



Project funded in 2005 - Strand 2: Health Threats

EBUG PACK - Development and Dissemination of a School Antibiotic and Hygiene Education Pack and website across Europe

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Description

Action

Enhancing the capability of responding rapidly and in a co-ordinated fashion to health threats

Area of activity

Antimicrobial resistance

Summary

Antimicrobial resistance remains one of the key problems within community and hospital settings in Europe identified by the European Commission in the "Community strategy Against Antimicrobial Resistance" document published in 2001. This could be tackled by prudent antibiotic use through improved public and professional education. In many European countries, antibiotic prescription rates are highest in children. Within schools, respiratory and gastrointestinal infections are a major cause of childhood illness with poor respiratory and hand hygiene contributing to increased spread of infection. The Bug Investigator project in the UK is the only antibiotic educational campaign targeting school children teaching them how to use antibiotics rationally and how to reduce spread of infections through improved hygiene. The aim of the educational activities is to reduce cross-infection in schools, so reducing the need for antibiotics, and to improve the prudent use of antibiotics in young people when they leave school.

Based on a successful evaluation of the Bug Investigator project in the UK, the objective of this proposal is to develop and disseminate across Europe a similar antibiotic and hygiene teaching resource (pack and website) for 9-16 year olds, in particular, two versions will be developed for 9-11 and 13-16 year olds. Taking into account the local antibiotics consumption rates and cultural differences in European countries, this resource will reinforce an awareness of the benefits of antibiotics but will also teach about prudent use and how inappropriate use can have an adverse effect on an individual's good bugs and antibiotics resistance in the community. The areas of hand and respiratory hygiene and spread of infections in the community will be covered, including teaching how to wash hands most effectively, further reducing infections. Decreased spread of respiratory, gastrointestinal and skin infections will, in turn, contribute to the reduction in antibiotic use, and reduce the spread of antibiotic resistance.

The teaching pack with worksheets to set activities linking in with each country's National Curriculum will be accompanied by websites hosting games and interactive quizzes, as the Internet has become a powerful vehicle for public campaigns, envisaged by the EC ehealth strategy. In each associated country a dedicated staff member will translate the pack and modify activities to suit the local country's needs. This will be under the supervision of the associated partner. This staff member will implement the pack through a national meeting with education and health stakeholders. Both packs and websites will be evaluated in Southern, Northern and Eastern European countries to demonstrate the usability and impact on children's knowledge. Results will be used to further modify and improve the pack and website to better meet the local needs.

The consortium consists of 10 associated countries (300 million) covering 55% of the European population with the highest antibiotic use and those with large populations, thus obtaining education amongst a high percentage of high antibiotic user countries. These include: France, GB, Belgium, Spain, Poland, Czech Republic, Italy, Denmark, Portugal and Greece. Collaborating countries (Croatia, Finland, Hungary, Latvia, Lithuania, Luxemburg, Slovakia, Slovenia) (34 million) covering 7% of the European population will be involved in the consultation and the launch to help them to coordinate their activities for further implementation of the project results in their countries. In total, this initiative will reach 76% of the European population.

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Financing

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Funded projects 2005

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Associated beneficiaries

• City University established in London (United Kingdom) • Universiteit Antwerpen established in Antwerpen (Belgium) • Centre Hospitalier Universitaire de Nice established in Nice (France) • Univerzita Karlova v Praze 3. lékařská fakulta (Charles University 3rd Faculty of Medicine) established in Praha (Czech Republic) • Narodowy Instytut Zdrowia Publicznego (National Institute of Public Health) established in Warszawa (Poland) • Statens Serum Institut established in Kobenhavn (Denmark) • Ethniki Scholi Dimosias Ygeias Eidikos Logariasmos Erevnon (National School of Public Health) established in Athina (Greece) • Instituto Nacional da Farmacia e do Medicamento (INFARMED) established in Lisboa (Portugal) • Università degli Studi di Verona established in Verona (Italy) • Instituto de Salud Carlos III established in Madrid (Spain)

Starting date and duration of project

- 15/06/2006

- 39 months

Total cost

1.865.358,00 €

Subsidy from the Commission

1.119.215,00 €

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Outcomes

Results to be achieved

Work package 1: Coordination of the project

The management and coordination workpackage relates to all objectives in P.4.3. and is linked to all work packages.

Work package 2: Dissemination of the results

1. Disseminate all project information and reports through a dedicated project web site - refers to all specific objections
2. Disseminate the research summary at the 12 month meeting - refers to SO1. Research educational curriculum, public campaigns and websites in associated partner countries
3. Disseminate the templates and launch the packs and web sites - refers to SO 6. Dissemination of packs and marketing to collaborating partner countries. Inform the Departments of Health and Education in other member states about the pack, websites and evaluation results.

Work package 3: Evaluation of the project

Overall monitoring and evaluation of the project in terms of each work package and completion, meeting the milestones and deliverables. Evaluation of the use, satisfaction and impact of the pack and the website in 3 countries. (Which countries to be agreed with Associated Partners)

Work package 4: Background research for EBug

Produce a report of the background research and exchange information and experiences of good practice within the educational curriculum, public campaigns and websites in associated partner countries of relevance to development and implementation of the EBug pack.

Work package 5: Design and development of EBug pack

Design and develop education pack for 9-11 and 13-16 age groups refers to SO2: Develop school education pack template for use across European states. An educational pack will be developed for the two age groups. The concepts that will be developed in the EBug pack include: What are micro-organisms? Good and bad bacteria: Hand hygiene including when and how to wash hands; Respiratory hygiene and how coughs, colds spread and how to prevent spread; Prudent antibiotic use; Vaccines to prevent infections. The experience of the associated partners and collaborators will be used.

Work package 6: Design and development of EBug website

Develop a web site for 9-11 and 13-16 age groups based on the pack design for the UK
Refers to SO3. Develop school education website for 9-11 and 13-16 years. The website will be based on the pack but the subject areas will be animated – this worked with the UK website and the more in-depth public-oriented website. The content will be adapted so that the level of interaction suits each age group, and will follow UK guidance on development of educational websites [Sandars] and will have links to other relevant websites within each country. The variable Internet access in each country will be taken into account during development of the websites.

Work package 7: Implementation of EBug in Associated Partner countries

Specific objective 4: Translation, localisation and implementation of pack and website in associated countries
The pack and web designers will facilitate translation, adaptation and implementation undertaken by a EBug staff member in each associated country.

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Statement of project aim(s) and objectives

General objectives

The objective of this project is to disseminate across Europe an antibiotic and hygiene teaching resource for 9-16 year olds. The aim is that all children will leave school with knowledge of prudent antibiotic use and how to reduce spread of infections for themselves and their future young children, which is where much of the antibiotic mis-use occurs. The pack will be based on a resource already used in the UK 'The Bug Investigators' and the results of research undertaken in the associated countries. The pack and accompanying website will encourage a better understanding of infections and antibiotic resistance and how they spread. It will reinforce an awareness of the benefits of antibiotics but will also teach about the prudent use of antibiotics and how inappropriate use can have an adverse effect on an individual's good bugs and antibiotic resistance in the community. The areas of hand and respiratory hygiene and spread of infections in the community will be covered, not just when to wash hands but how to do so most effectively, so reducing spread of infections. Decreased spread of respiratory, gastrointestinal and skin infections will, in turn, contribute to the reduction in antibiotic use, and reduce the spread of antibiotic resistance.

In order to achieve the objectives, a series of pupil activities will be created for different age groups and ethnic groups linking in with each country's National Curriculum, in close collaboration with the Departments of Health in each country. We realise that each country has their own specific cultural needs and problems associated with antibiotic overuse and hygiene. These will be researched, assessed and incorporated into the activities. Different countries will be able to use the activity worksheets that most suit their aims to encourage prudent antibiotic use, control antibiotic resistance and reduce the spread of infectious disease and antibiotic resistance.

To accompany the worksheet a website will be developed from which the resources may be downloaded and which will host interactive games, quizzes and links to other resources and web sites.

Specific objectives

1. Exchange information and experiences of good practice (EU priority 1.6 & 1.8) within the educational curriculum, public campaigns and websites with associated partner countries. Staff members A & B will work with the associated countries to determine in each country:
 - (a) The science school curriculum content in relation to micro-organisms, good and bad bugs, hand and respiratory hygiene, antibiotic use,
 - (b) Public campaigns and existing websites
 - (c) Pattern of antibiotic use, infectious disease and countries' customs/cultures that may be relevant to the pack and website education (priorities 1.5, 1.6, 1.8.2)
 - (d) Experiences, successes and mistakes from other Pan-European school educational campaigns.
2. Develop school antibiotic resistance pack template for use across European states. Educational packs will be developed for the two age groups. The concepts that will be developed for the EBug pack include: What are micro-organisms: Good and bad bacteria; Hand hygiene including when and how to wash hands; Respiratory hygiene and how coughs, colds spread; Prudent antibiotic use; Vaccines to prevent infections. The experience of the associated partners and collaborators will be used.
3. Develop school education website for 9-11 and 13-16 years. The website will improve ehealth across the EU and will be based on the pack. The subject areas will be animated – this worked with the UK website <http://www.buginvestigators.co.uk/> and the more in-depth public website www.antibioticresistance.org.uk. The level of interaction will be adapted to suit each age group, and will have links to antibiotic resistance and other ehealth websites within each country. The variable Internet access in each country will be taken into account during development.
4. Translation and implementation of pack and website in associated countries, in close collaboration with the Departments of Health and Education in each country. To allow increased cooperation and increased exchange of best practice across the EU member states, the pack and web designers will facilitate translation, adaptation and implementation by an EBug staff member in each associated country. The science advisors in the Department of Health in each country will be approached to endorse use of the packs within schools.
5. Further marketing and evaluation of use and impact of pack and website in an Eastern, Southern and Northern European country. Over the 15 month roll-out period across Europe, drawing from the partners expertise, the website and pack will be evaluated using validated questionnaires and logs, and focus groups with teachers, children and parents to determine ease of use, appropriateness of material for each age group and culture, marketing, homework and extension into the home.
6. Dissemination of packs and marketing to collaborating partner countries. Data from the focus groups and questionnaire surveys will be used to inform any pack modifications before a European launch to all partners, EU Commissions and public health physicians invited from each partner country.

Methods

The aim of the project is to produce an educational pack and website across Europe. This will be based on an educational pack and website already produced for junior schools within Great Britain.

There will be a meeting of the Associated Partners at 3 months to plan the project.

Over the first 9 months the staff employed by the Main Partner (EBug pack designer – staff member A) and by City University (EBug web designer – staff member B) will research the school education and public education resources on hand and respiratory hygiene and prudent antibiotic use across the Associated Partner countries. During the research period the EBug pack designer and web designer staff will identify stakeholders in education and health in each country through whom the pack should be disseminated. During this research phase the EBug pack and web designers will attend any educational courses that are necessary for them to implement the project. These will include e-learning and Semantic Web, web design and medical informatics courses.

The research findings will be presented at the 12 month meeting. At this meeting the Associated Partners, Collaborating Partners and Stakeholders identified in the research period will discuss the content of the pack and website and possible school dissemination mechanisms.

Between 12 and 21 months the pack and website will be designed in the UK by the web and pack designers (staff A and B). The pack will be reviewed and commented on by the Associated Partners and other reviewers in each country.

The pack will be presented to the Associated Partners at the 21 month meeting and a dissemination strategy in each country will be discussed.

Between 21 and 36 months a staff member in each Associated Partner country (translator/implementer) will be employed to translate the pack and website and disseminate the pack through school and educational meetings. The packs will be sent to each country's Department of Education for approval as an educational resource. The use of the packs and effectiveness will be assessed in 3 countries. The packs will also be disseminated via international antibiotic and education meetings such as ECCMID and FIS.

At the 36 month meeting the packs and website will be presented to the Collaborating Partners. The Departments of Health and Education in other European countries will also be informed of the EBug pack and the results of the evaluation and dissemination.

An administrator (non-National Official) will be employed by the Main Partner to help coordinate the project and paperwork. The administrator in each country (National Official) will ensure the clerical tasks are completed on a timely basis. There will be a final face-to-face meeting of the Associated Partners at 39 months to discuss the final report. There will also be 10 additional teleconferences.

An audit committee chaired by Herman Goossens will ensure the project runs to time.

This project will disseminate across Europe an educational resource for school children of proven benefit [McNulty schools, Bug Investigators] The aim of the pack resource is to encourage a better understanding of good and bad bugs, infections and how they spread. It also aims to create an awareness of the benefits of antibiotics and how inappropriate use can have an adverse effect on combating 'bad' bugs. The pack includes fun activities to improve hand washing technique, show how infections spread via aerosols from coughs and sneezes, and allows discussion about good and bad bugs and prudent use of antibiotics. The Bug Investigators website (www.buginvestigators.co.uk) enables pupils to take part in interactive simulations. Assessment of the pack has shown that children and teachers enjoyed using the pack, especially the hygiene activities, and its use significantly improves knowledge about activity and good use of antibiotics. The teachers reported that the concepts covered can be adapted very well for use with 13-16 year olds. Improved use of antibiotics and hygiene in young adults will be most effectively attained by teaching about antibiotics and hygiene at several stages in a child's education. Educational and marketing research has shown that any key messages need to be taught several times for life-long learning. This is why we suggest that a pack is developed for 9-11 year olds and 13-16 year olds. In addition to the electronic version of the Bug Investigator, the partners have extensive experience with a development and evaluation of Web sites about antibiotics for the public.

The Antimicrobial Resistance website on NeLI (www.antibioticresistance.org.uk) comprises a selection of frequently asked questions about microbes, antimicrobials and antimicrobial resistance and provides the consumer with links to evidence based resources on the Internet if they require more depth. A number of evaluation studies conducted to assess an impact of the website demonstrated a significant knowledge gain and attitude change towards not expecting antibiotics to be prescribed [Madle 2004]. The associated countries' cultural differences need to be investigated carefully so that appropriate activities for each country's needs are developed.

This is why we have incorporated a research period. Full implementation of the pack in each country will necessitate the translation and adaptation to suit the associated country's culture and language. This is most efficiently attained by a member of staff in each of the associated countries, who is supported by the pack and web designers and associated partners. A similar method will need to be taken to adapt the Web site to local needs and cultural differences. To save duplication of effort, in Belgium the French speaking schools will use the packs translated and designed in France. At the presentation meeting to collaborating countries we will have several versions of the activities available to suit different cultures, so very little further adaptation will be needed.