Information and Communication Technologies

EPIWORK

Developing the Framework for an Epidemic Forecast Infrastructure

http://www.epiwork.eu

Project no. 231807

D8.6 Dissemination, collaboration and exploitation 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
- KULeuven
- CREATE-NET

Change log

Version	Date	Amended by	Changes
1	20/02/10		

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1 Establishment of communication tools

One of the main goal of WP8 is to make sure that the results achieved by the project are widely disseminated and can constitute the basis of other research across the scientific and engineering communities.

Project presentation

In order to communicate the project's main objectives and goals to an audience composed by policy makers and disease management professionals, as well as researchers in the field of infectious diseases, the first communication task of the WP8 members has been to prepare and circulate a brief non-technical project presentation. It is published at the address:
http://www.epiwork.eu/D8.1_Epiwork_project_presentation_report.pdf

Project website

The ***visual identity*** of the project has been defined by the choice of the Epiwork logo and the project website layout. The project web site (constituting the **deliverable D8.2**) has been setup and it is continually updated. It gives an overview about the project and compiles press material and publications.
This website is located at

http://www.epiwork.eu

The web site is hosted by seeweb s.r.l. (http://www.seeweb.it).
This web site is promoted by links from the partners web sites as well as from the Cordis web site (see D8.2 for technical details).

2 Publications, conferences and seminars

The project puts great emphasis on publication in high impact scientific communication channels such as papers and major conferences. It also envisions communicating results at top international conferences. During the first year of life of the project the scientific outreach is

simply stated by the sheer numbers of publications (28 papers in peer reviewed journals) and presentations at conferences (30 talks, lectures and seminars).

Publications

M. Aguiar, N. Stollenwerk, B. Kooi, *Torus bifurcations, isolas and chaotic attractors in a simple dengue fever model with ADE and temporary cross immunity*. Intern. Journal of Computer Mathematics, in press (2009).

N. Bacaër, M.G.G. Gomes, *On the final size of epidemics with seasonality*, Bulletin of Mathematical Biology. Bull Math Biol 71:1954-66, 2009.

S. Ballesteros, A. Camacho and B. Cazelles, *Introducing gradual antigenic drift in co-circulating cross reactive antigenic cluster models*, Proceedings of 9th Conference on Computational and Mathematical Methods in Science and Engineering, CMMSE 2009, edited by Jesus Vigo Aguiar et al., Salamanca, 2009, pp. 1471—1482.

Y. Berchenko, Y. Artzy-Randrop, M. Teicher, L. Stone, *Emergence and size of the giant component in clustered random graphs with a given degree distribution*, Physical Review Letters, vol. 102 (13) 138701, 2009.

J.P. Boto and N. Stollenwerk (2009). Fractional calculus and Levy flights: modelling spatial epidemic spreading", Proceedings of 9th Conference on Computational and Mathematical Methods in Science and Engineering, CMMSE 2009, edited by Jesus Vigo Aguiar et al., Salamanca, pp. 177—188.

A. Huppert, G. Katriel, R. Yaari, U. Roll, R. Balicer, L. Stone, *Mathematical models as a tool for facing the influenza pandemic*, HaRefuah (Hebrew) 149, p 4-8, 2010.

H. Katriel, L. Stone, *Pandemic influenza dynamics and the breakdown of herd immunity*, PLoS Curr Influenza, October 1: RRN1046, 2009.

J. Martins, A. Pinto, N. Stollenwerk, *A scaling analysis in the SIRI epidemiological model*, Journal of Biological Dynamics, 479 - 496, 2009.

P. Rodrigues, A. Margheri, C. Rebelo, M.G.M.Gomes, *Heterogeneity in susceptibility to infection can explain high reinfection rates.* J Theor Biol 259:280-90, 2009.

N. Stollenwerk, J.P. Boto, *Reaction-superdiffusion systems in epidemiology, an application of fractional calculus*, Proceedings of the International Conference on Numerical Analysis and Applied Mathematics, ICNAAM, 2009.

D. Brockmann, V. David and A. Morales Gallardo, in Diffusion Fundamentals III, C. Chmelik, N. Kanellopoulos, J. Kärger and D. Theodorou (eds.), Leipziger Universitätsverlag (2009).

D. Brockmann, *Human Mobility and Spatial Disease Dynamics*, in Reviews of Nonlinear Dynamics and Complexity, H. G. Schuster (ed.), Wiley-VCH (2009).

D. Balcan, V. Colizza, B. Goncalves, H. Hu, J.J. Ramasco, and **A. Vespignani**, *Multiscale mobility networks and the spatial spreading of infectious diseases*, Proceedings of the National Academy of Sciences USA. **106** 21484-21489 (2009). Featured on the journal cover

D. Brockmann, *Following the money*, Physics World, Feb 2010.

L. F. Lopes, J. M. Zamite, B. C. Tavares, F. M. Couto, F. Silva and M. J. Silva. *Automated Social Network Epidemic Data Collector*. Inforum, September 2009.

M. J. Silva, F. A. B. da Silva, L. F. Lopes, F. M. Couto. *Building a Digital Library for Epidemic Modelling*. Invited Paper. ICDL 2010. The 3rd International Conference on Digital Libraries. February, 2010.

S. Merler and M. Ajelli, *The role of population heterogeneity and human mobility in the spread of pandemic influenza*, Proceedings of the Royal Society B, 277: 557-565, 2010

S. Merler, M. Ajelli, C. Rizzo, *Age-prioritized use of antivirals during an influenza pandemic,* BMC Infectious Diseases, 9:117, 2009.

M. Ajelli and S. Merler, *An individual-based model of hepatitis A transmission*, Journal of Theoretical Biology, 259(3):478-488, 2009.

P. Bajardi, C. Poletto, D. Balcan, H. Hu, B. Goncalves, J. Ramasco, D. Paolotti, N. Perra, M. Tizzoni, W V. den Broeck, V.Colizza, and A. Vespignani, *Modeling vaccination campaigns and the Fall/Winter 2009 activity of the new A(H1N1) influenza in the Northern Hemisphere.* Emerging Health Threats Journal. **2**, e11, 2009.

D. Balcan, H. Hu, B. Goncalves, P. Bajardi, C. Poletto, J. J. Ramasco, D. Paolotti, N. Perra, M. Tizzoni , W V. den Broeck, V.Colizza, and A. Vespignani, *Seasonal transmission potential and activity peaks of the new influenza A(H1N1): a Monte Carlo likelihood analysis based on human mobility,* BMC Medicine, **7** 45, 2009.

V. Colizza, **A. Vespignani**, N. Perra, C. Poletto, B. Goncalves, H. Hu, D. Balcan, D. Paolotti, W V. den Broeck, M. Tizzoni, P. Bajardi, and J.J. Ramasco, *Estimate of Novel Influenza A/H1N1 cases in Mexico at the early stage of the pandemic with a spatially structured epidemic model* Public Library of Science Currents: Influenza. RRN1129, 2009.

D. Balcan, V. Colizza, A.C. Singer, C. Chouaid, H. Hu, B. Goncalves, P. Bajardi, C. Poletto, J.J. Ramasco, N. Perra, M. Tizzoni, D. Paolotti, W V. den Broeck, A. J. Valleron, and **A. Vespignani**, *Modeling the critical care demand and antibiotics resources needed during the Fall 2009 wave of influenza A(H1N1) pandemic* Public Library of Science Currents: Influenza. RRN1133, 2009.

V. Colizza, A. Vespignani, *The Flu Fighters*, Physics World, Feb 2010.

A. Godinho, *Epiwork: Developing the framework for a European forecast infrastructure*. Research Review Magazine 9: 49, 2009.

S.P. van Noort, N. Stollenwerk, L. Stone, *Analytic likelihood function for data analysis in the starting phase of an influenza outbreak* Proceedings of CMMSE 2009, ISBN 978-84-612-9727-6, 2009.

I.H. Friesema, C.E. Koppeschaar, G. A. Donker, F. Dijkstra, S.P. van Noort, R. Smallenburg, W. van der Hoek, M.A. van der Sande, *Internet-based monitoring of influenza-like illness in the general population: experience of five influenza seasons in The Netherlands*. Vaccine 27:6353-7, 2009.

The project has been also involved and promoting two scientific events:

- Workshop 'Frontiers in the computational modeling of disease spreading' @ ICCS2010, Amsterdam, The Netherlands, May 31-June 2, 2010
- White Workshop on Mathematical Biology, Trento, Italy, December 17-19, 2009

International Conferences and seminars

Gabriela Gomes (FGC-IGC)
Workshop Design and Analysis of Infectious Disease Studies
November 2009, Oberwolfach, Germany.
High rates of reinfection tuberculosis: The selection hypothesis.

Gabriela Gomes (FGC-IGC)

Workshop on Modelling, Computation, and Measurement of Multiple Carriage
December 2009, Saariselkä, Finland
Interpreting genetic variation in pathogen populations.

Gabriela Gomes (FGC-IGC)
Workshop on Theoretical Epidemiology, Centro Internacional de Matemática,
January 2010, Coimbra, Portugal
Integrative Epidemiology.

J.P. Boto and N. Stollenwerk (FFCUL)
9th Conference on Computational and Mathematical Methods in Science and Engineering,
June 30, July 1-3, Gijón, Spain
*Fractional calculus and Levy flights: **m**odelling spatial epidemic spreading*.

Nico Stollenwerk, J.P. Boto, (FFCUL)
International Conference on Numerical Analysis and Applied Mathematics,
18-22 September 2009, Rethymno, Crete, Greece.
Reaction-superdiffusion systems in epidemiology, an application of fractional calculus

Shlomo Havlin (BIU)
International Conference on Complex Systems
Feb. 23 - 25, 2009**,** Shanghai, China
Percolation and immunization of complex networks

Shlomo Havlin (BIU)
Complex Networks: Topology and Dynamics
June 4, 2009, Tel-Aviv, Israel
Statistical Physics and Complex Networks

Shlomo Havlin (BIU)
International Workshop on Coping with Crises in Complex Socio-Economic Systems
June 8 - 12, 2009, Zurich, Swizerland
Efficient Immunization Approaches to Avoid Epidemic Spreading

Shlomo Havlin (BIU)
NETSCI 09 International Workshop and Conference on Complex Networks and their Applications
June 29 - July 3, 2009, Venice, Italy
Novel Percolation Models in Complex Networks

Roni Parshani (BIU)
International Conference on Complexity and Interdisciplinary Sciences,
July 12-8th ,2009, Chengdu, Sichuan, P. R. China,
SIS epidemic threshold on random networks

Stefano Merler (FBK)
NETSCI 09 International Workshop and Conference on Complex Networks and their Applications
June 29 - July 3, 2009, Venice, Italy
Comparing large-scale computational approaches to epidemic modeling: Agent based versus structured metapopulation models.

Marco Ajelli (FBK)
NETSCI 09 International Workshop and Conference on Complex Networks and their Applications
June 29 - July 3, 2009, Venice, Italy
Factors affecting the spread of an epidemic in Europe: population heterogeneity and human mobility.

Marco Ajelli (FBK)
White Workshop on Mathematical Biology
December 17-19, 2009, Trento, Italy

A dynamic individual based model of hepatitis A transmission.

Stefano Merler (FBK)
White Workshop on Mathematical Biology
December 17-19, 2009, Trento, Italy
The role of population heterogeneity and human mobility in the spread of pandemic influenza.

Mario J. Silva (FFCUL)
The International Conference on Digital Libraries New Delhi, India,
February, 2010.

Luis F. Lopes, João M. Zamite, Bruno C. Tavares, Francisco M. Couto, Fabrício Silva and Mário J. Silva (FFCUL)
September 2009, INForum – Simposio de Informatica
Automated Social Network Epidemic Data Collector

Alessandro Vespignani (ISI)
The James Martin 21st Century School Seminar Series
February 25, 2010, University of Oxford, UK
Predicting the Behaviour of Techno-Social Systems: How Informatics and Computing Help to Fight Off Global Pandemics.

Vittoria Colizzza (ISI)
Global Health Conference – Global Flows in Global Health: Inter-Asian Connections
Jan 4-8, 2010, United Arab Emirates University, Al-Ain, UAE
Epidemic Science in real time: the H1N1 case [keynote]

Alessandro Vespignani (ISI)
Symposium 'Frontiers in Network Science'
September 28-30, 2009, Berlin, Germany
Predicting the behavior of techno-social systems [keynote]

Vittoria Colizza (ISI)
Symposium 'Frontiers in Network Science'
September 28-30, 2009, Berlin, Germany
Epidemic Science in real time: the H1N1 case [keynote]

ECCS09 - European Conference on Complex Systems 2009
September 21-25, 2009, University of Warwick, UK
Worldwide spread of the unfolding swine flu epidemic: early assessment and predictions [contributed]
C. Poletto
Complex Techno-Social Networks for Epidemic Forecasting [invited]
B. Goncalves

Alessandro Vespignani (ISI)
NetSci09 - International Workshop on Network Science 2009
June 29 - July 3, 2009, Venice, Italy
Multiscale networks and forecasting techno-social systems: Planning for pandemic outbreaks in real time [keynote]

Vittoria Colizza (ISI)
ICCS 2009 - International Conference on Computational Science "Compute. Discover. Innovate."
May 25-27, 2009, Baton Rouge, Louisiana, USA
Computational epidemiology: a new paradigm in the fight against infectious diseases [keynote]

Sander van Noort (FGC-IGC)
Influenzanet: Internet-based monitoring system for ILI.
Annual Meeting of the Influenza Surveillance Network in Europe.

ECDC, Stockholm, Sweden.
June 2009.

Sander van Noort, Vitor Faustino (FGC-IGC)
July 2009, ISC, Salvador, Brazil.
On the use of the internet to monitor infectious diseases.

Gabriela Gomes (FGC-IGC)
September 2009, Workshop on Mathematical Modelling of Epidemics, University of Bristol, UK.
Influenzanet.

Ken Eames (LSHTM)
Seminar
October 2009, Imperial College, London;
Weighted networks, mathematical models, and a bit of flu;

Ken Eames (LSHTM)
May 2009, University of Georgia;
Human social contact patterns and the spread of infection;
Ecology and Evolution of Infectious Disease conference,

Shlomo Havlin (BIU)
Seminar
Dec. 7 2009, Northeastern University,
Percolation in interconnected networks

3 Outreach to the public and popularization

The project has been very active in organizing outreach activities targeting the large public and aimed at popularizing the project and its results to the non-experts. Among the major successes in this area we list the following:

Exhibitions

Epidemic Planet @ INFECTIOUS Art and Science Exhibit
Science Gallery, Dublin, Ireland, April 17 to July 17, 2009

Popular articles

- D. Brockmann, **Following the Money**, *Physics World*, Feb 2010.
- V. Colizza, A. Vespignani, **The Flu Fighters**, *Physics World*, Feb 2010

Interactive and non-interactive media

The production of a series of instructive video clips that convey ideas, methods and results targeted by the project to the general public:

- Clip 1: Follow the money by C. Thiemann & D. Grady
- Clip 2: Tour de Sys, by C. Thiemann & D. Grady
- Clip 3: Introducing GLEaM, by Van Den Broeck et al.

These clips are available on the Epiwork website. The clip 1 won the AAAS/NSF International Science & Engineering Visualization Challenge 2009 in the category Non Interactive Multimedia. http://www.sciencemag.org/cgi/content/full/327/5968/945

Media Coverage

The project, also in view of the unfolding of the H1N1 pandemic crisis, was very effective in communicating results to the media and the popular press through regular press releases that have generated a large number of hits (more than xx in x different countries). We report here a full list of media coverage of the Epiwork activities

- International
  ISI (INFLUWEB)
  - 30 Mar 2009 - Physics World - Flu fighters use the Web to track virus
  - 25 Lug 2009 - Reuters: Drugs work best when swine flu found early: study

- Italy
  FBK
  - 8 Nov 2009 - *"Corriere della Sera"* - Le proiezioni per tutta Europa: in Italia colpirà uno su quattro
  - 28 Oct 2009 - La Stampa - Pandemia, la diffusione in Europa
  - 27 Oct 2009 - Unità.it - Influenza A: ricerca, in Europa diffusione rapida ovest est
  - 27 Oct 2009 - Fondazione Italiani.it - Influenza A, rapida diffusione dal virus da ovest ad est
  - 27 Oct 2009 - Simg.it - (Società italiana di medicina generale) - Influenza A: ricerca, in Europa diffusione rapida ovest-est
  - 03 Sep 2009 - Corriere della Sera - "L'influenza A durerà otto mesi. A Natale tre milioni di contagi".
  - 28 Jul 2009 – ANSA - INFLUENZA A: RICERCA FBK SULL'USO DEGLI ANTIVIRALI
  - 25 Jul 2009 - Le Scienze - Influenza: antivirali solo per gli under 65?
  - 25 Jul 2009 - AdnKronos- Febbre Suina: Scienziati Italiani, dubbi su antivirali ad anziani

  ISI (INFLUWEB)
  - 16 Nov 2009 - Video-interview to Influweb Staff by Blogosfere.it influweb.it-monitoraggio-dellinfluenza-in-stile-20-videointervista-a-due-ricercatrici-del-team-tor.html
  - 17 Nov 2009 - TGRLeonardo Video-interview to Vittoria Colizza
  - Collaboration with Repubblica.it – 16 Nov 2009 http://temi.repubblica.it/repubblicasalute-influweb
  - Corriere.it – 11 Nov 2009 In Italia l'influenza A si combatte online
  - La Repubblica – 10 Nov 2009 Influweb staff interviewd by La Repubblica
  - Video-interview Repubblica.it – 10 Nov 2009 Un chip monitora il contagio
  - Press release by ISI Foundation during the Epiwork project meeting in Nov 16-18 2009:
    http://www3.lastampa.it/torino/sezioni/cronaca/articolo/lstp/86361/
    http://www.primaonline.it/2009/11/09/76013/influenza-a-in-sito-internet-raccolta-dati-su-diffusione/
    http://notizie.it.msn.com/regioni/piemonte/articolo.aspx?cp-documentid=150775780
    http://temporeale.libero.it/libero/news/2009-11-09_109437126.html
    http://it.notizie.yahoo.com/10/20091109/thl-influenza-a-25-scienziati-europei-fa-deebc83.html
    http://www.cybermed.it/index2.php?option=com_content&do_pdf=1&id=24459
    http://www.unita.it/notizie_flash/62310/influenza_a_scienziati_europei_faranno_punto_su_pandemia
    http://www.asca.it/news-NUOVA_INFLUENZA__SCIENZIATI_EUROPEI_A_TORINO_PER_FRONTEGGIARLA-873052-ORA-.html
    http://www.notiziarioitaliano.it/italia/saluteeambiente/22899/a-torino-un-meeting-per-combattere-linfluenza-ah1n1.html
    http://www.gravita-zero.org/
  - 30 Apr 2009 – Galileonet.it - Influenza suina: monitoraggio 2.0

- 29 Apr 2009 – gravitazero.org Pandemia e Influenza A: a Torino si studia come evitarla

CREATE-NET
- 10 Nov 2009 - DNews Verona - http://users.isi.it/~epiwork/year_I/project_reports/CREATE-NET_Miorandi/CN_DNews_10112009.jpg
- 10 Nov 2009 - Il Gazzettino http://users.isi.it/~epiwork/year_I/project_reports/CREATE-NET_Miorandi/CN_gazzettino_10112009.jpg
- 10 Nov 2009 - L'Adige http://users.isi.it/~epiwork/year_I/project_reports/CREATE-NET_Miorandi/CN_progetti_Epiwork_e_Monarca_l%27Adige_20091113.pdf

- UK

  LSHTM (FLUSURVEY)
  - John Edmunds and Ken Eames (LSHTM) have made multiple appearances in both the broadcast and print media over the course of the epidemic. During July they made multiple appearances on BBC local radio, BBC TV (News 24), BBC World (TV), Sky News, ITV News, all related to Flusurvey. Print media included most of the national newspapers in the UK. LSHTM press office released a number of press releases about Flusurvey, the text of two of which are included in the project report.

  FBK
  - 25 Jul 2009 - The Guardian- Preventive swine flu treatment better concentrated on the young
  - 25 Jul 2009 - The Herald- Elderly should be low priority for antivirals, says scientist

- Netherlands

  AIBV (DE GROTE GRIEP METING)
  - See http://www.degrotegriepmeting.nl/?thissection_id=82 for press coverage in Dutch and Belgian media. More than 35 references on radio and TV and the internet and in articles in newspapers and magazine in November 2009 alone on the GroteGriepmeting.nl or Great Influenza Survey. About 10 of them refer to the international cooperation within the FP 7 Epiwork project.
  - See: http://www.nwo.nl/files.nsf/pages/NWOA_7S2H2V/$file/IO_2009_mei.pdf for major article on Epiwork, Great Influenza Survey and ICT research in Dutch national magazine on ICT research of the Netherlands Organization for Scientific Research.

- Germany

  MPG
  - 3 May 2009 - Welt am Sonntag - Kleine Geschichte der großen Unsicherheit

- France

  FBK
  - 5 May 2009 - Le Monde - Les chemins du virus passent par les billets de 1 dollar, sur Internet

- USA

  MPG
  - 1 May 2009 - National Public Radio - Swine Flu Simulation Predicts 1,700 Cases By June
  - 30 Apr 2009 - ABC7 Chicago, Technology is helping scientists predict where and how quickly infections can spread
  - 29 Apr 2009 - Cbs2chicago.com - Worst Case Scenario: Swine Flu Infects 121 In City
  - 4 May 2009 - New York Times, Predicting the Flu With the Aid of (George) Washington
  - 30 Apr 2009 - LA Times, Scientists see this flu strain as relatively mild
  - 5 May 2009 - USA Today - 'Fate of this outbreak' may be determined this week
  - 1 May 2009 - LiveScience, 'Worst-Case' Scenario for Flu Estimated
  - 29 Apr 2009 - Chicagobreakingnews.com, Study: 1,700 Americans could catch swine flu
  - 30 Apr 2009 - Medill Reports: Chicago, Swine flu predictions are in

  FBK
  - 28 Jul 2009 - NBC News- Save swine flu drugs for younger patients, study urges
  - 25 Jul 2009 - ABC News- Save Swine Flu Drugs for Younger Patients, Study Urges
  - 25 Jul 2009 - Bloomberg- Age-Specific Death Rates Should Determine Swine Flu Treatment

4 Effort to engage with policymakers and government agencies

The H1N1 pandemic event has fostered the development of collaborations among most of the national institutes of Health of the countries represented in the consortium. The project has been constantly in touch with the ECDC during the period of concerns. Specific collaborations have been established with the Joint Research Centre of the European community in the area of computational modelling for the anticipation of pandemic crisis. Representatives of the JRC and the ECDC are members of the Consortium advisory committee.

5 Coordination and integration with proactive FET initiatives and projects on science of complex systems for socially intelligent ICT.

The consortium is actively participating to the life of the ASSYST coordination action and it has been present at the major initiatives in Complexity such as the ECCS09. The coordination action ASSYST is funded from the FET Proactive initiative Science of Complex Systems for Socially Intelligent ICT (COSI-ICT) and has several goals: promote CS & COSI-ICT research, organise many scientific meetings in Europe, in the new member states, in the candidate states, with the USA and South America, with Japan, China and India, and with Africa, make better connections between complex systems scientists and potential business users of complex systems, support the European Conference on Complex Systems. EPIWORK project has participated to the kick-off meeting of ASSYST project, in Paris February 27,28 – March 1, 2009. Moreover, EPIWORK has participated to the COSI-ICT satellite meeting at the European Conference on Complex Systems in Warwick, September 23, 2009.

6 IMS and Modeling Platform as exploitation and dissemination tools

The project WP5 is taking particular care in exploiting the potentiality of the IMS recruiting to use the web tool as a podium for advertisement and dissemination of the project results. At

the same time the web tool is being exploited to amplify the public perception on the issue of communicable diseases and as a new media for information and risk awareness campaign.

The success of WP5 campaign to collect epidemic data on flu and cold by means of the Internet monitoring platforms is based on the participation of as many volunteers as possible, in order to collect reliable data with high accuracy both in time and in space. To rely on public participation and convince volunteers to contribute with their time and data to the project, the Internet Monitoring platform teams are responsible for communicating the importance of the population contribution to the influenza surveillance. This goal is achieved by means of:

- A professional marketing strategy, including an active press approach via press messages and networking among journalists, and a range of services for schools and interested laymen;
- The provision of 'reader ready' information and educational material or for the lay audience and the school children and their teachers.
- An up to date website, with a country map showing the 'flu-state-of-affairs' and providing news and accessible information on flu and cold, vaccination, health care and scientific research;

The IMS teams in the several countries have envisioned strategies and campaign to "advertise" the local platform with the national public (see the detailed press releases above). In each country, i.e. The Netherlands, Belgium, Portugal and Italy, all the national media have been exploited to make raise the population awareness of the existence of the project. With the occurrence of H1N1 influenza pandemic, the role of the IMS in disseminating the project's contribution to the study of the unfolding pandemic has become of crucial importance. UK media campaign to advertise the newly deployed platform has gained resonance due to the contingent public health emergency.

Each platform has devised its own campaign, during this first year of Epiwork project, and at the end of the pandemic period all the teams have gathered the material produced by each platform and stored it in a centralized repository accessible to all the WP5 partners.

The Dutch and Belgian Grote Griepmeting team has produced new, educational material, including interactive lessons on arithmetics and flu, two films on influenza and the flu game for the ages *6 to 12* (can be found on www.degrotegriepmeting.nl/?thissection_id=27).

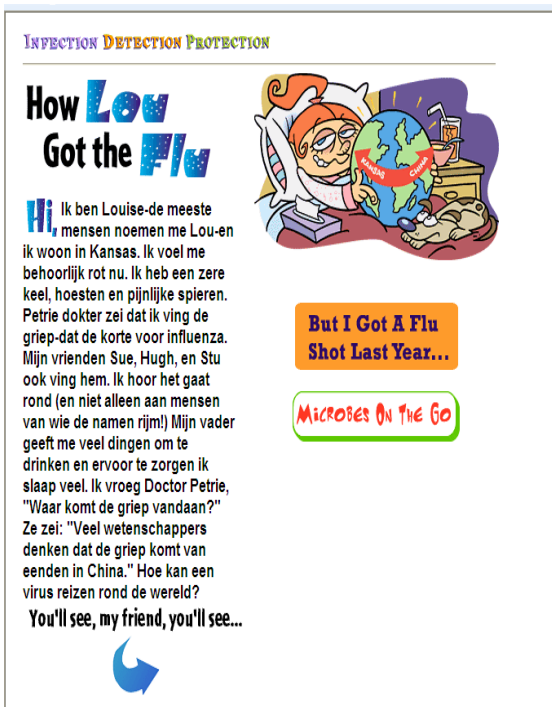
A (swine) flu web quest, an American, interactive movie on flu, and health care and biology lessons for the ages *11 to 15* are available on www.degrotegriepmeting.nl/?thissection_id=24.

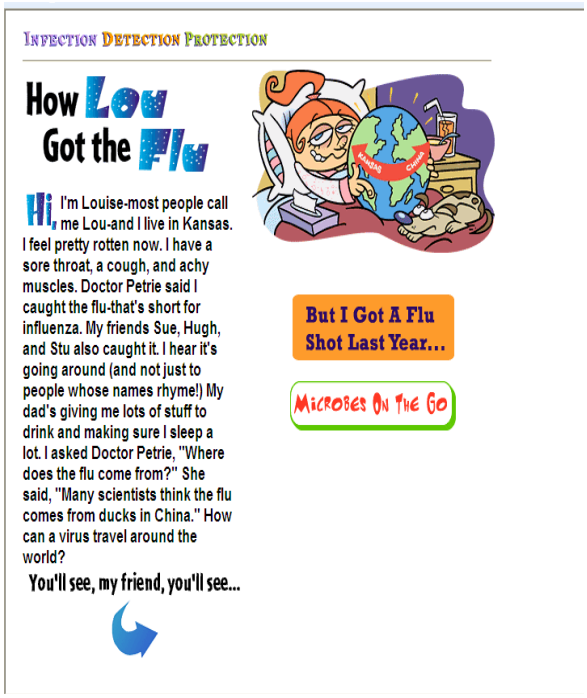
Build a virus and make a video on the prevention of flu, including instructions for ages *14 to 17* can be downloaded at www.degrotegriepmeting.nl/?thissection_id=92. Modeling material and the lessons on pandemic and new influenza H1N1 for the ages *15 to 20* are here to find: www.degrotegriepmeting.nl/?thissection_id=26. The *adults* and their *children* will find a quiz, a sudoku and a flu game or puzzle at www.degrotegriepmeting.nl/?thissection_id=93. Much of this material has been translated into English, either as summary for a complete translation upon request of the partners or as a complete update in English, adapted to national school curriculae. See for a few examples, here after. All on line material will be placed at the new European Influenzanet website.

Example 1: Mexican Flu web quest on vocational education and training for the 11 -15 years old:

Example 2: the Epidemic Flu Game instructions for teachers of the 8 – 12 years old:

Example 3: on line explanation of how flu 'travels' around, for the 11 – 15 years old:





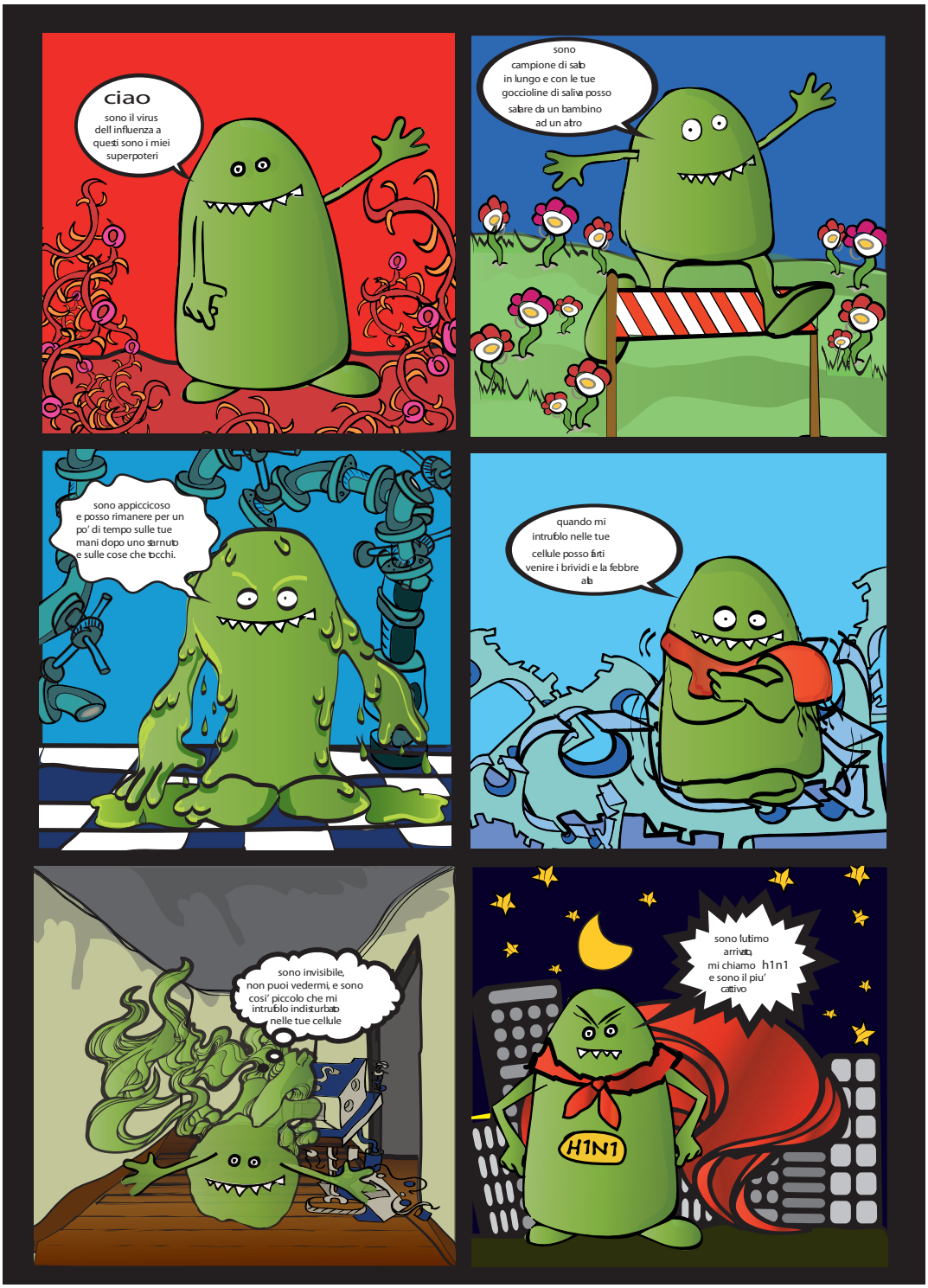
The Italian Influweb team has devised a communication strategy aimed at attracting a young audience, in particular the school age group that was the most affected by the H1N1 influenza. The idea was to create familiar and recognizable "cartoon" characters impersonating the influenza virus and its main features (see example below), to educate and inform very young children and stimulate their interest in learning more about a very important subject such as influenza virus, how it spreads, how the infection can be prevented etc.

The cartoon was sent in many copies to some schools participating to the pilot project Influweb@School,meant to promote the dissemination of the project among school children, students, their families, teachers, friends etc. The Italian platform has a dedicated section where volunteers belonging to one of these categories can be enrolled and can participate under the name of one school class. The idea is to stimulate the competition among students from different classes of the same school and from different schools to become successful enroller attracting new participants to the project and be rewarded with small gadgets specifically designed for Influweb. For example, the most successful classroom of a certain

school would receive small boxes resembling Aspirine box with the Influweb logo and with a leaflet inside explaining what is Influweb and how to participate.

Another relevant part of the project dissemination activities is carried on in the WP4, with the development of the Epidemic Modeling Platform as a flexible and user-friendly tool to provide state-of-the-art computational modeling to a wide audience of both experts and non-experts. No programming knowledge or computational expertise is required to use the Platform. Users are prompted to choose from a series of built-in approaches through menus or they can build their own infection model by means of wizard-like panels that are extremely helpful for the interaction of a non-expert user with the Platform, allowing the use of complex computational tools by people who do not necessarily have this kind of expertise.

INFLUWEB


ciao
sono il virus dell'influenza a questi sono i miei superpoteri
sono campione di salto in lungo e con le tue goccioline di saliva posso saltare da un bambino ad un altro
sono appiccicoso e posso rimanere per un po' di tempo sulle tue mani dopo uno starnuto e sulle cose che tocchi.
quando mi intrufolo nelle tue cellule posso farti venire i brividi e la febbre alta
sono invisibile, non puoi vedermi, e sono così piccolo che mi intrufolo indisturbato nelle tue cellule
sono l'ultimo arrivato, mi chiamo h1n1 e sono il piu' cattivo
H1N1

Students participating to the project were also invited to contribute to the platform educational dissemination by producing visual material (drawings, presentations etc), articles, a logo for the initiative and see the results published periodically on the platform with a nation-wide audience.

Along with the campaign among schools, the Italian team also worked at producing dissemination material for a more general audience. In particular, in a moment of public general uncertainty during the unfolding of the H1N1 pandemic, the platform has become a portal were the Italian population could be promptly provided with constantly updated information from the main National, European and World public health agencies and translations of news coming from the press all over the world. Moreover, the platform would be the podium for advertisement and dissemination of Modeling and Simulations results obtained by teams involved in WP4, since during the early phases of H1N1 pandemic it was really important to provide public attention with updates, previsions, projections and estimates.