Information and Communication Technologies

EPIWORK

Developing the Framework for an Epidemic Forecast Infrastructure

http://www.epiwork.eu

Project no. 231807

D7.2 Yearly management report

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Work package participants

The following partners have taken active part in the work leading to the elaboration of this document, even if they might not have directly contributed writing parts of this document:

- ISI
- FGC-IGC
- TAU
- MPG
- AIBV
- SMI
- FFCUL

Change log

Version	Date	Amended by	Changes
1	20/02/11		

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1 Consortium management tasks and achievement

The members of WP7 have the task to provide administrative and scientific work, including the consortium meeting and the commission evaluation reports. A framework for the communication within the consortium participants as well as the associated partners has been set up from the very beginning. An internal area of the project website is being used for the exchange of information between the partners keeping them updated about the work in progress and providing assistance on development of special working groups. In particular, the members of WP7 have made use of all the IT tools available to enhance communication and exchange of information between the consortium partners. A development wiki has been set up at the address: http://wiki.epiwork.eu. The wiki page allows the easy creation and the editing of any number of interlinked pages and it creates a collaborative website used to identify, create, represent and distribute all kind of information among the users.

At the moment, the wiki home page contains a section dedicated to the Project Consortium, with a brief description for each partner, and a section dedicated to Epiwork's Work Packages. These pages are intended for the members of each WP to exchange documentation, arrange meetings, set up working environments etc. Moreover, there is a section dedicated to the Project meetings and to the WP's meetings and a section dedicated to the press releases with news concerning the Project outcome for the various Work Packages.

2 Coordination and conflict management

During 2010, the teams at LSHTM, ISI, SMI and AIBV were very active in developing the agreed "gold standard" intake and weekly questionnaires and the new "contact questionnaire", participating in many teleconferences with other members of WP5, and attending the meeting in Amsterdam in May 2010, as well as the main EPIWORK meeting in Turin in December 2010. Whereas the European IMS platform was ready in April and ahead of schedule (Month 13 instead of 24), the integration of the national websites and the implementation of a single Gold Standard Questionnaire (a single intake and a weekly questionnaire) took far more time than expected and planned, despite careful preparation and ample communication. This has generated

some toppling effect with some of the task of WP5 running about 2 months late with respect to the original schedule, due to the delay with which other partners were finalizing the IMS's APIs for interconnection with the mobile extension. Such a problem was communicated to the WP5 leader (CC the Project Coordinator) by email on Aug. 27th. The coordinator has taken action in setting new timelines for the partners and identifying the technical bottlenecks. ISI, AIBV and LSHTM have therefore been continually active in debugging and developing the new platform, and supporting other teams. Further discussion occurred in the Turin consortium meeting (December 6-7 2010). Partners have assessed the difficulties encountered and agreed that most of them were due to miscommunication of technical requirements across teams and the lack of a firm timeline. A more clear technical support role has been assigned to the ISI and the AIBV teams. Since then, the integration with the IMS has progressed according to schedule.

During the course of the second project year some EPIWORK beneficiaries required to move part of the project allocated budget on subcontracting expenses necessary to achieve some of the goals forecasted in the Annex I. In most of the cases these expenditures had already been allocated as RTD "other costs" and had to be relabeled under subcontracting because some partners were unaware of the correct cost classification. In the remaining cases the unforeseen subcontracting expenses were necessary to take advantage of some research opportunities that would enhance the activity research goals of the project.

For this reason the Consortium had to ask for a contract amendment to reallocate the budget resources on the required subcontracting expenses.

In particular ISI required Euro 5.000,00 of subcontracting to cover legal consultancy expenses to develop a template for the Internet Monitoring Systems register page that is compliant with European Privacy Law.

AIBV required another Euro 12.000,00 of subcontracting in order to take advantage of the collaboration with Dr. Ben Reis from the Harvard Medical School (USA) whose team has worked at the development of a Facebook application to explore social media as an innovative way of collecting epidemiological data.

FCG-IGC required Euro 23.381,00 of subcontracting since the costs for the maintenance and further development of the Portuguese IMS were originally wrongly labeled as RTD other costs.

SMI required Euro 50.471,00 of subcontracting since the costs for the maintenance and running of the PBA (Population Based Approach) were originally wrongly labeled in RTD other costs.

FBK just required Euro 800.00 of subcontracting to cover some unexpected expenses incurred during the first project year for the sponsorisation of an International Workshop on Mathematical Biology (Trento, I), 17/19 Dec. 2009.

The Amendment n. 2 to the Epiwork Grant Agreement was issued on January 11th, 2011 by the European Commission.

3 Arrange meeting of Management Committee and Project meetings

During the second project period, the Project Board organized the following management meetings:

- Epiwork First Period Review Meeting in Brussels, March 25th 2010;
- Epiwork WP5 Second Meeting in Amsterdam, May 27-28 2010;
- Steering Committee Meeting in Torino, December 6-7 2010;
- Epiwork Annual Meeting in Torino, December 6-7 2010;

EPIWORK FIRST PERIOD REVIEW MEETING – BRUSSELS (BE) March 25th 2010

The First Period Review Meeting was organized in Brussels, March 25th 2010, with the participation of all EPIWORK Work Package leaders, the EC Officer and reviewers.

Present: Dirk BROCKMANN, Jacopo CARRERAS, Mario SILVA, Corrado GIOANNINI, Gabriela GOMES, Daqing LI, Olof NYREN, Daniela PAOLOTTI, Ronald SMALLENBURG, Nico STOLLENWERK, Lewis STONE, Marc VAN RANST, Alessandro VESPIGNANI, Julie DUGDALE, Michel MORVAN, Andrew SINGER, Beatriz VIDONDO, Jose-Luis FERNANDEZ-VILLACANAS

930 Opening
Welcome, introduction of participants, review of the agenda

945 Introduction to the project and the project objectives (Vespignani)
Overview description of the work performed during the first year, deliverables, success stories, deviations from the planned work.

1045 Scientific progress report for each Work package and specific deliverables
• **WP1 "Population models and contact networks."** Presentation. (L. Stone)
   o **D1.1** - Analysis of dynamics on clustered contact networks
• **WP2 "Spatially structured models and human mobility"** Presentation. (D. Brockmann)
   o **D2.1** - Implementation of multi-scale proxies networks for human mobility networks from online data sources.
• **WP3 "Information platform"** Presentation. (M. J. Gaspar da Silva)
   o **D3.1** - Report: Meta-model initial specification, catalogue of relevant data, platform requirements.
   o **D3.2** - Prototype of the Epidemic Marketplace Platform with an initial set of epidemiological databases integrated available to project participants.

130 Scientific progress report for each Work package continues
• **WP4 "Epidemic Modelling Platform"** Presentation. (A. Vespignani)
   o **D4.1** - Static single layer visualization techniques (choropleth maps, distortions, dasymetric maps) and simple mashups.
• **WP5 "ICT monitoring and reporting system"** Presentation. (R. Smallenburg)
   o **D5.1** - Design of the "Gold Standard", design and implementantion of an internet database with English language documents.
   o **D5.2** - Extension of IMS for collating contact pattern information and household influenza transmission data.
• **WP6 "Reporting systems comparative analysis and validation"**Presentation. (O. Nyren)
   o **D6.1** - A fully functioning technical infrastructure for the PBA surveillance.
• **WP7&WP8 "Management / Dissemination, collaboration and exploitation"** Presentation. (A.Vespignani)

4.00 Presentations of demos and multimedia material.

430 Recession time (the reviewers meet and discuss)

600 Wrap up discussion and feedback with the reviewers and consolidation summary discussion.

EPIWORK WP5 2nd MEETING – AMSTERDAM (NL) 27-28 May 2010

The meeting was held at the Science Park, University of Amsterdam, on 27 to 28 May, 2010.

Present: Ellen BROOKS-POLLOCK, Francine BEHNEN, Jacopo CARRERAS, Flavio COELHO, Mario DA SILVA, Ken EAMES, Vitor FAUSTINO, Rui FRANCISCO, Carl KOPPESCHAAR, Elles LALIEU, Sander Van NOORT,

Olof NYREN, Brenndann O'NULLAIN, Daniela PAOLOTTI, Rick QUAX, Moa REHN, Martin TAKKEN, Tom ZANDWIJKEN
Ronald SMALLENBURG in the chair

Epiwork WP5 meeting at Thursday 27 and Friday 28 May 2010
The 3rd WP5 took place in Amsterdam with 22 participants. Earlier ones were in '09 in Amsterdam and Turin. In May 2010, the following key issues were discussed:

Nr.	Issue	Deadline	Implementation	Coordination
1.	At national level, the Influenzanet IMS will be prepared to share data with the European platform	before the start of the next season in Oct.	All national coordinators	Ronald Smallenburg
2.	Templates for the new national websites ready	End of August	Tom Zandwijken, Martin Takken	Ronald Smallenburg
3.	Manual & Protocol: from 1.0 to final version	End of August	Input from everybody	Ronald Smallenurg
4.	Template for a code of conduct (ethics) document	End of June	Daniela Paolotti	Daniela Paolotti
5.	Template for a policy (sharing data) document	End of June	Olof	Olof Nyren
	Research Steering Committee	-	Daniela Paolotti, Olof Nyren, Mario Silva, Ronald Smallenburg (and other WPs)	Ronald Smallenburg
6.	Gold Standard questionnaire update	End of June	Input from everybody	Marc Van Ranst
7.	Questions about medication/visits to medical doctor used in the UK flu survey to Marc van Ranst	End of June	Ken Eames	Ken Eames
8.	Influenzanet.com as corporate website ready	End of August	Tom Zandwijken, Martin Takken, Breanndán O'Nullain	Ronald Smallenburg
9.	Mobile phone and facebook applications	End of August	Input from everybody	Daniele Miorandi
10.	Translated drafts of Dutch press releases	End of September	Carl Koppeschaar	Carl Koppeschaar

 A short report on all presentations follows hereafter. The presentations themselves can be found on the Epiwork wiki site: http://wiki.epiwork.eu/index.php/

1. Introduction to WP5 – Ronald Smallenburg

Epiwork Work Package 5 is about monitoring and data collection. Models are used to forecast the spread of disease (influenza). Data are collected via an online, anonymous survey. Volunteers fill-in a single intake questionnaire each season and report on their health status via short, weekly questionnaires. So far, the survey has been implemented in The Netherlands and Belgium (2003), Portugal (2005), Italy (2008) and the UK (2009). Communication and reach-out to the public are very important aspects of these projects.

Objectives of WP5
- 2013: renewed Internet-based Monitoring System (IMS) for all participating countries
- 2010 – 2012: online flu survey in five new countries:
    - UK (started in 2009),
    - Sweden (2010),
    - Germany, France, Spain (2010-2012)
- Data collection via mobile applications and social networks (Facebook)
- Surveillance of other infectious diseases and allergies
- Surveillance of contact patterns

The first year of WP5 was very successful. The European Commission and the independent reviewers had some comments and feedback, in particular with regard to the intra Epiwork cooperation, but in general, both were very positive about the process and outcomes so far.

2. Epiwork platform – Breanndán Ó Nualláin

Guiding principles of the Epiwork platform website:
- no big systems,
- open source and open systems,
- programming language Python,
- RESTful web services.

The data are stored locally and send to the central server at the University of Amsterdam (UvA) in the Netherlands. It is possible that some data (for example birthday or e-mail addresses) are not sent to Amsterdam to avoid the possibility of re-identification of volunteers.

On the Epiwork wiki you can find a *written tutorial* (quick start guide) to receive git clones for the server-, client-, admin- and website- parts of the platform. *Tarballs* are also available, but they are not always up-to-date. Also available are *examples* of the current Dutch and Italian websites on the new platform. In order to log-in, please use as *username*: admin and as *password*: d033e33a. The system is very flexible. You can change colors, add a new survey, etcetera. If you discover issues, bugs or find some git patches or interesting codes, please place them on redmine.

Roles needed to keep your platform website running
- Developer with experience in full range of software (not necessary in each country, covered in Amsterdam)
- Site maintainer for hosting, hardware, backups and connectivity
- Customizer or web-developer with experience in HTML, CSS and Python
- Content author: writes and orders information on your website
- Survey manager: manages volunteers, surveys and timely reminders
- Manager: communicates requirement wishes to all of the above

Most of these roles can be combined and are *no* full time positions. Ronald Smallenburg will incorporate these roles in the WP5 'Manual and Protocol' document.

3. Integration of Epiwork WP3, WP4 and WP5 – Mario da Silva, Daniela Paolotti

WP4 and WP3 are developing a computational platform and information platform respectively. The technical aspects of those platforms were presented during the meeting in Brussels. The challenge of these work packages is to motivate the (scientific) community to share their data and send it to repositories. Keep in mind: your output data could be useful input data for others. There are two options for data:
- Google Flu Trends, which will give you nice charts
- Scientific data, online raw data that people can use and play with

More about decisions on sharing WP5 data can be found in the 'Manual and Protocol' section.

4. Education and Learning materials – Francine Behnen

Education and learning materials can be used as a marketing tool. It is not easy to attract and keep young people interested in your website.

Practical tips:
- Attract teachers to the survey via a national institute of bioscience or a teachers community;

- Let older children write a thesis in which they compare school data with Influenzanet data. Therefore (aggregated) data in repositories should be available to high schools;
- Match the curriculum: flu is not in there, but immunology is;
- Activities, like the movie contest organized in Portugal, help to attract young people;
- Some applets and learning materials are available via the Dutch flu survey: http://www.degrotegriepmeting.nl/?thissection_id=101. These are copyright materials, which could be used for free by WP5 partners, but cannot be commercially exploited.

5. Manual and Protocol – Ronald Smallenburg

Ronald Smallenburg created a working document on copyrights, ethics, sharing data, etcetera. WP5 partners will work on this document in the next couple of months via the Epiwork wiki. By the end of this summer, the basic principles of the document should be ready.

Ethics

Privacy protection of volunteers is very important. Their e-mail addresses should always be secret. Furthermore, volunteers have the right to know what their data is used for and they also have the right to see their own raw data and delete their complete data from the survey. People have to be informed about these issues before registration and they need to sign an agreement on this. In the next couple of weeks Daniela Paolotti will prepare a template for a code of conduct document, based on national legislations. The complete code of conduct must be ready by the end of summer, so it can be used in the next flu season.

Policy document

A set of rules is needed to regulate the sharing of WP5 data. In the next couple of weeks Olof Nyrén will draft a policy document that regulates these issues. A committee is installed to guide, control and coordinate the sharing of data and other research and ethical issues as mentioned in this policy document. So far the committee consists of four WP5 members (Daniela Paolotti, Mario da Silva, Olof Nyrén and Ronald Smallenburg), but should also involve people from other Epiwork work packages.

Ronald will soon upload a 2nd version of the 'Manual and Protocol' document on Epiwork wiki.

6. Influenzanet research – Sander van Noort

http://beta.influenzanet.com/ is the Influenzanet research site. Visitors of this website can create interactive graphs and maps with the collected data. For each country they can look at incidence (maybe 'occurrence' or 'number of ILI cases' are better terms to use) graphs and compare Epiwork data with data from EISN and Google Flu Trends. In order to compare results of different countries with each other, all flu surveys should use one format of questionnaires and case definitions, the so called 'Gold Standard'. Data will not be shared on the Influenzanet website until the policy document is ready.

Maps

- Maps are based on part of the postal codes. In rural areas, very few people might live in one postal code. Each country has to search for postal codes were this is the case. It is not possible to report flu cases in those areas, because volunteers face the risk of being identified.
- It is possible to create both heath maps (overview) and Google maps (detail).
- Volunteers really like to see their spot on the map. The Italian flu survey uses a script to show people where they are and if there is flu in their surroundings. Daniela Paolotti will make this script available to other WP5 partners.

Analyses
Via beta.influenzanet.com/generator you can create images. The generator is not openly available, a password will be sent on request. There are some analytical difficulties. At this moment, it is not possible to distinguish between 'no' and 'not answered' in the questionnaires. It would be nice to have an overview of how questionnaires changed over time. Breanndán Ó Nualláin will work on those technical issues.

7. Gold Standard questionnaires – Marc van Ranst

- It is decided that some questions are not core questions. These are questions about how often a volunteer got flu/common cold in the past, special diets and pets.
- Some questions or terms need further explanation. Those explanations will be placed under a question mark (pop-up).
- Questions about vaccination are important. Not only if people are vaccinated, but also when en why (or why not).
- Symptoms in the weekly questionnaire have to be validated in order to give feedback to volunteers. Definition of flu will be according to the ECDC definition: respiratory disease, feverish, sudden onset (within a couple of hours) of symptoms.
- Follow-up questions will only be asked if symptoms match respiratory disease.

Ken Eames will sent questions about medication/visits to medical doctor, used in the UK flu survey, to Marc van Ranst. Marc will update the Gold Standard questionnaire and requests the WP5 partners for their feedback. If you have any feedback/suggestions on the contact patterns questionnaire, let Ken know.

8. Webmaster and Design – Martin Takken, Tom Zandwijken

Remarks and problems of a webmaster
- A developer is not a text writer nor a data-analyst.
- The developer needs a document where everything is, for example the registration page. Breanndán Ó Nualláin will work on this.
- The distribution of e-mail reminders to participants across the week depends on the number of participants in a country.
- Questions from users about the changing of e-mail addresses take a lot of time. You could use a ticketing system for this (for example osticket.com)

Design
- Each national website will have an influenzanet banner. This banner consists of the Influenzanet logo and the maps of Europe and the country which website is being visited. As visitors click on the banner the map expands and becomes interactive. As the map expands, the word Influenzanet appears with the logo.
- The footer contains contact information and links to social networking tools.
- Content on the website can be ordered with tags. Related articles will appear on the right site of the article visitors are reading.
- The possibility to register on the national websites should be as clear as possible. The log-in box is less important, because most people access the website via the link in the weekly reminder.
- Templates for the new website will be ready by the end of the summer.

The international Influenzanet.com website will act as our corporate website. It will need weekly editing of news and bulletins and monthly updating of the results. Ronald Smallenburg will coordinate this.

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9. Mobile and Facebook applications– Iacopo Carreras

Right now, the mobile application is running on Symbian Windows, Blackberry and Android phones. The integration of the mobile part with the rest of the Epiwork infrastructure will be ready by the end of July. In October the mobile application will be available in Italy, where it can be downloaded via the national website after registration and intake.

Menu's on the mobile application
- Questionnaire: weekly symptoms questionnaire. Later, a separate contact patterns questionnaire will also be available (John Reed/social nets project could be helpful here). The system reminds the user to fill-in the questionnaires.
- Statistics: image representation of results.
- News: flu-news via twitter.
- Message place: via the message place it is possible to send personal messages directly to the user. Do we need this?
- Options/settings

Other ideas: see how much flu is around you; Games. Feedback on the mobile application and the questions / questionnaires used, is kindly requested.

Facebook

The Facebook application collects symptoms via icons. Users can share their symptoms with friends and those friends can respond by sending gifts to the user. The software for this application is almost ready. Ronald Smallenburg is working on the administrative side of the Facebook application. For now, the application is available in four languages (English, Dutch, Italian, Portuguese), but we are working on Swedish, French, German and Spanish and, eventually Polish and Russian. Are there any volunteers who could translate the application in other languages?

10. Marketing – Carl Koppeschaar

Some practical tips for the marketing of your flu survey:
- Send a clear message: the survey is important, volunteers can see and follow their own results.
- Show people what your goals for the future are.
- Create an archive of media-attention on your website.
- Press release: skip press-offices, instead write something yourself that is appealing to the general public. Provide maps and other materials with your press release. Carl Koppeschaar will make translated drafts of his own press releases available to WP5 partners.
- Use a spokesperson, someone who doesn't have to weigh his words. Carl Koppeschaar can assist WP5 partners in the search for European science journalists who can do this.

EPIWORK 2nd PROJECT MEETING – TORINO (IT) 16-18 Nov. 2009

This second project meeting was intended not only as a check point of the activities of the project within the consortium but also, more importantly, as a moment for establishing the future integration and joint research among the partners and among the Work Packages. The meeting allowed, as the previous years, all partners to provide a summary of the activities undertaken and the progress of the research activities. Nevertheless, the agenda has also allowed large room for the discussion about the future direction of the research activities for the next years from the integration and interdependence point of view. As the first year, there also have been all the formal moment of the consortium with the Steering committee meeting. Emphasis has been given to the discussion of the previous year feedback concerning integration, collaborations and exploitation of the results.

The meeting was held at the Villa Gualino, ISI, Torino on 6 to 7 December, 2010.

Present: Paolo BAJARDI, Ellen BROOKS-POLLOCKS, Dirk BROCKMANN (in video conference), Vittoria COLIZZA, Sebastien BALLESTEROS, Iacopo CARRERAS, Mario DA SILVA, Ken EAMES, John Edmunds, Corrado GIOANNINI, Gabriela GOMES, Olof NYREN, Breanndan O' NULLAIN, Daniela PAOLOTTI, Chiara POLETTO, Moa REHN, Ronald SMALLENBURG, Patricia SOUSA, Nico STOLLENWERK, Michele TIZZONI, Alessandro VESPIGNANI

Absent with apologies: Marc VAN RANST, Shlomo Havlin

Monday, December 6th (all participant)

11:00 am :   Welcome and introduction of participants

11.15 Review of the agenda, next deadlines, incumbencies and administrative issues. (moderator A. Vespignani)

11.45 Scientific progress report from WP1
include also dissemination and outreach activities -TAU

12.15 pm :   Scientific progress report from WP2
include also dissemination and outreach activities - MPG

2.00 pm   Scientific progress report from WP3 + Demo of the Epidemic Marketplace
include also dissemination and outreach activities**)** – FFCUL

2.30 pm   Scientific progress report from WP4 + Demo of the Simulator
include also dissemination and outreach activities**)** - ISI

3.00 pm   *Scientific progress report from WP5/WP6 + Demo of Influenzanet platform*

  include also dissemination and outreach activities**)** - AIBV+SMI

4:00 pm   *Discussion on the following points:*

- EC project review meeting.

- Integration effort of the project results

- WP intra-collaborations and integrative assessment

- inter-WP integration and how results obtained in one WP impact the others

- Preparation of the 1st project workshop.

- Preparation the 2nd year report (scientific, dissemination/outreach)

6.00 pm   *Steering Committee (only SC members)*

The Steering Committee has discussed about the research activity of the project second period, commenting and highlighting collaborations among the partners, issues arisen, and establishing a road map for the next years.

Tue. Dec. 7th

9.30 am: *Scientific progress report from team leaders*

        Discussion of relevant scientific achievements and deviations from the projects, future work specific to the team

2:00 pm   *Wrap up discussion and timelines before the project review*
meeting.

        WP leaders report a consolidation summary with a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis as emerged from the previous discussions. To do list and planning for the WP.