

IST-2004-027749
HeC
Health-e-Child

Instrument: Integrated Project
Thematic Priority: IST

D16.1 Dissemination Strategy Plan

Updating at month 42

Due Date of Delivery: 30 June 2009
Actual Submission Date: 13 August 2009

Start date of project: 1 January 2006
Ending: 31 December 2009

Organisation name of lead contractor for this deliverable: 02 Lynkeus
Revision [----]

Project co-funded by the European Commission within the FP6 (2002-2006)		
Dissemination level		
PU	Public	X
PP	Restricted to other programmes participants	
RE	Restricted to a group specified by the Consortium	
CO	Confidential	

Document Classification

Title	Dissemination Strategy Plan
Deliverable	D16.1
Reporting Period	
Authors	Antonella Trezzani, Tom Wiley
Work package	16 - Dissemination
Version	
Keywords	

Document History

Name	Remark	Version	Date
Antonella Trezzani		0.1	31/08/09
Tom Wiley		0.2	10/08/09
Edwin Morley-Fletcher		1.0	12/08/09

Health-e-Child Consortium

The partners in this project are:

- 01 Siemens AG (Siemens)
- 02 Lynkeus Srl (Lynkeus)
- 03 I.R.C.C.S. Giannina Gaslini (IGG)
- 04 University College London – Great Ormond Street Children’s Hospital (UCL)
- 05 Assistance Publique Hopitaux de Paris – Necker (APHP)
- 06 European Organisation for Nuclear Research (CERN)
- 09 University of the West of England (UWE)
- 10 University of Athens (UoA)
- 11 Università degli Studi di Genova (DISI)
- 12 The French National Institute for Research on Computer Science and Control (INRIA)
- 13 European Genetics Foundation (EGF)
- 14 Aktsiaselts ASPER BIOTECH (Asper)
- 15 Gerolamo Gaslini Foundation (FGG)
- 16 Maat G Knowledge (MAAT)
- 17 Ospedale Pediatrico Bambino Gesù (OPBG)

Table of Contents

EXECUTIVE SUMMARY	5
1. DISSEMINATION STRATEGY	6
1.1 The Health-e-Child Project.....	6
1.2 The Health-e-Child Message.....	6
1.3 HeC and Personalised Health Care	8
1.4 Identification of Target Groups and End Users.....	9
1.5 Health-e-Child Demonstration at DG SANCO Future Challenges Conference	10
1.6 Active Clinical Dissemination	11
2. DISSEMINATION CHANNELS	12
2.1 Conferences and clustering/networking events	12
2.2 HeC Awards.....	13
2.3 Health-e-Child and ICT	14
2.4 Other dissemination channels	14
2.5 Broader public awareness.....	15
2.6 Engaging Parent and Patient Associations	15
2.7 Manifesto for expansion	16
3. DISSEMINATION INSTRUMENTS	17
3.1. Project Logo.....	17
3.2 Communication templates.....	17
3.3 Public Website	18
3.4 Newsletter.....	22
3.5 Project brochure, posters and bookmarks	23
3.6 Exhibit Booths	23
3.7 Relevant publications	23
3.8 International scientific journals List.....	27
3.9 Training Courses	27



CONCLUSIONS..... 29

Executive Summary

This document outlines the elements that define the strategy to disseminate the actions and results of Health-e-Child (HeC). This deliverable is an update of former versions, each version was due to be regularly updated as the project evolved. In this sense also the tasks indicated in this Deliverable cannot be considered as exhaustive nor set in stone, and additional activities may be added to the scope of activities undertaken to appropriately disseminate HeC, particularly at a clinical level, in order to extend the visibility of the project's tools and applications and their uptake by as many users as possible.

The guidelines for HeC dissemination have been based on the following principles:

- conception of dissemination as “knowledge sharing” on a bi-directional level;
- cross fertilisation and liaison with industrial, research, and standardisation communities;
- involvement of external organisations, of experts, and of parent and patient associations tackling the diseases studied within HeC;
- involvement of independent experts to validate HeC protocols and entry criteria;
- transfer of results to the industrial, research, and standardisation communities;
- establishment of close collaboration with related projects;
- publication of HeC results in relevant international scientific journals;
- organisation of seminars and workshops within relevant conferences in the area, producing ad hoc brochures and posters;
- set-up of a web site dedicated to the project, containing a public area for general communication and a restricted area for exchange and knowledge sharing amongst consortium members;
- publication and circulation to interested communities and stakeholders of a quarterly newsletter.

Health-e-Child seeks to develop a strong brand image, recognised by both the information technology and biomedical/paediatrics communities, in order to become a quality label and a benchmarking reference for the application of advanced technology in biomedical informatics.

The HeC Consortium is well aware that the nature of the project and its evolution may well dictate changes in the course and enactment of some of the activities set out below. In fact, numerous dissemination channels not foreseen here may come into being and may demand exploitation, while some activities deemed promising at present may later on be found to be unattractive and/or ineffective. Health-e-Child will nonetheless adhere to the above mentioned overriding principles in its further pursuit of the broadest array of dissemination activities possible.

At the annual review of the project, a four-month extension was accepted as the natural outcome of the consortium's desire to “mature the concepts and the knowledge base” of the project's work. Furthermore, concluding the project in April 2010 will possibly prove germane to the consortium's efforts to plan and implement a sequel to HeC, taking advantage of the sixth call of the 2009- 2010 ICT Work Program.

1. Dissemination Strategy

1.1 The Health-e-Child Project

The original HeC project proposal featured a *future HeC scenario* describing the case of a child born to a family in which there had been an occurrence of idiopathic dilated cardiomyopathy (DCM). This case study fittingly exemplified the clinical application of the results the project would endeavour to achieve.

Fashioned around three paediatric diseases with at least partly unknown causes, classification and/or treatment outcomes - heart diseases (right ventricular overload [RVO], cardiomyopathies), inflammatory diseases (juvenile idiopathic arthritis [JIA]), and brain tumours (gliomas) - the HeC system is working to establish the means and tools for multi-site, vertical, and longitudinal integration of biomedical data, information and knowledge delivered via a Grid-based platform, supported by robust tools for search, optimisation and matching processes.

Indeed, the project brings together three different user communities, in a well balanced configuration, which roughly can be described as *three thirds*: one third is made of clinicians and health care providers from paediatric cardiology, rheumatology and neuro-oncology departments, bringing the indispensable expertise to identify relevant clinical research directions; the second third is represented by medical imaging and health IT experts who bridge the clinical and IT worlds; finally, the last third is made up of grid and distributed computing experts able to harness the power of the grid to solve requests coming from the above mentioned communities. This mixture of expertises is what enriches and distinguishes HeC.

The core of HeC revolves around its efforts dedicated to meeting the challenges entailed in biomedical information analysis. Central to these are the project's research activities focusing on the tasks aimed at building the enabling tools and services that will improve the quality of health care and reduce its cost by increasing efficiency through:

- Integrated disease models;
- Cross modality information fusion and data mining for knowledge discovery;
- Database-guided diagnostic and treatment decision support systems for the advancement of personalised medicine.

1.2 The Health-e-Child Message

The outlook within the EU envisages a rapidly evolving healthcare scenario, where pharmacogenetics know-how is expected to become the broad common standard, translating individual metabolic fingerprints into personalised medicine tailored to individual needs, supported by distributed medical teams and ongoing multidisciplinary biomedical research. The former EU Health Commissioner David Byrne was often quoted as saying that "health is wealth": a report on *The contribution of health to the economy in the European Union*, published in 2005 by the Directorate-General for Health and Consumer Protection of the European Commission¹, indicated that preventing ill-health is more cost-effective than treating it, and that care rather than cure has to be the watchword. Four specific concerns relevant to paediatrics were singled out:

- good health in childhood enhances cognitive functions and reduces school absenteeism and early drop-out rates;
- children with better health can be expected to attain higher educational levels and therefore be more productive in the future;

¹ M. Suhrcke, M. McKee, R. Sauto Arce, S. Tsoleva, J. Mortensen, *The contribution of health to the economy in the European Union*, 23 August 2005.

- policy-makers who are interested in improving economic outcomes have a strong case for considering investment in children health as one of the options by which to meet their economic objectives;
- most of the EU Member States are far behind the United States where research can be undertaken with the benefit of a number of public domain longitudinal surveys.

These concerns are also central to the vision underpinning HeC, and are strongly emphasised in HeC dissemination efforts. Indeed, the message that HeC intends to spread and around which it bases its dissemination activities and actions, both within the IT and biomedical/paediatric communities, to other major stakeholders (e.g., public health authorities, parent and patient associations) and to the general public, is the assumption that existing healthcare processes and models will likely be unable - over the next decade - to cope with increasing demographic changes and increasing demand in expectations, unless coordinated European public policies begin to more effectively implement innovative e-Health solutions, such as that pursued by HeC.

In this context, HeC endeavours to be recognised as an indispensable tool for paediatrics in daily clinical practice, decision making, and research: a tool accessible at any time and from anywhere, offering a user-friendly, multi-modal, efficient, and effective interaction and exploration environment. Ultimately, with the HeC system, information should have no conceptual, logical, physical, temporal, or personal borders or barriers, but should be available to all professional caregivers with the appropriate level of clearance.

The overriding vision is for the HeC system to become the universal biomedical knowledge repository and communication conduit for the future, a common vehicle by which all practitioners will access, analyze, evaluate, enhance, and exchange and use biomedical information of all forms.

The development of large-scale grid-enabled simulations in the diseases tackled by the project - paediatric cardiology, paediatric rheumatology and childhood brain tumours - represent the cornerstone of the consortium's dissemination strategy. The original future scenario case study (described in the project's first Newsletter in November 2006) focused on idiopathic dilated cardiomyopathy (IDCM). With the project's evolution, however, it has become increasingly clear that in the domain of paediatric cardiology Tetralogy of Fallot - because of the greater amount of data collected on the disorder compared to IDCM and the resulting exploitability into models that this information afforded - would provide the best "storyboard". Exemplary scenarios in the three medical domains that demonstrate to potential stakeholders the value of the platform's functionalities will be key to achieving the widespread uptake of HeC tools and applications. Indeed, a catalogue of paradigms - now referred to within the consortium as "clinical use cases" - will be designed and tailored for dissemination to the clinical community to illustrate the promise that grid computing solutions hold for clinicians and researchers.

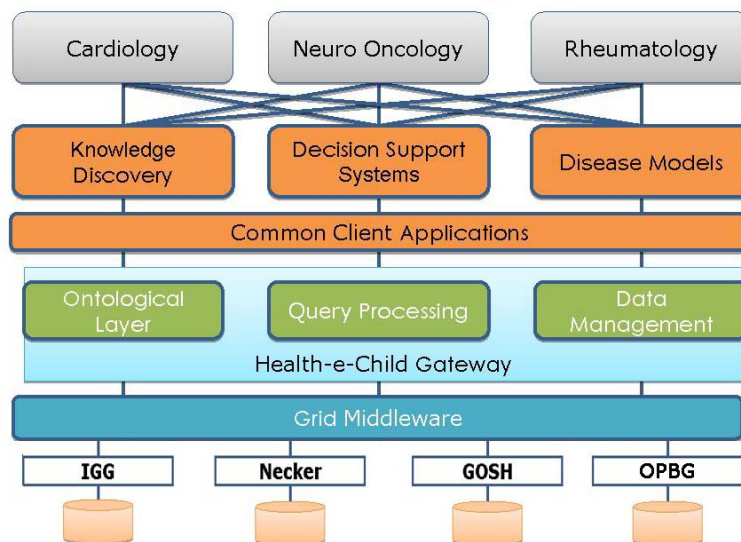
The HeC consortium is aware that the true strength of the project will arise from amassing large amounts of data and building relations and correlations from existing data. This is why HeC places particular importance on building bridges with other projects. The importance of involving an increasingly wider user base was mentioned above, and discussions on collaboration with other projects and initiatives outside HeC are continuously ongoing to explore how and under what conditions other healthcare centres could join the existing clinical HeC partners in order to stimulate inputs and to provide outputs that could broaden the number of enrolled patients. HeC is well aware that the involvement of additional health care centres must come about according to established and recognised regulations and principles, and as such has been seeking to enlist the expert advice of independent advisors in order to validate HeC protocols and entry criteria.

The dissemination activities underway in the HeC project aim to foster productive exchange among a large and varied group of stakeholders. Dissemination is therefore seen as an exercise in "knowledge sharing". Efforts are bi-directional, inasmuch as while the HeC project

disseminates its results, it likewise simultaneously attempts to recruit external organisations and actors to share their expertise. It is hoped that an even wider variety of select external actors and users will become involved in the initiative, thereby expanding and enhancing the base of data and knowledge in the community. Indeed, such “active dissemination” among clinical centres promises to generate a valuable contribution for the project, since the more health care providers can be involved, the more patient data can be accumulated.

Knowledge sharing is also currently carried out within the Consortium itself. With such a large group of professionals coming from so many different research domains the first objective of the knowledge sharing exercise is convergence: building consensus is an integral component of knowledge sharing. To achieve this objective, a series of thematic workshops have regularly been held with the objective of transferring a level of knowledge about the various domains necessary for stakeholders to effectively benefit from the collaboration.

Health-e-Child at a glimpse



1.3 HeC and Personalised Health Care

Many of the applications that HeC is developing fit appropriately with the movement in the health care industry towards personalized medicine. It is the Consortium’s hope to highlight these in all forthcoming dissemination activities and to position HeC within this industrial revolution, providing a foretaste of what will be the care systems of the future. For example, pan-European and global interoperability is one of the fundamental components of HeC through its GRID platform, and having dealt with many of the legislative and regulatory issues involved with the transfer of medical information across national borders, the Consortium believes that it has acquired some “know how” that might be of benefit also to other European projects. Based on clinical ownership, and not patient ownership, HeC is creating an anonymised online medical record system for all of the patients enrolled in the program which can be accessed and edited across various EU member states. The functions and capabilities of these anonymised records are likely partially to anticipate those which any European Electronic Health Record System would need. At another level, the concept of the e-child, which is a core element of HeC, anticipates some of the descriptive, integrative and predictive goals implied by the new attention brought by FP7 to patient-specific computer models for personalised and predictive healthcare and ICTbased tools for modelling and simulation of human physiology and disease-related processes, where patient-specific computational modelling of organs and diseases, data integration combining also genetic data with biomedical imaging, new knowledge extraction through innovative software tools for data mining,

representation, formalisation and image processing able to integrate heterogeneous information from distributed databases, are the basis for developing the Virtual Physiological Human methodological and technological framework for enabling the investigation of the human body as a single complex system.

1.4 Identification of Target Groups and End Users

Achieving the mission and ambitions summarised above requires a consolidated effort aimed at establishing links with distinct - but overlapping - target groups and end users: IT specialists, paediatric health care providers, and health care authorities and policy makers. Reaching each of these user bases involves varying approaches, but for purposes of simplification, these can be defined as either clustering activities with other ongoing actions/projects sharing similar or complementary goals, or through conference activity, be this at periodic venues or specific HeC-organised and sponsored events.

Regarding the former, the project is in the position to exploit numerous opportunities: many HeC Consortium members are partners in more than one ongoing EU-funded project/network sharing overlapping missions with which HeC plans to liaise and establish and/or enhance relations. Particularly telling is the close collaboration with the **Enabling Grids for E-Science** project and HeC's utilisation of the EGEE's grid middleware "gLite". Other conspicuous examples of projects sharing partners with HeC are **HealthGrid** and **SHARE**, two other EU-sponsored actions with which HeC shared exhibition space at the EGEE '07 Conference held in Budapest in October 2007. Following from the consortium's collaborative work with SHARE at EGEE07, HeC has been made an Associate Member of the project.

In February 2008, at the 3rd EGEE Users Forum in Clermont-Ferrand, the consortium's live demonstration was the only demonstration recognised as the "best live demo" at the conference.

In September, at EGEE 08 in Istanbul's, HeC's live demonstration was again on display but not entered into the competition. In addition to a shared booth with the FP7 project neuGrid the consortium jointly organized a workshop with the SHARE project on the opening day to discuss the recent publication of the SHARE Roadmap, the workshop aimed to provide all stakeholders with an opportunity to review the status of various international initiatives addressing the development and deployment of Grid applications for medical research and health care".

Finally in November in Lyon the consortium's major dissemination event at ICT 08 won the award for the "Best Exhibition" which included €10,000 from the conference sponsor Hewlett-Packard.

Furthermore, HeC was invited to be showcased at the Final Review of the EGEE II Project. The consortium was also invited to attend the LHC Grid Fest which was held to celebrate the opening of Cern's Large Hadron Collider in October. The consortium presented the project's successful implementation of the EGEE grid middleware e-Lite, Health-e-Child was the only invited demonstration of a grid-based platform applied to medical sciences present.

Other projects sharing a common denominator (e.g., grid technologies, e-health applications) and with which closer ties will be explored, include the following initiatives:

- **PONT** (Parallel Optimisation of New Technologies for Post-Genomics Drug Discovery)
- **ETUMOUR** (Web Accessible MR Decision Support System for Brain Tumour Diagnosis and Prognosis, Incorporating In Vivo and Ex Vivo Genomic and Metabolomic Data)
- **MULTIMOD** (Simulation of Multiple Medical-Imaging Modalities: A New Paradigm For Virtual Representation of Musculo-Skeletal Structures)
- **GRASP** (Grid Application Service Provision)

- **@NEURIST**, Integrated Biomedical Informatics for the Management of Cerebral Aneurysms
- **ACGT**, Advancing Clinico-Genomic Clinical Trials on Cancer
- **COCOON**, Building knowledge driven and dynamically networked communities within European healthcare systems
- **HEALTHAGENTS**, Agent-based Distributed Decision Support System for Brain Tumour Diagnosis and Prognosis
- **SAPHIRE**, Intelligent Healthcare Monitoring based on Semantic Interoperability Platform
- **EuResist**, Integration of viral genomics with clinical data to predict response to anti-HIV treatment
- **ALERT**, Early detection of adverse drug events by integrative mining of clinical records and biomedical knowledge
- **VPH NoE**, Virtual Physiological Human Network of Excellence
- **NeuGrid**, Grid-Based E-Infrastructure for Data Archiving/Communication and Computationally Intensive Applications in the Medical Sciences
- **@neuLink**, linking genetics to disease

This initial list could clearly expand as other initiatives came into existence with the development of Virtual Physiological Human projects.

Moreover, HeC continues to seek out other transversal initiatives, such as **BELIEF** (Bringing Europe's eElectronic Infrastructures to Expanding Frontiers) and **EELA** (E-infrastructure shared between Europe and Latin America), two EU 6th Framework Programme funded projects whose aim is to promote European e-infrastructures in other parts of the world as well as to diverse communities. Indeed, these two actions share with HeC the message and vision that e-infrastructures constitute an answer to several of the most complex challenges presented by the worlds of biology and medicine (processing of huge numbers of cases, experimental results, and integration of data), as well as to create an exchange for ways to chart the incorporation of e-infrastructures and grid technologies in the mainstream of biomedical research.

In addition, bearing in mind the project's overriding vision and its goal to develop and deploy tools that promote the uptake of e-health and personalised medicine applications, the HeC Consortium will progressively make every effort to involve other major stakeholders and end users, namely public health decision-makers and authorities.

The consortium also maintains a special relationship with the Paediatric Rheumatology International Trials Organisation (PRINTO). This has enabled HeC to reach a worldwide audience of experts in rheumatology. As the consortium looks to the future access to the HeC platform will be further expanded to embrace PRINTO and its worldwide network in order to include additional partners and to spread the HeC vision.

1.5 Health-e-Child Demonstration at DG SANCO Future Challenges Conference

Organized by the European Commission's Directorate General of Health and Consumer Affairs (DG SANCO) Health-e-Child has been showcased as a "high impact break through technology" at the conference "Delivering for Tomorrow's European Consumers" October 29 - 30, 2008 in Brussels. The conference marked an important stage in what the DG SANCO calls its Future Challenges exercise, a largely participative and innovative reflection process that started almost two years ago when it was deemed necessary to take a step back to look at the policy challenges and opportunities that the same DG would face with the next Commission (2009-2014).

1.6 Active Clinical Dissemination

To achieve its goals of creating integrated models, of developing ontologies and of mobilising knowledge discovery in the project's core diseases, the HeC consortium is fully aware that the more data the project has, the more accurate its models will be. This is the objective that the consortium's approach at "Active Clinical Dissemination" - that is, the active involvement and inclusion of an ever-increasing number of paediatric centres - seeks to tackle.

OPBG is since April 2008 a full member of the consortium, started its patient enrolment, hosted two consortium wide meetings in Rome, and is planning a major international conference on e-Health and HeC's work for the celebration of its 140th anniversary in September 2009.

2008 saw the official addition of OPBG into the consortium. This process began with informal meetings between the HeC Project Management Team from Lynkeus and the Bambino Gesù Children's Hospital of Rome during the first quarter of 2007 and gained momentum throughout the year, culminating with the decision made at the Governing Board meeting in Geneva on the 16th January 2008 to accept OPBG into the HeC consortium.

A similar course of action was undertaken with the Division of Pediatric Cardiology of the Johns Hopkins University Children's Center (JHU), which eventually evolved into a joint proposal between part of the consortium members and the Johns Hopkins University Hospital and the American College of Cardiology submitted in response to a recent FP7 call on international cooperation on VPH (Objective ICT-2009.5.4): the project proposal, Sim-e-Child, which has been well received and is still under negotiation with the EC, aims to strengthen the impact of HeC by establishing international cooperation on the development of a grid-enabled platform for large scale simulations in paediatric cardiology.

HeC's overriding aim is to involve also a growing number of stakeholders as clinical advisers, to improve the usefulness of HeC for clinicians and researchers, as well as for parent and patient associations. HeC will continue to use the "knowledge sharing" nature of its dissemination activities to seek out new fields of research which could one day be part of a follow up project for Health-e-Child.

Ideally, in possible future developments additional organizations could be invited to take part in the further cooperation proposals, namely health care institutions in Japan, in Latin America (Argentina, Brazil), the Mediterranean and the Middle East (Saudi Arabia), thereby reflecting the overriding aim of "Active Clinical Dissemination Strategy" to involve a growing number of stakeholders as clinical advisers, to improve the usefulness of the project for clinicians and researchers, as well as to serve as an information resource for parent and patient associations.

2. Dissemination channels

2.1 Conferences and clustering/networking events

For the HeC Consortium, raising awareness about the project and the results it achieves is not only a contractual duty and deliverable; rather, it is an opportunity to spread the vision that the Consortium is striving to make a reality. Pivotal in this regard are the efforts made to embrace every occasion possible - be it by individual partners or through joint appearances by more than one Consortium Member - to make Health-e-Child's presence felt, to both specialized and lay audiences.

Pivotal to the increased visibility of HeC is its proactive presence at regional, national and international events and gatherings focusing on the information technology and biomedical domains tackled by the project, and more generally, on the development of e-health scenarios, applications and solutions. A telling example of such took place from May 14-16, 2009, when HeC Partner Istituto Giannina Gaslini hosted the Annual Working Meeting of the Brain Tumor Sub-Committee of the International Society of Paediatric Oncology (SIOP). Indeed, HeC acted as a Gold Sponsor of the event, which provided an ideal venue for the presentation of how the project has thus far applied its tools to handle the diagnostic challenges faced in the field paediatric neuro-oncology and for discussions on extension of the HeC network to include other SIOP teams in the future.

Participation at events that are deemed germane to the objectives and mission of HeC take one of two forms, namely by representatives of HeC partners to present ongoing work and outcomes achieved thanks to the project, or as a formal, concerted Consortium-sponsored presence with the rental of display space for the diffusion of project dissemination materials. In many instances, it is quite likely that the project is represented at both levels.

During the first three years of the project, it became increasingly apparent that participation at such events - be it by individual HeC partner organizations or as a concerted attendance - would be dictated by both the scope of the event itself and the development stage of the project. The following conferences focusing either on Grid technologies or on the subject of e-health, and each held on an annual basis, are venues where the HeC will be proactively present in order to illustrate its goals and results:

- Conference organized by the HealthGrid project (last meeting: June 28 - July 1, 2009 in Berlin, Germany);
- The Medical Informatics Europe (MIE) conference 30 August - 2 September, 2009, Sarajevo, Bosnia & Herzegovina.
- Conferences and User Forum Events organised by the Enabling Grids for E-scienceE project (EGEE User Forum / OGF25 & OGF-Europe's 2nd Int'l Event, 2-6 March 2009, Catania, Italy, and EGEE 09: 21 September 2009 - 25 September 2009, Barcelona, Spain);
- MICCAI 2009, the 12th International Conference on Medical Image Computing and Computer Assisted Intervention, to be held from 20th to 24th September 2009 in London;
- World of Health IT, 15-18 March 2010, Barcelona, Spain

In addition, the diversity of technological and clinical/medical disciplines on which the project focuses provide a wide array of venues at which specific project activities and results can be appropriately presented. These include:

- The conference series of the International Society for Medical Image Computing and Computer-assisted Intervention (MICCAI);
- The Information Processing in Medical Imaging conference series (Manchester UK, 20th-22nd July 2009);
- The series of International Symposium on Computer-Based Medical Systems (CBMS) organised by the Institute of Electrical and Electronics Engineers (IEEE) (next scheduled meeting: Sep 20-24, 2009, University of Jyväskylä, Finland);
- The Computer Assisted Radiology and Surgery (CARS) conference series (23-27 June 2009, Berlin, Germany);
- eHealth 2009 - Electronic healthcare for the 21st century (Quebec City, Quebec, May 31 - June 3, 2009);
- Annual conferences and venues at which HeC will attempt to make its presence felt through the presentation of posters and invited talks include: the European Association of Paediatric Cardiology, the European Society of Paediatric Neurology, the European Society of Paediatric Radiology, the European Society of Paediatric Rheumatology, and the European Society of Human Genetics.

As in the past, the consortium took advantage of its training events to further disseminate the work of HeC. The courses organised by a consortium partner, the European Genetics Foundation, were at the forefront of this effort. In 2008 the following were held:

- 21st Course in Medical Genetics (4-10/5/2008, Bertinoro di Romagna (Italy));
- Course in Cardiogenesis and Congenital Cardiopathies: From Developmental Models to Clinical Applications (7-10/6/2008, Bologna (Italy)).

While the last one on "Paediatric Brain Tumours" will take place in September 2009, in Bologna, Italy (see section 3.9 for more details).

The final period of work will see an increased involvement of clinicians in a bi-directional exchange of input and feedback with technicians aimed at providing these latter with as much time and information as possible to adapt tools to clinical routines and to ensure that the project's final results are exploitable and utilisable by future clinical users. As such, training exercises with staff at HeC clinical institutions at the Istituto Giannina Gaslini (IGG), the Necker-Enfants Malades Hospital (Necker), the Great Ormond Street Hospital (GOSH), and the Ospedale Pediatrico Bambino Gesù (OPBG) will continue to intensify, with the development of tutorials on HeC applications (AITION, the HeC Data Sampler, CardioViz, TreeMaps, Patient Browser, CaseReasoner) and the scripting of Case Studies/Scenarios.

2.2 HeC Awards

HeC has already received various other awards:

- ICT 2008 Exhibit Grand Prize, November 2008
- Best Poster and Demo Award (Health-e-Child Gateway and CaseReasoner), HealthGrid Conference, Chicago, USA, June 2008
- The Jacques Lefebvre award for the best scientific paper presented at the European Society of Paediatric Radiology Congress, Edinburgh, 2008

- Kourir Award 2008 for the study "Magnetic resonance imaging, ultrasonography, and conventional radiography in the assessment of bone erosions in juvenile idiopathic arthritis" presented at the Paediatric Rheumatology European Society Congress, University College London, London, September 2008
- Best Poster Award (Visualization of Patient Proximity), Medical Informatics Europe, Goeteborg, Sweden, 2008
- Annual Award of the French Society of Pediatric Research (Disease Modeling for Tetralogy of Fallot), France, 2008
- Best Live Demo Award (Health-e-Child Gateway), EGEE Conference, Clermond Ferrand, France, February 2008
- Finalist, Corporate Responsibility Award, Siemens AG, 2007
- Finalist, Live Demo Award, EGEE Conference, Budapest, Hungary, 2007

2.3 Health-e-Child and ICT

Despite being an FP6 project launched before the Virtual Physiological Human (VPH) was made an EC research priority and funded through FP7, Health-e-Child has been recognised by the European Commission as a project whose goals are aligned with those of formal VPH actions. As such, the consortium has been centrally involved in the VPH concertation day which preceded ICT-Bio 08 in October. Health-e-Child was one of only 13 FP6 project out of a total of 28 FP6&7 projects invited to attend the concertation day. During the conference Project Coordinator Joerg Freund delivered a presentation entitled "VPH concepts within Health-e-Child". This presentation has conveyed the results and achievements of the consortium within the field with specific references made to the consortiums patient-specific electromechanical models for Tetralogy of Fallot and the soft-tissue intervention platforms which simulate the effects of pulmonary valve replacement.

In addition to this dissemination work, during the ICT-BIO conference consortium members participated in a special session titled "European Infrastructures: from Experience to Challenges" which will be devoted to discussions on the adoption of grid computing and petaflop facilities for healthcare and biomedical research. The session sought to foster the interactions between scientific, clinical and industrial communities that are needed to achieve the ambitious goals of the VPH. In an effort to add to the consortium's visibility, the project's dissemination activities will aim to be more attractive to clinicians by explaining the real world uses for Health-e-Child tools and applications. To this end the consortium's PMT chose a young clinician from Necker to be present throughout the event: Dr. Julie Blanc worked hand in hand with the technical members of the consortium who presented a live demonstration of the Health-e-Child platform. This decision was made to highlight the clinical applications that are integrated into the platform (including the Tree Map and the Cardio Wiz in addition to the CaseReasoner) and how they can be utilised by clinicians. These series of events are seen by the consortium as being able to reach both the core of the VPH research community and also the wider technical and clinical research worlds.

2.4 Other dissemination channels

The success of HeC dissemination will rely heavily on the efforts of single partners in exploiting occasions and opportunities - be they at the local, national or international level – to generate exposure of the project. Activities in this regard range from the simple provision of links from institutional web sites to the project's portal, to postings featuring HeC on partner's institutional

web sites, to seminars/workshops showcasing the project, to articles in institutional newsletters and publications.

Moreover, the Consortium will strive to retain its presence in the periodic publications of the European Commission, chief of which are the CORDIS website for research and development (and related monthly publications) and the e-Health Newsletter (http://ec.europa.eu/information_society/activities/health/newsletter/index_en.htm).

Following on from the "Project of the Month" article which was published in March 2007, HeC was highlighted as the "project of the Month" for March 2008. (<http://www.ehealthnews.eu/content/view/1053/27/>).

The consortium will continue to work closely with the Commission to exploit any dissemination channels which are deemed useful.

Similar attempts will be explored to enhance HeC's presence in the "International Science Grid this Week" newsletter (<http://www.isgtw.org/>). Following the article appeared last year (<http://www.isgtw.org/?pid=1000428>) about the work in the build up to HeC deployment in May 2007, the 2008 issue of September 24 (<http://www.isgtw.org/?pid=1001405>) offered a virtual tour on HeC achievements.

A major paper has been prepared by the Rheumatology team, lead by Alberto Martini. The paper reports on the new MRI-based scoring system for rheumatology that has been developed by HeC which makes use of tested image segmentation algorithms to measure the synovial membrane volume and bone erosion in MRIs. This work was presented at the European Society of Paediatric Radiology Congress, Edinburgh, 2008 and won the Jacques Lefebvre award for the best scientific paper.

A EuroNews service on Health-e-Child was broadcasted as **New frontiers of imaging the human body**. The video is available on <http://www.euronews.net/2009/06/17/new-frontiers-of-imaging-the-human-body> and on <http://www.epractice.eu/en/tv/292381>

2.5 Broader public awareness

The final 12 months of the project will see a series of major wider-audience efforts. Indeed, the HeC Consortium fully understands that it is the promoter of a very media attractive initiative, and plans to exploit this potential are already ongoing and will culminate with the project's closing conferences in 2009-2010. All four hospitals will host international Conferences/Seminars illustrating the final achievements of HeC. The first of these meeting will be organised by OPBG who is celebrating in 2009 the 140th anniversary of its establishment. On this occasion OPBG has chosen to highlight the ground-breaking research and scientific co-operation ongoing on a European level, focusing particularly on the demanding work conducted within the Health-e-Child project. A two-day conference has been planned illustrating Health-e-Child's contribution to diagnostics in paediatrics and the potential of the Virtual Physiological Human approach. The conference will be held in Rome on September 23-24, 2009. The final event, organised by the Fondazione Gerolamo Gaslini and by IGG, tentatively scheduled for April 2010, will again focus on the Virtual Physiological Human, concentrating on the paediatric perspective, and will hopefully bring together leading speakers from Europe, the US and Japan in the field of organ and disease modelling, European Commission officials and government health authorities with the aim to take the project's achievements to an even broader audience and to highlight the value of the project's pioneering outcomes for healthcare in general.

2.6 Engaging Parent and Patient Associations

Approaching Parent and Patient associations will become a major part of the Consortium's dissemination activities till the end of the project. HeC will seek to disseminate news of its work, expected results and potential future developments through these channels. It is hoped that the Consortium's work with Patient associations will help HeC achieve a larger bi-directional

knowledge sharing base of clinicians and of patients, and further inform the potential beneficiaries of the Consortium's work. Some of the associations which have been identified as potential targets are: the European Association for Cancer Education (EACE), the Association for Children with Heart Disorders (ACHD), and the International Confederation of Childhood Cancer Parent Organisations (ICCCPO).

2.7 Manifesto for expansion

A "Manifesto for expansion", making clear to all potentially associated partners HeC's goals, work still to be done and expected results, will be produced. The manifesto will be disseminated to health care professionals who have already expressed an interest in the work of the consortium or in becoming an associated member in the future. Work has already started on building up a data base of interested persons and institutions, some of which are listed below. Using the numerous clinical contacts within HeC and by proactively seeking out interested parties the consortium will continually build on this list.

The following table is a sample of some of the individuals and institutions that already have shown an interest in participating in the project:

Name of Contact	Title/Department	Institution
Gareth Stratton	Professor of Paediatric Exercise Science	Liverpool John Moores University (UK)
Iker Mata	Administrator of the EuroNeoStat project	EuroNeoStat / EuroNeoNet, Hospital de Cruces (Spain)
Ian Pennington	Framework Programmes / Euro bids	Liverpool John Moores University (UK)
Ylenia Sacco	Direzione Sanità	CSI-Piemonte (Italy)
Mark De Colvenaer	Research Campus Hasselt	Research Campus Hasselt (Belgium)
Jocelyne Wang	Public Affairs	SIOPE Office (Belgium)
Pascal Garel	European and international affairs	Fédération Hospitalière de France
Karim Abu-Omar	Institute of Sport Science and Sport	Friedrich-Alexander University Erlangen (Germany)
Paulo Lisboa	Professor Mathematics and Statistics	Liverpool John Moores University (UK)
Diane Jackson	Rowett Research Institute, Dept Child Health,	Aberdeen University (UK)
Dr. F. Arshad	Centre for Health and Social Care Informatics - CHaSCI	Liverpool John Moores University (UK)
Robert Sneyd	Vice Dean and Professor of Anaesthesia	Peninsula College of Medicine and Dentistry (UK)
Robert S H Istepanian	Professor of Data Communications	St. George's- University of London (UK)
Prof Dr Peter Kokol	Faculty of Health Sciences	University of Maribor (Denmark)

3. DISSEMINATION INSTRUMENTS

3.1. Project Logo

A wide set of logos were produced at month 1 immediately after the Kick-off meeting. A final logo was chosen through voting by all partners as the one to be used officially. The logo chosen shows the image of a child being held by containing elements representing the personalisation and innovation of medical systems.



Figure 1 HEC logo

3.2 Communication templates

Most of the communication templates depended on the decision on the final logo. After voting by all partners, a common design of the consortium communication protocols (i.e. .ppt, .doc, etc.) was developed. Here below are examples of the latest ppt template and business cards.



Figure 2 HEC .ppt template



Figure 3 HeC business card

3.3 Public Website

HeC's Internet presence was achieved through a new website created specifically for this purpose (<http://www.health-e-child.org/>). Indeed, convinced of the importance of the tool as a means for dissemination, a first release of the HeC portal was launched in March 2006, well in advance of forecasted implementation, since the project's DoW foresaw its completion by project month 18. The portal was redesigned with an improved look and feel in October 2006, implementing the Plone-Zope technology platform, whereby single partners can independently upload documentation, images, etc., thereby remotely populating the web site with content.

An updated version of the homepage is being studied and will be prepared by the beginning of the last reporting period: this new page will display available applications, platforms, and tools with links to more in-depth descriptions, and will show some offerings for clinicians: protocols, end-user-tools, and a list of scientific publications.



Figure 4 The Health-e-Child Project website Home Page

The HeC portal is the main dissemination tool, covering the project's goals, objectives, accomplishments, background information and partner's role and contribution. It will thus have to run parallel with the project's evolution in order to provide timely and appropriate information, thereby requiring constant updating and maintenance.

Project partners will be asked to take a leading role in promoting public exposure and awareness of the project by providing links through their institutional web sites to the HeC portal, and by posting presentations showcasing the project on their web sites.

Additionally, HeC partners will be the main sources of content that will progressively populate the portal. Supervision of this activity will be entrusted to the HeC Technical Coordinator.

The Plone/Zope platform has been chosen for its features that facilitate collaborative work among partners and the management of content (CMS). All the actors in the project have received (on request by the leader of each partner) a username and a password to access the website. Within the system, access rights can be managed to separate different working areas. Main features are: repository of documents, chat functionalities on single pages, templates for content publication, agenda and events modules. The site is backed-up on a regular basis and this has already allowed us to restore the site content after misbehaviour or external intrusion.

It must be mentioned that the consortium makes also use of "Project NetBoard", a professional Internet-based collaborative tool for time effective and cost efficient management of projects supported by the European Commission. Project NetBoard comprises groupware modules open under access control, to all partners. This tool will be used for the whole duration of the project and for its archive procedure. The PNB platform is consistent with the use of the website. All the preparatory documents are stored on the website, while Deliverables and other final documents are stored on the PNB platform. Also, PNB allows partners to easily create and update mailing lists, by producing files of grouped email addresses that can be exported in the most common software.

An updated version of the homepage is being studied and will be prepared by the beginning of the last reporting period: this new page will display available applications, platforms, and tools with links to more in-depth descriptions, and will show some offerings for clinicians: protocols, end-user-tools, and a list of scientific publications.

Site Map (Web contents structure)

The existing contents structure/site map - reflecting the complexity of the interactions occurring within the project - is outlined below.

[About](#)

[Mission](#)

[Description](#)

[Vision](#)

[Impact](#)

[Partners](#)

[Contact](#)

[Events](#)

[Past Events](#)

[Links](#)

[Health-e-Child consortium members](#)

[Newsletters](#)

[HEC Newsletter N. 1](#)

[HEC Newsletter N. 2](#)

[HEC Newsletter N. 3](#)

[HEC Newsletter N. 4](#)

[HEC Newsletter N. 5](#)

[HEC Newsletter N. 6](#)

[Public Documents](#)

[HeC - EC review 2006](#)

[1st Annual European Commission Review](#)

[HeC - Training Courses](#)

[HeC - Public deliverables](#)

[HeC - Dissemination materials](#)

[HeC Documents](#)

[Background Documents](#)

[Contract](#)

[IP Consortium Agreement](#)

[Boards & Committees](#)

[Executive Board](#)

[EB - Meetings and Minutes](#)

[Governing Board](#)

[Project Management Team](#)

[PMT minutes of meetings](#)



[Intellectual Property Rights Committee](#)

[WPs](#)

[WP1](#)

[Public Deliverables](#)

[WP2](#)

[Documents](#)

[Meetings](#)

[Deliverable](#)

[WP3](#)

[WP4](#)

[Meetings](#)

[WP5](#)

[Documents](#)

[Deliverables](#)

[Meetings](#)

[Task Reports](#)

[WP6](#)

[Links](#)

[Papers](#)

[Meetings](#)

[Modelling](#)

[Documents](#)

[Deliverables](#)

[WP7](#)

[Documents](#)

[Meetings](#)

[WP8](#)

[Meetings](#)

[WP8 - GENEVA MEETING NOTES \(11/06\)](#)

[WP9](#)

[brain tumours](#)

[rheumatology](#)

[cardiology](#)

[meeting notes](#)

[Cardiology Protocols](#)

[WP10](#)

[WP11](#)

[WP11 meeting in Sophia, Feb 6 2006](#)

[Input / Output folder](#)

[WP12](#)

[Documents](#)

[Deliverables](#)

[Meetings](#)

[WP13](#)

[Meetings](#)

[References](#)

[WP14](#)

[Documents](#)

[Meetings](#)

[Task Reports](#)








[WP15](#)

[WP16](#)

[Deliverables & Milestones](#)



[D1.1 Self Assessment Plan](#)
[D1.1 Quality Assurance Guidelines](#)
[D.1.2a First Quarterly Report](#)
[D1.2b Second Quarterly report -Draft](#)
[D2.1 Users Requirements Specifications](#)
[WP1 Project Presentation](#)
[Deliverables & Milestones](#)
[D1.1 Assessment Docs](#)
[WP1 Project Presentation](#)
[State of the art report A6 \(D11.1, D12.1, D13.1\)](#)
[versions](#)
[drafts](#)
[templates](#)
[subchapters for version 01](#)
[D 16.1 Dissemination Strategy Plan](#)
[D 9.1 Report on diagnostic coding system and data collection protocols](#)
[D 1.2.b Quarterly Report](#)
[D 1.4 Project Presentation](#)
[D 3.1 Informed consent](#)
[D1.2c Quarterly Report n. 3](#)
[DoW II](#)
[WP1 contributions](#)
[WP3 contributions](#)
[WP4 contributions](#)
[WP5 contributions](#)
[WP6 contributions](#)
[WP7 contributions](#)
[WP8 contributions](#)
[WP9 contributions](#)
[WP10 contributions](#)
[WP11 contributions](#)
[WP12 contributions](#)
[WP13 contributions](#)
[WP14 contributions](#)
[WP15 contributions](#)
[WP16 contributions](#)
[Brain Tumour Genetic Study](#)
[DoW II Drafts and Versions](#)
[A6 drafts](#)
[Presentations and Documents due for public dissemination](#)
[D1.3 Annual report](#)
[Management report](#)
[Activity report](#)
[Separate files Exec Summary and Dissemination Plan](#)
[D 3.2 Annual Report on Ethical and Legal issues](#)
[D1.2e Quarterly Report](#)
[Workshops & Meetings](#)
[2006 Workshops & Meetings](#)
[Erlangen Kick-off Meeting 12-13/1/2006](#)
[Executive Board meeting 06/02/2006](#)
[WP11 meeting at INRIA 06/02/2006](#)
[Meeting with Project officer 08/02/2006](#)
[Meetings at CERN 18th-24th March 2006](#)

[Brain tumor meeting Gaslini 20 April 2006](#)
[Meeting with Gaslini 16 May 2006](#)
[H-e-C Workshop at CERN 30/05-02/06/2006](#)
[UCL / GOSH - 20 June 06](#)
[PMT & GB & Internal Audit Meeting Munich 11-12 July 2006](#)
[Toledo 23-26 Oct 2006](#)
[Athens - PMT meeting 11 Dec 06](#)
[Athens - A4 meeting 12-13 Dec 2006](#)
[2007 Workshops & Meetings](#)
[Paris Meeting 15-18 January 2007](#)
[EC Review March 2007](#)
[PMT Meeting at APHP - May 15, 07](#)
[Events](#)
[HeC News](#)
[Admin & M-Lists](#)
[Project NetBoard Platform](#)
[1st Annual European Commission Review](#)
[Day 1 - 6th March 2007](#)
[Day 2 - 7th March 2007](#)
[Feedback from the European Commission](#)
[News](#)
[News](#)
 [HeC at the Genoa Festival of Science 13-06-2007](#)
 [HeC at OGF 20, 7-11 May '07 23-05-2007](#)
 [HeC - 1st Training Course Abstracts 12-04-2007](#)
[More news...](#)
[Upcoming Events](#)
 [IEEE EMBC 2007 Lyon, France, 23-08-2007](#)
 [EGEE '07 Budapest, 01-10-2007](#)
 [The World of Health IT 2007 Conference & Exhibition Vienna, 22-10-2007](#)
 [CeHR: International Conference 2007 Regensburg, Germany, 02-12-2007](#)
[Previous events...](#)
[Upcoming events...](#)

Mailing lists

To increase the project's exposure as much as possible amongst potentially interested users, specific mailing lists reflecting the research domains tackled by HeC will be created.

All HeC partners and stakeholders (including the Commission) will be invited to submit the e-mail addresses of individuals and/or organisations who might be interested, thereby targeting the existence of the newsletter while respecting constraints on unsolicited email.

Nevertheless, the website will also contain a subscription module for interested readers.

3.4 Newsletter

A quarterly Newsletter has been published since the last quarter of 2006. It is accessible through the public area of the HeC portal, and its mission is to inform about the main results of the project as it evolves, partner profiles, case study scenarios, and pertinent major events. It also contains, however, interesting news concerning background research in similar areas, in order to raise its appeal among potential readers.

The HeC newsletter is also available for e-mail distribution to interested parties. The newsletter is being issued quarterly (January, April, July, October of each year). It is possible to subscribe to it on the website, but every effort is also being made to contact anyone potentially interested in receiving it. All HeC partners and stakeholders (including the Commission) will be invited to

submit the e-mail addresses of individuals and/or organisations who might be interested, thereby targeting the existence of the newsletter while respecting constraints on unsolicited email. One example of a way to advertise the existence of the newsletter will be to have it referred to on the CORDIS website, and to ensure that it is referred to in the CORDIS newsletter.

3.5 Project brochure, posters and bookmarks

A 'HeC brochure' was prepared by the Project Coordinator, and this text will be the basis for a published brochure to be disseminated at conferences and workshops relevant to HeC. It shall be a useful tool for disseminating basic information on HeC and its objectives to various target groups. A new brochure has already been produced (at month 25) and will continue to be updated as project developments arise.

Posters are being produced to illustrate the objectives of the project. They are being distributed to the partners in order to be publicised within partner institutions and displayed at the events, e.g. conferences, workshops, where the project is featured.

In a workshop organized in association with SHARE (an FP6 project) and Healthgrid (the European association for healthgrid computing), Health-e-Child presented its results at the HealthGrid08 Conference in Chicago, and entered and won the award contest for poster and demo.

During the month of September 2008, there were two more poster presentations:

- at MICCAI 2008 Medical Image Computing and Computer Assisted Intervention Conference, M. Wels, G. Carneiro, A. Aplas, M. Huber, D. Comaniciu, and J. Hornegger presented: "A Discriminative Model-Constrained Graph Cuts Approach to Fully Automated Pediatric Brain Tumor Segmentation in 3-D MRI".
- at EGEE 2008 Conference, D. Manset, A. Tsymbal, M. Huber, J. Revillard presented "Searching for Similar Patients in Health-e-Child. An Innovative Translational Biomedicine Grid Platform for Clinical Decision Support and Knowledge Discovery in Paediatric Diseases".

A 'HeC bookmark', summarising the goals, partnership and graphics of the project in a limited 2x5 cm format, has been printed for distribution at conference events and through individual contacts by Consortium partners.

3.6 Exhibit Booths

As mentioned above, in section 2.1, on the identification conferences and venues at which HeC would seek to guarantee its attendance in a concerted, Consortium-sponsored manner, the project will carry through with plans to set up a dedicated HeC booth for exhibition purposes at numerous major conferences dealing with HeC-related subject matter. Because of inherent costs for the rental of exhibition space and booth shell, as well as the staffing of the booth for the duration of an event, funding resources permitting, the set up of a HeC booth at 5 or 6 select events during the project's lifetime will be evaluated on a case by case basis. In addition, also as mentioned above, HeC will continue to team up with other ongoing projects sharing complementary aims (e.g., SHARE and HealthGrid) in order to defray the inherent costs of exhibition space rental and outfitting (see section 1.4).

3.7 Relevant publications

Aware that it is a pivotal tool for stimulating knowledge sharing, HeC strongly encourages its partners to exploit the vehicle of scientific production through the publication of project-related results and achievements in peer-reviewed journals, and through presentations at major national and international conferences.

At month 42 of the project, the HeC publication track record is as follows:

- E. Konukoglu, O. Clatz, P-Y. Bondiau, M. Sermesant, H. Delingette, and N. Ayache. Towards an Identification of Tumour Growth Parameters from Time Series of Images. In Proc. of MICCAI'07, LNCS 4791, Brisbane, Australia, p. 549-556, Oct. 2007. Springer.
- E. Konukoglu, M. Sermesant, O. Clatz, J.-M. Peyrat, H. Delingette, and N. Ayache. A Recursive Anisotropic Fast Marching Approach to Reaction Diffusion Equation: Application to Tumour Growth Modelling. In Proceedings of the 20th International Conference on Information Processing in Medical Imaging (IPMI'07), volume 4584 of LNCS, pages 686-699, 2-6 July 2007.
- E. Konukoglu, O. Clatz, P.Y. Bondiau, H. Delingette and N. Ayache, "Extrapolating glioma invasion margin in brain magnetic resonance images: suggesting new irradiation margins", Submitted to Journal of Theoretical Biology, 2007.
- E. Konukoglu, X. Pennec, O. Clatz, N. Ayache. Tumour growth modelling in oncological image analysis. Chapter to appear in Handbook of Medical Image Analysis, I. Bankman ed., new edition 2008.
- E. Konukoglu, O. Clatz, H. Delingette, N. Ayache. Parameter Estimation for Reaction-Diffusion Tumor Growth Models from Time Series of Images. Proceedings of the 3rd International Advanced Research Workshop on In Silico Oncology, p.48-50, Istanbul, Turkey. Sept. 23-24, 2008.
- Stanley Durrleman, Xavier Pennec, Alain Trouvé, and Nicholas Ayache. Measuring Brain Variability via Sulcal Lines Registration: a Diffeomorphic Approach. In Nicholas Ayache, Sébastien Ourselin, and Anthony Maeder, editors, Proc. Medical Image Computing and Computer Assisted Intervention (MICCAI), volume 4791 of LNCS, Brisbane, Australia, pages 675-682, October 2007. Springer.
- S. Durrleman et al. Sparse approximations of Currents for Statistics on Curves and Surfaces, CVPR 2008, submitted.
- X. Pennec & S. Durrleman. Oral and Poster Presentations at SAMSI workshop on geometry and statistics of shape spaces, July 2007
- T. Mansi, M. Sermesant, X. Pennec, M. Lynch, M. Huber. A. Taylor, P. Lurz, G. Pongiglione, B. Stos, Y. Boudjemline. Image processing and disease modelling for decision support system and patient management in Tetralogy of Fallot. Joint 43rd Annual Meeting of the Association for European Pediatric Cardiology and the 18th Spring Meeting of the European Congenital Heart Surgeons Association, Venice (EAPC 2008).
- T. Mansi, M. Sermesant, X. Pennec, M. Lynch, M. Huber. A. Taylor, P. Lurz, G. Pongiglione, B. Stos, Y. Boudjemline. Modélisation électromécanique du cœur et analyse d'images: premières applications chez les tétralologies de Fallot. Société Française de Pédiatrie, meeting in Nantes (SFP 2008).
- A. Tsymbal, M. Huber, S. Zillner: Feature Ontology for Improved Learning from Large-Dimensional Disease-Specific Heterogeneous Data. CBMS 2007, Twentieth IEEE International Symposium on Volume, Issue, 20-22 June 2007 Page(s):595 - 600 A
- A. Tsymbal, M. Huber, S. Zillner: Ontology - Supported Machine Learning and Decision Support in Biomedicine. DILS 2007, LNCS 4544, June 2007. Springer
- A. Tsymbal, M. Huber, S. Zillner, T. Hauer: Visualizing Patient Similarity in Clinical Decision Support. LWA 2007, ISBN 978-3-86010-907-6



- M. Wels, G. Staatz, A. Rossi, M. Huber, J. Hornegger: Anisotropic hidden Markov random field modelling for unsupervised MRI brain tissue segmentation and brain tumour detection. CARS 2007
- M. Wels, M. Huber, and J. Hornegger: Fully Automated Knowledge-Based Segmentation of the Caudate Nuclei in 3-D MRI. MICCAI Workshop 2007
- M. Wels, M. Huber, and J. Hornegger: Fully Automated Segmentation of Multiple Sclerosis Lesions in Multi-spectral MRI, 7th Open German/Russian Workshop on Pattern Recognition and Image Understanding, 2007
- S. Zillner, T. Hauer, D. Rogulin, A. Tsymbal, M. Huber and T. Solomonides: Semantic Visualization of Patient Information. Accepted for CBMS 2008
- R. Berlanga, E. Jimenez-Ruiz, V. Nebot, D. Manset, A. Branson, T. Hauer, R. McClatchey, D. Rogulin, J. Shamdasani, S. Zillner and J. Freund. "Medical Data Integration and the Semantic Annotation of Medical Protocols". Accepted for publication in the 21th IEEE International Symposium on Computer-Based Medical Systems (CBMS 2008), Jyväskylä, Finland, 2008.
- K. Skaburskas, F. Estrella, J. Shade, D. Manset, J. Revillard, A. Rios, A. Anjum, A. Branson, P. Bloodsworth, T. Hauer, R. McClatchey, D. Rogulin: Health-e-Child: A Grid Platform for European Paediatrics. In CHEP'07, International Journal of Physics, January 2008
- E. Jimenez-Ruiz, R. Berlanga, I. Sanz, R. McClatchey, R. Danger, D. Manset, J. Paraire, A. Rios: The Management and Integration of Biomedical Knowledge: Application in the Health-e-Child Project (Position Paper). In OnToContent'06, 1st International Workshop on Ontology content and evaluation in Enterprise. LNCS Num. 4278. pp. 1062-1067. October 2006.
- Ernesto Jiménez, Rafael Berlanga, Ismael Sanz, and Roxana Danger: A Methodology for Vertical Integration over Biomedical Knowledge. In JIDBD'06, XI Spanish Conference on Software Engineering and Databases, October 2006.
- Anjum, P. Bloodsworth, A. Branson, T. Hauer, R. McClatchey, K. Munir, D. Rogulin, J. Shamdasani: The Requirements for Ontologies in Medical Data Integration: A Case Study. Proceedings of the 11th International Database Engineering & Applications Symposium (Ideas2007). IEEE Press ISBN 0-7695-2947-X, ISSN 1098-8068 pp 308-314. Banff, Canada September
- K. Munir, M. Odeh, P. Bloodsworth, R. McClatchey: Using Assertion Capabilities of an OWL-Based Ontology for Query Formulation . Accepted by the 3rd Int Conf on Information and Communication Technologies : From Theory to Applications (ICTTA). April 7-11, 2008. Damascus, Syria.
- J. Shamdasani, P. Bloodsworth & R. McClatchey: Semantic Matching for the Medical Domain. Accepted by the 25th British National Conference of Databases (BNCOD08). Cardiff, Wales 7th-10th July 2008.
- J. Freund, D. Comaniciu, Y. Ioannis, P. Liu, R. McClatchey, E. Morley-Fletcher, X. Pennec, G. Pongiglione & X. Zhiou. Health-e-Child: An Integrated Biomedical Platform for Grid-Based Paediatrics, Studies in Health Technology & Informatics Vol 120, pp 259-270 ISBN 1-58603-617-3, ISSN 0926-9630 IOS Press. (Proceedings the 4th HealthGrid Int. Conference (HG'06). Valencia, Spain. June 2006).
- S. Mosci, L. Rosasco and A. Verri. "Dimensionality reduction and generalization", Proceedings of the 24th International Conference on Machine Learning, 2007 (Corvallis OR, USA)
- Destrero, S. Mosci, C. De Mol, A. Verri, F. Odone. "Feature selection for high dimensional data". Computational Management Science, 2008 (in press)



- Barla, A., Mosci, S., Rosasco, L. and Verri, A. "A method for robust variable selection with significance assessments", 11th European Symposium on Artificial Neural Networks, 2008 (in press)
- Lo Gerfo L., Rosasco L., Odone F., De Vito E. and Verri, A. "Spectral Algorithms for Supervised Learning", Neural Computation, 2008 (in press)
- N. Toussaint, T. Mansi, H. Delingette, N. Ayache, and M. Sermesant. An Integrated Platform for Dynamic Cardiac Simulation and Image Processing: Application to Personalised Tetralogy of Fallot Simulation. In Proc. Eurographics Workshop on Visual Computing for Biomedicine (VCBM), Delft, The Netherlands, 2008
- T. Mansi, B. André, M. Lynch, M. Sermesant, H. Delingette, Y. Boudjemline, N. Ayache. Virtual Pulmonary Valve Replacement Interventions with a Personalised Cardiac Electromechanical Model. 3DPH Workshop, Zermatt Switzerland. Dec 1-4, 2008
- H. Dimitropoulos, Omiros Metaxas and Manolis M. Tsangaris. AITION: A Scalable Data Mining Platform for Medical Applications, Zero-In: Building Insights, Breaking Boundaries, Issue 2, Magazine of the BELIEF-II
- Mansi, Peyrat, Sermesant, Delingette, Blanc, Boudjemline, Ayache. Physically-Constrained Diffeomorphic Demons for the Estimation of 3D Myocardium Strain from Cine-MRI. In Proc. of Functional Imaging and Modeling of the Heart 2009 (FIMH'09), volume 5528 of LNCS, pp. 201-210, 3-5 June 2009
- Mansi, André, Sermesant, Delingette, Ayache, Boudjemline. Simulation personnalisée de remplacements valvulaires pulmonaires grâce à l'utilisation d'un modèle mathématique du cœur. Archives de Pédiatrie - Congrès des Sociétés Françaises Médico-chirurgicales Pédiatriques
- Basso, Santoro, Verri, Esposito. Segmentation of Inflamed Synovia in Multi-Modal MRI. In Proc. of IEEE International Symposium on Biomedical Imaging 2009
- Durrleman, Fillard, Pennec, Trouvé Ayache. A Statistical Model of White Matter Fiber Bundles based on Currents. Proc. of Information Processing in Medical Images (IPMI'09).
- T. Mansi, S. Durrleman, B. Bernhardt, M. Sermesant, H. Delingette, I. Voigt, P. Lurz, A. M. Taylor, J. Blanc, Y. Boudjemline, X. Pennec, and N. Ayache. A Statistical Model of Right Ventricle in Tetralogy of Fallot for Prediction of Remodelling and Therapy Planning. Proc. of Medical Image Comp. and Comp. Assisted Intervention (MICCAI'09), LNCS, Springer
- S. Durrleman, X. Pennec, A. Trouvé, G. Gerig, and N. Ayache. Spatiotemporal Atlas Estimation for Developmental Delay Detection in Longitudinal Datasets. Proc. of Medical Image Comp. and Comp. Assisted Intervention (MICCAI'09), LNCS, Springer.
- A. Tsymbal, S.K. Zhou, M. Huber. "Neighbourhood graph and learning discriminative distance functions for clinical decision support." Accepted for oral presentation at EMBC 2009, the 31st IEEE Engineering in Medicine and Biology Conference, to be held in Minneapolis, USA.
- I. Voigt, D. Vitanovski, R. I. Ionasec, A. Tsymbal, B. Georgescu, S. K. Zhou, M. Huber, N. Navab, J. Hornegger, D. Comaniciu, Learning discriminative distance functions for valve retrieval and improved decision support in valvular heart disease. Submitted to SPIE MI 2010
- M. Wels, Y. Zheng, G. Carneiro, M. Huber, J. Hornegger, D. Comaniciu. "Fast and robust 3-D MRI brain structure segmentation." Accepted for oral presentation at MICCAI 2009

This key activity of scientific diffusion will continue to be actively pursued throughout the project's duration, tentatively targeting the journals listed below.

3.8 International scientific journals List

A first list of the most relevant journals to the HeC project was identified early on and will be monitored and continuously updated. The most important ones are shown below:

ACM Trans on Database Systems	American Journal of Human Genetics
Annals Rheumatic Diseases, Arthritis & Rheumatism	Bioinformatics
Circulation	Clinical and Experimental Rheumatology,
Cardiology in the Young	American Journal of Cardiology
European Journal of Human Genetics	European Heart Journal
European Radiology	Human Genetics
Internal Journal of Medical Informatics	IEEE Trans on Knowledge & Data Engineering
IEEE Trans Biomedical Engineering	IEEE Transactions Pattern Analysis & Machine Intelligence
IEEE Transactions Medical Imaging	IEEE trans on information theory
International Journal of Grid Computing	International Journal of Grid Computing & Software Practice & Experience
International Journal of Medical Informatics, Methods of Information in Medicine	International Journal Medical Image Analysis
Neural Computation	Nature
Paediatrics	Neuroimaging
Rheumatology, Software Practice & Experience	Proceedings of the National Academy of Sciences
The Journal of Computational Biology	Studies of Health Technology and Informatics,
The Journal of Medical International Research	The Journal of Healthcare Information Management
The Journal of Machine Learning Research	The Journal of Paediatrics
The Journal of the American College of Cardiology.	The Journal of Rheumatology
	Science

3.9 Training Courses

Dissemination has obvious links to training, and the central objective of WP 15 is to ensure that the project makes state-of-the-art training available to the project participants and the larger community, which is designed to meet the different individual requirements and training needs. As the clinical applications and tools that HeC endeavours to develop become available, medical professionals must be put in a position to take advantage of them. This is the premise that drives the project's Workpackage 15 on Training, whose central objective is to design and deliver state-of-the-art training actions, to both the Consortium and the larger biomedical community.

Bringing its 20 plus years of experience in the training and continuing medical education of healthcare professionals to the project is the European Genetics Foundation (EGF). Key to the successful achievement of EGF's tasks will be their adherence to a tested methodology, whereby specific stakeholders' training requirements will be analysed and created; a

methodology to be followed in order to satisfy the expressed requirements will be detailed; training packages for each of the target communities will be designed.

At a secondary - but no less important - level, project-endorsed training activities will surely prove to be an important means of dissemination, attracting the attention of industrial clusters and ideally leading to the involvement of other researchers and research themes that were not envisaged at the outset of the project.

Courses will take on a residential format, but will also be available as web casts, with lectures available in streaming. All proceedings, including on-demand video of the lectures delivered in streaming - will thereafter be available for downloading from the EGF website.

A first event on “Genetics of Paediatric Inflammatory Diseases” has been held (April 2007), in collaboration with HeC clinical partner IGG, while the second one on “Cardiogenesis and Congenital Cardiopathies: from Developmental Models to Clinical Applications”, took place in June 2008. The third HeC training course will be on “Paediatric Brain Tumours”, in September 2009.

Conclusions

As is set out above, the project is at the beginning of a second, and more important, period of dissemination. The general dissemination activities which were common in the first 32 months of the project, conference attendance and paper/article production, will continue, but in addition the consortium will seek to propagate its message through active clinical dissemination with the additional goal of seeking out new partners and areas of research which could potentially become part of a HeC follow up project.

The principles for the final 16 months of the project will be:

- Conception of dissemination as an exercise of bi-directional "knowledge sharing" and endeavouring to actively liaise with industrial, research, and standardisation communities;
- Actively involving external organisations, experts, and parent and patient associations;
- Establishing close collaborative ties with projects sharing similar/complementary ambitions and goals; as has been seen by the consortiums acceptance of the position as an associate member of the SHARE project;
- Publication of project outcomes and results in relevant international scientific journals;
- Organisation of seminars and workshops as part of conferences sharing the project's subject matter, producing ad hoc brochures and posters;
- Maintenance of HeC's web portal, containing both a public area where a quarterly newsletter is published, and a restricted area for use only by the project partners;
- Continue to play a major role within the EGEE community;
- Continue the consortium's active clinical dissemination with the aim of one day having up to 25 clinical partners;
- Continue to disseminate the HeC vision to potential future partners from other clinical institutions using the "Manifesto for Expansion";
- Seek out national, European, and international Parent and Patient Associations willing to get involved in checking and helping to improve the results of HeC;
- Disseminate HeC's work to the wider European public. These efforts will hopefully be supported by the ICT for Health Unit of the EC, revolving around the European Parliament, Health Ministerial Conferences and EC-sponsored e-health events.
- The final event will be an international Conference aimed at broadly disseminating the work done, involving a varied selection of scientific fields, the non-scientific European public, parent and patient associations and more numerous clinical institutions.