PROJECT FINAL REPORT

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Project acronym: XPLORE HEALTH

Project title: A European gateway to the science and research of health, through online and offline innovative activities aimed at citizens, patients, pupils and teachers

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4.1.1 An executive summary

Xplore Health is a **European educational portal** on cutting-edge **health research** that offers innovative multimedia & hands-on resources & events aimed at young people aged 15 to 18.

The portal has been launched with the funding of the European Commission, through the 7th Framework Programme, and has been developed by a European consortium coordinated by the **Barcelona Science Park** (PCB), a meeting point between research centres, industry and society boosting biomedical research, and promoted by the University of Barcelona. The consortium also includes **Centre of the Cell** (COC), a science education centre located within Queen Mary, University of London. Both PCB and COC are located within biomedical research centres and have vast experience in delivering science outreach programmes and developing multimedia tools to communicate current research. The consortium also integrates two European networks that coordinate workshops for young students in the context of their outreach activities and educational projects: **European Schoolnet** (EUN), the consortium of 30 Ministries of Education in Europe working with an extensive network of schools in Europe and the **European Network of Science Centres and Museums** (ECSITE), which includes more than 400 members including science centres, museums and research centres. **Ubach Munné**, a Spanish consultancy, is in charge of the project management.

Xplore Health is an opportunity window into current biomedical research for students from different countries to get closer and play a participative role in the "day to day" activities of laboratories. The portal offers different formats, such as virtual experiments, where students can conduct online-current experiments, entertainment and video games now contextualized within current scientific developments or videos.

At the same time, the portal also provides educators with experiment protocols that will enable museums and research centres across Europe to recreate research projects. These tools invite their audiences to carry out experiments, such as the synthesis of a drug against Parkinson’s disease that is currently under research at the Barcelona Science Park, or a bacterial transformation project that is also being researched at the University of Barcelona within the framework of a project against atherosclerosis.

Xplore Health is also committed to train citizens in the ethical, legal and socioeconomic issues that revolve around research. To the end, the portal also provides tools to promote social debate around these issues. Among other initiatives, card games are provided so that schools and museums can discuss these issues with strong arguments and, at the same time, participants can express their conclusions through a blog.

The content in the portal is structured in 8 thematic modules that cover the following biomedical topics: drug development, biotechnology, genomics, malaria, HIV/AIDS, skin cancer, obesity and mental health.

Each module contains a multimedia gallery and resources for educators.

All contents are published in four languages: English, French, Polish and Spanish, and thanks to external contribution they have also been translated into Catalan.

4.1.2 A summary description of project context and objectives

Xplore Health is a **European educational portal** on cutting-edge **health research** that offers innovative multimedia & hands-on resources & events aimed at young people aged 15 to 18.

Its main aims are:

- Decreasing the gap between current biomedical research and education
- Inspiring future researchers
- Promoting scientific literacy
- Stimulating social debate

It is promoted through a strong dissemination programme with activities in internationally recognised museums, research centres and schools.

4.1.3 A description of the main S&T results/foregrounds

The goal of this project is to build and promote an online and offline interactive environment – with multimedia tools and supporting activities – that nurtures active engagement of society with state-of-the-art science and research around health and FP research projects. To achieve this objective an interactive portal called XPLORE HEALTH has been developed with engaging, accessible and rigorous resources and then, through associated activities, the portal content has been disseminated to reach a desired target such as young people above 15 years old and teachers. The design of the work packages has been as a pipeline through which basic science together with specific research projects and results in health can be converted into an attractive, interactive and innovative communication channel adapted and made available to the selected audiences.

In order to facilitate a two ways communication channel, the portal has been designed to encourage the scientific community to develop new content and to facilitate the public to express their views.

The development of this project has been divided into eight work packages, which have been managed with special attention so that all activities provided feedback to other elements of the project to obtain a robust and sustainable model rather than one-off activities.

The Initial user requirements work package (WP1) included a survey to identify the areas of interest of the project's audience, scientific literacy and a review of preferred channels and difficulties to access the existing research information in health with suggestions for improvement which provided the guidelines upon which new communication channels were designed, produced and, later on, evaluated.

Simultaneously, WP2 developed the portal using an open source content management system (Drupal) integrating Web2.0 tools, and fed it with all the content.

WP3 was devoted to define portal scientific content gathered in the documents containing scientific background and ethical, legal and social aspect of eight different areas of health science. Based on these documents with close collaboration with scientists experienced in the field, the scripts for multimedia tools have been developed.

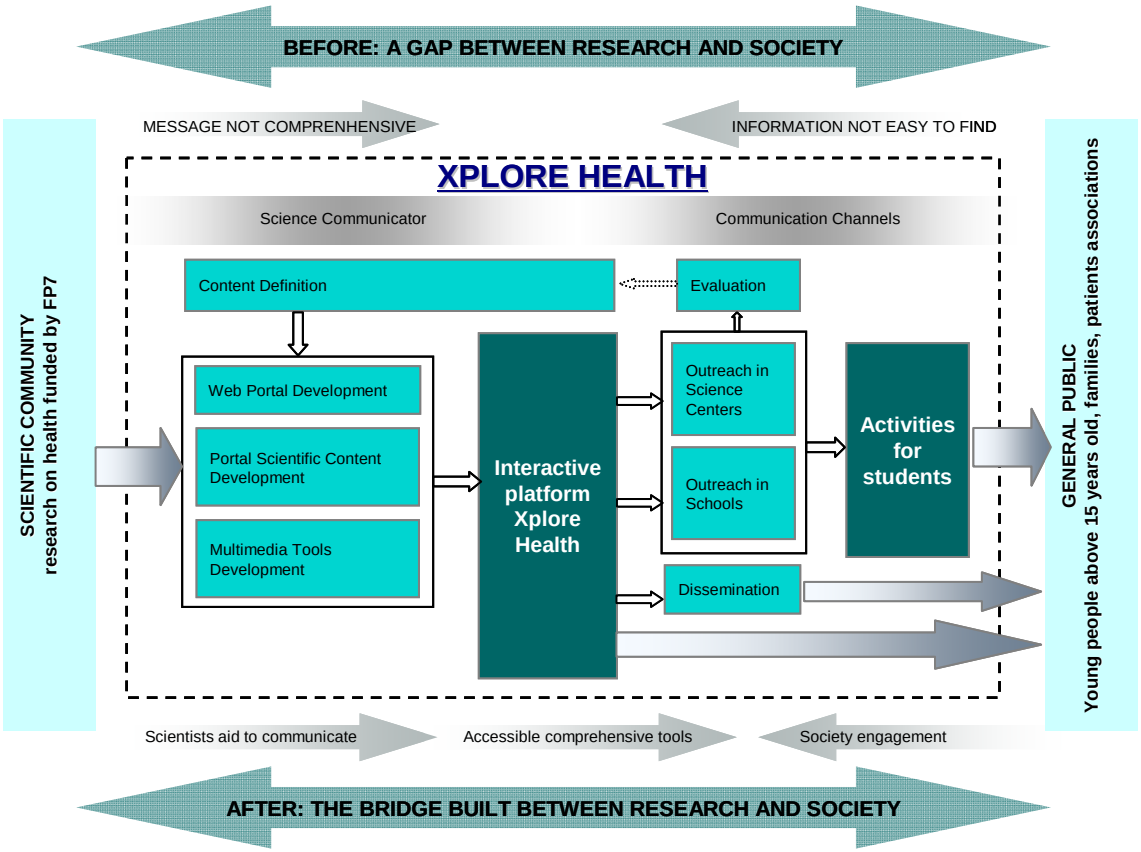
To make scientific content engaging and accessible, it is communicated through interactive tools developed in WP4 such as virtual experiments, animations, games to promote dialogue, videos, all developed in continuous interaction with results processes run by WP1 (specifications) and WP3 (scientific content).

Although the portal is free-access and accessible to everyone, specific activities, aiming to promote the portal among potential users, were planned in WP5 and WP6. These activities composed both of on-line and off-line exercises organised within the science centres and museums (WP5) and within schools (WP6). In this way, the materials and concepts generated by

the project were easily provided in direct demonstrations to selected audiences, which increased the visibility of the project, and were direct opportunities to evaluate the resources.

Within WP7 the evaluation of the portal impacts on the target audience was conducted.

Finally, to ensure the portal is known by a wide public WP8 was planned to launch and disseminate the Xplore Health Portal intensively at European level. To assure the self-sustainability of the portal after the project's end, efforts were made to encourage private companies to sponsor new modules and to enhance the outreach programme.



The following describes a summary of the project results and achievements.

⇒ **Survey**

The survey was planned and run in order to investigate the user needs of three target groups of the Xplore Health portal:

- **School students aged 15-21**, represented by teachers
- **Science centre and museum visitors**, represented by science centre and museum professionals
- **Patients groups**, represented by patients groups' professionals.

The strategy employed was to first conduct a quantitative survey online, in order to collect a large amount of data from a wide range of sources in a short space of time. This was followed by a

series of focus groups, with qualitative questions, in order to delve into the detail and analyse the initial results of the data. This ensured a detailed yet wide-ranging result in order to feed the user needs back into the portal.

Based on the results obtained the following key findings can be underlined:

- Science centres and museums, schools and patients groups already deal with current health research, but feel **they need support and resources** to do this. Teachers in particular feel the need for this support and additional resources.
- Although all groups see Ethical, Legal and Social Aspects of research as important, and feel they have a good knowledge of them, **ELSA are not widely integrated into the activities** of schools, science centres and museums or patients' groups on the whole.
- Science centres and patients groups felt it was **more difficult to engage young people in the scientific method** than current research. For schools, it was the other way around.
- **All the proposed topics were validated as interesting and relevant** for activities with this age group.

The order of preference of the tools is clear from the visualization of the results.

- The **less time-consuming formats** are preferred, as they are easier to fit into planned activities.

This applied to video formats but also to other types of activity.

- **Investment in equipment is a limiting factor** when it comes to formats of activities.
- **Teachers tended to have little experience with experimental protocols**.

The conclusions drawn from the survey took into account in the design of the tools offered on the Xplore Health Portal.

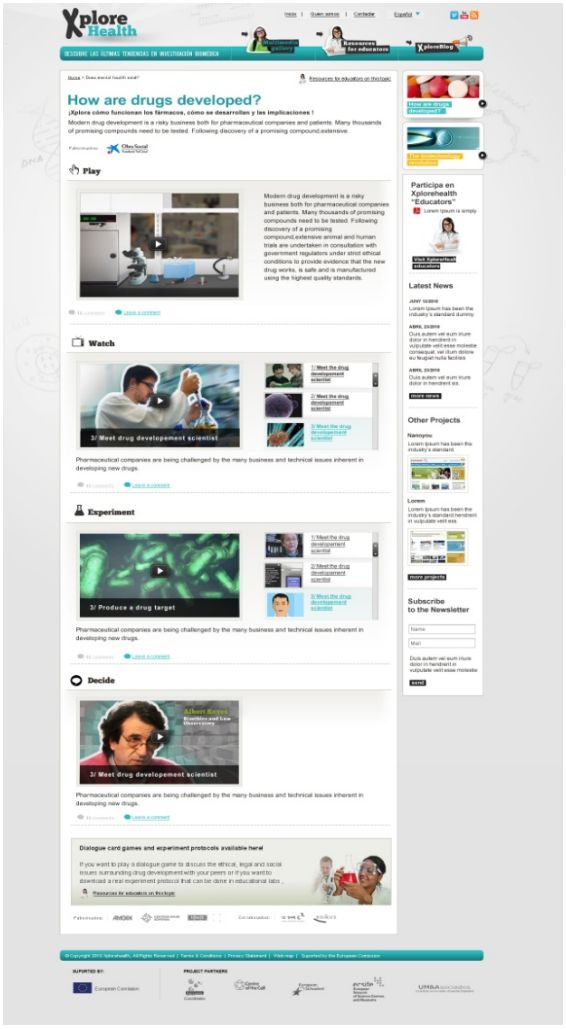
⇒ **Portal and tools development**

PORTAL

During the project the Xplore Health Portal has been developed. The emphasis on its design was made in order to ensure the final result will be engaging for the Portal audience.

The process started with a benchmarking phase to identify which internet trends existed for our particular audience. This was followed by the content architecture definition, navigation and graphic design. In the final design bright colours were introduced as well as many images of young people. Gender and racial issues were taken into account when choosing the images in order to have a real representation of young Europeans taking into account the societal differences of each country.

The content in the portal is structured in eight thematic modules that cover the following biomedical topics: drug development, biotechnology, genomics, malaria, HIV/AIDS, skin cancer, obesity and mental health.



The modules have been published for the duration of the project and contain:

1- A "**MULTIMEDIA GALLERY"** with the following educational resources:

- **Play! – video games** contextualized within current scientific developments

These interactives allow young people to understand scientific information on the diverse module topics while trying to solve the challenges posed by the games, such as to identify the best drug treatment or to diagnose a disease such as melanoma correctly. Each game starts with introduction when basic concepts are explained using images and animations.

- **Watch! – introductory videos** on each topic and **videos highlighting current EC funded research projects**, such as ORCHID, VIZIER, GENOSTEM, PHARMA PLANTA, SKINSPECTION, GENOMEL, Pregvax, CHAIN, among others

Each introductory video provides an overview of the topic using language and graphics that are easily understood by non-expert audiences.

In each module there are two videos that include interviews with coordinators of the EC-funded projects related to the topic. The investigators explain the latest research developments and clearly communicate the real-life applications this work. Health research is demonstrated as being an important collaborative and creative process involving researchers based in many different countries. The videos allow young people to gain understanding of the health research taking place in laboratories and clinics throughout Europe.

- **Decide! – videos on ethical issues**, to promote dialogue

Young people and experts share their views on controversial issues surrounding the research presented in each module. These videos support and promote further discussion on the ethical, social and legal aspects surrounding each topic and can be successfully used in conjunction with the dialogue games available on the Portal.

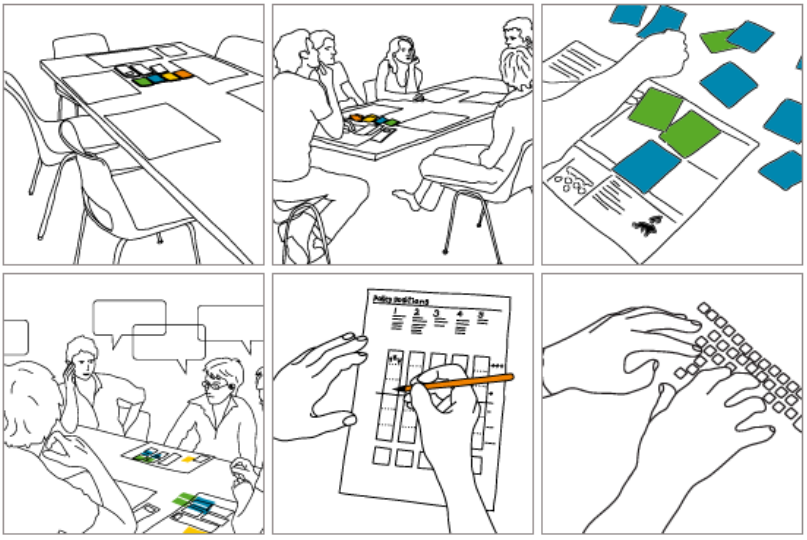
- **Experiment! – virtual experiments**, enabling students to conduct the latest health research online

These interactive experiences provide young people with opportunities to carry out experiments and surgery in virtual laboratories and clinics. Laboratories and clinics have been carefully recreated by sourcing images of the real equipment that scientists and doctors use and by including research findings supplied by experts. The virtual experiments make research accessible to young people who are unable to attend OpenLab activities and schools that do not have laboratories or sophisticated equipment.

2- A section with "**RESOURCES FOR EDUCATORS"** which includes the following hands-on tools:

- **Games to promote dialogue** about ethical, legal and social issues relating to research that can be used in schools, science centres or museums. These dialogue activities provide young people with the opportunity to discuss the different view points and issues surrounding the module topics.

Two dialogue game formats have been used for Xplore Health tools: PlayDecide and the Discussion Continuum. PlayDecide is a dialogue game to discuss controversial issues in a simple and effective way that is easy to set up. This discussion game requires a small group of people (four to eight, although it works best with five to six people) around a table. The game takes about 80 minutes to play. A facilitator guides the players through the game and ensures that the discussion remains balanced, on-topic and supported by evidence in the game, and that everyone is given a chance to express their opinion.



The game uses Story Cards to introduce the perspectives of real individuals affected by the topic. Info Cards provide the factual background and Issue Cards raise controversial issues and questions, to spark the discussion. Players are given time to read the information and choose cards which appeal to them, whether it is because they can relate personally, because they find the card brings up something important that they would like to see represented in the discussion, or any other reason. The result is a discussion which talks about issues relevant to people's real lives and which draws on the real ethical, legal and social aspects of science. The outcome of the discussion is a group consensus on one of a range of policy positions. The results of the consensus are uploaded to the game website and can be analysed country by country.

PlayDecide is particularly well-adapted to broader topics where a significant amount context and personal perspectives are required.

The Discussion Continuum is a dialogue tool which allows groups to engage with controversial ethical, legal and social aspects of science in a controlled environment, ensuring the discussion is based on existing scientific knowledge and addresses real questions which affect research. Groups of 8-12 students discuss the issues raised by each of a selection of statements and choose where each card should go between 'agree' and 'disagree'. The format is flexible according to constraints of time and group size: larger groups could use the resource to

have a free discussion of the topic or students could work more formally or in smaller groups. A facilitator ensures the discussion runs smoothly. The tool is particularly well adapted to covering a narrower topic which divides opinion.

After a debate, participants can also express their viewpoints through a blog available on the portal.

Each Xplore Health module contains Dialogue Game in the five languages: English, French, Spanish, Catalan and Polish. All the kits available on the Xplore Health portal and are free for students and patient organisations and other audiences to use. The PlayDecide games are also available on the Decide game portal (playdecide.eu) thereby achieving a greater impact and visibility for the project.

- **Educational Pack** containing background information on the topic, lesson plans and tools information

Background information: includes a report with one section on the state of the art of the area, written by an expert, and another section on the ethical, legal and social aspects around it, written by other scientists with a specialised expertise on these issues.

For each module, EUN produced an '**Educators' guides: Tools information'** on the tools proposed with an ID table, instructions and ideas on how to integrate them in lessons for each of the tools.

EUN also produced '**Educators' guides: lesson plans'** proposing transversal lesson plans on several aspects of the topic of each module. The lesson plans offer ideas on how to start the lesson, pre-knowledge that students might have to have, introductory activities, activities around the tools, group works, concluding the activities. The lesson includes the use of several tools to teach on one specific aspect of the subject of the module.

The tools information and lesson plans were elaborated in collaboration with the National Coordinators, secondary schools teachers. They contributed mainly on the way to integrate the use of the tools in the classroom and with ideas of lesson plans for the teachers on Xplore Health topics.

- **Experiment protocols**: include protocols of experiments that are being carried out in the laboratories. Youngsters have a unique opportunity to conduct experiments linked to current real research, such as synthesising a candidate drug treatment for Parkinson's disease that is currently under research at the Barcelona Science Park, or a bacterial transformation to produce a protein that is being researched as a possible new drug target for atherosclerosis.

All contents are published in four languages: English, French, Polish and Spanish, and thanks to external contribution they have also been translated into Catalan.

MODULES:

The tools described previously have been developed for eight Xplore Health Modules

M#1: HOW DRUGS ARE DEVELOPED?

In this module you explore how drugs work, how they are developed and the ethical implications of this long process.

M#2: THE BIOTECHNOLOGY REVOLUTION

In this module you know the different applications and research lines of biotechnology and the ethical implications they have.

M#3: SKIN CANCER EXPOSED

Discover why melanoma is such a serious disease and how you can reduce your risk of developing it. Meet doctors and scientists who are working with families affected by melanoma to develop life-saving technologies.

M#4: TOWARD A MALARIA-FREE WORD

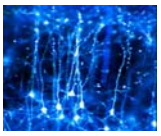
Xplore malaria and some of the research that is taking place to eradicate it, from prevention to the investigation of the malaria vaccine.

M#5: A CRISIS OF FAT?

People in many countries around the world are gaining weight. The problem of obesity is spreading and poses serious health threats. What is obesity? Why are some people more at risk? Can obesity be prevented?

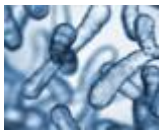
M#6: TOWARDS AIDS ERADICATION

You discover how scientists and doctors are investigating to find a cure and a vaccine for HIV and AIDS.



M#7: RETHINKING MENTAL HEALTH

Mental health is how we think, feel and behave as we face the daily ups and downs of our lives. Mental health problems such as depression are the leading cause of disability for young people worldwide. Prevention, early detection and treatment are key issues. But stigma continues to surround mental health and it is often difficult for people to get the help they need. Discover how health professionals, scientists and people living with mental health conditions are working together to find solutions to these problems.



M#8: DOWN TO THE GENES

What do our genes tell us? Why knowing how to read the information they contain is so important? Genes contain the most valued life secrets about everyone and scientists have already begun to decode and interpret them. Soon our medical records will tell us what these genes are and how likely we are to suffer from certain diseases, and doctors will prescribe us the drugs best suited to our genomic profile.

In the Table 1 the summary of the tools published during the period can be found.

Table 1. The numbers of tools available on-line

Module	Videos	Dialogue games	Experim. protocols	Virtual expts. /Games	Educational pack
M#1: How drugs are developed?	4	3	1	3	1
M#2: The Biotechnology revolution	4	1	1	2	1
M#3: Skin Cancer exposed	4	1	-	2	1
M#4: Toward a malaria-free word	-	-	-	-	1
M#5: A crisis of fat?	4	1	1	2	1
M#6: Toward AIDS eradication	-	1	-	-	1
M#7: Rethinking Mental Health	4	1	1	1	1
M#8: Down to the genes	4	1	-	-	1

⇒ Outreach in Science Centres

Ecsite in collaboration with EUN organized the selection of the five members of the Outreach Committee from all science centres/museums in the Ecsite network in Spring 2010. Responsibilities included organising two events with “open lab” experimental workshops and dialogue activities in each science centre or museum. Ecsite selected five science centres/museums from four European countries:

- FRANCE: Jardin des Sciences, Strasbourg
- POLAND : Copernicus Science Centre, Warsaw
- SPAIN : Domus, La Coruña
- UK : Centre for Life, Newcastle
- UK : At-Bristol, Bristol

Outreach events consisted of two central elements: Open Lab activities and Dialogue events. Open Labs gave young people the chance to develop real research experiments that are part of current European projects, in situ, using protocols available on the Xplore Health portal. The students participating in open labs tried out the protocols and engaged with the other tools to understand the context of the experiment they developed.

The Dialogue Events allowed the public to engage in the health issues in activities run by the host institution in collaboration with researchers. This element of the outreach event focused on debate and discussion of the ethical, legal and social aspects of the topic of each module, inviting young people to engage with complex and often controversial themes in a way which encourages open, respectful, evidence-based participatory dialogue.

The science centre outreach events took place on a much broader scale than originally planned, reaching students from across each of the four countries engaged in the project. A total of 21 Science Centre Outreach Events took place across the UK, Poland, Spain and France. These events engaged 685 mixed gender students from 46 schools in lab and dialogue activities on two modules of the Xplore Health project: drugs development and biotechnology.

Table 2. Summary of Science Centres events

	Events	Students	Schools
At-Bristol	2	59	4
Centre for Life	2	69	6
Copernicus	2	280	26
DOMUS	8	170	5
Jardin des Sciences	7	107	5
Total	**21**	**685**	**46**

The number of events organised and students engaged varied depending on the ability of the science centres to fit the Xplore Health workshops into their existing activities. In the UK, science centres' schedules were less flexible but the outreach events served as pilot activities for the science centres to be able to test the materials and later implement them on a broader basis, as planned in the original project description. In Poland the events were adapted in order to accommodate great numbers of students, testing out the resources on a large scale and showing the adaptability of the materials. In Spain and France the Outreach Committee members were very successful in integrating the Xplore Health events with their existing activities, thereby achieving a much greater impact than was planned in the original project.


Science centres varied in the way they implemented their outreach events. Some held the lab and dialogue activities on the same day; others such as Jardin des Sciences spread them across several days. Some such as Copernicus engaged a wide range of students on single events, others such as DOMUS engaged smaller groups but with a greater number of events. This shows the flexibility of the Xplore Health project outcomes, which was built in to the project tools in order to ensure their sustainability on the long-term.

In terms of impact, the project inevitably reached a much wider audience through dissemination and online activities than through the Outreach Events. But as well as testing the resources, the Outreach Events demonstrated the types of active engagement with the project that can be achieved with simply the resources developed by the project and a relatively limited budget, and the dissemination activities around the events served to raise awareness of the project even further.

⇒ **Outreach in Schools**

Concretely, EUN implemented the schools activities organising first demonstration in each of the Xplore Health Pilot Schools and secondly, coordinating and following the evaluation and validation of the Xplore Health tools in the same schools.

Each National Coordinator organised one demonstration in each of the Pilot School based in his/her country using the first module of the project. The visits took place at the end of the school year 2010-2011 and at the beginning of the following school year (2011-2012) to make sure the schools and teachers were engaged in the project and familiarised with the website. The objective was to introduce the project and make sure Pilot Schools were ready to test the materials. Following the introductive sessions given by the National Coordinators, each Pilot School had to provide a report on the introduced module and its tools.

The National Coordinators had to coordinate and follow the activities in Pilot Schools after the demonstration. The first module of the project (Drug Development) was tested at the end of the school year 2010-2011 or at the beginning of the following school year (2011-2012) by one Pilot School minimum in each country. The tools tested for module 1 were the virtual experiments (‘develop a drug’ and ‘produce a drug target’) and the videos (‘the long and incredible story of a

tablet' and 'New drugs against new threads'). Tools from modules 2 to 4 were tested by the other Pilot Schools during the school year 2011/2012 depending on the cycle of the publication of the modules on the Xplore Health website. Tools assessed for each module can be seen below:

Table 3: Tools evaluated in Pilot Schools

Modules	Topic	Tools to evaluate
1	Drug development	1. The long and incredible story of a tablet 2. New drugs against new threads
2	Biotechnology	1. Game: Help to cure Nadia's cancer 2. Virtual experiment: Engineer skin
3	Skin cancer	1. Game 2. One video on EC-funded research into skin cancer (melanoma)
4	Malaria	1. Virtual experiment 2. One introductory video on the topic Malaria

Based on these pre-requisites, the National Coordinators were asked to prepare an action plan including:

- Plan of the **demonstration** sessions: topic/module covered, expected number of teachers and students reached
- Plan for the **activities in class to validate and evaluate** the tools explaining how activities will be implemented
- **Dissemination** plan with the promotion channels and strategies: list of events, mailing lists, websites

For each session organised in schools, at least one class followed the Xplore Health demonstration and as many teachers as possible in each school were introduced to the project. The goal of these sessions was to demonstrate the activities (tools and resources) developed by Xplore Health to the main target, namely the teachers and their students.

The National Coordinators used one or several lesson plans proposed in the **Xplore Health educators' guide: lesson plan** from the first module on drug development. The session took the form of a half day to one day activity and the programme included:

- A session with relevant teachers from the school to introduce the project, the portal, the tools and the resources including an introduction on health research and on ELSA
- Workshop of 45 minutes to 1 hour in one class selected in collaboration with the school to demonstrate the Xplore Health tools and show how it can be integrated in a lesson.
- Explanation on the process to follow to participate to the evaluation of the educational activities with a presentation of the questionnaires to be filled in by the teachers and the students.

In each Pilot School, the teacher acting as School Coordinator had to prepare the session. He was asked to select in collaboration with the National Coordinator the most relevant lesson plan from the **Xplore Health educators' guide: lesson plan** according to the subject taught, the curriculum and the programme in the school.

The purpose of having National Coordinators physically present at Pilot Schools for the demonstration was to officially introduce the Xplore Health project to the Pilot Schools and demonstrate the purpose and ideas behind the project and the use of its tools and background materials. This way European Schoolnet ensured that the schools and its teachers were well prepared in carrying out activities with future modules with their students.

European Schoolnet kept National Coordinators regularly updated on the publication timeline of modules on the website. European Schoolnet also specified which tools had to be tested by the Pilot Schools for each module.

The participating students and teachers were asked to fill out a questionnaire after taking part in an Xplore Health activity to evaluate the tools and resources developed for the project. The data collected through questionnaires serves the quantitative analysis on the improvement in understanding, knowledge and confidence in discussing topics. It also addressed the level of activities in view of the students' age and methods used to study these fields and finally the impact on student participants' future career choice.

The demonstration sessions organised in the context of the outreach to schools were successfully implemented by the four teachers acting as National Coordinator and coordinated by European Schoolnet. The sessions had the purpose to officially introduce the Xplore Health project and its purposes to the group of Pilot Schools and demonstrate how to use the tools. European Schoolnet this way ensured that the schools and its teachers were well prepared in carrying out activities of future modules with their students.

As shown in table 2 below, in total, National Coordinators introduced the project to between **585 and 800 students** and 25 teachers. From the demonstration reports we can see that all Pilot Schools were introduced to Xplore Health with the first module on drug development.

The table includes in some cases a range between minimum number of students and maximum number of students involved in the activities. This is due to the fact that the National Coordinators did not always know the exact number of students.

The objective originally set in the Description of Work in terms of target public reached has been achieved since the estimated impact was at least: 1 class per school (~25 students /class) x 5 schools = 125 students x 4 countries = **500 students in the first outreach stage**.

Table 4: Number of students and teachers from Pilot Schools involved in Xplore Health activities

	Target	UK	Spain	Poland	France	Total
Demo	Students	85 – 100 (*)	350 - 500	75 - 100	75 – 100	585 - 800
	Teachers	*5*	*10*	*5*	*5*	*25*
Validation	Students	67	335 to 365	115	103	620 - 650
	Teachers	*5*	*12*	*7*	*4*	*28*
TOTAL	**Students**	**152 to 167**	**685**	**190 to 215**	**178 to 203**	**1205 - 1270**
	Teachers	***10***	***22***	***12***	***9***	***53***

(*) In cells with 2 figures, the first number is the minimum number of individuals involved and the second number is the maximum number of individuals.

Most of the schools then run activities with the following modules while they were release on the portal of the project. Activities carried out in the Pilot Schools for modules 2, 3 and 4, were organised in various ways as teachers were free to choose the methods they preferred. The method varied between individual work, group work, class discussion, and homework or a combination of several of these methods.

Overall the feedback was positive from both the students and the teachers. As shown in Table 2, the validation and evaluation of modules organised in the Pilot Schools involved in total between **520 and 650 students** and 28 teachers.

The outreach to schools activities including the first phase (demonstration with first module) and the second phase (validation with following modules) reached in total between **1205 and 1270 students** and 53 teachers in France, Spain, United Kingdom and Poland.

⇒ **Evaluation**

During the project the evaluation of its result was conducted by the independent evaluator. In collaboration with Project Partners the strategy was defined. The following aspects of the project were assessed:

- Impact of outreach activities in schools
- Impact of outreach activities in museums and science centres
- Project impact and dissemination
- Evaluation of the organisation of the project

Evaluations were carried out on activities carried out in schools and in Science Centres. The wider impact of the project and management issues was also investigated.

Through the outreach programme, a number of these activities were assessed in schools and in science centres in four countries, France, Spain, Poland and the United Kingdom. Data for

evaluation analysis was collected in two ways; through questionnaires, to obtain quantitative information, and by interviews, to collect qualitative and contextual information. Completed questionnaires were collected from students and teachers in schools and from students, teachers and science centre staff in science centres. Interviews were carried out with teachers (including teachers acting as national coordinators), science centre staff and the project partners.

In both, schools and science centres, Xplore Health was clearly rated a success with all groups taking part, despite some difficulties experienced with the delay in publication of some of the modules. Overall positive scores were recorded for all questions in questionnaires from all groups. In particular improvements in understanding, knowledge and confidence in discussing topics were significant. Participants felt that the activities were at the correct level in view of their age and were an appropriate way to study these fields. Although student participants thought that the experience of Xplore Health would have some influence on their career choice the response in this area was slightly less positive than in other areas.

The level of activities, their high quality and scientific credibility, as well as their relevance to everyday life, and the context of working with real examples were highly commended by teachers.

Through the interviews, teachers also commended the level of difficulty of activities, in relation to student age. Younger students found some activities more challenging than their older counterparts, suggesting that, in future, a variety of age related activities could be provided. High quality scientific interpretation and scientific credibility was particularly valued because these cannot be relied upon elsewhere. Xplore Health was felt to be almost unique in this respect. Relevance to everyday life and school curricular were also valued. It was especially useful to be able to use real examples, and, when visiting science centres, to be able to work in more sophisticated laboratories than are available in schools.

The active learning or enquiry-based learning style was very popular and successful in achieving the project's objectives. Teachers saw Xplore Health as a very useful tool in advancing teaching practice. In particular, the website was seen to be clear and easy to use. It will be valued as a resource by teachers and will be used in the future. It was rated even more highly by teachers than students, perhaps for its teaching resource value.

Some practical issues, such as difficulties in interpreting complex science, requiring extensive prior knowledge, to a number of different audiences, in different languages, delayed publication of some later modules. Project partners concentrated on accuracy and quality rather than rushed publication, which would have undermined the credibility of the entire project. The wisdom of this is borne out by comments and appreciation by professionals using the materials.

Sufficient material has been published for valid conclusions to be drawn and for lessons learned to be applied in the future.

4.1.4 The potential impact and the main dissemination activities and exploitation of results

⇒ **The project impact**

The following presents the conclusions drawn from the evaluation of project impact carried out by the external company.

The objective of this project was to create an interactive Platform to inform and engage young people about Health science. The tools provided by Xplore Health were received enthusiastically by students and teacher involved in the project.

Xplore Health focused on some specialised scientific fields through a series of online educational modules. Each module contains a variety of activities, including online games, protocols for student experiments, virtual or simulated experiments, video reports of research, interviews with scientists and other tools to explore moral, social, ethical and legal issues surrounding the research.

Xplore Health was an undoubted success. From the selection of topics to the development of practical modules, with input from research scientists as well as scientific interpreters and educationalists, Xplore Health has resulted in a virtually unique resource for use by the whole community.

The production is engaging, accurate, scientifically credible, and often challenging and expensive to produce, but the lessons learned are invaluable. As a result of this project the factors involved in constructing a multinational collaboration are much better understood. Those involved in the project, from the management group to teachers delivering module activities, have contributed to an outstanding facility and have benefited through their own experience.

This approach to the teaching of difficult, and sometimes controversial, scientific issues was thought by some to be revolutionary. The scientific credibility of the information provided is paramount. The expertise now built up by the team, should not be lost. Measures to promote the use of existing modules and to develop more through this and other projects would be sound investments for the future.

In a novel project of this nature delays and difficulties can be expected. The fact that they were overcome in a constructive and productive way is commendable but most important of all is that the consumers were delighted and rated it so highly.

Below is an outline of the recommendations drawn up from the quantitative and qualitative analysis made for the evaluation of the Xplore Health project:

- Resources and expectations should be more closely aligned.
- Timetables for production should be discussed in advance with material providers.

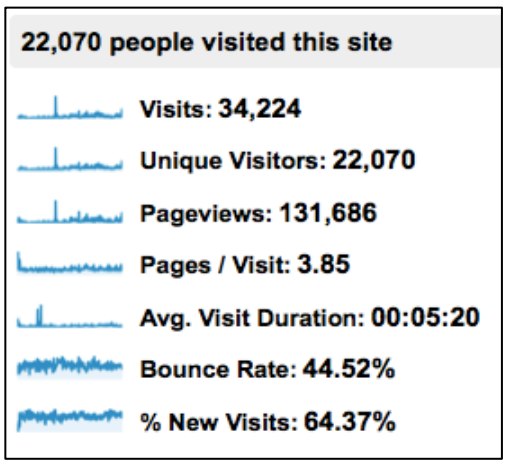
- The project should be sustained.
- More support in application and use of the website and its activities should be provided for teachers.
- Resources should be provided for an advertising campaign throughout Europe.
- More time and effort should be spent on planning realistic delivery in relation to school calendars.
- Implementation of a communal project management system from the outset.
- More emphasis should be placed on scientific interpretation and language translation.
- Development and quality assurance by scientists involved in the research must be maintained as cornerstone of similar projects.

⇒ **Dissemination activities**

In order to promote the Portal, the consortium has conducted a strong communication campaign, covering on the one hand a strong social media campaign, conducted by PCB, and on the other hand dissemination actions covering leaflets, newsletters, mailings, and attending events and presenting the portal all around Europe, which have been conducted by all the consortium.

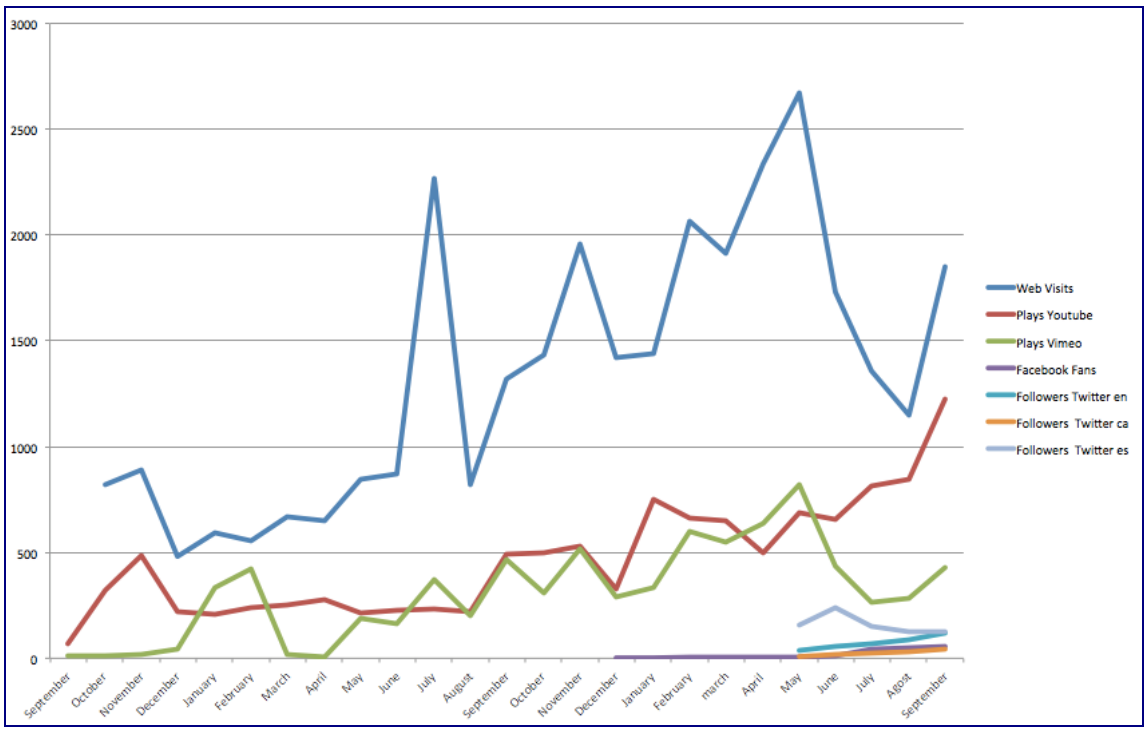
2nd Project Leaflet

The social media campaign started with the design of a strategy which first led to the creation of You Tube and Vimeo channels, and accounts on social media networks such as Facebook, Twitter and Slide Share to raise the online profile of the portal and ensure its wide dissemination.

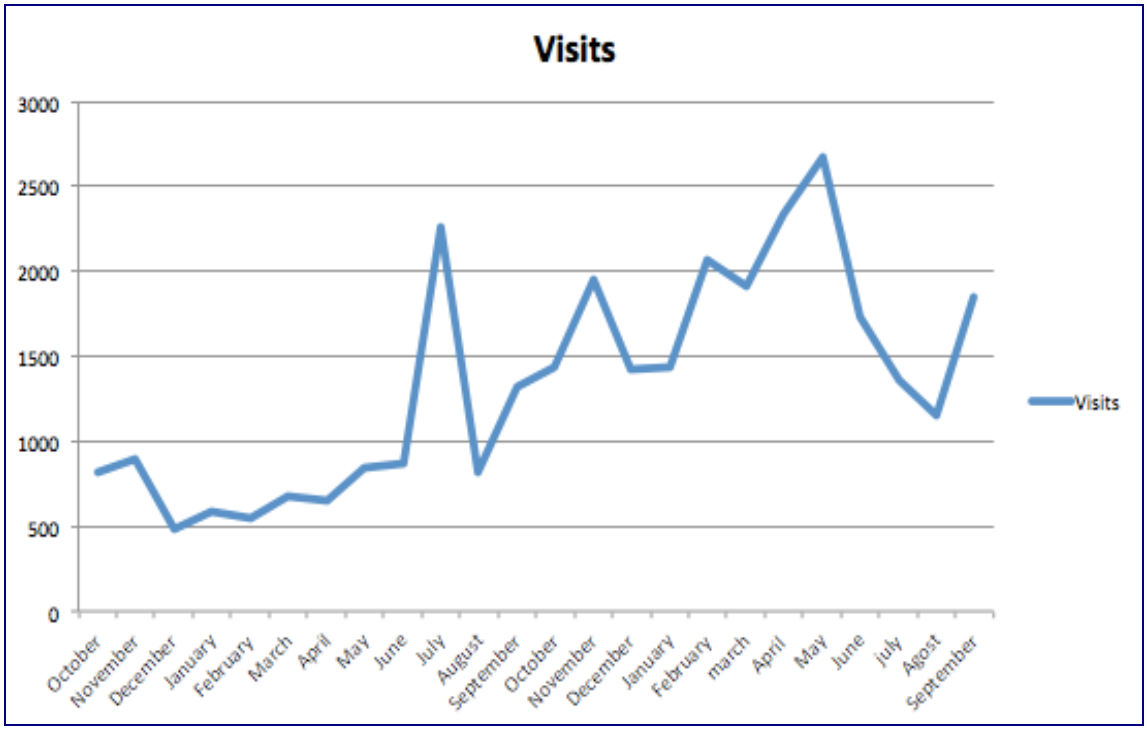


From October 2010 to October 2012, 22.070 people visited the portal with an average of nearly 4 pages visited per person during 5 minutes, which indicated that the visitors spend time viewing the tools. This can be confirmed by looking at the number of hits that the website show under each tool, some of which already have raised up to more than 30.000 hits, showing that some people played the games more than once.

In general, on all social media, there is a steady increase of traffic:



The visits to the portal show a steady increase since it was launched two years ago, on October 2010, and we can see on the graph that during summer holydays there is an important decrease in the number of visits, due to the holyday period.



The number of visits per country shows that Spain was the country where more people visited the website, followed by France, Poland and the UK, which were the countries where the outreach programme was organised.

	Country / Territory	Visits ↓
1.	Spain	15,417
2.	France	2,906
3.	Poland	1,601
4.	United Kingdom	1,345
5.	United States	1,006
6.	Belgium	740
7.	Mexico	375
8.	Italy	359
9.	Germany	353
10.	Colombia	232

In summary, the promotion of the portal is leading to a steady increase in the number of visits to the portal, and also to some tools that are published on other channels:

Channel	TOTAL
Web Visits	32 099
Plays Youtube	11 594
Plays Vimeo	7 722
Facebook Fans	58
Followers Twitter en	364
Followers Twitter ca	127
Followers Twitter es	795
Views Slideshare	8 260

Xplore Health will continue working on social media management with the aim of increasing the traffic to the website.

More details on the dissemination activities in Template A2 on page 22.

⇒ **Results exploitation**

The Xplore Health Project had very ambitious objectives. During its 32 months eight modules have been published containing very high quality tools. The portal offers a very wide range of innovative multimedia tools covering all the topics listed above. The **traffic** to the portal is steadily increasing, mostly coming from students working with the tools both in class and individually. We expect the number of visits to continue increasing after the project has finished, and for that reason we are focusing on **promoting the Portal** through Twitter, Facebook, publishing newsletters and attending conferences and congresses aimed at educators, among other actions. For example, in September 2012 Xplore Health was presented by PCB during a workshop in the Future Classroom Lab, in the European School Net, Brussels, which was organised as part of the Scientix project (www.scientix.eu). The Barcelona Science Park is also working with researchers and teachers to develop new lesson plans.

Xplore Health is becoming a reference "window" to enable secondary school students to **link their biomedical curricula to current research**. It is also starting to become a reference for other audiences with an interest in health research. In that respect, some **patients' seminars** have been organised to present its educational resources. On 15th October 2012 a seminar for patients was organised in the cultural centre "Caixa Forum", in Barcelona, where scientists explained the latest advances on the development of the vaccine against HIV, and Xplore Health was also presented to offer its tools as means to facilitate the dissemination of research in this field.

During the project efforts were focused on engaging the relevant stakeholders to the project in order to raise funding for its development and to assure self-sustainability in the future. The commitment of "Fundació la Caixa" will allow the development of new content for the Portal in the future and they will also fund further outreach activities.

4.1.5 The address of the project public website and contact details

Project Website: www.xplorehealth.eu

Coordinator contact details: Rosina Malagrida
Fundació Parc Cientific de Barcelona (PCB)
e-mail: r.malagrida@pcb.ub.es

4.2 Use and dissemination of foreground

Section A (public)

This section includes two templates

- Template A1: List of all scientific (peer reviewed) publications relating to the foreground of the project.

  There have been no scientific publications so far

- Template A2: List of all dissemination activities (publications, conferences, workshops, web sites/applications, press releases, flyers, articles published in the popular press, videos, media briefings, presentations, exhibitions, thesis, interviews, films, TV clips, posters).

TEMPLATE A2: LIST OF DISSEMINATION ACTIVITIES

NO.	Type of activity	Main leader	Title	Date/Period	Place	Type of audience	Size of audience	Countries addressed
1	Flyer	PCB	Xplore Health Flyer (two versions, one at the beginning and a new one at the end)	Along the Project	Dissemination events	General Public	-	pan European
2	Presentation	PCB	Presentation of the Project to the Department of Education of Catalonia's regional government and to the Ministry of Education of the Spanish Government	December 2009	Barcelona, Spain	Policy Makers	10	Spain
3	Press conference	PCB	Xplore Health – official launch	04 Jul 2011	Barcelona, Spain	Teaching Community and scientists	150	Spain
4	Media Briefing	PCB	Xplore Health – official launch	04 Jul 2011	Barcelona, Spain	General Public;	-	Spain
5	TV interview	PCB	Xplore Health – official launch	04 Jul 2011	Barcelona, Spain	General Public;	-	Spain
6	Presentation	PCB	Presentation of the educational activities of the city of Barcelona	June 2011 &2012	Barcelona, Spain	Teachers	700	Spain
7	Presentation	PCB	Training session of biochemistry teachers	June 2010	Barcelona, Spain	Education Community	50	Spain
8	Presentation	PCB	Open Doors days in the PCB	November 2010, 11 & 12	Barcelona, Spain	Teachers and students	500	Spain

NO.	Type of activity	Main leader	Title	Date/Period	Place	Type of audience	Size of audience	Countries addressed
9	Presentation	PCB	Training Sessions on nanotechnologies in PCB	February, July and November 2011	Barcelona, Spain	Teachers Community	94	Spain
10	Presentation	COC	London STEM Network launch	27 Sep 2010	Hackney, UK	Policy Makers, Educators	40-60	UK
11	Presentation	COC	Science Consultants' visit to CoC	29 Sep 2010	London, UK	Science Communicators	20	UK
12	Conference	EUN	SIRIKT 2010	16 Apr 2010	Kranjska Gora, Slovenia	Education community	100	Slovenia
13	Conference	EUN	NETDAYS 2010	29 Apr 2010	Salzburg, Austria	Education community	40	Austria
14	Conference	EUN	XIV Jornades de l'AEFIQ-Curie	14 May 2010	Spain	Education community	30	Spain
15	Conference	EUN	Fibonacci Conference	22 Sep 2010	Bayreuth, Germany	Education and Researchers community	50	pan European
16	Workshop	EUN	eLearning Conference	10 Dec 2010	Austria	Education Community, Policy Makers	15	Austria
17	Workshop	EUN	Workshop/ EFFE Colloquium: "The internet – health promotion and danger"	19 Nov 2010	Herdecke, Germany	Education Community	15	pan European
18	Conference	EUN	Scientix Conference	6-8 May 2011	Brussels, Belgium	Education Community	400	pan European
19	Conference	Ecsite	5th European Conference on Rare Diseases	13-15 May 2010	Krakow, Poland	General Public	585	pan European
20	Poster	PCB, Ecsite	Ecsite Annual Conference in DASA science centre, Dortmund	4 Jun 2010	Dortmund, Germany	Science Communicators	900	pan European
21	Conference	PCB, Ecsite, COC	Ecsite Annual Conference in Kopernicus science centre, Warsaw	26-28 May 2011	Warsaw, Poland	Science Communicators	900	pan European
22	Conference	PCB	IT-world: congress on education and new technologies	October, 2011	Cosmo Caixa, Barcelona, Spain	Education Community	60	Spain
23	Conference	COC	Association for Science Education (ASE) conference	January 2012	UK	Education Community	3000	UK
24	Conference/workshop	COC	British Interactive Group (BIG) conference	July 2012	UK	Science Communicators	80-100	UK

NO.	Type of activity	Main leader	Title	Date/Period	Place	Type of audience	Size of audience	Countries addressed
						Community		
25	Conference/workshop	PCB, Ecsite, EUN	Ecsite Annual Conference	31 May - 2 June 2012	Toulouse, France	Science Communicators	1000	pan European
26	Conference	PCB	Campus Guttenberg	Sep 2012	Barcelona, Spain	Science Communicators	300	Spain
27	Workshop	PCB, EUN	Future Classroom Scientix Workshop	14-16 Sep 2012	Brussels, Belgium	Teachers Community	53	pan European
28	Conference	EUN	Congrès des Sciences	24 Aug 2011	Namur, Belgium	Teachers Community	1535	pan European
29	Flyers	EUN	EMINENT 2011	7 Nov 2011	Genoa, Italy	Teachers Community	500	pan European
30	Poster	EUN	XXV Encuentros sobre Enseñanza de las Ciencias Experimentales	5-7 Sep 2012	Santiago de Compostela, Spain	Teachers Community	250	Spain, Portugal
31	Conference	EUN	'New Perspectives in Science Education'	8 Mar 2012	Florence, Italy	Teachers Comminuty	655	pan European
32	Conference	EUN	CityM Conference	6-8 Mar 2012	Bucharest, Romania	Project managers, teachers, policy makers, researchers	120	pan European
33	Conference	EUN	10th International Conference on Computer Based Learning in Science	29 Jun 2012	Barcelona, Spain	Teachers Community	80	pan European
34	Workshop	Ecsite	Pilots Training Course for Museum Explainers, Educators and Young Scientists	12-16 Sep 2011	Trieste, Italy	Science Communicators	29	pan European
35	Workshop	Ecsite	Pilots Training Course for Museum Explainers, Educators and Young Scientists	17-21 Sep 2012	Lisbon, Portugal	Science Communicators, Museums Explainers	40	pan European
36	Flyer	Ecsite	European Gender Summit	8-9 Nov 2011	Brussels, Belgium	Science Communicators	400	pan European
37	Flyer	Ecsite	PLACES First Conference	21-23 Sep 2011	Paris, France	Science Communicators, Policy Makers	200	pan European
38	Flyer	Ecsite	PLACES Second Conference	11-12 Oct 2012	Tartu, Estonia	Science	200	pan

NO.	Type of activity	Main leader	Title	Date/Period	Place	Type of audience	Size of audience	Countries addressed
						Communicators, Policy Makers		European
39	Other	PCB	On-line dissemination via social networks: Twitter, Facebook, Slide Share	2011-2012	n/a	General public	More than 1.000 visits	any
40	Other	PCB	Inclusion of Xplore Health in PCB website	Along the Project	n/a	General public	-	n/a
41	Other	EUN	EUN Teacher Newsletter	Along the Project	Pan European	Teacher Community	30000	Pan European
42	Other	EUN	Xplora Newsletter	Along the Project	Pan European	Teacher Community	2000	Pan European
43	Other	EUN	EUN news	November 2011, January 2012	Pan European	Policy Makers, Researchers	3000	Pan European
44	Other	EUN	Inclusion of Xplore Health in the Scientix Portal	October 2012	Pan European	Teacher Community	1539	Pan European
45	Other	EUN	Mailing list of teachers interesting in health	Along the Project	Pan European	Teacher Community	1396	Pan European
46	Other	Ecsite	Inclusion of Xplore Health in Ecsite website	Along the Project	n/a	General public	80 000 hits/year	n/a
47	Other	Ecsite	Monthly Ecsite newsletter	Along the Project	Pan European	Science Communicators	4000	Pan European
48	Other	Ecsite	Special newsletter on health communication	Winter 2011	Pan European	Science Communicators	4000	Pan European
49	Other	Ecsite	ESOF (European Science Open Forum)	11-14 July 2012	Pan European	Science Communicators, Scientists, Policy Makers	2000	Pan European

Section B (Confidential or public: confidential information to be marked clearly)

Intellectual Property Protection

It has been decided by the project partners that CREATIVE COMMONS License is to be applied on XPLORE HEALTH tools. This decision has been formalised by including it into the Consortium Agreement.

Two types of license are applied:

Attribution Non-Commercial No Derivatives: This license is allows redistribution. This license is often called the "free advertising" license because it allows others to download your works and share them with others as long as they mention you and link back to you, but they can't change them in any way or use them commercially.

Attribution Non-Commercial Share Alike: This license lets others remix, tweak, and build upon your work non-commercially, as long as they credit you and license their new creations under the identical terms. Others can download and redistribute your work just like the by-nc-nd license, but they can also translate, make remixes, and produce new stories based on your work. All new work based on yours will carry the same license, so any derivatives will also be non-commercial in nature

The "Attribution Non-Commercial No Derivates" license of Creative Commons will be applied for all tools, except for the teacher guides that the license will be "Attribution Non-Commercial Share Alike" license.

Brand and website

PCB registers the trademark of Xplore Health and the ownership of the domain "www.xplorehealth.eu". Then PCB is committed to assign ownership of the brand and website to the new entity created to continue the Project, if any, or the part corresponding to each Party participating in the continuity of the Project in proportion to its participation, depending on the legal formula agreed.

4.3 Report on societal implications

Replies to the following questions will assist the Commission to obtain statistics and indicators on societal and socio-economic issues addressed by projects. The questions are arranged in a number of key themes. As well as producing certain statistics, the replies will also help identify those projects that have shown a real engagement with wider societal issues, and thereby identify interesting approaches to these issues and best practices. The replies for individual projects will not be made public.

A General Information *(completed automatically when **Grant Agreement number** is entered.*	
Grant Agreement Number:	**241873**
Title of Project:	**XPLORE HEALTH**: A European gateway to the science and research of health, through innovative online and offline innovative activities aimed at pupils, teachers, citizens, and patients.
Name and Title of Coordinator:	Ms. Rosina Malagrida i Escalas

B Ethics	
1. Did your project undergo an Ethics Review (and/or Screening)? • If Yes: have you described the progress of compliance with the relevant Ethics Review/Screening Requirements in the frame of the periodic/final project reports? Special Reminder: the progress of compliance with the Ethics Review/Screening Requirements should be described in the Period/Final Project Reports under the Section 3.2.2 *'Work Progress and Achievements'*	***No***
2. Please indicate whether your project involved any of the following issues (tick box) :	***NO***
RESEARCH ON HUMANS	
• Did the project involve children?	
• Did the project involve patients?	
• Did the project involve persons not able to give consent?	
• Did the project involve adult healthy volunteers?	
• Did the project involve Human genetic material?	
• Did the project involve Human biological samples?	
• Did the project involve Human data collection?	
RESEARCH ON HUMAN EMBRYO/FOETUS	
• Did the project involve Human Embryos?	
• Did the project involve Human Foetal Tissue / Cells?	
• Did the project involve Human Embryonic Stem Cells (hESCs)?	
• Did the project on human Embryonic Stem Cells involve cells in culture?	
• Did the project on human Embryonic Stem Cells involve the derivation of cells from Embryos?	
PRIVACY	
• Did the project involve processing of genetic information or personal data (eg. health, sexual	

lifestyle, ethnicity, political opinion, religious or philosophical conviction)?	
• Did the project involve tracking the location or observation of people?	
RESEARCH ON ANIMALS	
• Did the project involve research on animals?	
• Were those animals transgenic small laboratory animals?	
• Were those animals transgenic farm animals?	
• Were those animals cloned farm animals?	
• Were those animals non-human primates?	
RESEARCH INVOLVING DEVELOPING COUNTRIES	
• Did the project involve the use of local resources (genetic, animal, plant etc)?	
• Was the project of benefit to local community (capacity building, access to healthcare, education etc)?	
DUAL USE	
• Research having direct military use	0 Yes 0 No
• Research having the potential for terrorist abuse	

C Workforce Statistics

3. Workforce statistics for the project: Please indicate in the table below the number of people who worked on the project (on a headcount basis).

Type of Position	Number of Women	Number of Men
Scientific Coordinator	1	0
Work package leaders	5	0
Experienced researchers (i.e. PhD holders)	2	1
PhD Students		
Other	5	1

4. How many additional researchers (in companies and universities) were recruited specifically for this project?	**n.a.**
Of which, indicate the number of men:	

D Gender Aspects

5. Did you carry out specific Gender Equality Actions under the project?

○ Yes
☑ **No**

6. Which of the following actions did you carry out and how effective were they?

	Not at all effective				**Very effective**
❑ Design and implement an equal opportunity policy	○	○	○	○	○
❑ Set targets to achieve a gender balance in the workforce	○	○	○	○	○
❑ Organise conferences and workshops on gender	○	○	○	○	○
❑ Actions to improve work-life balance	○	○	○	○	○

○ Other:

7. Was there a gender dimension associated with the research content – i.e. wherever people were the focus of the research as, for example, consumers, users, patients or in trials, was the issue of gender considered and addressed?

☑ Yes- please specify

Special care was taken to include images of girls/women on the Portal or to show women in the laboratory when filming videos. Whenever possible, the project coordinated by woman was presented in the Portal

○ No

E Synergies with Science Education

8. Did your project involve working with students and/or school pupils (e.g. open days, participation in science festivals and events, prizes/competitions or joint projects)?

☑ Yes- please specify

XPLORE HEALTH designs and undertakes a communication and outreach programme on health science aimed at young people aged 15-18.
Students were reached via activities organised in the pilot schools involved in the project and via events offered by the five Science Centres selected by the project partners.

○ No

9. Did the project generate any science education material (e.g. kits, websites, explanatory booklets, DVDs)?

☑ Yes- please specify

XPLORE HEALTH created a variety of different educational tools for eight project modules that cover eight different topics of health. These tools aim at science communication and stimulating debate on the topics related to the current science:

- Multimedia tools: games and virtual experiments
- Experiment protocols
- Dialogue games: Play Decide and Discussion Continuum
- Educational packs: lesson plans

○ No

F Interdisciplinarity

10. Which disciplines (see list below) are involved in your project?

○	Main discipline[1]: 5		
○	Associated discipline[1]: 5.3	○	Associated discipline[1]:

G Engaging with Civil society and policy makers

11a Did your project engage with societal actors beyond the research community? *(if 'No', go to Question 14)*	☑ ○	**Yes** No

11b If yes, did you engage with citizens (citizens' panels / juries) or organised civil society (NGOs, patients' groups etc.)?

- ○ No
- ○ Yes- in determining what research should be performed
- ○ Yes - in implementing the research
- ☑ **Yes, in communicating /disseminating / using the results of the project**

11c In doing so, did your project involve actors whose role is mainly to organise the dialogue with citizens and organised civil society (e.g. professional mediator; communication company, science museums)?	☑ ○	**Yes** No

12. Did you engage with government / public bodies or policy makers (including international organisations)

- ○ No
- ○ Yes- in framing the research agenda
- ○ Yes - in implementing the research agenda
- ☑ **Yes, in communicating /disseminating / using the results of the project**

13a Will the project generate outputs (expertise or scientific advice) which could be used by policy makers?

- ☑ **Yes – as a primary objective (please indicate areas below- multiple answers possible)**
- ○ Yes – as a **secondary** objective (please indicate areas below - multiple answer possible)
- ○ No

13b If Yes, in which fields?

Agriculture		Energy		Human rights	
Audiovisual and Media		Enlargement		Information Society	
Budget		Enterprise		Institutional affairs	
Competition		Environment		Internal Market	
Consumers		External Relations		Justice, freedom and security	
Culture		External Trade		Public Health	
Customs		Fisheries and Maritime Affairs		Regional Policy	
Development Economic and Monetary Affairs		Food Safety		Research and Innovation	
Education, Training, Youth		Foreign and Security Policy		Space	
Employment and Social Affairs		Fraud		Taxation	
		Humanitarian aid		Transport	

[1] Insert number from list below (Frascati Manual).

13c If Yes, at which level?

- ☑ **Local / regional levels**
- ○ National level
- ○ European level
- ○ International level

H Use and dissemination

14. How many Articles were published/accepted for publication in peer-reviewed journals?	**0**
To how many of these is open access[2] provided?	**n.a.**
How many of these are published in open access journals?	
How many of these are published in open repositories?	
To how many of these is open access not provided?	**n.a.**
Please check all applicable reasons for not providing open access:	
❑ publisher's licensing agreement would not permit publishing in a repository ❑ no suitable repository available ❑ no suitable open access journal available ❑ no funds available to publish in an open access journal ❑ lack of time and resources ❑ lack of information on open access ❑ other[3]: ……	

15. How many new patent applications ('priority filings') have been made? *("Technologically unique": multiple applications for the same invention in different jurisdictions should be counted as just one application of grant).*		**0**
16. Indicate how many of the following Intellectual Property Rights were applied for (give number in each box).	Trademark	
	Registered design	
	Other	
17. How many spin-off companies were created / are planned as a direct result of the project?		**0**
Indicate the approximate number of additional jobs in these companies:		

18. Please indicate whether your project has a potential impact on employment, in comparison with the situation before your project:

❑	Increase in employment, or	❑	In small & medium-sized enterprises
❑	Safeguard employment, or	❑	In large companies
❑	Decrease in employment,	☑	**None of the above / not relevant to the project**
❑	Difficult to estimate / not possible to quantify		

19. For your project partnership please estimate the employment effect resulting directly from your participation in Full Time Equivalent (*FTE = one person working fulltime for a year*) jobs:	*Indicate figure:*
Difficult to estimate	❑

[2] Open Access is defined as free of charge access for anyone via Internet.
[3] For instance: classification for security project.

I Media and Communication to the general public

20. As part of the project, were any of the beneficiaries professionals in communication or media relations?

○ Yes ☑ **No**

21. As part of the project, have any beneficiaries received professional media / communication training / advice to improve communication with the general public?

○ Yes ☑ **No**

22 Which of the following have been used to communicate information about your project to the general public, or have resulted from your project?

☑	**Press Release**	❑	Coverage in specialist press
❑	Media briefing	☑	**Coverage in general (non-specialist) press**
☑	**TV coverage / report**	☑	**Coverage in national press**
❑	Radio coverage / report	❑	Coverage in international press
☑	**Brochures /posters / flyers**	☑	**Website for the general public / internet**
☑	**DVD /Film /Multimedia**	☑	**Event targeting general public (festival, conference, exhibition, science café)**

23 In which languages are the information products for the general public produced?

☑	**Language of the coordinator**	☑	**English**
☑	**Other language(s)**		

***Question F-10*:** Classification of Scientific Disciplines according to the Frascati Manual 2002 (Proposed Standard Practice for Surveys on Research and Experimental Development, OECD 2002):

FIELDS OF SCIENCE AND TECHNOLOGY

1. NATURAL SCIENCES

1.1 Mathematics and computer sciences [mathematics and other allied fields: computer sciences and other allied subjects (software development only; hardware development should be classified in the engineering fields)]

1.2 Physical sciences (astronomy and space sciences, physics and other allied subjects)

1.3 Chemical sciences (chemistry, other allied subjects)

1.4 Earth and related environmental sciences (geology, geophysics, mineralogy, physical geography and other geosciences, meteorology and other atmospheric sciences including climatic research, oceanography, vulcanology, palaeoecology, other allied sciences)

1.5 Biological sciences (biology, botany, bacteriology, microbiology, zoology, entomology, genetics, biochemistry, biophysics, other allied sciences, excluding clinical and veterinary sciences)

2 ENGINEERING AND TECHNOLOGY

2.1 Civil engineering (architecture engineering, building science and engineering, construction engineering, municipal and structural engineering and other allied subjects)

2.2 Electrical engineering, electronics [electrical engineering, electronics, communication engineering and systems, computer engineering (hardware only) and other allied subjects]

2.3. Other engineering sciences (such as chemical, aeronautical and space, mechanical, metallurgical and materials engineering, and their specialised subdivisions; forest products; applied sciences such as geodesy, industrial chemistry, etc.; the science and technology of food production; specialised technologies of interdisciplinary fields, e.g. systems analysis, metallurgy, mining, textile technology and other applied subjects)

3. MEDICAL SCIENCES

3.1 Basic medicine (anatomy, cytology, physiology, genetics, pharmacy, pharmacology, toxicology, immunology and immunohaematology, clinical chemistry, clinical microbiology, pathology)
3.2 Clinical medicine (anaesthesiology, paediatrics, obstetrics and gynaecology, internal medicine, surgery, dentistry, neurology, psychiatry, radiology, therapeutics, otorhinolaryngology, ophthalmology)
3.3 Health sciences (public health services, social medicine, hygiene, nursing, epidemiology)

4. AGRICULTURAL SCIENCES
4.1 Agriculture, forestry, fisheries and allied sciences (agronomy, animal husbandry, fisheries, forestry, horticulture, other allied subjects)
4.2 Veterinary medicine

5. SOCIAL SCIENCES
5.1 Psychology
5.2 Economics
5.3 Educational sciences (education and training and other allied subjects)
5.4 Other social sciences [anthropology (social and cultural) and ethnology, demography, geography (human, economic and social), town and country planning, management, law, linguistics, political sciences, sociology, organisation and methods, miscellaneous social sciences and interdisciplinary , methodological and historical S1T activities relating to subjects in this group. Physical anthropology, physical geography and psychophysiology should normally be classified with the natural sciences].

6. HUMANITIES
6.1 History (history, prehistory and history, together with auxiliary historical disciplines such as archaeology, numismatics, palaeography, genealogy, etc.)
6.2 Languages and literature (ancient and modern)
6.3 Other humanities [philosophy (including the history of science and technology) arts, history of art, art criticism, painting, sculpture, musicology, dramatic art excluding artistic "research" of any kind, religion, theology, other fields and subjects pertaining to the humanities, methodological, historical and other S1T activities relating to the subjects in this group]