

EUROPEAN ANTIBIOTICS
AWARENESS DAY 2011
EVALUATION

Report by

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EXECUTIVE SUMMARY

European Antibiotic Awareness Day (EAAD) takes place on 18th November each year, when Europe-wide activities are undertaken to emphasize the critical importance of prudent antibiotic prescribing. The main aims and objectives of the 2011 activities were to educate and inform patients and healthcare professionals about the appropriate use of antibiotics and the importance of preventing resistance, and to motivate healthcare professionals to prescribe antibiotics more appropriately with a particular focus on the optimal management of infections in secondary care.

A programme of activities took place from September 2011 till November 2011 (see **Annex 1**). Two new initiatives were launched; the new antimicrobial stewardship guidance, “Start Smart – Then Focus” to promote best practice on prescribing antibiotics in hospitals, and screening of animated antibiotic videos (Life Channel) in 1951 GP surgeries across England.

National data for 2011 from NHS Business Authority showed that the prescribing of quinolones had decreased by 8% and cephalosporins by 25% from the previous year. Regional PCT data indicated a reduction in prescribing rates of cephalosporins and quinolones when comparing certain PCT areas where Life Channel videos were screened to areas where they were not screened.

EAAD made its way into 13 articles in professional journals and magazines and received good media coverage compared to previous years, appearing as the ‘headline’ news item across the BBC network (radio, TV and online) on the morning of EAAD. It was the leading health story on the BBC website and the second leading story on the main BBC News website for part of the day. Twitter activity was enhanced following its launch in 2010 and the NHS Choices website conveyed a 13% increase in page views compared to the previous year.

A survey to the ARHAI antimicrobial pharmacist network and professional bodies/organisations in December, following EAAD activities, found that more than 90% of hospitals and PCT’s had promoted EAAD locally within their organisations. Many modes of promotion were used with the most popular being the use of DH materials for displays (78%) and publication of articles in organisation newsletters or websites (65%).

The main features which seem to have led to the success of EAAD 2011 were, strong political and stakeholder co-operation and support from professional societies and NHS trusts for the initiative, commitment to promote its strong public media exposure, and good use of centrally produced national materials aimed at professionals and the public.

Plans for EAAD 2012 will aim to build on the most successful aspects of 2011 and extend its reach and focus to GP’s.

1 INTRODUCTION

1.1 ANTIBIOTIC RESISTANCE

Antibiotic resistance is a global public health issue driven by the over-use of antibiotics and inappropriate prescribing, making available antibiotics less effective and contributing to infections which are hard to treat. The number of infections due to antibiotic-resistant bacteria is growing, and the pipeline for new antibiotics is limited.

Antibiotic resistance is of particular threat to children, older people and those with weakened immune systems, such as cancer patients. Effective antibiotics have revolutionised many treatments such as for cancer, allowing more aggressive therapy to be used and consequently leading to higher survival rates. Nevertheless, an increase in infections that cannot be treated with antibiotics affects everyone, not just vulnerable groups. Bacterial resistance potentially complicates the management of every infection, no matter how mild they may be at the time of first presentation.

A study carried out by the European Centre for Disease Prevention and Control (ECDC), the European Medicines Agency (EMA) revealed the following information¹:

- There is a gap between the burden of infections due to multidrug-resistant bacteria and the development of new antibiotics to tackle the problem.
- Resistance to antibiotics is high among Gram-positive and Gram-negative bacteria that cause serious infections in humans and reaches 25% or more in several EU Member States.
- Resistance is increasing in the EU among certain Gram-negative bacteria such as *Escherichia coli*.
- Each year, about 25 000 patients die in the EU from an infection with the selected multidrug-resistant bacteria.
- Infections due to these selected multidrug-resistant bacteria in the EU result in extra healthcare costs and productivity losses of at least EUR 1.5 billion each year.
- Fifteen systemically administered antibacterial agents with a new mechanism of action or directed against a new bacterial target were identified as being under development with a potential to meet the challenge of multidrug resistance. Most of these were in early phases of development and were primarily developed against bacteria for which treatment options are already available.
- There is a particular lack of new agents with new targets or mechanisms of action against multidrug resistant Gram-negative bacteria. Two such agents with new or possibly new targets and documented activity were identified, both in early phases of development.
- A European and global strategy to address this gap is urgently needed.

Educating the public and clinicians in prudent use of antibiotics is of paramount importance to preserve these crucial treatments and to help control resistance.

Promoting the prudent use of antibiotics is particularly important in primary care; 80-90% of antibiotics are prescribed within primary care settings. Approximately half of these are prescribed for respiratory tract infections. There is documented evidence that the use of antibiotics has limited value in these conditions, leading instead to adverse effects, increased consultations with doctors, increased cost, unwanted effects and risk of resistance. In addition, antibiotic prescribing continues to increase in primary care, with a 30% increase in the average daily quantities since 2000.

¹ ECDC/EMA Joint Technical Report. The Bacterial Challenge: Time to React. 2009

Studies indicate that prescriptions for antibiotics are sometimes driven by patient demand and diagnostic uncertainty. Clinicians often feel that consultations can be challenging. The general public still have many preconceived ideas concerning antimicrobial substances and their effects. For example, 53% of Europeans still believe that antibiotics kill viruses and 47% believe that they are effective against colds and flu³. Several studies have shown that effective communication with patients determines patient satisfaction, rather than receiving an antibiotic prescription.

Controlling antibiotic prescribing in secondary care is also instrumental in reducing consumption and reducing healthcare associated infections (HCAs). The emergence, spread and selection of antibiotic-resistant bacteria is a threat to patient safety in hospitals because infections with antibiotic-resistant bacteria result in increased patient morbidity and mortality, increased hospital length of stay and cost of care. Patients who are hospitalised have a high probability of receiving an antibiotic and up to 50% of all antibiotic use in hospitals may be inappropriate.

Antimicrobial resistance is now a real threat to public health in the whole world. Attention and action is required in both primary and secondary care settings.

1.2 EUROPEAN ANTIBIOTIC AWARENESS DAY (EAAD)

In recognition of the need for increased public awareness about antibiotic use (and misuse) and in an attempt to highlight the global dilemmas surrounding antibiotic use, EAAD was introduced in 2008 led by the ECDC in close collaboration with the World Health Organization (WHO). EAAD aims to establish significant public awareness across Europe on the need to use antibiotics responsibly with a view to controlling the increase in antibiotic resistance.

18th November is the designated day annually for this initiative and is organised across the 27 European Union countries. Its simple messages are to encourage prudent antibiotic prescribing and to work in partnership to help stem the tide of antibiotic resistance development and thus make antibiotics safe, available and effective for the future.

EAAD is a part of the Department of Health's (DH) strategy to tackle antibiotic resistance², which has three main components; surveillance, infection control and prudent (appropriate) prescribing. It is also part of the implementation plan for EU Recommendation 2002/77/EC³, on the prudent use of antimicrobial agents in human medicine. The Explanatory Memorandum on the second report from the Commission on implementation of the recommendation on prudent use of antimicrobials, signed by Simon Burns in June 2010, recognised the need for work on public and professional awareness and a commitment to EAAD. This links directly to Ministerial commitment to reduce HCAs overall.

Since 1999, the DH, supported by ARHAI, has helped healthcare professionals in their efforts to reduce antibiotic resistance and inappropriate use by providing public awareness materials to inform and educate healthcare workers and patients about this issue. Since 2008, these activities have been linked to EAAD. In the past, the materials have included the use of posters and leaflets in GP surgeries, pharmacies and adverts in newspapers.

Previous campaigns have been evaluated and showed evidence of changes in attitudes to the appropriate treatment of key ailments.

² UK Antimicrobial Resistance Strategy and Action Plan Department of Health 2000 - http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4007783

³ http://ec.europa.eu/health/antimicrobial_resistance/docs/amr_report2_en.pdf

EAAD materials have helped support GP's work to educate patients. A Eurobarometer report⁶ showed that GPs were best placed to convey messages to ensure appropriate use of antibiotics by patients and must be involved in these causes. More than a third of patients who had received information on antibiotics said they changed their views after being advised to take antibiotics unnecessarily and a very large majority (90%) said that their most trustworthy source of information was their doctor. In secondary care, EAAD provides a vehicle to remind professionals of the need for prudent prescribing to help control resistance and HCAs.

The annual activities run in the UK are one of the reasons why UK public understanding of antibiotics is better than the European average⁴. However understanding is not universal and sustained initiatives are required to educate new generations, reinforce messaging and remind the public of this more.

⁴ Antimicrobial Resistance Report – Special Eurobarometer 338/Wave 72.5 – TNS Opinion and social

2 AIMS AND OBJECTIVES

Tackling antimicrobial resistance (AMR) and the associated HCAs is a key priority for the Department and requires action, centrally, locally and by individuals. To ensure better health outcomes for all, we need to provide the tools for professionals and the public to increase awareness and support and motivate behaviour change.

The aim of this year's activity was to remind healthcare professionals of the need for appropriate antibiotic prescribing and help reduce the public expectation of antibiotics for coughs and colds.

The main objectives were to:

- Educate and inform patients and healthcare professionals about the appropriate use of antibiotics
- Motivate healthcare professionals to prescribe antibiotics more appropriately
- Educate and inform patients and healthcare professionals about the importance of preventing resistance to antibiotics
- Reinforce awareness of this problem as a wider international issue by promoting European Antibiotics Awareness Day

3 METHODS AND ACTIVITIES

3.1 TARGET AUDIENCE

The target audience for EAAD included:

- Front line prescribing healthcare professionals (e.g. GPs, hospital doctors, pharmacists and nurses)
- Patients – in particular parents of young children as they are most likely to press for antibiotics. Children themselves were also being targeted with the aim of using the ‘pester power’ of older children/siblings to reinforce key messages within the family.

3.2 KEY ACTIVITIES

The aim was to support the development of local initiatives by providing a range of materials, including downloadable tools that could be adapted for local use enabling local initiatives and action to promote awareness of the importance of prudent antibiotic use.

2011 activities focused primarily on promoting existing online materials and toolkits to pump prime local activity, and utilising materials already in stock.

Health professionals, partner organizations and professional bodies were alerted through an electronic letter from DH and signposted to where information was available to download and where hard copies requested (*see Annex 3 for full distribution list*).

3.3 KEY OUTPUTS

3.3.1 Toolkit

ECDC Toolkits for EAAD were adapted for hospitals, primary care and the public by ARHAI and hosted on the DH website. DH public education materials were hosted on the website with information on how to order from DH publications (*see Annex 2 for the full list of all materials available on the website*).

Leaflets and Posters

A variety of hard copy materials (posters and leaflets) used in previous campaigns were reused. Materials had evaluated well and were widely used the preceding year.

Non Prescription Pads

The non-prescription pads explain why antibiotics have not been prescribed at a consultation and give patients something to take-away and act as aide memoire. They had previously evaluated well (Cragg Ross Dawson, 2009) and were well-received by both patients and prescribers in EAAD 2011. Hard copies of the prescription pads were not printed in 2011, however online templates were available on the DH website for prescribers to access and print.

3.3.2 Editorials

Thirteen editorials were written to make professionals aware of EAAD (see **Annex 4** for list of published editorials).

3.3.3 Promotion via National and Local Organisations

EAAD appeared as a news article/item on at least 18 websites in addition to a number of hospital and PCT websites around the country (see **Annex 5** for list).

3.3.4 Media

Press Releases

The following organisation produced press releases:

- § Department of Health
- § Health Protection Agency
- § European Centre for Disease Prevention and Control
- § National Pharmacy Association
- § Local hospitals, PCTs, NHS authorities and trusts

Social Media

- **Twitter**
Professionals and the DH Comms used Twitter to promote and discuss antibiotics awareness on 18th November. The department has over 12,000 followers on Twitter including individuals, who are editors within the media industry such as Sky news and organizations such as the British Nursing Association.
- **YouTube**
Life Channel videos were uploaded and promoted through YouTube.

3.3.5 Meetings for Professionals

The National Centre for Infection Prevention and Management at Imperial College London hosts a study day each year to coincide with EAAD. This study day focuses on the nurse's role in antimicrobial management as a core aspect of patient safety and quality improvement.

For EAAD 2011, the course covered the principles of best practice in antibiotic prescribing, and provided a background on antibacterials, bacterial infections seen in acute care and the clinical challenge of resistance. With a key focus on innovation and change, topics discussed ranged from the role that nurses play in antimicrobial management at the individual patient level to strategies ensuring multidisciplinary engagement in stewardship. Patient involvement in their own treatment decisions was discussed in an excellent session that rounded off the day. Feedback from attendees was reported to be good and the Centre aims to continue this annual study day to promote antibiotic awareness in the nursing population.

3.3.6 New 2011 EAAD Initiatives

New ARHAI Guidance: “Start Smart - then Focus”

To support EAAD, the DH launched the new ARHAI guidance **Antimicrobial Stewardship: “Start Smart - then Focus”** on the day to promote best practice on prescribing antibiotics in hospitals. The FIS Annual Conference, which happened to fall on the same day, was used as a platform for the launch of this guidance.

The aim of this guidance was to provide an evidence-based outline for antimicrobial stewardship in the secondary healthcare setting. It recommended that organisations use the guidance as part of their quality improvement strategy for patient safety, enhancing stewardship in antibiotic usage, and ensuring optimal patient care and safety by reducing inappropriate prescribing.

This guidance is available on the DH website at:

http://www.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_131062

Life Channel

Life Channel is a screen-based communication network in GP practices. It reaches over 700 million viewers each month through 1881 screens in England.

Six animated ads on antibiotic resistance were screened to deliver and reinforce messaging to patients through GP surgeries for a period of two weeks; for the week running up to and following EAAD. It was the first time this medium had been used as part of EAAD activities.

3.3.7 Survey

A survey to capture EAAD 2011 feedback was sent out in December post EAAD activities, to the ARHAI antimicrobial pharmacist network as well to 30 professional bodies/organisations.

3.4 COST

In line with the marketing and advertising restrictions, communication activity was scaled down in 2010. This was largely achieved by removing paid-for advertising from the communications plan with a focus on providing high quality tested materials to support local activities. The final budget for EAAD 2011 activities was **£27,000**. This was mainly used for the storage and distribution of materials and to air the adverts on Life Channel for two weeks. The rest of the publicity and awareness raising was achieved without cost.

A total of 79,575 leaflets and 12,937 posters were disseminated via DH publications between September and December. Of these, 97 GP surgeries ordered a total quantity of 11,816 materials, 32 PCTs ordered 52,118 materials and 51 NHS trusts and organisations ordered 14,650 materials.

4 RESULTS

*Examples of press releases, appearance of EAAD in hospital bulletins/staff pages/websites, public awareness displays, twitter pages, press cuttings etc. are summarized in **Annex 6 - Review of EAAD 2011.***

4.1 OUTCOMES

4.1.1 Professionals and Bodies

EAAD 2011 received more support from professional bodies than 2010. Additional organisations that newly contributed in 2011 activities included: National Pharmacy Association, National Prescribing Centre, Infection Prevention Society, Society of Chiropractors and Podiatrists, Scottish Medicines Management Group and Healthcare Infection Society.

4.1.2 Toolkit

There was an increase of more than 25% and 50% in orders of leaflets and posters respectively in comparison to the previous year. The greater demand possibly indicated better reach of the message through promotion, an increase in awareness and subsequently an increase in interest and enthusiasm to act.

4.1.3 Editorials

At least 13 articles were published in a variety of journals that reached out to wide range of professionals in the healthcare field. The number of articles published more than doubled the number compared to the previous year.

4.1.4 Promotion via National and Local Organisations

EAAD received greater coverage through promotion by a greater number of organisations compared to last year. Additional organisations that contributed included: GP bulletin, National Pharmacy Association, British Society for Antimicrobial Chemotherapy, European Public Health Alliance, Healthcare Infection Society and National Resource for Infection Control.

British Society for Antimicrobial Chemotherapy also launched 'Antibiotic Action' in November, generating interest on the topic.

*See **Annex 5** for list and **Annex 6** for examples.*

DH Website

The antibiotic stories on www.dh.gov.uk generated about 100 visitors a day from 10th to 24th November; around the period of EAAD. From 4th November 2011 to 31st December 2011 there were a total of 2167 unique visitors and a total of 9935 EAAD materials available on the DH website were downloaded. Comparative figures to previous years are not available.

NHS Choices

The NHS Choices website which is aimed at patient education showed that from the period 4th November to 31st December 2011 there had been 7,139 views of EAAD pages. In comparison, the total page views for the same period in 2010 were 6,334, this represents a 13% increase from the previous year.

Chart 1 in **Annex 7** shows the daily traffic to the EAAD pages in 2010 and 2011. The trend revealed a greater peak around 18th November 2011 compared to 2010, implying a stronger message and increase in awareness.

GP Bulletin

The GP Bulletin was used for the first time in 2010. 2011 saw increased activity with items being published in September, to alert GP's to the online resources available, and in November, to flag up the new guidance on antibiotic prescribing. The site normally averages about 1,200 visitors on the day it goes live.

4.1.5 Media

National Media

Many national newspapers and websites ran articles related to the topic on the day, although not directly promoting EAAD, they helped raise awareness of the issue to the public eye (see **Annex 6** for examples):

- *Newspapers*: Daily Mail, The Paper for Today, Metro, The Daily Telegraph, The Independent
- *Websites*: BBC news website
- *News Channels*: BBC News, Sky News, Euronews – 8 minute documentary
- *Radio*: BBC Radio Interview
- *Journalist*: Fergus Walsh

The story was a 'headline' news item across the BBC network (radio, TV and online) on the morning of EAAD and featured on the Radio 4 Today programme, BBC Radio 5 live and BBC Breakfast. Dr Clodna McNulty of HPA also gave interviews to BBC News Channel and Sky News throughout the day.

The story was prominently on the BBC website throughout the day. It was the leading 'health story' for the whole day and for part of the day it was the second leading story on the main BBC News website. It appeared on the health pages for a few days.

Regional Media

Information on EAAD also reached the media on a regional level. Examples include (*also see Annex 6*):

- § Bolton Spotlight
- § Bury Focus
- § Devon Local News
- § Shropshire Local News
- § Swindon Advertiser

Social Media

○ **Twitter**

Many trusts, organisations and companies promoted EAAD through twitter, generating discussions amongst both professionals and the general public. It was noted that tweets generated through social media channels such as BBC news and Euronews raised much awareness and discussion with the public (*see Annex 6 for examples of tweets*). Twitter activity was enhanced in 2011 in comparison to the previous year.

- **YouTube**

The life channel videos were uploaded on YouTube by DH on 11th November 2011. This is the first time YouTube presented these animated videos. The total number of views for the various videos until 31st December were as follows:

- Video: When you're ill you'll do anything to feel better – 50 views
- Video: Sick as a parrot? - 99 views
- Video: Looking for a purrfect remedy for your cough - 50 views
- Video: Don't get prickly if your doctor won't prescribe you antibiotics - 82 views
- Video: Feel like a lame duck? - 65 views

4.1.6 New 2011 EAAD Initiatives

New ARHAI Guidance: “Start Smart - then Focus”

The guidance was generally received well and obtained much positive comments and feedback. A formal evaluation of the resource is underway to establish how the guidance is being used and to obtain feedback. The results of this evaluation will be used to further promote and embed the guidance in more hospitals during 2012.

Life Channel

The antibiotic video clips were broadcast by Life Channel in a total of 1,951 GP surgeries (21.6%) across England from 14th November till 27th November. The impact of this initiative was determined by comparing antibiotic prescribing between two demographically and regionally similar PCT's, with one screening Life Channel and the other not.

- Salford – 39 surgeries screened Life Channel reaching out to 109 GP's and 84,328 patients per month; was compared with Trafford where no Life Channel was screened.
- Brent – 68 surgeries screened Life Channel, reaching out to 153 GP's and 153,576 patients per month; was compared with Harrow where no Life Channel was screened.

Antibiotic prescribing data was obtained from NHSBSA Prescription Services for the selected PCTs. Statistical tests were performed for analysis and explored for any significant results in antibiotic prescribing between the PCTs areas where Life Channel was screened and not screened. The data revealed the following:

- Salford and Trafford
 - November data showed that there was a statistical significance in the prescribing rates of quinolones between Salford and Trafford with Salford having lower rates of prescribing. Significant trends were not reported for other classes of antibiotics
 - Comparing prescribing data to the previous year indicated that cephalosporin prescribing had improved in Salford i.e. the rate of prescribing of cephalosporins had reduced in 2011 compared to 2010. Trafford showed no such trends.
- Brent and Harrow
 - October, November and December data showed that Brent generally had a lower rate of antibiotic prescribing compared to Harrow. These results were statistically significant and apparent for all antibacterial prescribing agents as well as cephalosporins, quinolones and co-amoxiclav more specifically.
 - Comparing prescribing to the previous year indicated that prescribing rates for all antibacterial agents as a class and quinolones had improved in Brent i.e. the rate of prescribing had reduced in 2011 compared to 2010 than the rate in Harrow.

This suggests that the use of Life Channel as a medium may have contributed to the drive to change antibiotic prescribing practices.

4.1.7 Survey

The straw poll of the ARHAI antimicrobial pharmacist's network revealed the following results:

- More than 90% of hospitals and PCT's surveyed (n=106) promoted antibiotics awareness day locally within their organisations/trusts.
- The majority focused on public and healthcare awareness using DH materials for displays (78%).
- Several published articles in their organisation's newsletter or website (65%)
- 52% of the pharmacists sent emails to prescribers to encourage and inform them about the importance of prudent antibiotics awareness using the materials provided (*see Annex 8, Chart 2*).
- **Secondary Care** - The most common materials utilized were posters (65%), secondary care prescriber's checklist (60%) and ECDC secondary care factsheet (48%). The posters and secondary care prescriber's checklist were also thought to be the *most useful* materials (*see Annex 8, Charts 3 and 4*).
- **Primary care** - The posters, leaflets "Get well soon without antibiotics", ECDC primary care factsheet, the non-prescription pads and DH key messages were reported to be the most useful materials.
- **Professional bodies and organisations** - The most common modes of promotion used were public and healthcare awareness displays and the publication of articles in organisation websites (62.5%) followed by the arrangement of scientific/professional conferences or meetings (50%). The DH key message document appeared to be the most common material used alongside leaflets and web based materials which were published on the websites allowing the message to get across nationally.

Feedback

Much positive feedback was obtained overall and many trusts, bodies and organisations provided evidence that conveyed a positive impact as a result of EAAD promotion.

The following points were reported across trusts, PCT's and organisations during the period:

- Pharmacist's generally received positive feedback from staff and public
- Some changes in antibiotic formularies reported
- Awareness of guidelines was reported and linked to reported increase in appropriate prescribing
- Reduction in non-formulary antibiotic prescribing after initiation of antimicrobial ward rounds
- Decrease in HCAI's during the period
- A slide presentation at a Medical Grand Round led to discussions on the topic

To justify and assess the validity of these points, the outcomes of the initiative will be followed up and presented through hospital audits which all trusts regularly engage in. In addition, as mentioned, there will be a formal evaluation taking place on the ARHAI guidance: *Start Smart – Then Focus* which all England NHS trusts will be involved in.

Some personal experiences shared by some trusts and organisations through the survey indicated general positive outcome (*also see Annex 9 for more comments*):

"We had a stand with information and leaflets in the main entrance to the hospital. We engaged with members of staff as well as patients and their carers promoting the main messages. Mothers with children found the leaflets really useful. We asked members of the public if they required further information they could leave an e mail address and we could send them links to useful websites. I think we promoted a better understanding of antibiotic use to all levels and promoted our Antimicrobial Stewardship within the Hospital

environment. Information was sent to local GPs from ourselves with a reminder of when the event was happening. I think people (including staff members) are now realising the common cold should not be treated with antibiotics. A marked reduction on course length and review seems to have happened throughout the trust.” - **York Teaching Hospital NHS Foundation Trust**

“We have been actively targeting our top 10 antibacterial agents in order to try and reduce use overall. We put in place ward rounds in ITU, haematology/oncology wards and liver wards where use of antibiotics is high. The policy was changed to reduce the use of meropenem (causing a 26% reduction compared with last year). The use of specific agents were challenged e.g. co-amoxiclav, resulting in an increase in amoxicillin consumption and a reduction in co-amoxiclav consumption. Overall, correcting for Trust activity we are 11% down on consumption this year to date for our top 10 antibacterials.” - **Birmingham Children's Hospital**

5 DISCUSSION

EAAD received strong support by both professional bodies and NHS trusts and was promoted effectively, increasing public awareness and professional understanding. A wide range of coverage was achieved and a number of articles were published in professional journals. EAAD 2011 also received the greatest media exposure in comparison to previous years. The public message reached national television, radio, newspapers as well as regional media. The story was a 'headline' news item across the BBC network (radio, TV and online) on the morning of EAAD and the leading 'health story' on the BBC website for the whole day.

The evidence gathered as part of this evaluation indicates the extent to which the objectives for EAAD 2011 were achieved.

Expected Outcome	Achievement
<i>Uptake of online and hardcopy materials to promote antibiotic resistant messages at a local level in line with last year, with an increased emphasis on online materials.</i>	<i>Achieved ✓</i> - 79,575 leaflets and 12,937 posters were disseminated via DH publications between September and December, demonstrating an increase of more than 25% and 50% respectively compared to the previous year. - 78% of survey respondents used both hardcopy and online DH materials for public and healthcare awareness displays, 65% published articles in newsletters or websites using the online materials and 52% sent emails to prescribers to encourage and inform them about prudent antibiotics awareness using the materials.
<i>Increased public and enhanced professional understanding of when antibiotics are not appropriate, especially in key primary care settings</i>	<i>Achieved ✓</i> - Life channel was broadcasted in 1,952 GP Surgeries (21.6%) in England. Regional PCT data showed the prescribing rates of cephalosporins and quinolones were lower in Brent (Life Channel screened) than Harrow (Life Channel not screened). Results also indicated that quinolone prescribing rates had decreased in Brent from the previous year but no changes were seen in Harrow. This possibly indicates delivery of the message screened by Life Channel to both public and professionals. - The new <i>Start Smart then Focus</i> guidance was received well and obtained much positive feedback and outcomes e.g. indicators on drug charts. - More than 90% of hospitals and PCT's within England promoted antibiotic awareness locally as a result of the national drive.
<i>Reduced national levels of inappropriate/imprudent prescribing</i>	<i>Achieved ✓</i> - National data from NHS Business Authority showed that the prescribing of quinolones had decreased by 8% and cephalosporins by 25% from the previous year (<i>see Annex 10</i>).
<i>Articles in at least 13 key journal publications</i>	<i>Achieved ✓</i> - 13 articles were published in key journals around EAAD 2011.
<i>EAAD activities from at least 10 key professional bodies</i>	<i>Achieved ✓</i> - EAAD received wider coverage through promotion by a greater number of organisations compared to last year. The total number exceeded 10.
<i>Over 2,500 visits to the Antibiotic Awareness pages of the NHS Choices</i>	<i>Achieved ✓</i> - From 4 th November to 31 st December 2011 there had been 7,139 page views on the EAAD pages on the NHS Choices website, representing a 13% increase from the previous year.

Other information showed that this national initiative was crucial in supporting local campaigns.

Feedback from users indicated that information on EAAD was available with sufficient time for them to develop local activities. Many felt that there were too many materials hosted on the website and that fewer higher quality resources would be better. Some of the locally printed material was not very clear and electronic versions of materials in higher-resolution were requested to allow printing of acceptable quality copies or for hard copies of the materials to be produced and disseminated. Requests were made for more visual and impactful posters with more pictures, cartoons and eye-catching colours for use in both, public areas to educate the public and in healthcare professional areas to highlight the main messages. Some also requested stickers/badges to be produced for healthcare professionals or the public. Others suggested that dual language materials that could be adapted for local use to allow addition of trust logo and additional information etc. would also be desirable.

The evaluation also identified some areas which need addressing for the future. Although the antibiotic patient stories on www.dh.gov.uk generated about 100 visitors a day, there was a high bounce rate which meant that people visited and then left the page immediately without having a look anywhere else on the site (49%). Additionally, not many people went to the publications/resources from the antibiotic stories. Further consideration needs to be given on how to better promote the material via bulletins, stakeholder websites etc. More could be done to encourage those promoting EAAD to provide links to the DH website.

The evaluation has found that EAAD offers an excellent platform to raise professional and public awareness about antibiotic overuse and resistance development. Feedback from this year will be used to help inform development of 2012 EAAD activities.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

The 2011 activities were developed in line with evidence base and our commitments under EU recommendations to raise professional and public awareness.

EAAD 2011 made use of existing resources. The national materials acted as an effective primer for local activities where partner organisations adapted soundly based materials as appropriate, reducing the risk of misleading messages being circulated, preventing duplication of effort and reducing the time and effort required to run activities locally.

Most relevant professionals were alerted to EAAD and the need to control antibiotic resistance. The national materials were used locally to promote and educate both professionals and the public and reduce prescribing. There was strong political support from professional societies and NHS trusts with the majority of hospitals promoting EAAD.

2011 activities received both strong and enhanced public media exposure with information reaching out both nationally and locally.

6.2 RECOMMENDATIONS

- Continue to work with key stakeholders.
- Use central approach to provide materials that can be adapted for local use.
- Improve the quality of the materials provided.
- Review and extract the materials provided by ECDC and only host the most useful materials on the DH website. The materials most commonly used and found to be most useful by healthcare professionals were posters, leaflets, DH key messages, secondary care prescriber's checklist and ECDC secondary care factsheet.
- Tie in with work on UK AMR strategy.
- Maintain the number of editorials in professional journals and editorials in consumer's websites e.g. Mumsnet and Which? women's magazines and health magazines to reach the general public target audience.
- Continue to enhance media exposure.
- Repeat screening of Life Channel videos by taking advantage of a rebate, secured from another contract, to enable free airing of the animated videos.
- Evaluate effectiveness of "*Start Smart – Then Focus*" and use the results of this evaluation to develop initiatives to further embed its use.
- Build on success of 2011 and extend to target audience for other areas in primary and secondary care.

ANNEX

ANNEX 1

Summary of Main Activities that Took Place during EAAD 2011

Main activities:

- **Professional Societies Supporting EAAD:** EAAD received strong support from several bodies and organisations.
- **Letters:** Letters signposting users to EAAD toolkit materials were distributed by DH to NHS (primary and secondary care) via Chief Executives bulletins to several professional bodies and royal colleges. The materials were also available through links on NHS choices.
- **Editorials:** Through personal approaches to journals at least 13 articles were published.
- **Toolkit Materials:** 79,575 hard copy leaflets and 12,937 posters were disseminated. There were 2167 unique visitors and a total of 9935 EAAD materials downloaded from the DH website from 4th Nov - 31st Dec 2011.
- **Media:** EAAD appeared as a top news article on BBC radio, other news channels and their websites. Newspapers, including the Times, ran features.
- **Social Media:** Twitter generated discussion amongst professionals and the general public.
- **DH Website:** The antibiotic pages generated about 100 visitors a day around the period of EAAD from 4th November to 31st December 2011. There were a total of 2167 unique visitors and a total of 9935 materials available on the DH website for EAAD were downloaded.
- **NHS Choices:** From 4th November to 31st December 2011 there were 7139 page views on the antibiotic awareness website (13% increase in page views compared to 2010).
- **E-Bug:** Film challenge launched for senior school children to design a film to teach their peers about antibiotic resistance and prudent antibiotic use. Closing date is June 2012 with successful idea being made into a film that will be launched on EAAD 2012.

New Activities launched in EAAD 2011:

- **Antimicrobial Stewardship: “Start Smart - then Focus”:** DH launched the new guidance to promote best practice on prescribing antibiotics in hospitals and presented at the FIS Annual Conference.
- **Life channel videos:** “Take care, Not antibiotics” message screened in 1951 GP surgeries (21.6% of GP practices across England) in week of EAAD; and available via YouTube (averaging 70 hits per video).

ANNEX 2

List of Toolkit Materials Available on the DH Website

Antibiotic resistance Department of Health key messages

- Antibiotic resistance Department of Health key messages

Primary Care

- Poster: Antibiotics will not get rid of your cold, Antibiotics won't help your defences
- Leaflet: Get well soon without antibiotics
- Antibiotic resistance factsheet for primary care prescribers and managers
- Non-prescription pads (GPs could use to help aid consultations and inform patients when antibiotics are not appropriate)
- Centre piece poster (with EAAD logo and date) that can be used for public awareness display boards in GP surgeries and clinics

Life channel videos

Short video clips providing a light-hearted way of reminding people to take care, not antibiotics for use in GP surgeries and other waiting areas.

- Video: When you're ill you'll do anything to feel better
- Video: Sick as a parrot?
- Video: Download Looking for a purrfect remedy for your cough
- Video: Don't get prickly if your doctor won't prescribe you antibiotics
- Video: Download Feel like a lame duck?

Hospital/Secondary Care

- Website banner
- Secondary care factsheet - aimed at hospital prescribers and managers detailing main issues surrounding antibiotic resistance
- Slide presentation - for staff and medical students in hospital training
- Secondary care prescribers list - A useful reminder for hospital prescribers of the main considerations for responsible prescribing
- Advertorial for hospital staff for use in newsletters or other in-house publications
- Centre piece poster - hospital staff and patients (with logo and date) that can be used for public awareness display boards in hospitals

Related links

- European Antibiotic Awareness Day - letters to the NHS
- When Should I Worry booklet
- HPA Infection Management Guidance for Primary Care
- MARTI Managing Acute Respiratory Tract Infections (RTI)
- E-bug

ANNEX 3

Distribution of Letters and Toolkits to Professionals and Bodies List

The letters and toolkits were circulated via email to healthcare professionals and several professional and regulatory bodies. These included:

- Health Protection Agency
- British Society of Antimicrobial Chemotherapy
- United Kingdom Clinical Pharmacists Association – Infection Management Group (UKCPA-IMG)
- National Pharmacy Association
- Company Chemists Association
- ARHAI Antimicrobial Pharmacists Network – copy of chief Exec letters
- Antimicrobial Pharmacists in Acute NHS Trusts – copy of Chief Exec letters
- British Infection Association (BIA)
- Healthcare Infection Society (HIS)
- Infection Prevention Society (IPS)
- Royal College of Nursing (RCN)
- Royal College of Midwives (RCM)
- Royal College of General Practitioners (RCGP)
- Royal College of Surgeons (RCS)
- Royal College of Physicians (RCP)
- Royal College of Pathologists (RCPath)
- Royal Pharmaceutical Society (RPS)
- British Veterinary Association (BVA)
- Department for Environment, Food and Rural Affairs (DEFRA)
- Royal College of Paediatrics and Child Health (RCPCH)
- British Orthopaedic Association (BOA)
- Association of Anaesthetists of Great Britain and Ireland (AAGBI)
- Society of Chiropodists and Podiatrists (SCP).
- Faculty of General Dental Practice (FGDP)
- Chartered Society of Physiotherapists (CSP)
- National Institute for Health & Clinical Excellence (NICE) (Via Dr Jane Brown)
- National Prescribing Centre (NPC)
- British Medical Journal (BMJ)
- Scottish Antimicrobial Prescribing Group
- Northern Ireland Antimicrobial Pharmacist's Network

ANNEX 4

List of Editorials Published for EAAD 2011

- § Martin Stephens: Protecting our futures - preventing antibiotic resistance. *Chemist and Druggist* 18 November 2011. www.chemistanddruggist.co.uk
- § Dominik Zennera and Nandini Shetty. European Antibiotic Awareness Day 2011: antibiotics—a powerful tool and a dwindling resource. *Family Practice* 2011;28:471–473.
- § Eurosurveillance Editorial Team. European Antibiotic Awareness Day Provides Platform For Campaigns On Prudent Use Of Antibiotics For The Fourth Time. *Eurosurveillance* 2011 Nov;16(46).
- § Fourth European antibiotic awareness day. *Health Protection Report* 2011;5(46)
- § Matthew Dryden, Alan P. Johnson, Diane Ashiru-Oredope and Mike Sharland. Using antibiotics responsibly: right drug, right time, right dose, right duration. *J Antimicrob Chemother* 2011;66:2441–2443.
- § Naomi Fleming, Sue Barber and Diane Ashiru-Oredope. Pharmacists have a critical role in the conservation of effective antibiotics. *The Pharmaceutical Journal* 2011;287:465.
- § Dabke G., Sheridan E. Antimicrobial Resistance: the threat to public health. *The Journal of the Royal Society for the Promotion of Health* 2011;131:260
- § Dr Cliodna McNulty. We are no longer keeping pace with antibiotic resistance. *Public Health Today - The magazine of the UK Faculty of Public Health* September 2011 pg. 3. www.fph.org.uk
- § McNulty C. Antibiotic misuse – a challenge for public health. *Faculty of Public Health Medicine Newsletter*.
- § Crighton A. European Antibiotic Awareness Day 2011 – Is this relevant to the dental profession? *British Dental Journal*.
- § Gwenda Hughes, Tom Nichols, Catherine A Ison. Estimating the prevalence of gonococcal resistance to antimicrobials in England and Wales. *Sexually Transmitted Infection* 2011;87:526-531.
- § Dr Cliodna McNulty. 10 top tips on antibiotic prescribing. *Pulse* November 2011. <http://www.pulsetoday.co.uk/home>
- § Start Smart – Then Focus. *The CNO bulletin*. Issue 104. February 2012. www.dh.gov.uk/cnobulletin

ANNEX 5

Promotion via National and Local Organisations

List of websites/publications through which EAAD was promoted:

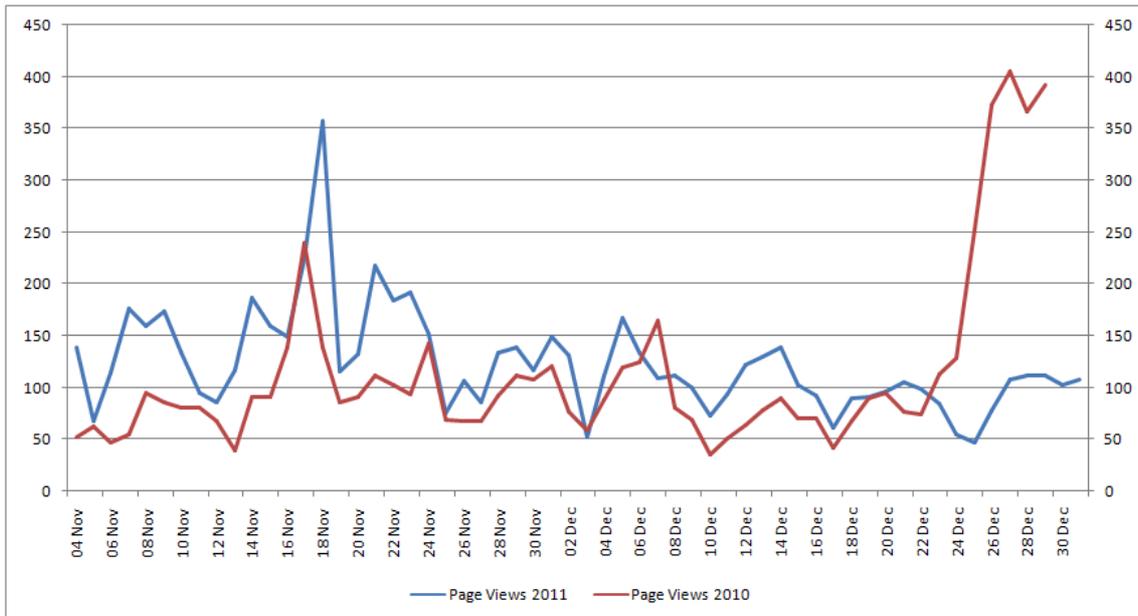
- § Chemist and Druggist
- § European Centre for Disease Prevention and Control
- § GP Bulletin
- § National Electronic Library of Medicines
- § National Prescribing Centre
- § National Pharmacy Association
- § Pharmaceutical Journal
- § British Infection Association
- § British Society for Antimicrobial Chemotherapy
- § Department of Health
- § European Public Health Alliance
- § Healthcare Infection Society
- § Health Protection Agency
- § Infection Prevention Society
- § National Resource for Infection Control
- § NHS Choices
- § NHS Comms Link
- § World Health Organisation
- § Local hospital websites
- § PCT websites

ANNEX 6 – Review of EAAD 2011 (PowerPoint Slides)

ANNEX 7

NHS Choices Website

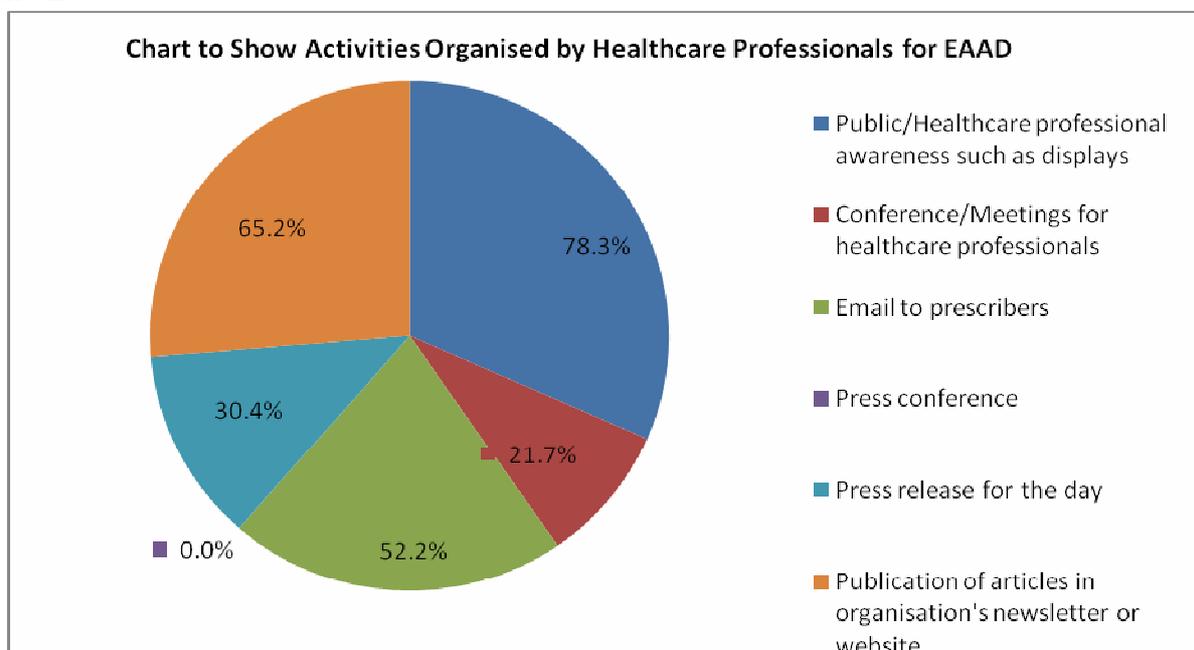
Chart 1: Chart to Show EAAD Page Views on NHS Choices Website



ANNEX 8

Results of Survey

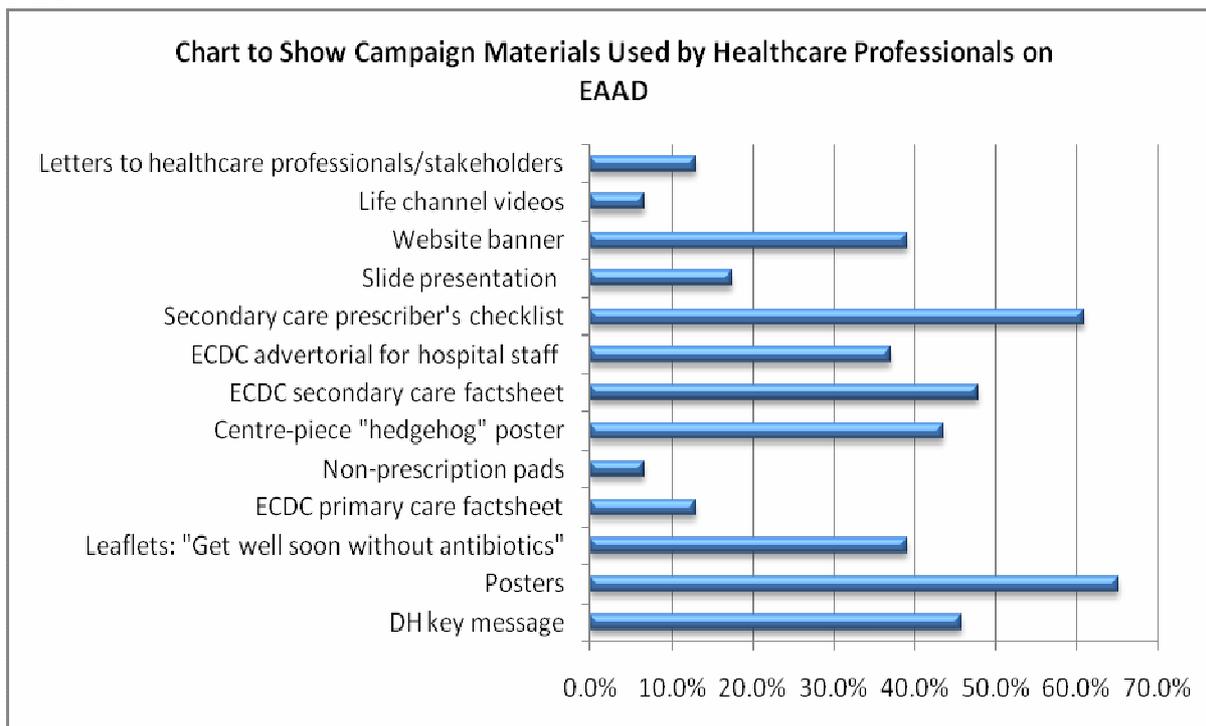
Chart 2



Other activities that were carried out include:

- Interview on local BBC radio on the day
- Trust-wide EAAD/Antimicrobial Quiz with prizes, all-desk email, "Bugs and Drugs Bulletin" for all wards, EAAD road show to all wards with games
- The pharmacy department at University Hospital Southampton paid for the printing of six T-shirts with the EAAD logo and hedgehog. The hospital's infection prevention department paid for double-sided colour photocopying of the ECDC printed materials. The lead pharmacist for antimicrobials prepared two sides of A4 with four key messages and supporting facts tailored to local hospital doctors which were also photocopied for distribution. Six pre-registration pharmacists wearing the EAAD T-shirts visited all hospital wards and distributed the leaflets to hospital doctors and senior nurses.
- Public lecture
- Antimicrobial point prevalence audit (IV antibiotics only)
- Posters designed by children in the Trust displayed in the main atrium
- Educational session for pharmacists
- Informed the Dean of the Faculty and President of launch of Start Smart then Focus
- Leaflets were given out to prescribers and nurses
- Incorporated into FY1 and FY2 teaching about antibiotics on the day
- Antimicrobial quiz and walkabout for doctors on wards
- An interactive walkabout session was conducted using pictures of different bacteria and drugs and quizzes were carried out to promote best prescribing
- Highlight at the grand round presentation
- Presentation to antibiotic prescribers using DH sample presentation
- Email to pharmacy staff
- Stands around the hospital with information and leaflets. Stands managed by the antimicrobial team wearing 'specially printed' t-shirts

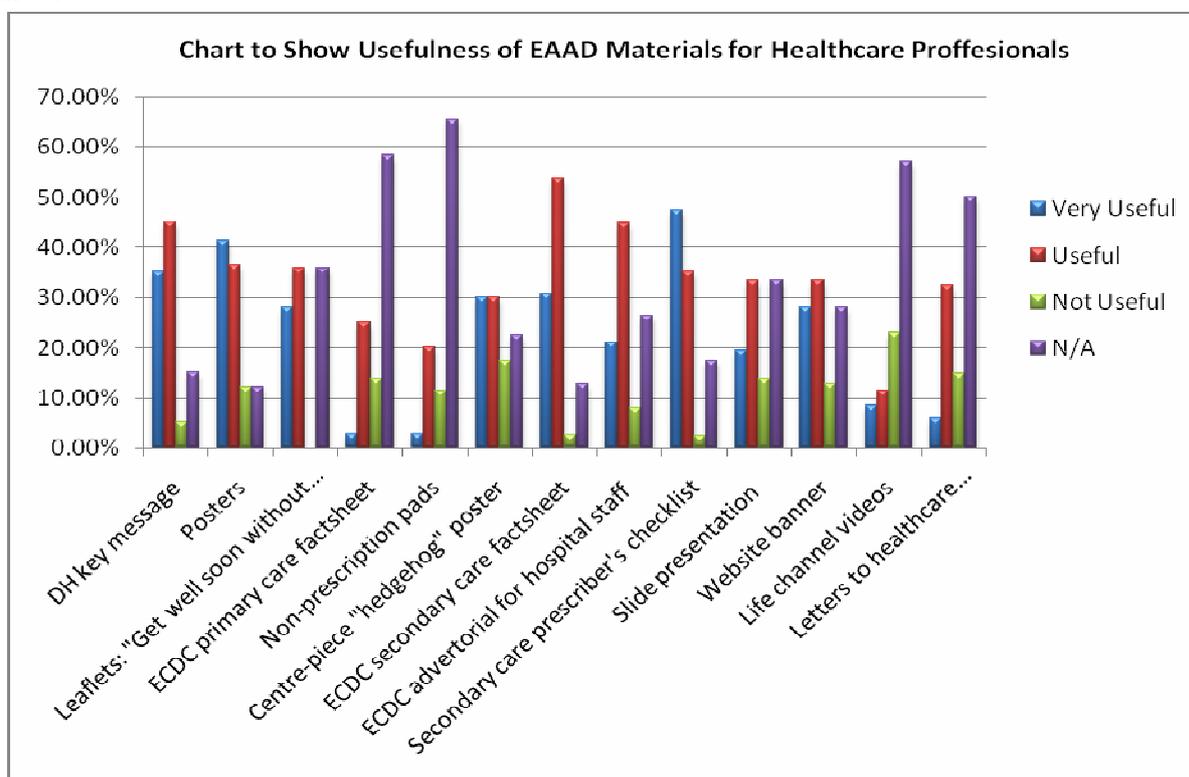
Chart 3



Other materials used include:

- One hospital produced their own stickers to advertise the message
- In-house audit information and guidelines used
- Start Smart then Focus

Chart 4



(Order of bars from: very useful → useful → not useful → N/A)

ANNEX 9

EAAD Feedback from Survey

Some personal experiences shared by some trusts and organisations through the survey:

*“We conducted snap-shot audits of adherence to trust antibiotic prescribing standards which showed improvement in some areas (indication on prescription, course length stated) since we began a concerted education programme for prescribers.” - **Northern Lincolnshire and Goole Hospitals NHS Foundation Trust***

*“Press Release to five locality newspapers was taken up. The Prescribing Advisor was extremely motivated by experience and opportunity to discuss antibiotic overuse with her health centre prescribing staff and local patient population with a variety of EAAD materials to support a positive message. We hope to capitalise on this in the coming year and expand involvement to the other 11 prescribing advisors in our health board.” - **NHS Lanarkshire***

*“There is a range of evidence resultant from Society contributions to activities, either solely or multi-stakeholder organised. This includes: **(1)** BSACUK Quality Improvement Initiative - AMR focussed event in 2011, poster displays and programme all evidence changes in this area; **(2)** Changes in public perception via formal evaluation of BSAC/HPA supported public science fair activities; **(3)** Submission of application to RCGP to have AMR formally recognised ((ASPIC project led by Cliona McNulty) - includes results of survey of medicine managers on prescribing training in primary care settings); **(4)** 4,500 signatures gained prior to parliamentary launch of Antibiotic Action (www.antibiotic-action.com) on 9 December 2011; **(5)** Outcomes of <http://www.pause-online.org.uk/> - web based training for undergraduates in appropriate prescribing; **(6)** 2011 formal evaluation of students across 3 deaneries of the NHS Education Scotland core curriculum materials for undergraduates on appropriate antimicrobial prescribing” - **British Society for Antimicrobial Chemotherapy***

ANNEX 10

National Prescribing Data for Antimicrobial Usage

Chart 5

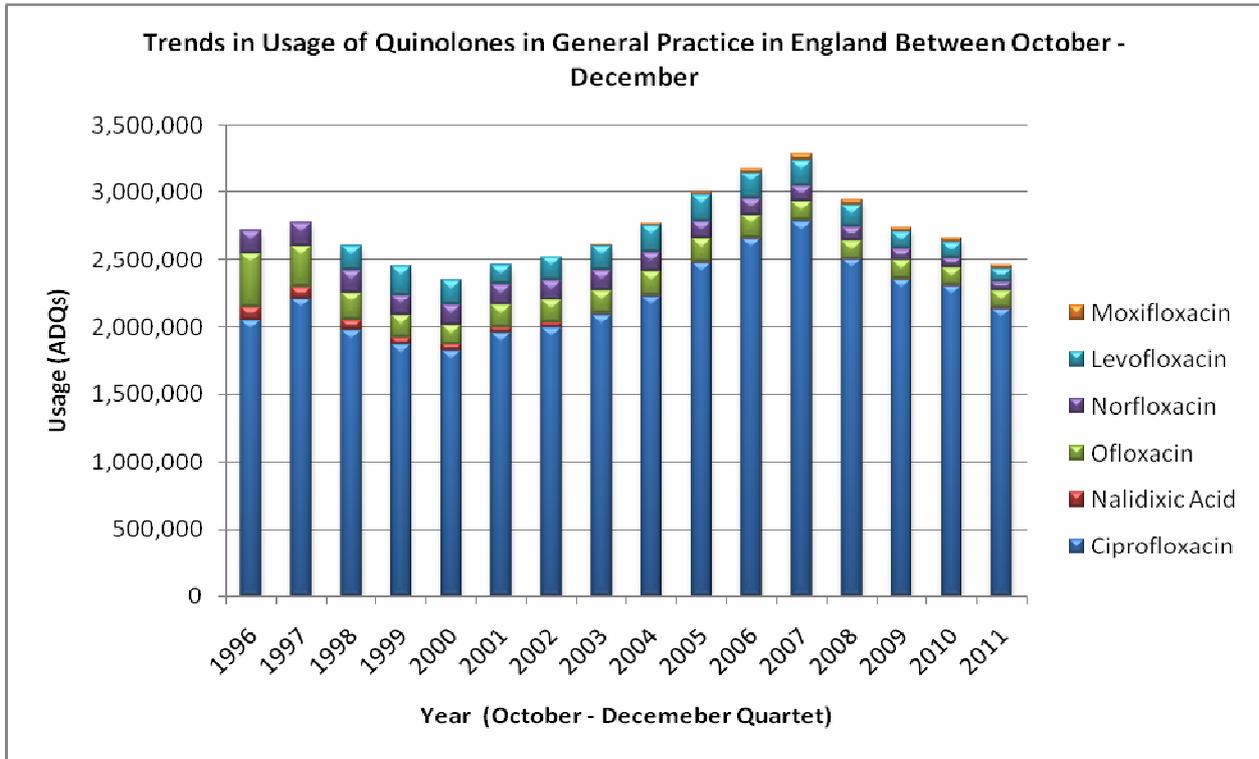


Chart 6

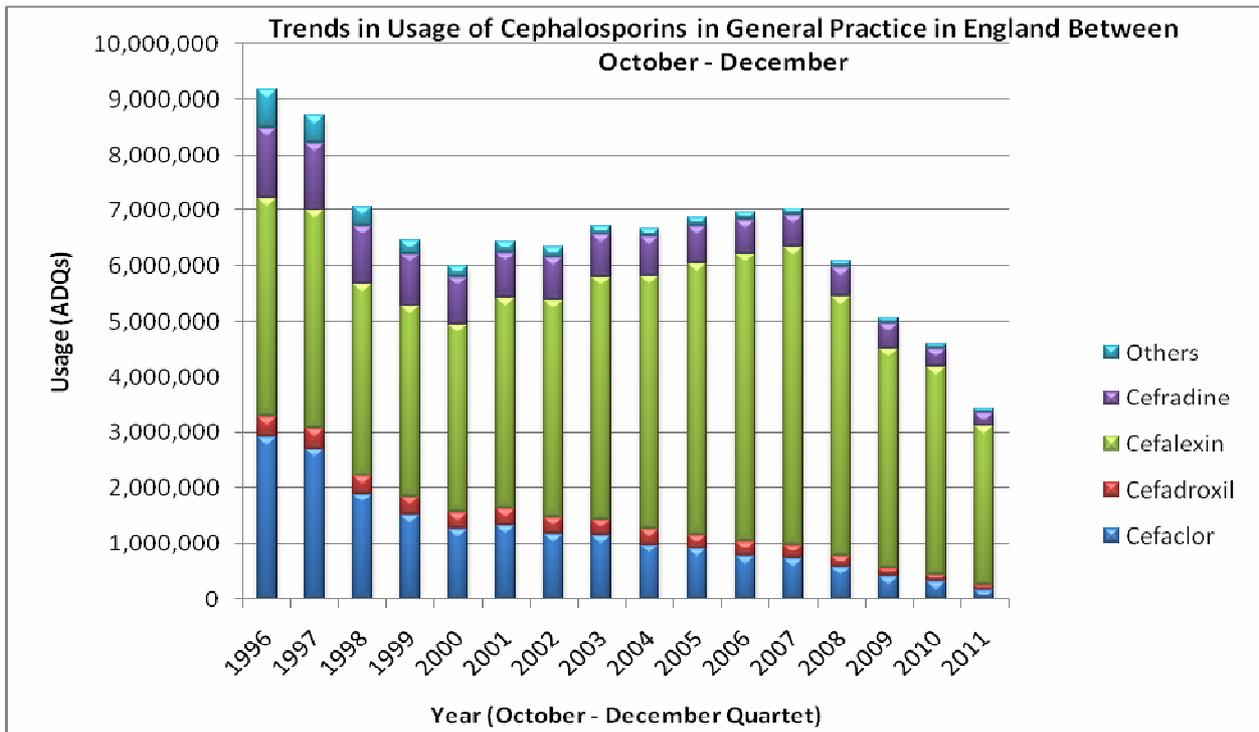


Chart 7

**Trends in Usage of Co-Amoxiclav in General Practice in England
Between October - December**

