.

**Other** reporters comprised mainly dentists (28%), pre-registration pharmacists (22%) and radiographers (33%). Durophat (fluoride) and alendronic acid were the most common agents reported by dentists, and contrast media comprised the majority of reports by radiographers. The overall number of reports has increased for this category, however this may simply reflect the category chosen by the reporter- it is noted that "other HCP" and "Hospital HCP" groups have declined. The increase in reports from dentists is notable.

[Type text]

*Table 2 - Reports from hospitals 2015/16 (Scotland)*

Health board Area	Total Reports 2015/6	Hospital Reports 2015/16*	Hospital Reports as a % of Board's Total Reports	
			2015/16	2014/15
NHS Ayrshire & Arran	70	25	36%	46%
NHS Borders	41	19	46%	39%
NHS Dumfries & Galloway	56	28	50%	57%
NHS Fife	106	37	35%	30%
NHS Forth Valley	92	50	54%	49%
NHS Grampian	124	30	24%	29%
NHS Greater Glasgow & Clyde	295	120	41%	40%
NHS Highland	105	51	49%	42%
NHS Lanarkshire	157	85	54%	45%
NHS Lothian	256	127	50%	52%
NHS Orkney	8	2	25%	20%
NHS Shetland	11	8	73%	27%
NHS Tayside	120	44	37%	28%
NHS Western Isles	6	2	33%	50%
<b>Total (Scotland)</b>	<b>1447</b>	<b>628</b>	<b>43%</b>	<b>41%</b>

Table 2 shows that the number of reports received from NHS hospitals remains to account for a significant proportion of the total reports, with a modest increase compared to the previous year.

### 3c Serious Reports

*Table 3 - Serious reports over last five years (Scotland)*

Year	Number of serious reports	Percentage of total reports	Percentage change on previous year
2015/16	814	56%	+13%
2014/15	719	58%	+5%
2013/14	683	58%	+43%
2012/13	478	58%	-1%
2011/12	482	53%	-25%

Figure 4 – Serious reports as a proportion of total reports from Scotland 2011/12- 2015/16

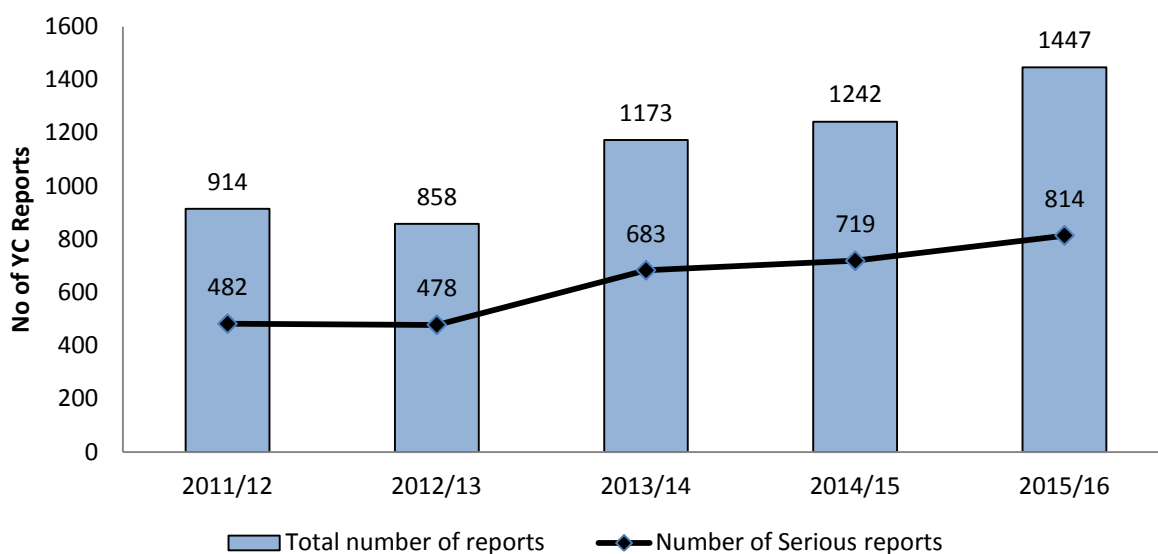


Table 3 and Figure 4 show that the number of serious reports increased by 13% in 2015/16, however this has increased proportionally to the number of total reports, therefore the proportion of serious reports has remained constant over the last 5 years. Of note, 72% of reports from patient groups were considered serious; this is a slight reduction on the previous year (77%), however as the biggest single reporter group this will have influenced the overall total which has been classed as serious. Vaccines (various) were the most commonly implicated in serious reports by patients; although there were 21 serious reports with intra-uterine progesterone only devices by patients specifically (representing 6% of patient group reported serious reactions).

Rivaroxaban (43/ 814), apixaban (22/ 814) and warfarin (21/ 814) account for 11% of the total serious reports. The majority of these were reported by GPs (18%) and hospital doctors (47%).

### 3d Fatal reports

Table 4 - Number of fatalities reported for Scotland in patients with suspected side effects in association with medicines over the last five years

Year	Number of fatal reports	% change on previous year
2015/16	71	22% increase
2014/15	58	8% decrease
2013/14	63	66% increase
2012/13	38	41% increase
2011/12	27	20% decrease

[Type text]

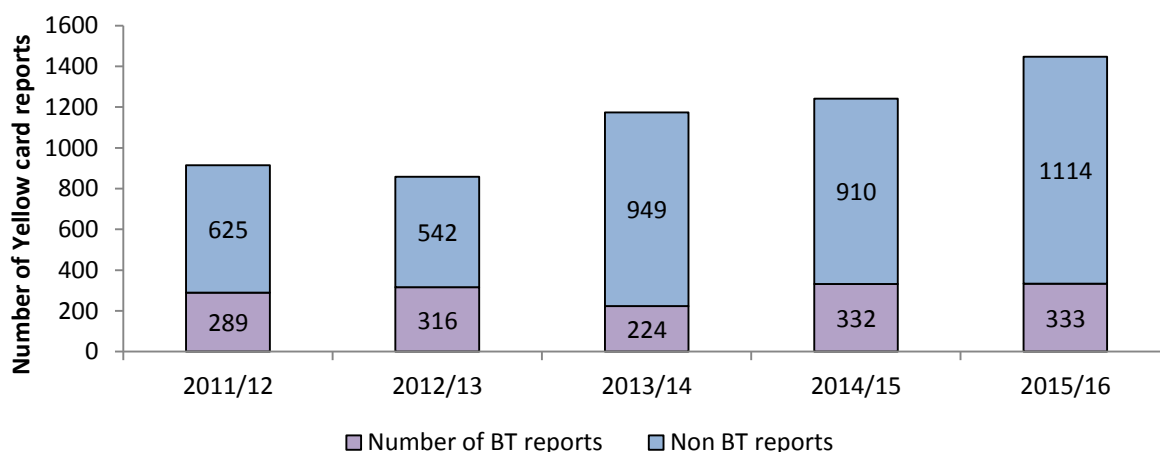
The number of fatal reports increased 22% compared to 2014/15. This equates to 5% of the total, similar to previous years.

### 3d.1 Black Triangle (BT) Reports

Table 5 - Black Triangle reports over last five years (Scotland)

Year	Number of Black Triangle reports	Percentage of total reports	Percentage change on previous year
2015/16	389	27%	0%
2014/15	332	27%	+48%
2013/14	224	19%	-29%
2012/13	316	37%	+9%
2011/12	289	32%	-20%

Figure 5 – Black Triangle reports (Scotland) as a proportion of total reports (2011/12 -2015/16)



The number of BT reports has increased proportionally to the total increase in direct reports, with no change over the previous year. Although Fluenz intranasal (influenza vaccine) was still the most frequently reported BT medicine (14% of total BT reports), this is a reduction on the previous year. However, the addition of MenB vaccine to the routine childhood immunisation programme in September 2015, and changes to the recommendations for MenACWY (to replace MenC for adolescents and include catch up immunisation of <25 years) has led to an increase in reports for Bexsero (MenB), which is BT, and MenACWY (which includes Nimenrix which is BT).

[Type text]

### 3e Age Banding (Scotland)

Table 6 - Age Banding Reports Scotland 2013/14- 2015/16

Age Banding	Reports 2013/14	Reports 2014/15	Reports 2015/16
Unknown	45	49	32
Under 2 years	57	31	70
2-6 years	58	68	70
7- 12 years	34	87	53
13- 17 years	59	28	83
18-24 years	49	61	89
25-34 years	106	97	112
35-44 years	108	113	135
45-54 years	154	167	147
55-64 years	180	164	206
65-74 years	178	200	212
75+ years	180	175	238
<b>TOTAL</b>	<b>1208</b>	<b>1240</b>	<b>1447</b>

Table 7 - Age Banding Paediatric Reports Scotland 2015-16

Age Range	Number of Paediatric Yellow Card Reports	% of Paediatric Yellow Card Reports
Children under (0-11 mths)	13	5%
Children (12- 23 mths)	57	21%
Children (2-11 yrs)	112	40%
Adolescents (12-17 yrs)	94	34%
<b>TOTAL</b>	<b>276</b>	

[Type text]

Figure 6 – The percentage of Yellow Card reports from Scotland, stratified by age group (2012/13- 2015/16)

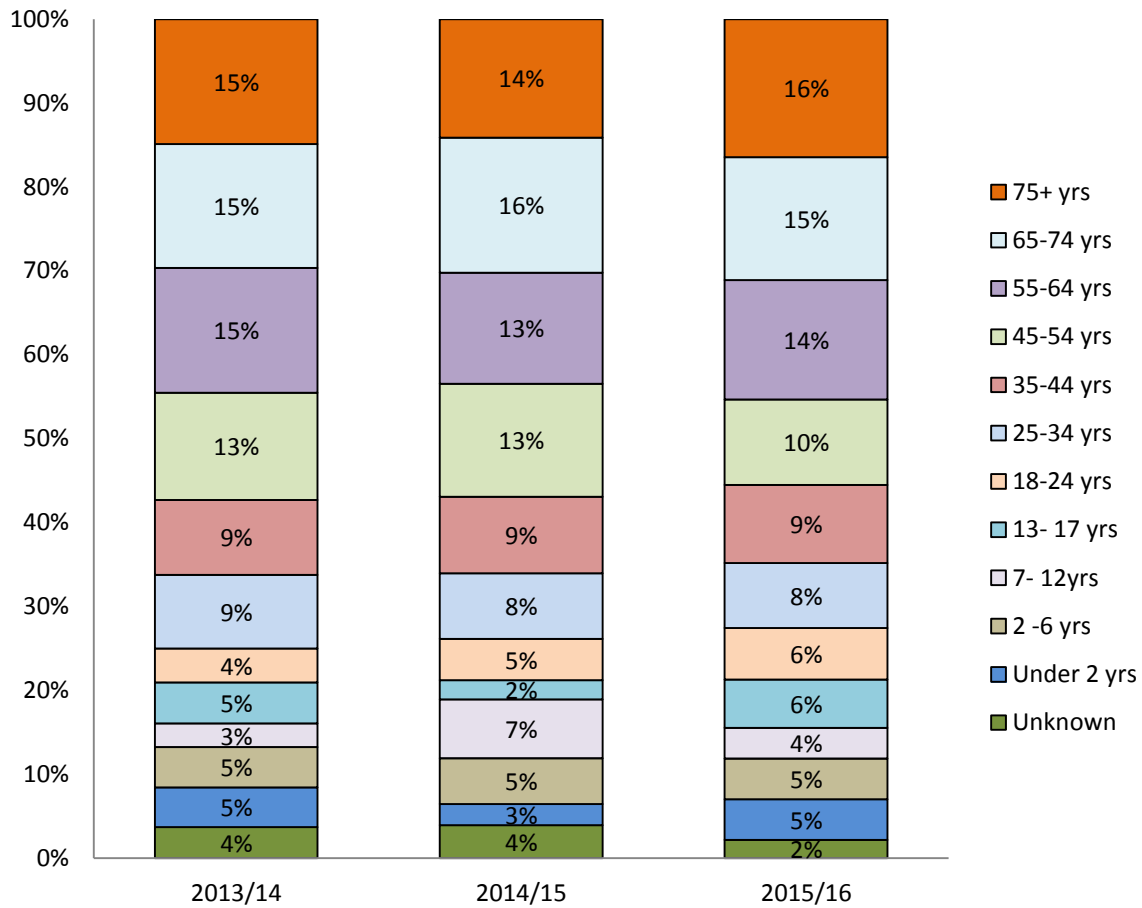


Table 6 and Figure 6 show that while overall reporting has increased, there have been no major changes in any of the age bands with respect to the number of reports received. Table 7 shows a further break down of age banding for paediatric reports.

The number of reports has decreased by 27%, for children aged 2-11 years, compared to the previous year, whereas adolescent reporting has more than doubled. This reflects the reduction in reports for intranasal Fluenz (affecting children), and the increase in reports for MenACWY in the adolescent group (both Menveo which is not BT and Nimenrix with is BT).

### 3f Top 10 Suspected Medicines

Table 8 - Scottish top ten suspected medicines reported 2014/15– 2015/16  
(including vaccines)

Rank	2014/15		2015/16	
	Drug Name	Reports	Drug Name	Reports
1	Influenza vaccines	128	Meningococcal vaccines	89
2	Varenicline	54	Influenza vaccines	73
3	Rivaroxaban	38	Rivaroxaban	60
4	Warfarin	20	Varenicline	55
5	Mirabegron/	19	Apixaban	39
6	Varicella-zoster vaccines		Fluorides	34
7	Ticagrelor	18	Diphtheria containing vaccines	31
8	Diphtheria containing vaccines	17	Measles Mumps and Rubella (MMR) vaccines	27
9	Pneumococcal vaccines	15	Pneumococcal vaccines	26
10	Dapagliflozin/ Measles Mumps and rubella (MMR) vaccines/ Rotavirus vaccines/ Apixaban	13	Warfarin	23

Table 9 – Scottish top ten suspected medicines reported 2015/16 (excluding vaccines)

2015/16	
Drug Name	Reports
Rivaroxaban	60
Varenicline	55
Apixaban	39
Fluorides	34
Warfarin	23
Sertraline	17
Omeprazole	16
Adalimumab	16
Dapagliflozin	15
Mirabegron	15
Naproxen	13
Trimethoprim	13
Amlodipine	13
Iohexol	12

Table 9 provides a further breakdown of the most commonly reported suspect medicines, excluding vaccines.

Although no longer in the overall top 10, mirabegron and dapagliflozin were still amongst the most frequently reported, similar to the previous year (both are BT status), and continue to feature in the top 10 BT drugs (see table 12).

Table 10 - Top ten suspected medicines reported in Scotland compared to UK (2015/16)

Rank	Drug Name (Scotland)	Drug Name (UK)
1	Meningococcal vaccines	Rivaroxaban
2	Influenza vaccines	Phenoxymethylpenicillin
3	Rivaroxaban	Neisseria Meningitidis
4	Varenicline	Influenza Virus
5	Apixaban	Apixaban
6	Fluorides	Live Influenza Virus
7	Diphtheria containing vaccines	Meningococcal A,C,W135,Y Vaccine
8	Measles Mumps and Rubella (MMR) vaccines	Varenicline
9	Pneumococcal vaccines	Trimethoprim
10	Warfarin	Atorvastatin

Table 11 - Top Five Medicines reported in Paediatric Reports 2014/15- 2015/16 (Scotland)

Ranking	2014/15	2015/16
1	Influenza vaccines	Meningococcal vaccines
2	Diphtheria containing vaccines	Influenza vaccines **
3	HPV vaccines	Fluorides
4	Fluorides/ Rotavirus vaccine	Diphtheria containing vaccines ++
5		Measles Mumps & Rubella (MMR) vaccines

Table 12 - Top ten Black Triangle Medicines 2014/15- 2015/16 (Scotland)

2014/15		2015/16	
Generic Drug Name	Reports	Generic Drug Name	Reports
Influenza vaccines (intranasal)	99	Rivaroxaban	60
Varenicline	54	Meningococcal vaccines	58
Rivaroxaban	38	Varenicline	55
Mirabegron	19	Influenza vaccines (intranasal)	48
Dapagliflozin	13	Apixaban	23
Apixaban	13	Dapagliflozin	15
Aclidinium Bromide	10	Mirabegron	10
Denosumab	7	Infliximab	7
Sofosbuvir	6	Iron Isomaltoside 1000	7
Ferric carboxymaltose	5	Ledipasvir/Sofosbuvir	7

Of note from the top 10 reported medicines:

**Meningococcal vaccines** were the most frequently reported medicine, a significant change from the previous year.



However this is not surprising given the change in immunisation schedules, with the introduction of the MenB vaccine to the routine childhood immunisation programme in September 2015, and changes to the recommendations for MenACWY (to replace MenC for adolescents and include catch up immunisation of <25 years). Bexsero (MenB) and Nimenrix (MenACWY) are both BT status, and together account for 65% of meningococcal vaccines. These were also the second top reported BT medicines. An additional 28% of meningococcal vaccine reports were for Menveo (MenACWY) which may also be used for the adolescent immunisation programme (this is non BT status). This is similar to the UK overall, which listed meningitis vaccines and MenACWY separately in 3<sup>rd</sup> and 7<sup>th</sup> place respectively.

**Anticoagulants;** rivaroxaban was the 3<sup>rd</sup> most reported medicine, with apixaban was the 5<sup>th</sup> most reported (joint with fluorides), while warfarin was in 10<sup>th</sup> place. This is a change from the previous year where apixaban was 10<sup>th</sup> and warfarin 4<sup>th</sup>. This is not surprising given the increase in use of direct oral anticoagulants (DOACs), resulting in a decline in the use of warfarin. Rivaroxaban is still BT status, and was the top reported BT medicines, while apixaban was removed from the BT list in January.

For apixaban, 56% of the reports were classed as serious; 11 were associated with bleeding. For rivaroxaban, 72% of the reports were classed as serious; 23 were associated with bleeding. For warfarin, all but 1 report was classed as serious, with bleeding the most frequent reaction.

**Influenza vaccines** have fallen from the most frequently reported medicines, to second place, with a 43% reduction in the total number of reports compared to 2014/15. The majority (66%) of these, as in previous year, were due to the Fluenz intranasal vaccine. This is the third season of use; therefore greater familiarity with the product is to be expected.

Diphtheria, measles mumps and rubella (MMR) and pneumococcal vaccines were also in the top 10 suspected medicines reported, all of which also featured in the top 10 in the previous year.

**Varenicline** was the second most frequently reported medicine excluding vaccines, although has fallen in overall ranking to fourth. The number of reports was similar to last year, with 77% of reports being from nurses. It still had BT status, so this is as expected.

**Fluorides (Durophat)** were the (joint) 5<sup>th</sup> most frequently reported medicine overall, and were the 3<sup>rd</sup> most frequently reported paediatric medicine. This has increased since 2014/15 when fluorides were not in the overall top 10, although they were the 5<sup>th</sup> most frequently reported medicine for paediatrics. Fluorides were not listed in the top 10 UK medicines. The majority of these reports for fluorides were from Forth Valley (53%) and Lothian (35%). They were non-serious, with the exception of 1 report. Of the 12 reports submitted by dental nurses, 11 were from Forth Valley, which represents 32% of the total reports for fluorides.

**Herbal reports** remained the same as the previous year; 2 serious reports were made by hospital pharmacists; 2 serious reports by patients and 1 non-serious from a GP.

In comparison to the UK, the main difference to note is that phenoxymethylpenicillin was the second most frequently reported medicine in the UK, whereas in Scotland there was only one report in 2015/16.

### **3g Sources of Reports** *Table 13 - Reports received by reporter origin (Scotland)*

[Type text]

Reporter	2013/14		2014/15		2015/16	
	Number	% of total	Number	% of total	Number	% of total
Carer	6	0.5%	8	0.6%	7	0.5%
Parent	43	3.6%	66	5.3%	87	6%
Patient	122	10.4%	211	16.9%	277	19.1%
Community Pharmacist	54	4.6%	63	5.1%	62	4.3%
Hospital Pharmacist	119	10.1%	123	9.9%	188	13%
Pharmacist	4	0.3%	10	0/8%	17	1.2%
Pharmacy Assistant	-	-	-	-	6	0.4%
Pre-reg pharmacist	20	1.7%	17	1.4%	17	1.2%
Hospital Nurse	81	6.9%	66	5.3%	116	8%
Nurse	106	9.9%	119	9.6%	147	10.2%
GP	231	19.7%	200	16.1%	170	11.7%
Hospital Doctor	253	21.6%	265	21.3%	237	16.4%
Physician	5	0.4%	5	0.4%	6	0.4%
Coroner	-	-	-	-	-	-
Dentist	13	1.1%	7	0.6%	22	1.5%
Midwife	3	0.3%	1	0.1%	2	0.1%
Optometrist	1	0.09%	2	0.2%	3	0.2%
Chiropodist	1	0.09%	-	-	1	0.1%
Radiographer	4	0.3%	9	0.7%	26	1.8%
Hospital Healthcare Professional	31	2.6%	33	2.7%	21	1.5%
Healthcare Assistant	2	0.2%	-	-	1	0.1%
Other Healthcare Professional	71	6%	37	3.0%	33	2.3%
Medical Student	3	0.3%	-	-	1	0.1%
Unknown	-	-	-	-	-	-
<b>Total</b>	<b>1173</b>		<b>1242</b>		<b>1447</b>	

### 3h Types of reports (Scotland)

Table 14 Report submission routes

Report Type	Number 2015/16	% of total reports
App	3	0.2%
Electronic YC	1160	80%
MiDB	45	3%
Paper	239	16.8%

Table 14 shows that 83% of reports in Scotland were electronically received, and this is expected to increase following the launch of the app in July 2015. This has been slow to take off, however YCCS have promoted the app at the road shows, teaching sessions and conferences. In addition, a promotional leaflet was produced in April 2016, providing Scottish links to the app. The app has also been promoted to junior doctors and is included on their list of suggested apps to download. It was also added to the Knowledge Networks suggested apps where it featured on the homepage; a link has been added to the GP portal.

#### 4. Discussion of Yellow Card Data

A total of 1447 Yellow Card reports were submitted from Scotland in 2015/16, an overall increase of 17% compared to 2014/15. This is slightly lower than the overall UK increase of 21%, but a marked improvement on the previous year and very positive considering that Scotland does not yet have the IT systems in place to enable direct reporting by GPs through embedded YCs in GP systems.

Healthcare Professionals accounted for 74% of the total reports; while patient groups accounted for 26% of the total reports. This reflects a further increase in the proportion of reports submitted by patient groups in the previous year; remaining the highest reporting group. This is reassuring given that a number of YCCS initiatives targeted this group in 2015/16.

GP reporting continues to decline with a further 15% decrease from the previous year, and for the fourth year running, hospital doctors have greatly exceeded GP reports. This is despite wider promotion of the e-learning ADR modules and ADR reporting generally to GPs. Embedding electronic YC reporting into GP systems is expected to reverse this trend, as has been demonstrated in England (with SystmOne). YCCS continue to be proactive in facilitation of integration of YC reporting into GP (Vision and EMIS) and hospital systems (HEPMA), but unfortunately Scotland has seen delays to both of these initiatives. With the continued downward trend, which is contrast to GP reporting in the rest of the UK, this will remain a priority in 2016/17.

Hospital pharmacist reporting also increased substantially by 53%, compared to the previous year. This coincides with an increase in electronic YC reporting by hospital pharmacists via MiDatabank (medicines information network software), providing further evidence of the effects of embedding electronic YC reporting into clinical systems. Community pharmacist reporting remains static, following an encouraging 17% rise in the previous year, and despite proactive promotion to this group via the road shows.

In November 2015 all community pharmacists in Scotland were offered a one-off fee in addition to the establishment payment if they supported YC reporting and completed the six interactive e-learning modules on ADRs developed by NES and the YCCS by 31<sup>st</sup> March

2016. It is hoped this incentive will result in an increase in the quality and quantity of YC reporting by community pharmacists in 2016/17.

There was no overall change in the proportion of serious, fatal or black triangle YC reports over the previous year. There was no major change in any of the age bands with respect to the number of reports received; however a further breakdown of the paediatric reports showed decline in paediatric reporting for children aged 2-11 years, and an increase in adolescent reporting compared to 2014/15. This likely reflects changes to the immunisation programmes.

Meningococcal vaccines were the most frequently reported suspected medicines, a significant change from the previous year. However this is not surprising given the change in immunisation schedules, with the introduction of the MenB vaccine to the routine childhood immunisation programme in September 2015, and changes to the recommendations for MenACWY (to include catch up immunisation of <25 years).

Bexsero (MenB) and Nimenrix (MenACWY) are both BT status, and together account for 65% of meningococcal vaccines. These were also the second top reported BT medicines. This is similar to the UK overall, which listed meningitis vaccines and MenACWY separately in 3<sup>rd</sup> and 7<sup>th</sup> place respectively.

Anticoagulants, vaccines and varenicline remained in the top 10 most frequently reported suspect medicines, with a decline in influenza vaccine and warfarin reports, countered by an increase in reports for the DOACs (rivaroxaban and apixaban). Differing from the UK, in Scotland fluorides were the (joint) 5<sup>th</sup> most frequently reported medicine overall, and were the 3<sup>rd</sup> most frequently reported paediatric medicine. It is noted that a third of these reports were submitted by dental nurses from a single health board. In comparison to the UK, the main difference to note is that phenoxymethylpenicillin was the second most frequently reported medicine in the UK, whereas in Scotland there was only one report in 2015/16.

## 5. Promotional activities

### 5a Training delivered to healthcare professionals and their respective groups

#### ADR e-learning modules

*Table 15- Online ADR modules data*

Module activity 01/04/2015- 31/03/2016	
NES Portal MCQ completed	991
NES Portal unique users	3762
NES ADR Reporting pages- unique users	9275
Learnpro (all 6 modules completed)	207
Learnpro Module 1 (completions)	806
Learnpro Module 2 (completions)	551
Learnpro Module 3 (completions)	414
Learnpro Module 4 (completions)	373
Learnpro Module 5 (completions)	347
Learnpro Module 6 (completions)	328

Table 15 shows the activity for 2015/16, which is very positive. The 6 ADR e-learning modules were officially launched in June 2014, and were updated in June 2015. YCCS continued to promote the use of these e-learning modules to healthcare professionals during

[Type text]

2015/16; and collaborated with the Scottish Government (SG) to incentivise community pharmacists and technicians to complete these. In November 2015 all community pharmacists were offered a one-off fee in addition to the establishment payment if they supported YC reporting conditional in completion of the six interactive e-learning modules by 31<sup>st</sup> March 2016. The ADR e-learning modules were also promoted via The Knowledge Network in November 2015, a widely used online information resource in NHS Scotland.

*Table 16- Training delivered to healthcare professionals and their respective groups*

<b>Audience</b>	<b>Session</b>	<b>Duration (hours)</b>	<b>No of sessions</b>	<b>Total attendees</b>	<b>Total hours Training</b>
Postgraduate (MSc Internal Medicine)	Lecture- Adverse Drug Reactions	2	1	60	2
Postgraduate (Medicine)	Lecture- Adverse Drug Reactions	0.5	1	50	0.5
Non Medical Prescribers (Dundee)	Lecture- Adverse Drug Reactions	2 1.5	1 1	28 29	2 1.5
Non Medical Prescribers (Napier)	Blended Learning- ADRs & YC Reporting	1.5	2	80	3
Non Medical Prescribers (NMP Conference)	Presentation- Pharmacovigilance update	0.5	1	150	0.5
Toxicology Training day (Nursing)	ADRs & YC Reporting	0.5	1	50	0.5
Healthcare professionals (International Forum on Quality and Safety in Healthcare). Gothenburg, Sweden).	Lecture (invited) - 'Improving the quality of prescribing and reducing prescribing errors in modern healthcare'.	0.5	1	200	1
Healthcare professionals (Scottish Prescribers in Epilepsy Network Conference, Stirling)	Lecture (invited)- Yellow Card and ADR reporting	0.5	1	80	0.5
Healthcare professionals (Glasgow, Edinburgh and Aberdeen)	YCCS Road shows- workshops, lectures*.	2	3	100	6*
Nurses (Epilepsy Specialist Nurse Association Conference, Edinburgh)	Lecture (invited) - Yellow Card and ADR reporting	0.5	1	50	0.5
<b>Total</b>			<b>14</b>	<b>877</b>	<b>18</b>

\*Included guest speakers from the MHRA, Scottish Government and Health Improvement Scotland.

2015/16 was a busy year for YCCS; in addition to the regular postgraduate and non-medical prescriber lectures, YCCS organised three roadshow events across Scotland in November, to raise awareness of YC reporting amongst healthcare professionals. Guest speakers were invited from the MHRA, Scottish Government and Health Improvement Scotland. Feedback

[Type text]

was invited from HCP's on the scheme, which has led to a number of improvement initiatives in collaboration with the MHRA (see appendix 2: *You said- we did*).

Promotion of YC at an Epilepsy Connections study day to patient groups, led to new HCP contacts, with YCCS being invited to present at the Scottish Prescribers in Epilepsy Network Conference, with 80 HCP delegates. Following the success of both of these events, YCCS proactively followed up links with other Epilepsy HCP groups which led to a further lecture being delivered to nurses at the Epilepsy Specialist Nurse Association Conference.

## 5b Training delivered to patients and their respective groups

*Table 17 Patient Group Engagement*

<b>Audience</b>	<b>Session</b>	<b>No of attendees</b>
Genetic Alliance UK Information Day	Presentation	30
Epilepsy Action /Epilepsy Connections Study Day	Presentation	50
South and East of Scotland Parkinson's Excellence Meeting	Presentation	30
General public, Cheltenham Science Festival Symposium 'Are we over-medicated?'	Lecture (invited)	100
Email contact: <ul style="list-style-type: none"><li>• Tayside Multiple Sclerosis Therapy Group</li><li>• Tayside Patient Public Forum</li><li>• Motor Neurone Disease Scotland</li><li>• NHS Lothian Dementia Nurse Specialist</li><li>• Patient Involvement Officer for South East Scotland Cancer Network</li><li>• NHS Lothian Diabetes Service</li><li>• Vocal Carers Group (Lothian wide)</li></ul>		

YCCS were proactive in engaging with new patient groups throughout 2015/16, established new contacts, and delivered four new presentations/ lectures. Through established contacts, invitations have been received for further presentations in 2016/17.

### 5c Training delivered to undergraduates

Table 18 Training delivered to Undergraduates

Audience	Session	Duration (hours)	No of sessions	Total attendees	Total hours
Undergraduates (Medical-Edinburgh)	Lecture- Adverse Drug Reactions	1	3	750	3
Undergraduate (Pharmacy-Strathclyde)	Pharmacovigilance Lecture	1	1	160	1
Undergraduate (Pharmacy-Strathclyde )	Workshop Pharmacovigilance	1.5	2	95	3
Undergraduate (Biomedical Sciences)	Lecture- Adverse Drug Reactions and YC Reporting	1.5	1	30	1.5
Undergraduate (Pharmacy- RGU)	Lecture- Pharmacovigilance	1	1	120	1
Undergraduate (Podiatry- QMU)	Blended Learning- ADRs & YC Reporting	1.5	1	40	1.5
<b>Total</b>		<b>7.5</b>	<b>9</b>	<b>1195</b>	<b>11</b>

Figure 10 - Engagement with patient groups, healthcare professionals (HCPs) and undergraduates against agreed 1.2 and 2.2 objectives (Annex 1)

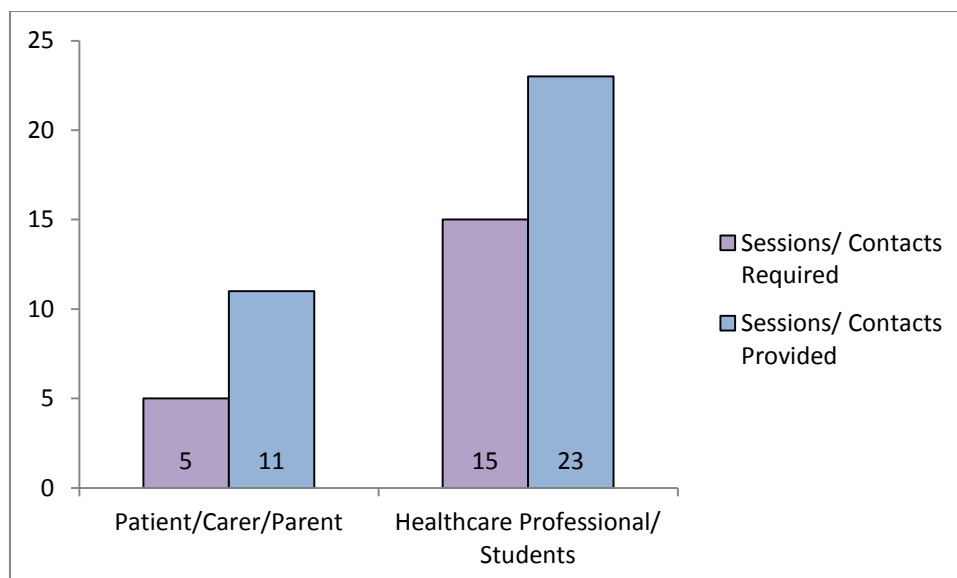
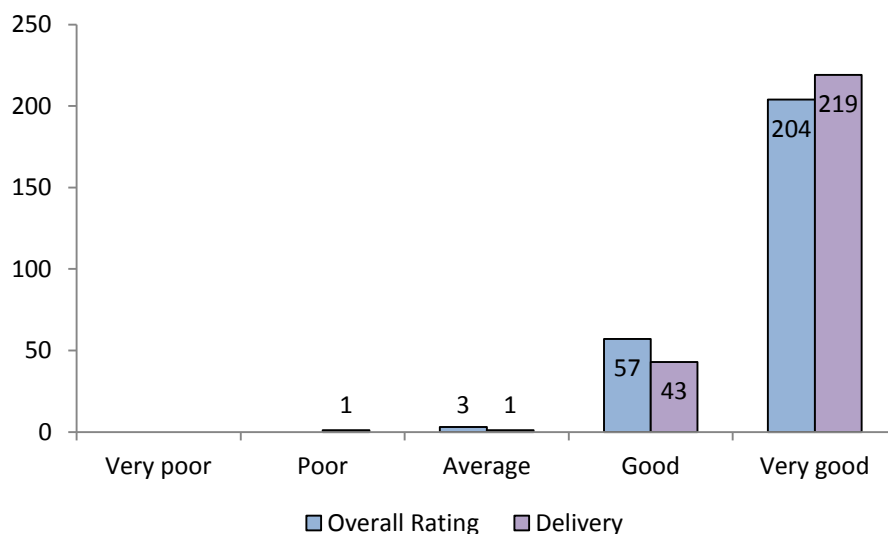


Figure 10 demonstrated achievement against the objectives set by the MHRA for YCCS for engagement with patient groups, students and healthcare professionals. Both targets were exceeded in 2015/16, with delivery of 23 lectures/ workshops to HCPs/ students and 11 presentations/ contacts with patient groups.

Figure 7 – Overall rating and the delivery of the ADR education sessions



The standard evaluation form was used for the face-to-face and blended learning teaching sessions (included Biomedical Science students, Independent and Supplementary prescribers and Pharmacy students). In total, 260 questionnaires were completed, and figure 7 shows a high level of satisfaction with the programme delivered, and that YCCS continue to meet the needs of the students.

#### 5d Materials developed for YCS promotion

A number of new materials were developed in 2015/16 primarily for the YCC Scotland Roadshows- *Yellow Card: 50 Years and Counting. What next in its evolution?* These have proven very popular amongst both HCP and patient groups, and this has led to further printing for promotion at various conferences (with the YCCS conference stand).

- In conjunction with the MHRA A3 &A4 posters were developed promoting the YC app.
- An A5 flyer promoting the app was also developed, with the reverse of the flyer having information and screen shots of the app software.
- Reporting guidance crib sheets for healthcare professionals were printed for use at events and in training. It is anticipated that the laminated version can be used in treatment areas as an aide-memoir for staff use in clinical areas.
- Reporting guidance crib sheet for patients were developed and widely distributed at patient events.
- For the roadshow events carrier bags, pens, card memo tab holder and key rings with the YCC Scotland logo/ contact details were designed and purchased.



## Conference stand activity

Audience	Session	Total attendees
Non-Medical Prescribers	Non-Medical Prescribers' Conference, Queen Margaret University, 27/05/15	150
Patients/ Healthcare professionals	Epilepsy Action/ Epilepsy Connections Study Day, Glasgow 3/10/15	60
Healthcare professionals	Epilepsy Specialist Nurse Association Conference, Edinburgh 19/11/15	50
Healthcare professionals	Scottish Patient Safety Programme Medicines National Learning Event – Glasgow, 24/02/16	250

## 6. Publications

- **Maxwell, S.** Cameron, I. T. Webb, D. J. Prescribing Safety Assessment. *Lancet*. 2015; 385:579-581.
- Aldeyab M, **Noble, S. C, Cuthbert, M, Maxwell, S** and Boyter, A. Assessment of the impact of the Scottish public health campaign on patient reporting of adverse drug reactions. *Drugs & Therapy Perspectives*, 2016, Vol 32 (5); pp 209-218
- Thomas, S. H. L., Bateman, D. N., & **Dear, J. W.** (2016). Guidance on acetylcysteine for paracetamol ingestion needs review. *BMJ*, i3455. 10.1136/bmj.i3455
- Cairney, D. G., Beckwith, H. K. S., Al-Hourani, K., Eddleston, M., Bateman, D. N., & **Dear, J.** (2016). Plasma paracetamol concentration at hospital presentation has a dose-dependent relationship with liver injury despite prompt treatment with intravenous acetylcysteine. *Clinical Toxicology*, 54(5). 10.3109/15563650.2016.1159309
- Morrison, E. E., Bailey, M. A., & **Dear, J. W.** (2016). Renal extracellular vesicles: from physiology to clinical application. *Journal of Physiology*. 10.1113/JP272182
- Oosthuyzen, W., Scullion, K. M., Ivy, J., Morrison, E., Hunter, R. W., Starkey Lewis, P. J., **Dear, J.** (2016). Vasopressin regulates extracellular vesicle uptake by kidney collecting duct cells. *Journal of the American Society of Nephrology*. 10.1681/ASN.2015050568
- Ivy, J., Oosthuyzen, W., Peltz, T. S., Howarth, A. R., Hunter, R. W., **Dear, J. W.**, , Dhaun, N, . Bailey, M. A. (2016). Glucocorticoids Induce Nondipping Blood Pressure by Activating the Thiazide-Sensitive Cotransporter. *Hypertension*. 10.1161/HYPERTENSIONAHA.115.06977
- Antoine, D. J., & **Dear, J. W.** (2016). How to treat paracetamol overdose and when to do it. *Expert Review of Clinical Pharmacology*, 1-3. 10.1586/17512433.2016.1154786
- **Dear, J. W.**, & Bateman, D. N. (2016). Antidepressants. *Medicine*, 44(3), 135-137.
- **Dear, J. W.**, & Bateman, D. N. (2016). Antipsychotic drugs. *Medicine*, 44(3), 143-
- **Dear, J. W.**, & Bateman, D. N. (2016). Benzodiazepines. *Medicine*, 44(3), 145.
- **Dear, J. W.**, & Bateman, D. N. (2016). Iron. *Medicine*, 44(3), 173-174.
- Clarke, J. I., **Dear, J. W.**, & Antoine, D. J. (2016). Recent advances in biomarkers and therapeutic interventions for hepatic drug safety - false dawn or new horizon?. *Expert opinion on drug safety*. 10.1517/14740338.2016.1160057
- Bateman, D. N., **Dear, J. W.**, & Thomas, S. H. (2016). New regimens for intravenous acetylcysteine, where are we now? *Clinical Toxicology*, 54(2), 75-8. 10.3109/15563650.2015.1121545

- McCrae, J. C., Sharkey, N., Webb, D. J., Vliegenthart, A. D. B., & **Dear, J. W.** (2016). Ethanol consumption produces a small increase in circulating miR-122 in healthy individuals. *Clinical Toxicology*, 54(1), 53-5. 10.3109/15563650.2015.1112015
- Stutchfield, B., Antoine, D. J., MacKinnon, A., Gow, D., Bain, M., Hawley, C. A. . Forbes, S., **Dear, J. W.** (2015). CSF1 Restores Innate Immunity Following Liver Injury in Mice and Serum Levels Indicate Outcomes of Patients With Acute Liver Failure. *Gastroenterology*, 149(7), 1896-1909 . 10.1053/j.gastro.2015.08.053
- Vliegenthart, A. D. B., Shaffer, J. M., Clarke, J. I., Peeters, L. E. J., Caporali, A., Bateman, D. N, . **Dear, J. W.** (2015). Comprehensive microRNA profiling in acetaminophen toxicity identifies novel circulating biomarkers for human liver and kidney injury. *Scientific Reports*, 5, 15501. 10.1038/srep15501
- Park, B. K., **Dear, J. W.**, & Antoine, D. J. (2015). Paracetamol (acetaminophen) poisoning. *Clinical evidence*, 2015.
- Narayan, H., Thomas, S. H., Eddleston, M., **Dear, J. W.**, Sandilands, E., & Nicholas Bateman, D. (2015). Disproportionate effect on child admissions of the change in Medicines and Healthcare Products Regulatory Agency guidance for management of paracetamol poisoning: an analysis of hospital admissions for paracetamol overdose in England and Scotland. *British Journal of Clinical Pharmacology*. 10.1111/bcp.12779
- Vliegenthart, A. D. B., Antoine, D. J., & **Dear, J. W.** (2015). Target biomarker profile for the clinical management of paracetamol overdose. *British Journal of Clinical Pharmacology*, 80(3), 351-62. 10.1111/bcp.12699
- Antoine, D. J., Sabbisetti, V. S., Francis, B., Jorgensen, A. L., Craig, D. G. N., Simpson, K. J., ... **Dear, J. W.** (2015). Circulating Kidney Injury Molecule 1 Predicts Prognosis and Poor Outcome in Patients With Acetaminophen-Induced Liver Injury. *Hepatology*, 62(2), 591-9. 10.1002/hep.27857
- **Dear, J. W.**, Antoine, D. J., & Park, B. K. (2015). Where are we now with paracetamol?. *British Medical Journal*, 351, h3705.
- Bateman, D. N., & **Dear, J. W.** (2015). Limitations of AST/ALT ratio in paracetamol poisoning. *Clinical Toxicology*, 53(6), 580. 10.3109/15563650.2015.1027904
- Liga, A., Vliegenthart, A. D. B., Oosthuyzen, W., Dear, J. W., & Kersaudy-Kerhoas, M. (2015). Exosome isolation: a microfluidic road-map. *Lab on a Chip*, 15(11), 2388-94. 10.1039/c5lc00240k
- **Watson, D. Noble, S & Cuthbert, M** “Yellow Card Centre Scotland – keep App” in *Lothian Prescribing Bulletin* 75, September 2015.
- **Watson, D. Noble, S & Cuthbert, M** “Yellow Card Centre Scotland – improving patient safety” in *Lothian Prescribing Bulletin* 76 November 2015.
- **Watson, D. Noble, S** “Side effect to a medicine – we’ve an app for that” in *Inside the RIE* March 2016.

## 7. YCC Website

### 7a Website updates

- Maintained Drug Safety Update on Intranet pages.
- App links uploaded and featured on the home and reporting pages.
- Updated the news section on a regular basis.
- Maintained the site and updated relevant links and pages e.g. Advisory group.
- Added links to the posters and flyers that had been recently developed.

[Type text]

- Added relevant documents e.g. YCCS annual report and Crib sheets for HCP and general public.
- Used the site to host materials and information on the series of roadshows that took place in November 2015 including uploading audio-visual recordings of the presentations.
- Updated links on serious reactions following feedback from November road shows.
- Added links to organisations that we have been in contact with over the last year including NHS 24 and Scottish Patient Safety Programme.

## 7b Website hits

Table 19- Comparison of website hits 2014/15- 2015/16

	2014/15	2015/16	% increase
Total number of Unique Visitors	58	209	260%
Total number of Page Views	228	2,498	996%

It is very encouraging to see a huge increase in website hits in 2015/16, following the promotional activity this year. It is hoped this upward trend will continue.

## 8. Research and ongoing initiatives

Under the supervision and mentorship of Sheila Noble, Dr Mamoon Al Deyabs research *Assessment of the impact of the Scottish public health campaign on patient reporting of adverse drug reactions* was completed and published.

YCCS have continued to work with the Scottish Government, Health Improvement Scotland (HIS) and Health Facilities Scotland Incident Reporting and Investigation centre (IRIC) in 2015/16 over the development of an integrated platform to support pharmacovigilance in Scotland. As part of this work, YCCS continue to be engaged with the National Safety Alerts Oversight Group and the National Safer Use of Medicines group.

A number of new initiatives are planned for 2016/17, including investigating the feasibility of establishing YCC Champions in Scotland, similar to initiatives in Wales and West Midlands.

Following on from the success of the YCCS Road shows, YCCS have been working in collaboration with the Royal Pharmaceutical Society (Scotland branch) and Health Improvement Scotland to develop Medicine and Pharmacy 'Quality Road shows' to raise awareness of the Rebalancing of Pharmacy Legislation and support the changes in pharmacy practice required. The programme content will be developed for delivery in the autumn of 2016, and will include ADR reporting.

## **9. Conclusion**

Yellow Card reporting in Scotland has increased by 17%, from 1242 in 2014/15 to 1447 in 2015/16. This is notably much higher than the 6% increase in the previous year, and a very encouraging continuation of the positive upward trend over the last 3 years. Of particular note, patient groups accounted for 26% of the total reports. This reflects a further increase in the proportion of reports submitted by patient groups (compared to 23% in the previous year); remaining the highest reporting group.

YCCS activities that are likely to have contributed to the success this year are as follows:

- YCCS continues to provide evaluated and updated training and education to undergraduates and postgraduate healthcare professionals highlighting the importance of the scheme.
- YCCS have established new links with patient groups, resulting in invitations to present at key events hosted for specialist groups.
- The YCCS stand has proven popular at various conferences/ events attended, resulting in the wider distribution of promotional materials to large numbers of delegates and raising the profile of YCCS.
- A number of improvements have been made to the YCCS website, providing more links to our new promotional material and lectures, resulting in a 260% increase in unique visitors to the site in 2015/16.
- The 6 ADR e-learning modules were updated in June 2015, and YCCS continued to promote the use of these. In November 2015 all community pharmacists were offered a one-off fee in addition to the establishment payment if they supported YC reporting conditional on completion of the six interactive e-learning modules by 31<sup>st</sup> March 2016. The ADR e-learning modules were also promoted (to all HCPs) via The Knowledge Network in November 2015, a widely used online information resource in NHS Scotland.
- YCCS organised three roadshow events (with guest speakers from the MHRA, Scottish Government and Health Improvement Scotland) across Scotland in November, to raise awareness of YC reporting amongst healthcare professionals, and seek suggestions for improvement of the scheme.
- A Community Pharmacy Public Health Campaign was launched in April/ May 2015, to promote patient reporting. The poster was displayed in all community pharmacies in Scotland, with a link to the YCCS website, encouraging patients to report any suspected side effects to their medicines.

## **11. Appendix 1 “You said- We did”**

## YCC Scotland- Feedback from the 2015/16 road show events

### YOU SAID- WE DID

The Yellow Card needs more patient involvement and should be an integral part of patient care.

We are working with patient information services e.g. [NHS Inform](#) & exploring the potential to link the YC with patient care resources e.g. Polypharmacy app.

- YCCS are attending and presenting at [HCP/ patient & carer events](#).
- We are seeking a patient representative for our Advisory Group.

Yellow Card needs embedded in IT systems.

- The electronic Yellow Card is to be embedded in VISION this year.
- At a strategic level we continue to promote integration with other IT systems.

More promotion of the Yellow Card is needed especially of the App.

- We developed [posters and flyers](#) promoting the app and are working with ADTCs to promote the app and YC reporting.
- YC app link has been added to other websites e.g. [The Knowledge Network](#).
- We are linking with professional bodies to promote YC reporting and the YC app.
- YCCS has had a stand or presented at numerous HCP and patient events.

Health/social care staff (including community pharmacists & care home staff) need encouraged to report.

- YCCS link has been added to [NES Knowledge Support for GPs portal](#).
- YCCS are developing tools so that HCPs can link YC reporting to eKSF.
- The [HCP crib sheet](#) has been widely disseminated, including to over 100 care homes in NE Scotland.

Reporters are unsure about what is required in a report and what qualifies as a serious reaction.

- YC crib sheet to help health & social care staff on reporting has been added to the [NES website](#).
- We updated guidance on serious reactions on the [YCCS website](#).
- We liaised with Healthcare Improvement Scotland on their new [patient medication leaflet](#) which includes patient reporting.

What advice should professionals give patients about reporting?

- MHRA have been contacted re updates to their Patient Information card.
- We've updated the [YCCS Crib Sheet for the public](#).

Having the CHI number included in YC reports would be helpful.

YCCS is working with the Farr Institute to make a case to the MHRA for recording CHI in the YC reports.

Breaking down health board data further would be good.

We're adapting the local reports to provide more relevant data.

A 1 page summary of the Health Board reports would be good.

A 1-page infographic is going to be provided with health board reports.

Drug Safety Update is useful.

YCCS are working with our partner organisations to make sure it is widely disseminated and HCPs are encouraged to sign up.

Student training on ADR reporting should be for UG/ PG (for all professions, and throughout their training).

A questionnaire is being sent to the main Scottish healthcare educational establishment to assess the extent of current pharmacovigilance teaching and identify resources needed for further development.