Scientists at the National Institute of Health and Medical Research work toward improving human health.
INFORMATION AND COMMUNICATION

35 EVALUATING RESEARCH TO SERVE DECISION MAKERS AND THE GENERAL PUBLIC

37 PLACING ETHICS AT THE HEART OF BIOMEDICAL ISSUES

39 COMMUNICATING KNOWLEDGE
EVALUATING RESEARCH TO SERVE DECISION MAKERS AND THE GENERAL PUBLIC

Inserm plays a key role as an expert for public authorities and private decision makers via its Collective Expert Report Center. Such expert evaluations, based on a critical analysis and synthesis of the international scientific literature, shed scientific light on given health topics. The propositions made on the basis of this work not only serve to guide decision makers but provide a summary of current knowledge that is useful to the public at large.

MAJOR MISSIONS

- ensure the scientific and editorial coordination of collective expert reports, the literature search, the logistics and organization of meetings of experts, participation in the scientific writing and drawing-up of documents (books, summary booklets, press reviews, leaflets, etc.);
- organizing multidisciplinary groups of experts composed of scientists (from Inserm or otherwise) and physicians of international notoriety in order to conduct critical analyses of the international scientific literature and make propositions to develop research, prevention and management programs;
- managing the coordination of complementary operational expert analyses focusing on the application of knowledge given the current context (existing programs, structures, actors, training, etc.); seeking out field actors likely to provide information concerning feasibility, representatives from administrations or institutions in charge of promoting the applications in the areas concerned and representatives of patients’ associations.

Activities in 2007

In 2007, three collective expert reports were published in book form, seven collective or operational expert reports were undertaken and two other collective expert evaluations were launched. Two of the collective expert reports published in 2007 bear on important public health issues, namely Alzheimer’s disease and learning disorders (dyslexia, dysorthography and dyscalculia). Another report evaluates currently emerging knowledge on growth and puberty.

Activities of the Collective Expert Report Center in 2007

<table>
<thead>
<tr>
<th>Type of expert report</th>
<th>Commanditory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective expert reports published in 2007</td>
<td>Canam-RSI</td>
</tr>
<tr>
<td>Dyslexia, dysorthography, dyscalculia</td>
<td></td>
</tr>
<tr>
<td>Review of the scientific data</td>
<td></td>
</tr>
<tr>
<td>Alzheimer’s disease</td>
<td>DGS</td>
</tr>
<tr>
<td>Scientific, medical and societal implications</td>
<td></td>
</tr>
<tr>
<td>Growth and puberty. Evolution over centuries, environmental and genetic factors</td>
<td>Canam-RSI</td>
</tr>
<tr>
<td>Expert reports conducted in 2007</td>
<td>Ministry of Youth Affairs and Sports</td>
</tr>
<tr>
<td>Physical activity and its effects on health</td>
<td></td>
</tr>
<tr>
<td>Screening in children</td>
<td></td>
</tr>
<tr>
<td>Operational</td>
<td>Canam-RSI</td>
</tr>
<tr>
<td>Genetic testing</td>
<td>CNAMTS</td>
</tr>
<tr>
<td>Scientific, medical and societal aspects</td>
<td></td>
</tr>
<tr>
<td>Psychological autopsy</td>
<td>DGS</td>
</tr>
<tr>
<td>Implementation and related approaches</td>
<td></td>
</tr>
<tr>
<td>Saturnism. Summary of screening strategies</td>
<td>DGS</td>
</tr>
<tr>
<td>Cancers. A review of environmental factors</td>
<td>Afsset</td>
</tr>
<tr>
<td>Expert reports initiated in 2007</td>
<td>Biomedicine Agency</td>
</tr>
<tr>
<td>Games, context, behavior and addiction</td>
<td></td>
</tr>
<tr>
<td>Collective</td>
<td></td>
</tr>
<tr>
<td>Grafts. Key research points</td>
<td></td>
</tr>
<tr>
<td>Collective</td>
<td></td>
</tr>
</tbody>
</table>

CANAM-RSI: Caisse nationale d’assurance maladie des travailleurs indépendants, now Régime social des indépendants (medical insurance fund for the self-employed);

CNAMTS: Caisse nationale d’assurance maladie des travailleurs salariés (medical insurance fund for salaried employees);

DGS: Direction générale de la santé (Office General for Health).

AFSSET: Agence française de sécurité sanitaire, environnementale et du travail (French agency for health, environmental and work safety).
FOCUS: THE CHALLENGE OF ALZHEIMER’S DISEASE

Although it usually appears at a relatively advanced age, Alzheimer’s disease is a real disease and does not simply result from aging. In France, it is estimated that 850,000 people suffer from this disease and that 225,000 new cases occur every year. By request of the Office General for Health (DGS), Inserm has gathered a multidisciplinary group of experts in order to evaluate the progress of basic, clinical, health economics as well as human and social sciences research on Alzheimer’s disease. The group of experts has made propositions in order to improve the diffusion of knowledge, early diagnosis, patient treatment, helper support, and information and sensitization of the population and medical personnel. It has underscored the need for pertinent interaction between basic research, clinical research, actions in favor of patients and their families in liaison with patients associations, and professional training.

2007 partners

The Collective Expert Report Center produces documents in liaison with institutional sponsors such as CANAM-RSI, CNAMTS, DGS, AFSSET, the Biomedicine Agency, and the Ministry of Youth Affairs and Sports. The Center also works in partnership with InVS (the French health monitoring institute).

Prospects for 2008

The expert report on physical exercise and its effects on health, requested by the Ministry of Youth Affairs and Sports will provide essential information for the definition of health policies to promote physical exercise as a means of prevention and adjuvant treatment of chronic diseases and encourage research, which is still relatively underdeveloped in this area.

Expert reports on cancer and the environment, requested by AFSSET, should answer the needs of numerous actors who wish to have scientific data on the relationship between the various environmental factors and cancer, the incidence of which has risen over the last decades.
PLACING ETHICS AT THE HEART OF BIOMEDICAL ISSUES

As the only French institution entirely dedicated to biological, medical and public health research, Inserm attaches great importance to developing thinking in the field of ethics, which is the mission of the Ermes committee.

MAJOR MISSIONS
- thinking about ethical issues in relation to biomedical research;
- integrating ethical thinking in biomedical research practice, offering sensitization and training in ethical questioning;
- initiating dialogue between Inserm researchers, health professionals, patients associations and society at large.

Activities in 2007
The Ermes committee met on 8 occasions in 2007. Thinking essentially focused on the following:
- sensitizing researchers to the existence and role of Inserm’s CQI (IRB) committee;
- exploring further the way in which to carry out and disseminate collective expert reports;
- the place of animal experimentation and animal studies in the wild for the progress of life sciences and medicine.

Collaboration between the Ermes committee and Inserm’s training workshops makes it possible to include sessions of sensitization to ethical questioning in workshops on the various scientific topics at hand. Collaboration with Inserm training allows the adoption of a similar approach for clinical research training sessions. A presentation of Inserm’s ethical approach took place during the special one-day event organized for researchers and research directors newly appointed at Inserm and during the session for researchers recruited in 2000.

A weekly documentation compiled by the Ermes committee mission director and sent to all members of the committee, presents comprehensive international news in the field of ethics. An extract of this documentation is made available every week on the “Ethics and health” (Ethique et santé) site of the Rodin network. The references of the articles cited are available on the committee’s bibliographic database, which was updated with 2,500 extra references in 2007.

FOCUS : ETHICS ON ALL FRONTS

In 2007, the members of the Ermes committee intervened on numerous occasions both in meetings and public debates:
- Public hearing at the National Assembly concerning the revision of the 2004 law on bioethics;
- International meeting organized by the European Council, the Biomedicine Agency and the Ministry of Health and Solidarity: “Free access to genetic testing and pharmacogenetics: what are the individual and collective repercussions in Europe?”;
- International meeting organized by the European Commission, Brussels: “Ethics, Research and Globalization. Europe and its partners building capacity in research ethics”;
- Continuous learning workshops for magistrates: “Bio-ethics and the law”, French National School of Magistrates;

* Inserm ethics committee for medical and health research.
FOCUS: INSERM’S SCIENTIFIC INTEGRITY DELEGATION

Created in 1999 and directly subordinated to the Directorate General, Inserm’s scientific integrity delegation (DIS) has a dual mission: collecting and processing complaints about failures to abide with scientific integrity (bad conduct, bad practice, abusive or missing signatures, fraud, etc.) concerning scientists from or working at Inserm as well as thinking about ways of preventing them and promoting a code of ethics relative to scientific practice and behavior. A charter provides details on the procedure for processing complaints. The DIS receives confidential allegations of misconduct, which must be accompanied by elements of proof concerning the alleged facts. Depending on the degree of misconduct, a solution is initially sought locally on amicable terms, after the protagonists have been heard and whilst preserving confidentiality. If necessary, the DIS requests a scientific expert report for an arbitration commission. After a possible consultation with the legal department, the DIS submits its conclusions to the Director General, who decides on the outcome. If the case is serious, the investigation committee may seek the opinion of international experts.

For information, in the two-year period 2006-2007, the DIS has had to investigate 19 allegations, a dozen of which led to additional investigations mobilizing at least one expert. Some of these have required several months to find a solution and implement it. These allegations concerned various subjects among which signature conflicts occupy a non negligible part. Most of the conflicts could probably have been avoided or at least minimized had a discussion taken place prior to writing. In addition there are about ten requests for advice per year, which allow situations that are likely to cause problems of bad scientific practice to be resolved at the onset.

2007 partners

Several members of the Ermes committee participate in the teaching of the biomedical research certificate for the “Ethics, science, health and society” Master’s program (Paris 11 University/AP-HP) and the “Ethical medical research” Master’s program organized by the Laboratory of Medical Ethics and Forensic Medicine at the University Paris-Descartes Faculty of Medicine. An Internet portal is being built in order to promote the communication of critical thinking and ethics initiatives at Inserm. A new collaboration has been set up in 2007 with the journal Médecine/Sciences, in which Inserm is a partner and the chief editor of which is a member of the Ermes committee.

The Ermes committee regularly participates in joint meetings with the ethics committees of scientific and technical public institutions (CNRS, INRA, IRD) and other ethics institutions (ethics forum of the Paris public hospital system), as part of an informal network allowing work to be initiated on common topics of interest.

3 - Assistance publique hôpitaux de Paris (Paris public hospitals).
4 - Centre national de la recherche scientifique (National Institute for Scientific Research).
5 - Institut national de la recherche agronomique (National Institute for Agronomical Research).
6 - Institut de recherche pour le développement (Development Research Institute).
7 - Délégation à l'intégrité scientifique de l'Inserm.
COMMUNICATING KNOWLEDGE

The Department of scientific information and communication (DISC) provides researchers with essential documents, informs Inserm’s partners and the public at large about results of work carried out at the Institute, and ensures the dissemination of information via Internet, meetings and events.

MAJOR MISSIONS

- plan national actions directed toward the media and support efforts at the regional level by collecting scientific and institutional information, organizing meetings with the press, writing and publishing science popularization documents, assisting and counseling researchers on communication actions, and monitoring the general and scientific press;
- organize institutional events of internal communication, improve the visibility of the Institute with respect to professional targets, and communicate scientific information to the general public;
- update and develop the national website;
- develop electronic access to international information (BiblioInserm), bring added value to the scientific production of the Institute (Hal Inserm), disseminate knowledge about key topics, ensure the translation of the Medical subject headings (MeSH) thesaurus into French;
- constitute image banks and promote document collections, ensure the collection, classification and processing of archives so as to store and adequately present Inserm’s historical heritage, provide historical information for history of science researchers, meet legal obligations in terms of conservation and access to administrative archives.

Activities in 2007

In 2006-2007, the national audiovisual media were responsible for 43% of Inserm’s fallout (+16% for radio as compared to 2005, +8% for television), as against 57% for the written press and press agencies. The year 2007 confirmed the development of Inserm’s visibility in the general, family and health-oriented press (+47%) and the women-oriented press (+23%). In the written press, Inserm’s visibility is due to basic research information (32% of fallout), institutional information (31%) and public health information (37%). In 2007, some 90 documents were drawn up and disseminated to editorial offices by the press department. Fifteen media-researcher meetings (conferences, press trips) were organized. An audit was carried out in order to improve the quality of the www.inserm.fr national website (joint DISC/DSI project), the current version of which dates from 2005. Furthermore, regional sites have been developed, with a pilot site in the PACA (Provence-Alpes-Côte d’Azur) region. The Lyon and Montpellier sites are under construction.

The Inserm young people’s network has the mission to sensitize 15-20 year-olds to issues in biomedical and public health research. It has continued to develop in 2007 and there are now a total of about fifty branches in France and Europe (Germany, Belgium, Spain and the Netherlands).

In 2007, Inserm was present at the national book fair (the Science bar of the Ministry of Education) and at the Science Fair (with a stand focusing on the theme of addiction). The DISC also participated in 3 large general medical fairs (Medec, with the proposition of 8 health cafés and one plenary session; Wonca with a stand presenting Inserm’s actions toward general practitioners; and JNMG, with the organization of 2 health cafés).

FOCUS: THE INSERM NEWSLETTER FOR GENERAL PRACTITIONERS

Beyond being present at medical fairs, Inserm decided to maximize communication toward general practitioners by launching in 2007 a bimonthly electronic newsletter reporting Inserm research results to this community in the form of recommendations or possible actions. At the end of 2007, Inserm and the agency in charge of the project evaluated the operations conducted and the first two newsletters. The results are positive since 983 general practitioners were registered as of 11 January 2008.

The main objective for 2008 is to increase the number of registrations by 100%. This is contingent upon the setting up of new partnerships with learned societies and ‘friendly networks’.
Finally, the DISC organized the 2007 Prize awarding ceremony, which took place on 4 December at the Collège de France, with 420 guests (Inserm scientific community, directors of research institutions, ministry officials and members of foundations, complementary insurance funds, parliament and associations).

**2007 partners**

The partnership policy with private editors has been pursued, whether it be with general editors (La Découverte) or scientific editors (Lavoisier, De Boeck). This partnership has a dual goal: promote the transmission of scientific information and increase the visibility of the Institute in the public eye.

The scientific and technical information division (IST) has continued to develop access to scientific data via BiblioInserm, in collaboration with INIST/CNRS and the open institutional archive HAL Inserm (2,200 filings including nearly 1000 full texts). Several thematic knowledge databases have been built and updated in partnership with the relevant actors of the scientific community (Rodin for medical ethics, the laboratory of medical ethics of the Paris-Descartes Faculty of Medicine,Codec2 for health economics, Cerme3, the Alcohol knowledge database, and Inserm’s Department of Strategies and Scientific Partnering). As a partner of the NLM/NIH for the update of the French biomedical thesaurus, IST also participates in two European projects: DRIVER, for open archives and EURETHNET, for ethics. IST is working on integrating the Google scholar search engine to the BiblioInserm portal. The close collaboration with associations has been strengthened. Linked to the DISC, the Inserm-Associations Mission ensures the organization of Gram4 activities and the coordination of the actions selected. Its database, which now involves 340 French associations and 70 European federations, is endowed with an information platform.

**Prospects for 2008**

The year 2008 will see the repositioning of Inserm in the professional medical press, an increase in its visibility in the French economic press and the press (daily newspapers, radio, national TV) of its major European partners.

Scheduled technical improvements of the national site will involve the home page, the automatization of the website plan, the navigation bar and the hosting of electronic letters. The year 2008 should also see the creation of all the regional websites.

The editorial and graphical remodeling of the weekly electronic newsletter has been initiated. The newsletter will eventually be hosted by the national website.

Current thinking on the matter will lead to the remodeling in 2008 of the magazine Inserm Actualités, which will be replaced by a dynamic news site offering an electronic newsletter. In parallel, an institutional newsletter may be proposed in English for decision makers and opinion leaders from the international community.

Concerning the paper edition, agreements are in the process of being concluded with partner editors for the publication of 5 new books written by researchers working at Inserm.

Also scheduled in 2008 is the organization of the 5th annual meeting with associations, the creation of a program entitled “Genetic testing, keys to their understanding” in partnership with AFM5, and the launch of a training program for pediatricians on clinical research in pediatrics, in partnership with the Leem6 and the School of Inserm.

Finally, a collaborative working tool will be set up in order to promote exchanges between regional communication directors and the DISC.

---

1 - Institut de l’information scientifique et technique (Scientific and Technical Information Institute).
2 - Connaissances et décisions en économie de la santé (Health Economics Knowledge and Decision Database).
3 - Centre de recherche médicale et sanitaire (Medical and Health Research Center).
4 - Groupe de réflexion avec les associations de malades (Think tank involving patients associations).
5 - Association française contre les myopathies (French myopathy association).
6 - Les entreprises du médicament (National Union for the Pharmaceutical Industry).
ORGANIZATION AND EVALUATION OF RESEARCH

42 MOBILIZING MEN AND WOMEN
44 COORDINATING PUBLIC RESEARCH
45 LAUNCHING AND CONSOLIDATING SCIENTIFIC ACTIONS
48 DEVELOPING BENCH TO BEDSIDE RESEARCH
50 DEVELOPING THE CREATION OF REGIONAL FACILITIES AND EUROPEAN COOPERATION
53 INCREASING INTERNATIONAL VISIBILITY
55 EVALUATING RESEARCHERS, LABORATORIES AND PROJECTS
MOBILIZING MEN AND WOMEN

The Department of Human Resources (DRH) proposes and implements the national policy for the management of the Institute’s human resources, which means organizing the value added management of job positions and personnel skills as well as maximizing work conditions. The department relies on regional human resources directors, who are responsible for proximity management. The missions of the Human Resources Department involve counseling, expert analysis and the development of major national projects.

MAJOR MISSIONS

• conceive a steering system for human resources at the Institute and organize the administrative and financial management of personnel (numbers, salary mass, etc.); set up recruitment selection examinations and career follow-up; draw up and implement national actions concerning training, social policy, prevention medicine, hygiene and security;
• organize the activities of the network of regional human resources directors, who are responsible for managing personnel on a daily basis, and assist them throughout their career in addition to counseling laboratory directors about human resources;
• inform about statutory regulations and the harmonization of associated practices;
• propose innovative approaches in order to promote “good practice” and facilitate the progression of all actors in human resources;
• steering the human resources information system.

Activities in 2007

The DRH organized the renewal of Inserm’s scientific bodies. The process, which ended on 14 December 2007, was marked by the adoption of the one-round plurinominal ballot for the election of the four colleges of research personnel, representatives of engineering and technical personnel still being elected by list voting. Furthermore, in order to facilitate the representation of the various disciplines within the same body, the scientific council and the specialized scientific commissions are now composed of equal numbers of elected and nominated members.

In 2007, the researcher mission produced quantitative and qualitative indicators on researchers recruited by post-doctoral contracts (1 year) or junior contracts (3-5 years). The analyses show a very good rate of tenure recruitment for researchers on 3 to 5-year contracts. A directory of doctoral students preparing a thesis in Inserm facilities has been compiled in order to keep contact with these young researchers once they have obtained their doctorate.

Focus: The School of Inserm, an International Overture

The internationalization of the School of Inserm, initiated in 2006, was reinforced in 2007. As coordinator, Inserm launched a European network bringing together institutions and universities interested in similar programs. A scientific meeting was organized for program representatives from Germany, the Netherlands, the United Kingdom and Switzerland to participate in work groups with a view to create a European MD/PhD network.

2007 Partners

As part of the Avenir program, the researcher mission coordinates the partnership concluded with charitable associations and various health organizations. Every year, it is in charge of setting up the partner-derived financial support for new laureates and/or their teams. To do this, the mission organizes two to three meetings a year with the DHOS3, INCa2, ARC3, LNCC4, AFM5, ANRS6 and partners such as the Bettencourt Schueller Foundation or the Pierre Fabre Company.
In 2007, Inserm concluded a 9-year partnership, which is the time it takes for the MD/PhD program, with the Bettencourt Schueller Foundation, thus bringing financial support totaling 5 million euros to the School of Inserm, which will from now on be called the Liliane Bettencourt School of Inserm. Introduced in 2002, the calls for candidates for interface contracts have diversified, thus allowing the development of numerous partnerships. The DRH is in charge of managing the various calls for candidates, the eligibility of applications, the setting up of framework conventions with partners and individual contracts with researchers, hospital-based researchers and teaching researchers.

**Prospects for 2008**

The decree of 15 October 2007, which formulates the directions of the agreement protocol on “lifelong professional training” of 21 November 2006 into regulations, partially renews the tools available for training. It introduces the individual right to training, an annual right to 20 cumulative hours of training over a period of six years, and the period of professionalization comprising alternating training actions of a maximum of six months giving rise to the setting up of a convention between the agent and the administration. With this in mind, in 2008, the DRH chose to reinforce the foundations of its training policy. This will lead to implementation of a renewed offer aiming at developing specific job training, refocusing of the training offer on the researcher population, better integration of newly recruited agents, guaranteed skill development as well as know-how maintenance and transfer, and professionalization of C category agents. During the first quarter of 2008, the DRH will finalize the Hermes project, a new document management system for administrative processes and related justification documents, allowing the progressive transfer of the internal control management from the DRH to the regional administration departments. In 2008, the DRH will pursue its analysis of tools and levers likely to facilitate the provisional management of jobs and skills. The substantial Inserm staff renewal given the structure of the age pyramid and the objectives of the Institute in terms of scientific excellence in rapidly evolving domains mean that adaptation of the recruitment and career policy has become a major issue.

### Current interface contracts (2002-2007)

<table>
<thead>
<tr>
<th></th>
<th>Researchers and hospital-based researchers</th>
<th>Researchers and teaching researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framework agreements (71)</td>
<td>46</td>
<td>25</td>
</tr>
<tr>
<td>Individual contracts (518)</td>
<td>450</td>
<td>68</td>
</tr>
</tbody>
</table>

**Prestige schools of higher education**

1. Civil servant recruitment system.
2. Direction de l’hospitalisation et des soins (Office for Hospitalization and Patient Care Management).
3. Institut national du Cancer (National Cancer Institute).
4. Association pour la recherche sur le cancer (Association for Cancer Research).
5. Ligue nationale contre le cancer (National League Against Cancer).
6. Association française contre les myopathies (French Myopathy Association).
The Department of Public Health Research (DRSP) was created in February 2007 with the mission of coordinating public health research at Inserm in collaboration with the Institute’s partners.

**MAJOR MISSIONS**
- define a coherent policy for public health research
- develop scientific cooperation
- improve Inserm’s visibility as the main actor in public health research in France.

**Activities in 2007**

The current situation for public health research has been explored by the DRSP, which concluded to approximately 15 thematic research areas covered by 5 disciplines. For each one, a senior expert was asked to identify the major scientific challenges at 5 and 10 years, to evaluate Inserm’s position, strengths, weaknesses and role in a national and international (especially European) context, and to make propositions regarding desirable structural developments.

Cohorts constitute one of the main tools of epidemiological research. The DRSP has begun an inventory and a thorough analysis of cohorts with the dual aim of getting added value from Inserm cohorts with respect to public health institutional partners, and contributing to the idea launched by the Ministry of Research of thinking about cohorts as large-scale research facilities.

At the request of the Directorate General, the DRSP is coordinating a group set up for collective expert evaluations and requiring particular attention in terms of communication. Thus in the course of 2007, it worked on the expert analysis of genetic testing and Alzheimer’s disease.

Inserm, INCa and InVS have been chosen by the Director of the Office General for Health in June 2007 to give their advice on a study concerning the relationship between early breast cancer surgery and mortality. The work group coordinated by the DRSP drew up a summary of the expert reports. The directors of the department participated in the Office General for Health (DGS) workgroup on the independent quality and added value management of the expert report. Several of the items put forth by the department were used in the final report and during a one-day work session organized by the Conference of University Presidents.

**2007 partners**

The DRSP represents Inserm in various bodies involving most of the public health partners: planning and strategic review committee of InVS; Wednesday morning health safety meeting (SecuSan) with the directors of health agencies in the office of the Director of the Office General for Health; InVS board meeting; numerous bilateral meetings with the national health insurance fund, the High Authority for Health (Haute Autorité de santé), the Office General for Health, etc.

The national register committee (CNR - Comité national des registres) has been co-chaired since its creation in 1986 by Inserm and InVS. It is in charge of the qualification of morbidity registers. In 2007, the DRSP and the department of chronic diseases (for InVS) jointly coordinated CNR activities and the scientific co-management of registers (launching of calls for qualification, organization of register evaluation, notification of results, etc.). In 2007, 8 registers were examined in view of their qualification and 7 of them received a favorable review on the part of the CNR. As part of the plan on rare diseases, the decision was taken to create a CNR for rare diseases. It was set up on 14 December 2007 and will now need to determine its orientations and priorities in terms of monitoring and research. The DRSP and InVS ensure the scientific coordination and logistics for the two CNRs.

**FOCUS: EVALUATION OF A RESEARCH PROJECT IN QUEBEC**

During the summer of 2007, the director of the DRSP was asked to take part in a group of 5 international experts with the mission of evaluating a very large project in Quebec (approximately 500 principal investigators; targeted funding of 500 million Canadian dollars for the facilities), involving a central cohort project with 50,000 patients to be followed over 20 years.
LAUNCHING AND CONSOLIDATING SCIENTIFIC ACTIONS

The Department of Strategies and Scientific Partnering (Département d’animation et de partenariats scientifiques - DAPS) implements Inserm’s policy on scientific activities. Its goals are to pursue the reorganization of the scientific community, reinforce public health partnerships and improve the national and European visibility of mutualized technological resources such as research plateaus and platforms.

MAJOR MISSIONS

• organize and coordinate National Research Programs (NRPs) with partners such as patients associations (in collaboration with the DISC) and industry (in collaboration with Inserm Transfert);
• propose actions aiming to reinforce the netting between the various scientific communities and support emerging teams;
• evaluate the results of and generate indicators for actions launched via NRPs;
• coordinate the activities of interface committees with medical specialty societies
• ensure follow-up of research facilities and help with the setting up of their charter, including quality control;
• ensure the scientific management of thematic programs launched by the National Research Agency (ANR¹).

Activities in 2007

Twelve national research programs have been set up, 9 of which have launched calls for projects in 2007. The Cardiovascular, Hepato-gastroenterology, Dermatology and Alcohol NRPs have supported 16 federating projects for a total of 915 k€ over a period of 2 years. The Diabetes, Nephrology-Urology, Reproduction-Endocrinology, Bone and Joint Diseases, Dermatology and Imagery NRPs have funded 51 projects led by young researchers for a total of 1,301 k€. A follow-up meeting was organized by the bone and joint disease NRP in January 2007 and a clinical research seminar took place on the initiative of the dermatology NRP in the presence of industrial representatives in May 2007.

As part of the nutrition NRP in partnership with INRA², a report on the strengths and weaknesses of nutritional research in France was presented at the meeting on 19 November 2007.

FOCUS: CARDIOVASCULAR, DIABETES, AND BONE AND JOINT NRPS, FOLLOW-UP INDICATORS OF ACTIONS TAKEN IN 2004-2005

| Funded projects | 42 research projects, 7 led by young researchers, 2 cohorts |
| Publications | 101 including 7 in journals with IF > 25 |
| Filed patents | 3 |
| Clinical trials | 7 including 3 in CRCs* and 1 in a CRNH* |
| Partnerships | CNRS (diabetes NRP) ARD* (diabetic patients association) Medical specialty societies Industry (2 projects funded) |
| New collaborations | Numerous European teams NIH: 1 project submitted with the Leducq Foundation |
| ANR funding | 4,951 k€ |

* CRC: Clinical Research Center, CRNH: center for research on human nutrition, ARD: association for research on diabetes

1 - Agence nationale de la recherche.
2 - Institut national de la recherche agronomique (National Institute for Agronomical Research).
Several interface committees have merged with the NRPs that were being created. Six others are pursuing their activities: Anatomy and Pathological Cytology, Anesthesia and Reanimation, General Medicine, Readaptive Medicine, Odontology and Psychiatry. Seven colloquia were organized in 2007. Following two calls for projects launched in 2002 and 2006, 14 clinical research and public health networks were funded in 2007. The 44 collaborative projects between clinicians and researchers filed in the 2007 call for projects will be preselected and then auditioned in January 2008.

An inter-institutional think tank coordinated by Inserm was set up in view of the strong demand for research and expertise in toxicology and ecotoxicology, following a multipartite national debate on the environment ("Grenelle de l’environnement") and European regulatory initiatives (Reach).

A study requested by the Ministry of Higher Education and Research and Inserm and performed by ANRT’s Futuris prospective platform aims to estimate R&D spending for biomedical research in France. Data on financial flow, human resources and publications were the subject of an intermediary report published in December 2007.

As part of a national approach to coordinate and support life sciences research platforms, Inserm, CNRS, INRA, CEA and the national network of genopoles (RNG) came together in the form of a scientific interest group, the IBiSA-SIG (biology, health and agronomy research facilities), responsible for the coordination of these platforms. Inserm’s Director General will be president of this SIG for two years.

Inserm is strongly involved in the evaluation of the current situation by the Ministry of Higher Education and Research in preparation for a national roadmap concerning research facilities. Six projects to create a network of life sciences facilities, including two facilities getting strong support from Inserm (Infrastructure for Clinical Trials and Biotherapy and European Biobanking and Biomolecular Resources), have been listed in the ESFRI roadmap (European Strategy Forum for Research Infrastructures).

In the context of its mission to oversee research quality control, the quality division oversaw the funding of the ISO 9001-2000 certification of the high-security P4 laboratory in Lyon. It also supervised the follow-up audits of already certified entities and the implementation of metrological conformity at Inserm Unit 556 in Lyon. On-site audits and visits have been carried out for 3 research units, 5 biological research centers, and 9 research platforms and technical plateaus. Together with Inserm’s continuous education bureau, the quality division organized two initiation workshops and one further training workshop on the ISO 9001 norm.

A workshop on laboratory metrology was also organized in Bordeaux in collaboration with Inserm Unit 577.

The DAPS was responsible for the scientific management of three ANR programs (Neurosciences and Psychiatry; Pathophysiology of Human Diseases; and Microbiology, Immunology and Emerging Diseases): 546 projects were submitted, 103 of which were selected for funding with an average of 2.3 participating research teams per project. In the three calls for projects, 102 Inserm research teams were funded for a total of 17.31 M€ over a period of 3 years.

**2007 partners**

In January 2007, a debate meeting was organized with patients associations and the Bone and Joint Diseases NRP. Work meetings were held with the associations in view of further debate meetings relative to the Nephrology and Reproduction-Endocrinology NRPs. The association of research on diabetes (ARD) has been a partner of the Diabetes NRP since 2005. In 2007, its support totaled 400 k€, which were used as co-funding for 2 calls for projects.

Several medical specialty societies have contributed to the funding of calls for projects launched by NRPs in 2007: the French Arterial Hypertension Society, the French Gastroenterology Society, the French Association for Liver Studies, the French Rheumatology Society, the French

---

1 - National association for technical research.
2 - Centre national de la recherche scientifique (National Institute for Scientific Research).
3 - Institut national de la recherche agronomique (National Institute for Agronomical Research).
4 - Commissariat à l’énergie atomique (Atomic Energy Commission).
Orthopedic and Traumatology Surgery Society, and the French Radiology Society. The avian influenza program was organized by AIRD\(^1\) in partnership with IRD\(^2\), Inserm, the CNRS\(^3\), CIRAD\(^4\) and the Pasteur Institute. Several Inserm research teams are participating in research on new therapeutic strategies and vaccines against avian flu virus. The various ongoing projects were presented at a meeting organized in December 2007.

Partnership with national veterinary schools has been reinforced with the holding of 2 meetings aiming to facilitate exchanges and collaboration between scientific communities.

**Prospects for 2008**

The missions of the NRPs focus on the reinforcement of partnerships with patients associations, medical specialty societies and industry. The priority goals of the NRPs this year are to:

- organize activities and debate meetings with patients associations;
- prepare the scientific community in the relevant domain to answer calls for projects of the ANR, the FP7 and ERC;
- gather funds with its partners in order to launch support actions for emerging teams and inter-NRP transversal actions;
- managing the NRP website so as to ensure better visibility of NRP activities and prominent research in the field.

The Inserm-ANR division will continue to ensure the follow-up of projects funded as part of ANR programs: site visits and organization of follow-up meetings.

In 2008, it will ensure coordinated support between research institutions, the IbiSA-SIG (support for accredited platforms), regional and local authorities (equipment funding in particular).

Internal audits are scheduled in order to prepare for ISO 9001 certification of the 12 entities that have made most progress on this aspect.

---

1 - Agence inter-établissements de recherche pour le développement (Inter-Research Institution Development Agency).
2 - Institut de recherche pour le développement (Development Research Institute).
3 - Centre national de la recherche scientifique (National Institute for Scientific Research).
4 - Centre de coopération internationale en recherche agronomique (International Center for Cooperation on Agronomical Research).
DEVELOPING BENCH TO BEDSIDE RESEARCH

The mission of the Department of Clinical and Therapeutic Research (DRCT) is to reinforce the continuum between basic and clinical research. The DRCT acts as an institutional promoter, supports clinical research - and in particular translational research - via various infrastructures, and assists researchers in charge of clinical projects of high potential for Inserm.

MAJOR MISSIONS

- evaluate clinical research projects by means of a preselection committee and the Strategic Planning and Clinical Trial Monitoring Committee (Cossec) so that projects can be set up rapidly; ensure the continuum with upstream research and the validation of proof of concept and phase I/II clinical trials. The DRCT is responsible for the administrative steps involved in promoting projects and the management of dossiers with respect to the French data protection act (CNIL). The institutional qualification committee (CQI) delivers ethical reviews;
- ensure the operational follow-up of clinical research facilities: clinical research centers (CRCs) comprising 23 plurithematic (PT) CRCs, 11 biotherapy (BT) CRCs and 7 clinical epidemiology (CE) CRCs, as well as 29 biobanks (Biological Resource Centers);
- support the emergence of innovative therapies in cell and gene therapy, immunotherapy and vaccinology;
- coordinate ECRIN (European Clinical Research Infrastructure Network).

Activities in 2007

As of 2007, there are 126 ongoing clinical research protocols promoted by Inserm, 89% of which concern physiology or pathophysiology and 11% therapeutics. Within Cossec, the Physiology, Pathophysiology, Genetics/Therapeutic Innovations committee and the Gene and Cell Therapy/Vaccinology committee have examined 28 clinical research projects. The DRCT organizes the activities of a work group focusing on a project to develop a vaccine against chikungunya by request of the Ministry of Health. The CQI, an ethics committee officially recognized as an Institutional Review Board has received 20 seizins. The 41 plurithematic, clinical epidemiology and bioterapy CRCs had an active file of 1,300 protocols. In 2007, a first call for projects was launched in order to reinforce translational clinical research in CRCs.

FOCUS: TWENTY-THREE COLLABORATIVE PROJECTS TO REINFORCE TRANSLATIONAL RESEARCH

A call for projects on translational clinical research funded by Inserm, the National Cancer Institute (INCA) and the Office for Hospitalization and Patient Care Management (DHOS) has allowed the selection of 23 collaborative projects between a clinical research center and an Inserm research team or unit, including 13 innovative projects in pathophysiology and 10 on therapeutics.

Field of active file protocols promoted by Inserm

- Neurosciences and mental health: 47%
- Endocrinology – Metabolism: 22%
- Oncology - Malignant hematology: 9%
- Cardiology – Pneumology: 9%
- Other: 13%
Together with the French-speaking cell and gene therapy society (SFTCG), the DRCT organized the 6th meeting of the Gene and Cell Therapy Club in Heidelberg, which brought together the 11 biotherapy CRCs and numerous actors from the public and private sector.

The preselection committee examined 37 of the requests for promotion by Inserm. The DRCT participated in meetings concerning the organization of clinical research abroad (China, Japan and Brazil).

With the support of AFNOR, the network of 29 Inserm biobanks-BRCs\(^1\) initiated the writing of a national reference document and the setting up of a quality control process.

With the support of the 6th FPRDT, ECRIN developed transnational work groups in order to bring support to investigators and promoters of European protocols.

In the Island of Reunion, Inserm and its CRC-CE played a major role in evaluating the epidemiological and public health aspects of chikungunya. A framework agreement between Inserm and the regional council of the Island of Reunion was signed on 5th October 2007.

### 2007 partners

Inserm and the biotherapy CRCs are members of the Stem Cell special interest group in the Ile-de-France region, in collaboration with Paris Public Hospitals (AP-HP) and universities. Inserm and DHOS carried out a joint evaluation of biotherapy projects submitted during the campaign of the national clinical research hospital program in 2007.

In partnership with Inserm Transfert, pharmaceutical companies such as Novartis and Takeda, the Pas-de-Calais region (France) and the Wallonie region (Belgium), Inserm initiated a strategy to support added value management of the clinical research therapeutic protocols it promotes. With ECRIN and other European academic institutions (EFS\(^2\), EORTC\(^3\)), Inserm formulated propositions with a view to revise the directive on clinical trials.

### Prospects for 2008

In 2008, an Inserm/DHOS call for projects will give accreditation to eight technological innovation CRCs (CRC-TI), which will offer researchers their skills in the field of imaging, biomarkers and medical devices.

A clinical research day-event will be organized in China and Chinese doctors will be hosted in CRCs for training in clinical research. Inserm and the DHOS have drawn up a list of CRCs and DIRCs\(^4\), which as a whole form a national clinical research infrastructure, as part of the national roadmap on large-scale research facilities.

A 2M€ Inserm/INCa/DHOS call for projects should allow the selection of innovative translational clinical research projects in pathophysiology and therapeutics. Concerning the biological resource center-biobanks network, the goal is to obtain accreditation from the competent authorities and participation in the IBISA support program, recognition as a large-scale research facility and the setting up of European networks.

From 2008 onwards, ECRIN will be financed by the FP7 in the capacity of a European clinical research facility, coordinated by Inserm and proposing support to promoters and investigators for multinational clinical research protocols.

---

\(^1\) Biological Resource Centers.
\(^2\) Etablissement français du sang (French Blood Transfusion Service).
\(^3\) European Organisation for Research and Treatment of Cancer.
\(^4\) Délégation interrégionale à la recherche clinique (Inter-Regional Clinical Research Delegation).
DEVELOPING THE CREATION OF REGIONAL FACILITIES AND EUROPEAN COOPERATION

The Department of Regional and European Policy (DPRE) involves two divisions acting in close connection: site policy and European affairs. Its mission is to implement the directions the directorate general has chosen for the organization of biomedical research in France and Europe, in synergy with Inserm’s partners (universities, research organizations, hospitals, local authorities). These activities are conducted in liaison with the Regional Administrative Departments (ADRs) and the regional scientific correspondents, and with Inserm’s representatives in the Clora and in Brussels.

MAJOR MISSIONS

• implement and coordinate the site policy;
• promote the development of research centers and Inserm emergence programs (in addition to Inserm’s participation in the IFR² program) such as Avenir (young researcher autonomy), ESPRI (university groups supported by the region and Inserm), get involved at the national and local level in the development of new research tools and regional skill networks, assist with site organization before and after the scientific evaluation process, by relying on regional scientific correspondents and national scientific advisors;
• support multilateral cooperation efforts particularly in the context of community programs, including the FP7 (2007-2013), but also in the context of the European public health framework program, of the European Science Foundation, and of the participation of the directorate general in the general assemblies of the European Heads of Research Councils (EUROHORCS);
• develop European bilateral cooperation, particularly by supporting the mobility of researchers in Europe and the creation of European associated laboratories or mixed units abroad.

Activities in 2007

The DPRE set up 8 calls for candidate applications aiming to attract young researchers and research teams in the 19 research centers that have already received accreditation. The calls for research teams in 2007 concerned the fields of neurosciences (Fer-à-Moulin Institute), biotherapies (IRB³ in Montpellier), stem cells (Paul Brousse Hospital), cancer (Montpellier) and cardiovascular diseases (HEGP - George Pompidou European Hospital). Three calls for candidate applications concerned research center directors (HEGP, IRB, dermatology at Saint-Louis Hospital), with the aim of identifying scientists of international caliber.

In the field of bilateral cooperation, two new European associated laboratories (EAL) were created in 2007 (Villejuif/Barcelona and Montpellier/London). Inserm has continued to support actions to promote researcher mobility on a European scale by setting up two specific programs: international interface contracts and the joint post-doc career track. These programs were used in 2007 with Imperial College in London (signature of a memorandum of understanding) and with the Italian national research council (launch of a call for projects). They constitute a first step prior to the creation of a co-funding program to be set up by the European community.

Development of research units and research centers (RC) between 2001 and 2008

![Graph showing the development of research units and research centers (RC) between 2001 and 2008.](image)
In 2007, Inserm and the CNRS continued to explore the modalities of a scientific collaboration and ways of sharing of human resources, the goal being to maximize research site organization by proposing complete mixity or the accreditation of research teams within the partner organization.

In the context of the new governance of university hospitals and the remodeling of the relationship between hospitals and universities, Inserm is playing a key role as a third party representing science and technical public organizations in biomedical research. The decree of 7 November 2006 gives Inserm the responsibility of organizing the representation of research institutions in 26 university hospitals. Most of the committees have already been set up and have started to work at the local level. Partnership with regions became a reality in 2007 with Inserm’s involvement in 25 projects in 15 different regions (including the DOM-TOM overseas region) listed in the contract of the 2007-2013 State-Region project, with a real estate or equipment investment totaling 22.95 M€ for the seven years of contract validity.

In 2007, following the setting up of the Ile-de-France research neuropole supported by the Ile-de-France region via the neurosciences special interest group, the DPRE coordinated the creation of the cardiovascular, obesity, diabetes special interest group, which gathers 12 partners from Ile-de-France. A SIG is currently being set up. During the year 2007, 7 doctoral and 4 post-doctoral grants were awarded. Inserm’s implication in competitiveness clusters continued in 2007 with the
accreditation and funding of new research projects involving Inserm units. The DPRE set up a competitivity cluster committee with the mission of identifying R&D projects as early as possible.

Inserm was a founding member of the RTRA\(^1\) network comprising the Ecole des neurosciences de Paris, the Pierre-Gilles de Gennes Foundation (Paris) and the Foundation for Research in Infectiology (Lyon).

Inserm was also a founding member of the 8 thematic research and health care networks (RTRS\(^2\)) accredited by the Ministry of Higher Education and Research in 2007.

**Prospects for 2008**

The policy of emergence and attractiveness for the recruitment of young talented researchers in centers of excellence will be pursued together with proactive actions to offer junior and senior researcher candidates opportunities such as ANR or regional chairs of excellence. The Institute will continue to encourage and accompany candidates in the process of applying to the European Research Council (ERC).

Emphasis will be placed on promoting the participation of Inserm teams in European projects from the FP7 programs, particularly for the coordination of health projects of the ERC cooperation program and of the public health framework program.

Inserm will continue to bring support funding for the development of projects by its subsidiary Inserm-Transfert, the goal being to maintain a result performance above the European average.

Finally, special attention will be given to items on the agenda such as the participation in calls for projects of the IMI European technological platform, due to be launched in 2008.

Actions to promote researcher mobility in Europe will be pursued with Inserm’s proposal of a partnership project as part of the CoFund program (Marie Curie actions).

---

1 - Réseaux thématiques de recherche avancée (advanced research thematic networks).
2 - Réseaux thématiques de recherche et de soins.
INCREASING INTERNATIONAL VISIBILITY

The Department of International Relations (DRI) is developing a policy designed to increase Inserm’s international visibility, encourage new bilateral collaboration efforts with quality international laboratories and centers of excellence, and contribute to the development of strong partnerships by setting up framework agreements.

MAJOR MISSIONS

• reinforce partnerships with countries endowed with a high scientific potential;
• ensure international netting of Inserm research facilities by creating Inserm units and international associated laboratories (IAL) abroad;
• increase the attractiveness of the Institute by hosting the best researchers in biomedical research;
• increase the participation of Inserm researchers in major international programs.

Activities in 2007

The DRI oversees 19 cooperation agreements signed with homolog institutions from 15 different countries, a hosting program for young researchers from abroad (“green” positions) and an Inserm/NIH postdoctoral contract program. These programs allow funding of joint two-year projects and long-term research visits.

The year 2007 saw the reinforcement of Inserm's links with Asia:

• China: cooperation agreement signed with the Chinese Academy of Sciences (CAS), allowing the development of joint research in all areas of biomedical research; development of ties in the field of clinical research; 7 operational Franco-Chinese research teams, including 2 French researchers settled in the Franco-Chinese research pole in Shanghai on a long-term basis; joint meeting on cardiovascular research with Peking University; Franco-Chinese meeting on stem cells with the CAS Institute of Zoology, in collaboration with INRA; participation in the steering committee of the Franco-Chinese agreement on traditional Chinese medicine;
• India: Franco-Indian meeting on cardiovascular research with the Indian Council of Medical Research (ICMR); 6th meeting of the Inserm-ICMR work group in order to define the major orientations of the partnership;
• Japan: inauguration of Inserm Unit 852 at the University of Kyoto to carry out trans-ethnic studies in functional genomics; signature of a cooperation agreement with the translational research center of Kyoto University, in partnership with Paris Public Hospitals (AP-HP); participation in the Franco-Japanese program Frontiers of Science;
• Korea: signature of a cooperation agreement with the Pasteur Institute in Korea for the use of a high throughput screening technological platform.

FOCUS: AN IAL THAT LED TO MAJOR ADVANCES IN THE FIELD OF STEM CELLS

In 2006, Inserm inaugurated an IAL with the Haifa Technion Institute (Israel) to work in the field of stem cells. It involves Inserm Unit 898 (research team directed by Prof. D. Aberdam) and Prof. J. Itskovitz-Eldor’s laboratory. The work of the InserTech IAL has allowed the development of a simple and reproducible protocol to make human embryonic stem cells differentiate into a population of precursor cells able to give rise to numerous tissues (skin and cornea). A patent has been filed and clinical trials may start in the fairly short-term.
The implantation of the Institute in North America is progressing. Since the division to assist in project set up was created, 20 projects have been submitted to major international funding programs (NIH, foundations), and 45% of these projects were accepted upon examination:

- United States: organization of the French American Innovation Day (FAID) on cardiovascular research with Harvard University; prospective mission on the West Coast for transdisciplinary research programs; creation of Inserm Unit 899 at the Baylor Research Institute in Dallas to work on human immunology, and of Inserm Unit 904 at the University of California (Irvine) to work on genetics; cardiovascular diseases NRP/National Heart, Lung and Blood Institute (NHLBI): seminar in June 2007 in Paris, which led to the creation of an associated laboratory (B. Kieffer, Strasbourg and G. Koob, La Jolla) and to short-term training of 3 French post-doctoral fellows in the laboratories of the NIAAA, as part of the NIH/Inserm program.
- Quebec: creation of three IALs with the University of Montreal in the field of neurodegenerative diseases, neuroimaging, and child and adolescence mental health; Franco-Quebequian meeting on neurosciences with Mc Gill University.

In Africa, the year 2007 has seen the inauguration of the IAL in human genetics with the National Institute of Hygiene in Rabat (Morocco) and the setting up of a prospective committee on cooperation with Subsaharian Africa.

2007 partners

There are nearly 3,000 ongoing cooperation efforts with 57 different partner countries, half of which are with the United States. These partnerships are distributed as follows: North America (60%); Asia (9%), Latin America (7%), Africa (6%), Middle East (4%) and Oceania (4%). The 19 cooperation agreements, the 6 cooperation conventions and the international associated laboratories constitute special partnerships. This cooperation involves close collaboration with the Ministry of Foreign Affairs, the directors of European and international relations and cooperation at the Ministry of Higher Education and Research, and for a number of countries, with the Research Institute for Development (IRD), the National Agency for AIDS Research (ANRS) and the Pasteur Institute.

Prospects for 2008

In 2008, Inserm will pursue its policy of link reinforcement with North America and Asia, its two most dynamic poles of international cooperation. Encouraging new collaborations with countries from Northern Africa and the Middle East, particularly in the field of human genetics is also on the agenda, as is the consolidation of the policy of international associated laboratory creation.
EVALUATING RESEARCHERS, LABORATORIES AND PROJECTS

The Department of Scientific Evaluation (DES) is responsible for the implementation and follow-up of tenured and non-tenured researchers (recruitment, activity and mobility), the initial and subsequent evaluation of laboratories, as well as the evaluation of programs to support young researchers. It is also responsible for monitoring the progress of evaluation practices.

MAJOR MISSIONS

• keep a watch over good practice and integrity of scientific evaluation (absence of conflicts of interest; debate confidentiality; evaluation by European and international peers of recognized competence; initial and subsequent evaluation; and transparent, comparative and independent evaluation of decision-making bodies);
• participate in visiting committees, commission sessions, and commission and Council liaising committees; advise candidates for writing applications, inform the directorate general;
• make available bibliometric data to commissions and Scientific Council members so as to render scientific production and team notoriety objective (number of articles, journal impact factor for each article, rank-normalized IF and average IF for all articles, citation of each publication, rank-normalized citation index, total citation and average citation index for all the articles, number of articles in the top 10, 20, 50, excellence rate, average placement);
• ensure the follow-up of researchers and research units;
• keep a watch over the progress of evaluation practices and the production of bibliometric indicators for the Institute.

Activities in 2007

In 2007, the DES met almost all the objectives it had set itself in 2006. In collaboration with the DSI\(^1\), it ensured the development of the Eva software for two of the most important and complex processes, namely the creation and renewal of research units, and the selective examination for the recruitment of research personnel. It worked on the development of the database of experts and the setting up of an electronic system to manage applications allowing researchers under evaluation to be automatically notified about the review of the relevant commission. It proposed experts for the new commissions and produced a bibliometric profile for each expert proposed. It also coordinated the unit and research team marking process.

The bibliometry division pursued its activities to assist in the evaluation of facilities and researchers, NRP follow-up (nutrition, dermatology, cardiovascular research, etc.), and the improvement of Inserm visibility. The use of correct affiliations allowing the recognition of Inserm went from 29% in 2005 (when this action was initiated) to 43% in 2007. The bibliometry division also carried out strategic bibliometric studies for other institutions such as ANRS and INCa, and participated in the work of the OST\(^2\) cooperative on LOLF\(^3\) indicators.

The work on “10 years of publications by Inserm facilities”, initiated in 2005, is coming to completion.

The DES works in close collaboration with commission and Scientific Council members as well as a large number of French, European and international experts. It participates in coordination meetings with the other research institutions and universities. Since 2007, it has also been developing a partnership with AERES\(^4\).

FOCUS: A PARTNERSHIP WITH AERES FOR THE EVALUATION OF RESEARCH STRUCTURES

The DES has developed an active collaboration with the AERES section in charge of evaluating research units. This focuses on three areas:

• the transfer of the pool of Inserm experts;
• the setting up of visiting committees in close collaboration with the life sciences delegates and deputy delegates;
• the issue of a new single application for the creation and renewal of research units.
Prospects for 2008

In 2008, Inserm will pursue all the activities linked to the various evaluation processes described above. It will ensure the setting up of the new commissions and Council. It will propose the necessary adjustments to be made to ensure good articulation with AERES. It will set up the new selection examination process, which is due to involve a preselection of applications prior to the audition phase.

The DES will complete the transfer of all the evaluation processes into the new version of the Eva software.

In order to increase its scope of action, the bibliometry division will continue to improve the computerization of indicator development, and will incorporate new mapping and concept analysis tools. It will pursue its strategic studies for Inserm and various other institutions.

1 - Département du système d’information (Department of Information Systems).
2 - Observatoire des sciences et techniques (Science and Technology Observatory).
3 - Loi organique relative aux lois de finances (Organic Law Relative to Finance).
4 - Agence d’évaluation de la recherche et de l’enseignement supérieur (Agency for the Evaluation of Research and Higher Education).
RESEARCH AND KNOWLEDGE MANAGEMENT

58 MANAGING RESEARCH FUNDING
60 MANAGING LEGAL AFFAIRS
61 DEVELOPING INFORMATION SYSTEMS
62 MANAGING RESEARCH KNOWLEDGE IN A COMPETITIVE WORLD
MANAGING RESEARCH FUNDING

Inserm’s Financial Affairs Department (DAF) steers research funding policy. It runs the financial and asset management network of the headquarters and Regional Delegate Administrations (ADR).

MAJOR MISSIONS

• prepare the Institute’s budget: establishment of budgetary means and control of available funds and revenues, supervision of budget implementation, production of management information;
• manage project funding: preparation of non-decentralized research agreements, notification of funding to beneficiary structures, administrative and financial management of programs delegated by the ANR1, establishment and control of the budget relative to the institution’s own resources, coordination of the decentralized management of research contracts and management of the network of ADR external resource managers (GRE);
• administer and manage SAFIr, the Institute’s financial management and accounting system;
• implement the purchasing and real estate policies of the Institute, regulatory monitoring concerning public procurement contracts and related legal questions, the organization of real estate operations, advising and providing assistance to ADRs in these areas;
• manage the institution’s assets and coordinate the inventory work performed by ADRs;
• coordinate the activity of animal centers via the BEA (Bureau of Animal Experimentation);
• ensure auditing of proper application of regulations and internal instructions and procedures, and the preparation of proposals for the modernization, simplification and rationalization of financial management.

Activities in 2007

The DAF pursued the modernization process and reinforced management efficiency by ensuring the upgrading of SAFIr and actively participating in the launch of a new tool for the management of requests for means emanating from research units (OASIS application). The reconciliation of the balance sheet to the statement of assets was effected, with strong involvement in the work of regularizing pending operations in general accounting.

The department helped the ADRs to prepare mission decentralization and the deployment of tools allowing the management of these operations to be simplified and modernized: automation of procedures, online ticketing and reservation of accommodation, credit cards, etc.

In liaison with the real estate office, the BEA contributes to the design and creation of entities for animal experimentation; it is responsible for regulatory supervision and participates in the preparation of laws and regulations via the CNEA (National Commission on Animal Experimentation).

In 2007, the DAF became increasingly involved in the management and supervision of ANR programs. It also developed the activity of management audit and control, and worked on providing headquarter and regional administrators with a document base that includes all instructions, internal notes and procedures pertaining to the Institute’s finance and accounting (SPEED application).

Partners in 2007

In addition to maintaining relations with the responsible ministries and the public or private organizations that provide or allocate funds, the DAF has links with its counterparts in other public scientific and technological institutions (EPSTs) such as the ANR1, CEA2, INCa3, regional government bodies, institutions of higher education, hospitals, the European Union and various associations (AFM4, FRM5, ANRS6, Sidaction7, etc.), and partners in the many agreements concluded for financial support or scientific collaboration.

More specifically, the BEA works with representatives of industrial research through GIRCOR, the National Commission on Animal Experimentation and the permanent representation of France to the European Union.

1 - Agence nationale pour la recherche (National Research Agency).
2 - Commissariat à l’énergie atomique (Atomic Energy Commission).
3 - Institut national du cancer (National Cancer Institute).
4 - Association française contre les myopathies (French Myopathy Association).
5 - Fondation pour la recherche médicale (Medical Research Foundation).
6 - Agence nationale pour la recherche sur le sida et les hépatites (National Agency for AIDS and Hepatitis Research).
7 - Action against AIDS.
The procurement contract office, for its part, has consolidated its partnership with the other EPSTs and institutions of higher education concerning procedures for the procurement and renewal of common contracts in order to ensure more rational purchasing for the Institute.

**Prospects for 2008**

The application on 1 January of the reform concerning scientific purchases and the change in the Institute’s fiscal regime (return to full deductibility of VAT) are priority issues for the DAF in 2008.

Other priorities are the implementation and deployment of modern payment methods (credit cards) for a maximum number of entities and beneficiaries. These actions will need to be combined with procedures for the dematerialization and simplification of order and invoice processing with the automatic integration of information into the management system.

Altogether, these measures should facilitate decentralization and the improvement of procedures, to the advantage of all Inserm structures, especially units and centers, which will gain further autonomy to manage their own means. Working toward this objective must of course involve an additional effort, also planned for 2008, in order to provide the community of users with access to electronic instructions and request forms that are perfectly suited to the needs and expectations of each user.

In addition to these priorities, work must be pursued to reconcile the assets statement and general accounting, as well as assess property in the various units by the implementation of a physical inventory.

For animal experimentation, the aim is to increase the efficacy of ethical evaluation of protocols by setting up a mechanism of local ethics committees in addition to regional committees.

Achieving these goals comes in addition to the department’s permanent concern to simplify financial management at all levels of the Institute. Departmental participation in all current thinking and action in collaboration with other EPSTs, responsible ministries and other partners is always of the essence in order for the department to contribute actively to all efforts toward increased efficiency and rationalization of management, in particular for the benefit of the Institute’s researchers and scientific structures.
MANAGING LEGAL AFFAIRS

The mission of the Legal Affairs Department (DAJ) is both transversal and generalist in nature. This being the case, its activity concerns all departments, delegate administrations and research entities of Inserm.

Major Missions

- determine and disseminate the legal elements necessary for Inserm to accomplish its missions, remain consistent in its approach to legal affairs, and defend its interests.
- To this end, the department is organized into four thematic poles (partnerships, structures, biomedical research law, and litigation) and one mission (donations and bequests); 
- act as the secretariat for Inserm’s Board of Directors.

Activities in 2007

The DAJ confirmed its involvement in the development of tools for the structuring of research and the biomedical research system. The department participated in the development of legal tools that are the basis for scientific cooperation: articles of association, rules of procedure and multi-annual agreements. It works in close collaboration with Inserm Transfert to prepare consortium agreements for research projects supported by organizations such as INCa1 and the ANR2 or local and regional authorities. The department monitors compliance with regulatory provisions in the area of biomedical research and bio-ethics. It participates in relevant training programs set up by the Department of Human Resources and the DRCT3 department. It contributes to the structuring of the new mechanism applicable to biological resource centers and, together with the DRCT and Paris Public Hospitals (AP-HP), was involved in drafting the charter on the collection, storage, preparation and use of human biological resources. The department has participated in the establishment of the GIP ARRONAX Cancer poles of the Grand-Sud-Ouest and the Grand-Ouest regions, as well as Scientific Interest Groups with national impact (GIS for the production of indicators on the research and innovation system, GIS for the coordination of life sciences platforms, etc.). It was also involved in the development and establishment of European and international associated laboratories as well as units based abroad, in collaboration with the DPRE4 and DRI5 departments. The department is responsible for the management of donations and bequests: in 2007, Inserm received 147,000€ in donations and 111,500€ in bequests. The department participated in developing the portfolio of Inserm patents. In collaboration with the DISC6, it advises about the negotiation and drafting of contracts required for the publication of specialized or popular scientific works in research areas supported by the Institute. The DAJ also continues to work on the dissemination of legal information to the scientific community and the general public via management of its web site. Finally, the department engages in activities related to litigation and the defense of the Institute’s interests.

Prospects for 2008

The DAJ will continue its efforts to rationalize the structuring of research, in line with the determination of the new Directorate General, in order to accompany the development of research partnerships both nationally and internationally, and ensure the reworking of internal procedures with a view to achieve further modernization and simplification.

1 - Institut national du cancer (National Cancer Institute).
2 - Agence nationale pour la recherche (National Research Agency).
3 - Département de la recherche clinique et thérapeutique (Department of Clinical and Therapeutic Research).
4 - Département de la politique régionale et européenne (The European and Regional Policy Department).
5 - Département des relations internationales (Department of International Relations).
6 - Département d’information scientifique et de communication (Department of Scientific Information and Communication).
MAJOR MISSIONS

• conceive the information system scheme and implement projects;
• develop a quality approach for handling information; help optimize the management process and its consistent integration into the management system used by the Institute;
• define and manage data guidelines;
• ensure the computerized production of information and manage the network of regional information system managers working with delegate regional administrators;
• ensure secure operation of the networks and its applications.

Activities in 2007

The evolution of national applications remains, along with the modernization of computer information infrastructures and networks, the essential activity of the DSI. The three major management systems, SAFIr (financial management), Gaia (management of engineers’ and technicians’ careers), and GEP (management of calls for proposals managed by DAPS in partnership with ANR), have been redesigned or upgraded. For most of the applications, a rationalization of their maintenance is planned, covering the three categories of maintenance, namely correction, adaptation and evolution.

The investment program was continued at the Auteuil site in order to ensure recovery of activity in case of a breakdown at the Villejuif production site.

The regional managers of the information system have carried out a modernization of site networks and renewed the material in current use. They have also ensured the technical compliance of existing messaging systems to prepare for the new unified messaging system and the migration of accounts initiated at the end of the year. This action will continue during the first semester of 2008.

A notable achievement in 2007 by the Mission of information system security was the publication of the policy manual for information system security. This document, signed by the Director General, is the cornerstone of any action in this field.

Prospects for 2008

In addition to the conduct or guidance of projects it has been entrusted with by client departments, the DSI has defined three priorities for 2008, as a prolongation of actions previously carried out:

• reinforcement of the process of information system urbanization: this approach, called Oasis, consists in developing applications usable in several areas (Ariane project), aimed at providing interfaces with existing applications and using common data guidelines; to this end, the DSI is opening an “office of project management engineering” for the study of new projects and developments;
• industrialization of the maintenance and technical support for national applications: rather than multiplying specific services for each application, the DSI is moving toward overall third party application maintenance and is setting up a “central service option” available to all DSI clients; for internal purposes, it is implementing a service continuity plan (including rapid restoration of activity in case of a major breakdown) and is continuing to analyze the process and setting up of quality control in view of ISO 9000 certification;
• modernizing the networks and related services; pursuing the renewal of the current equipment of networks run by Inserm; providing generalized broadband access; deploying a unified messaging system; setting up tools for authentication and access security, and a web-based video conferencing system.

FOCUS: LAUNCHING OF ARIANE

Every year, the units used to submit their requests for means and would update their outside funding and international cooperation by sending files via e-mail. Today, Ariane provides electronic forms on the Internet throughout the year, which can shuttle between several people in the unit until they are duly completed. After validation, they are submitted to the regional administration, which validates them and sends them on to central administration, without unnecessary rewriting. This new information collecting software is scheduled to be generalized.

The Information Systems Department (DSI) proposes, develops and maintains a secured and coherent architecture of all the information necessary to the management of the Institute.
MANAGING TECHNOLOGY TRANSFER IN A COMPETITIVE WORLD

Inserm Transfert SA is responsible for knowledge management and technology transfer. In collaboration with Inserm’s regional bodies and departments, Inserm Transfert organizes all forms of collaboration between research units and industrial partners to promote the development of health products derived from Inserm discoveries.

MAJOR MISSIONS

• prospect and identify research projects with a strong potential for applicability, in collaboration with research units, as well as with the DAPS¹ and DES²;
• manage intellectual property, particularly Inserm’s patent portfolio;
• carry out maturation studies (establishment of proof-of-concept), particularly in the pre-clinical phase;
• ensure technological transfer through license contracts and industrial partnerships;
• assist researcher-entrepreneurs as part of the Innovation Law of 1999 and for the creation of young innovative companies in the health sector;
• manage clinical studies, especially phases 1 and 2, and phase 4 (post-marketing authorization) studies, in collaboration with the DRCT³;
• prepare and manage multipartner research projects at the national (within competitiveness clusters) or international level (within the FPRD), in collaboration with the DPRE⁴ and DR⁵;
• organize calls for institutional or industrial projects.

Activities in 2007

2007 was the year of stabilization of the new structure, Inserm Transfert, conceived on January 1st, 2006. Recruitment was accomplished, and organization of the structure and operating procedures were set up according to the missions entrusted to Inserm Transfert as part of its knowledge management mandate on behalf of Inserm. Finally, synergies and consistency with the central departments and Regional Delegate Administrations of Inserm have now been established.

In line with its mission, Inserm Transfert focused its efforts on managing the added value of antibodies and biomarkers. Moreover, an enumeration of research tools produced by Inserm laboratories was launched in order to optimize access to this wealth of resources by the whole scientific community. Furthermore, Inserm Transfert, in partnership with DPRE, achieved a 33% success rate in the first call for proposals of the FP7 (i.e. twice the average success rate).

2006-2007 Evolution of Inserm Transfert activity

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual property</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patent families in the</td>
<td>622</td>
<td>652</td>
</tr>
<tr>
<td>portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Declarations of</td>
<td>122</td>
<td>145</td>
</tr>
<tr>
<td>inventions studied by</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patent applications</td>
<td>40</td>
<td>65</td>
</tr>
<tr>
<td>filed by IT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contracts (turnover)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R&amp;D Collaborations</td>
<td>10 M€</td>
<td>10 M€</td>
</tr>
<tr>
<td>Licences</td>
<td>4 M€</td>
<td>5 M€</td>
</tr>
<tr>
<td>International projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research budget managed</td>
<td>35 M€</td>
<td>39 M€</td>
</tr>
<tr>
<td>Corresponding Inserm</td>
<td>2,1 M€</td>
<td>2,4 M€</td>
</tr>
<tr>
<td>budget</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project maturation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projects funded by ANR</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>(EMPB* call for proposals)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ - Département d’animation et partenariats scientifiques (Department of Scientific Strategies and Partnering).
² - Département de l’évaluation scientifique (Department of Scientific Evaluation).
³ - Département de la recherche clinique et thérapeutique (Department of Clinical and Therapeutic Research).
⁴ - Département de la politique régionale et européenne (The European and Regional Policy Department).
⁵ - Département des relations internationales (Department of International Relations).

* Emergence et maturation de projets de biotechnologie à fort potentiel de valorisation (Emergence and maturation of biotechnology projects with high added value potential)
Finally, Inserm Transfert has invested in two start-ups via its subsidiary Inserm Transfert Initiative: Neorphys specializes in the development of morphine derivatives for the treatment of pain and disorders of the female libido; Neurokin specializes in the development of CDK (cyclin-dependent kinase) inhibitors for the treatment of cerebrovascular incidents. In the area of company creation in 2007, Inserm Transfert intensified its assistance to company-founding researchers concerning different aspects of management, pre-clinical and clinical development strategy, and financial strategy.

**Focus: Antibodies with a Strong Potential**

During 2007, Inserm Transfert emphasized the identification, description and commercial preparation of antibodies derived from Inserm research and presenting a strong diagnostic or therapeutic potential. This sector, a major competitive asset for Inserm, is very fruitful in terms of biomedicines.

**Developing Gene Transfer**

Bruno Pitard, a researcher at Inserm Unit 533 (Nantes) and founder of the company In Cell Art (ICA), has invented a process to improve in vivo gene transfer. This invention led to patent application n° 02 01 584, filed in the name of Inserm on February 8, 2002. A Memorandum of Understanding concerning an exclusive and worldwide operating license for the patent portfolio resulting from this application was signed on March 19, 2007 between Inserm Transfert and the company ICA. This company specializes in the development and added value management of products for the intracellular delivery of biological macromolecules for research, diagnostic and therapeutic applications. It is particularly interested in the development of new products for human and veterinary therapeutic use in the treatment of hemophilia and anemia. Moreover, ICA proposes services based on this same patented technology for intracellular delivery of genes in vivo. The corresponding license agreement has been concluded between Inserm Transfert, the University of Nantes and the company ICA.

**Prospects for 2008**

The objective of Inserm Transfert for 2008 is to reinforce its proximity with researchers through enhanced regional presence in the field and with research centers. In organizational terms, it will form its scientific council and pursue its consolidation efforts so as to improve the quality of service provided to researchers and business people. Inserm Transfert will maintain its efforts concerning the training of researchers in technology transfer, the proactive detection of inventions and know-how, and the maturation of projects toward industrial proof-of-concept. Inserm Transfert will also seek the financial means to increase its capacity to accompany the maturation of inventions, a crucial stage for therapeutic innovation, which is indispensable for improving the quality of the intellectual property produced and the progress of projects toward industrial development.

Lastly, Inserm Transfert will continue its efforts to establish operational partnerships with institutional technology transfer teams in France and abroad with the purpose of professionalizing and simplifying interactions in the best interests of researchers, industrial actors and patients.
### INSERM IN FIGURES - YEAR 2007

<table>
<thead>
<tr>
<th>Item</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Budget</strong></td>
<td>749.2 M€</td>
</tr>
<tr>
<td><strong>Paid personnel</strong></td>
<td>7,908</td>
</tr>
<tr>
<td>including:</td>
<td></td>
</tr>
<tr>
<td>Tenured researchers</td>
<td>2,191</td>
</tr>
<tr>
<td>Engineers and technicians</td>
<td>2,854</td>
</tr>
<tr>
<td>Contractees</td>
<td>1,806</td>
</tr>
<tr>
<td>Recruited researchers (flux 2007)</td>
<td>93</td>
</tr>
<tr>
<td>Foreign researchers (“green posts”)</td>
<td>37 (including 25 new recruits in 2007)</td>
</tr>
<tr>
<td>Engineering, Technical and Administrative Staff /ITA recruited (flux 2007)</td>
<td>141</td>
</tr>
<tr>
<td>Junior researcher contracts</td>
<td>99 (including 75 new contracts in 2007)</td>
</tr>
<tr>
<td>Avenir Contracts</td>
<td>72</td>
</tr>
<tr>
<td>Interface contracts with researchers</td>
<td>376 within hospitals (including health agencies)</td>
</tr>
<tr>
<td></td>
<td>57 within universities or veterinary schools</td>
</tr>
<tr>
<td>Interface contracts with hospitals</td>
<td>73, including 24 newly funded in 2007</td>
</tr>
<tr>
<td>Espri contracts²</td>
<td>19, including 5 newly funded in 2007</td>
</tr>
<tr>
<td>Eury (European Young Investigator) laureates</td>
<td>7 earmarked, including 1 newly funded in 2007</td>
</tr>
<tr>
<td>ERC³ Laureates</td>
<td>6</td>
</tr>
<tr>
<td>PhD students financed with the regions</td>
<td>105 (including 39 new recruits in 2007)</td>
</tr>
<tr>
<td>Term contracts with Post-docs</td>
<td>105 (including 39 new recruits in 2007)</td>
</tr>
<tr>
<td>Units</td>
<td>316 as of January 1st, 2008</td>
</tr>
<tr>
<td>Units on hospital sites</td>
<td>80%</td>
</tr>
<tr>
<td>Research centers</td>
<td>25 Research centers (CDR) as of January 1st, 2008</td>
</tr>
<tr>
<td>Clinical research centers</td>
<td>54</td>
</tr>
<tr>
<td>Clinical research and public health networks</td>
<td>12 (including 7 recipients from the 2006 call for projects</td>
</tr>
<tr>
<td>2007 Publications by Inserm units</td>
<td>5,957</td>
</tr>
<tr>
<td>Patents</td>
<td>675 patents in the Inserm portfolio (including 106 filed in 2007)</td>
</tr>
<tr>
<td></td>
<td>142 declarations of invention</td>
</tr>
<tr>
<td>Industrial contracts</td>
<td>270 current R&amp;D contracts (including 176 signed in 2007)</td>
</tr>
<tr>
<td></td>
<td>210 ongoing license contracts</td>
</tr>
<tr>
<td>ANR⁴ projects</td>
<td>29,632,457 euros for 2007 programs*</td>
</tr>
<tr>
<td>Clinical trials (active file)</td>
<td>126</td>
</tr>
<tr>
<td>Coordinated European projects (6th and 7th FPRD)</td>
<td>34, i.e. 26 at the 6th FPRD and 8 at the 7th FPRD</td>
</tr>
<tr>
<td>European Associated Laboratories</td>
<td>9</td>
</tr>
<tr>
<td>Units in Europe</td>
<td>2</td>
</tr>
<tr>
<td>International Associated Laboratories</td>
<td>9</td>
</tr>
<tr>
<td>Units abroad (outside Europe)</td>
<td>4</td>
</tr>
<tr>
<td>International cooperation agreements</td>
<td>19, with 15 countries</td>
</tr>
</tbody>
</table>

* For 2007 programs with management delegated by ANR to Inserm: Physiopathology of Human Diseases; Neurosciences; Microbiology, Immunology and Emerging Diseases (MIME); and Rare Diseases, Research and Innovation in Biotechnology (RIB), Emergence and E-Rare (ERA-Net for research programs on rare diseases).