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**LEASP - Laboratoire d'épidémiologie et analyses en  
santé publique (anciennes UMRS U558 et EA 3696  
unité de pharmacoépidémiologie : évaluation du risque  
médicamenteux)**

Rapport Hcéres

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agence d'évaluation de la recherche  
et de l'enseignement supérieur

Section des Unités de recherche

## AERES report on the research unit

Epidemiology and analyses in public health: risks,  
chronic diseases and disability

From the

University Toulouse 3 Paul Sabatier

INSERM

Mai 2010



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From the

University Toulouse 3 Paul Sabatier

INSERM

Le Président  
de l'AERES

Jean-François Dhainaut

Section des unités  
de recherche

Le Directeur

Pierre Glorieux

Mai 2010



# Research Unit

**Name of the research unit** : Epidemiology and analyses in public health: risks, chronic diseases and disability

**Requested label** : INSERM and Université Paul Sabatier Toulouse 3

**N° in the case of renewal** : U558 INSERM and EA 3696

**Name of the director** : Mr ANDRIEU

# Members of the review committee

## Chairperson

Mrs Jennifer KURINCZUK, University of Oxford, Royaume-Uni

## Other committee members

Mrs Annie BACHELOT, INSERM, le Kremlin Bicêtre

Mr Dirk DE BACQUER, University of Ghent, Belgique

Mr Matteo CESARI, Université Campus Bio-Medico, Rome, Italie

Mr Loannis THEODOROU, APHP

Mrs Muriel VRAY, Institut Pasteur, Paris

**Committee members nominated by staff evaluation committees (CNU, CoNRS, INSERM and INRA CSS....)**

Mr Francis GUILLEMIN, CNU member

Mr Pierre CHAUVIN, CSS INSERM member

# Observers

## AERES scientific advisor

Mrs Dominique COSTAGLIOLA

## Research Organization representatives

Mrs Marie-Josèphe LEROY-ZAMIA



# Report

## 1 • Introduction

- Date and execution of the visit:

December 10 and 11, 2009

- History and geographical location of the research unit, and brief presentation of its field and scientific activities:

The Unit U558 was created in January 2001. It is a mixed unit consisting of INSERM and CNRS scientists and researchers from Paul Sabatier University with a strong complement of University professors (21), hospital doctors (9) and senior researchers (5), of whom two have been recruited since 2005. During the past four years two new University professors have joined and two university lecturers has been promoted to professor.

The Unit brings together the five original teams who have the common objective of research into chronic disorders and disabilities broadly combining aetiological research, assessing population impact and the evaluation of clinical interventions.

The five areas of research are :

- (I) Epidemiology and sociology of aging with a major focus on Alzheimer's disease;
- (II) Perinatal epidemiology , child development and health with a major focus on childhood disability, children at risk of disability, and adolescent health and health-related behaviour;
- (III) Epidemiology of atherosclerosis and cardiovascular disease with a major focus on risk factors and the management of cardiovascular disease in the population;
- (IV) Genomics and public health with a major focus on an interdisciplinary approach and the role of bioethics particularly in biobanking;
- (V) Cancer and chronic diseases with a major focus on social inequalities in health and primary and secondary health care.

This application also brings together the work of EA3696 Unité de Pharmaco-épidémiologie and in the proposal for the next four year this Unit will form the sixth team.



- Management team

The management team consists of the Unit Director Sandrine Andrieu (who replaces the previous Unit Director H Grandjean who will retire in August 2010) and the five other team leaders :

Team 1 : S ANDRIEU

Team 2 : C ARNAUD

Team 3 : J FERRIÈRES

Team 4 : A CAMBON-THOMSEN

Team 5 : Th LANG

Team 6 : M LAPEYRE-MESTRE

- Staff members (on the basis of the application file submitted to the AERES)

	Past	Future
N1: Number of researchers with teaching duties (Form 2.1 of the application file)	26	26
N2: Number of full time researchers from research organizations (Form 2.3 of the application file)	5	4
N3: Number of other researchers including postdoctoral fellows (Form 2.2 and 2.4 of the application file)	27	27
N4: Number of engineers, technicians and administrative staff with a tenured position (Form 2.5 of the application file)	4,4	3,4
N5: Number of other engineers, technicians and administrative staff (Form 2.6 of the application file)	9,9	9,9
N6: Number of Ph.D. students (Form 2.7 of the application file)	24	23
N7: Number of staff members with a HDR or a similar grade	25	26



## 2 • Overall appreciation on the research unit

- Overall opinion

The research of this unit, mostly conducted using epidemiologic approach, covers global research topics in many important fields of public health such as prevention, intervention, and prognosis of many chronic diseases at all ages. The researchers have produced innovative results and have made an important contribution to the public health knowledge in the past four years. All the teams are well respected members of the national scientific community and most of the teams have reached international visibility at different levels. Success in knowledge transfer and in influencing the decision of public stakeholders in practice and policy has been remarkable. The interdisciplinary approach has been a strength of the preceding four years and the project of the unit will capitalise on this. The Committee's overall view of the Unit was very positive.

- Strengths and opportunities

Several teams are using innovative approaches which are promising for further developments over the next four years.

There is a close congruence of the university research priorities with those of the Unit with well established plans for the close integration of the Unit in the next 4-year university contract.

The integration of the 6th team will unify all proficiencies in the field of epidemiology on the same University site in Toulouse further enhancing future opportunities of cross collaboration on methodological approaches and specific topics of research.

The level of excellence and the international visibility of team 4, which takes a highly original multidisciplinary approach, was considered a national strength of the Toulouse site.

The Unit has been very successful in attracting external grant income and as a consequence the teams are mainly self-supporting.

The addition of team 6 presents an important opportunity to strengthen the research of the Unit in an important area.

The team of researchers and doctoral students are very enthusiastic about their environment and interactions.

- Weaknesses and threats

The issue of the temporary positions of several members of the technical staff, and the difficulty of obtaining and/or maintain post-doc positions could threaten further development of the unit.

Each of the individual teams are quite small in the number of full-time equivalent (FTE) staff members and many of the teams are highly dependent on a single person.

To date many of the interactions between the teams have been quite informal and the value of cross-collaborations are only just beginning to bear fruit.



- Recommendations to the head of the research unit

The formulation of a general mission statement defining the objectives of the unit should help the teams to further explore their commonalities, unify the teams and increase the visibility of the project.

Enhancing the collaboration and sharing methods across teams represents a major opportunity of the next 4 years and the Committee suggests that the Unit consider developing one or two fully collaborative projects across the teams.

Due to the relative lack of technical support resources, the Committee thought that full integration and mutualisation of information technology (IT) systems, technical support for sharing common procedure and research assistants should be considered. This has been successfully achieved for statistics in tiers-Mip. This is a point for consideration by the Unit director and team leaders, taking into account issues of local organisation and the relationship with hospital IT systems and support.

In order to attract and retain high quality staff for data management and analysis on permanent contract, the University and/or INSERM and/or external grants should provide financial support for a senior biostatistician and technical support posts.

One important area of development would be to further capitalise on recent achievements and plans in the Unit in the area of health economics.

- Data on the work produced :

(cf. [http://www.aeres-evaluation.fr/IMG/pdf/Criteres\\_Identification\\_Ensgts-Chercheurs.pdf](http://www.aeres-evaluation.fr/IMG/pdf/Criteres_Identification_Ensgts-Chercheurs.pdf))

A1: Number of permanent researchers with or without teaching duties (recorded in N1 and N2) who are active in research	30
A2: Number of other researchers (recorded in N3, N4 and N5) who are active in research	23
A3: Ratio of members who are active in research among permanent researchers [(A1)/(N1 + N2)]	30/31
A4: Number of HDR granted during the past 4 years	6
A5: Number of PhD granted during the past 4 years	21

### 3 • Specific comments on the research unit

- Appreciation on the results
  - Relevance and originality of the research, quality and impact of the results

Research results have had a significant impact on public health decisions, with the production of guidelines, and a good level of involvement of team members in public bodies which influence health policy and practice.

Several teams have reached a high enough level to take the lead in multicentre projects so as to improve the balance of author position in publications.





- Number and quality of the publications, scientific communications, thesis and other outputs

All the teams have been highly productive and their productivity has increased over the past four years. The Unit has produced a large number of publications in high quality general medical and speciality journals and some general journals for epidemiologist, as well as books for researchers in social sciences.

- Quality and stability of partnerships

The teams are all extremely well integrated into local clinical services enabling them to have a considerable positive influence on the delivery of evidenced based services. The Unit is highly regarded by the University and there is a very close congruence between the University research priorities and the Unit research themes.

- Appreciation on the impact, the attractiveness of the research unit and of the quality of its links with international, national and local partners
  - Number and reputation of the prizes and distinctions awarded to the unit members, including invitations to international conferences and symposia

Some of the teams have established recognition at the top international levels, as evidenced by the number of invitations received for conferences.

- Ability to recruit top-level scientists, post-docs and students, and more particularly from abroad

Some top quality recruitment occurred in the past 4 years, but there are difficulties in maintaining potentially excellent candidates, with the recent departure of 3 researchers (2 for retirement) and 3 post-doc/students. There are two relevant masters degrees run in Toulouse to which the Unit staff makes an important teaching contribution. The masters programme is an excellent source of PhD candidates.

- Ability to raise funds, to successfully apply for competitive funding, and to participate to scientific and industrial clusters

All teams are successful in attracting competitive research grants and research contracts from public and charitable bodies at national and/or international level, and therefore to raise significant amounts of research income.

- Participation to international or national scientific networks, existence of stable collaborations with foreign partners

The members of the Unit have a very good level of successful involvement with international collaborations, for example EU networks. Several of these are long standing collaborations which have been able to attract funding, for example several EU grants, over a long period.

- Concrete results of the research activity and socio-economic partnerships

Many of the teams have made, and continue to make, a significant impact on public health plans (Alzheimer disease, cancer, rare disease, cardiovascular diseases, nutrition, drug abuse, childhood disability), and have close collaborations with relevant regulatory agencies.



- Appreciation on the strategy, governance and life of the research unit
  - Relevance of the unit's organization, quality of the governance and internal and external communication

The unit has a sensible organisational structure with the 6 teams working in the same site plus some hospital satellite sites. Regular informal and formal meetings are held both within and between the teams in the unit. Some of the teams have strong organisational structures and communication with the public. While the physical space is rather old and would benefit from some refurbishment there is sufficient space and facilities for all researchers and doctoral students as evidenced by all doctoral students have a dedicated desk and computer.

- Relevance of initiatives aimed at scientific coordination, emergence of cutting edge projects and taking of risks

Alzheimer's disease has more recently emerged as the central research topic for Team 1. Team 4 has developed an innovative combination of genetic epidemiology and bioethical analysis of genomic practices, biobanking and public health. Team 5 is planning to develop life course epidemiology. By doing so, these teams are taking risks and should be encouraged in these innovative initiatives

- Involvement of the unit's members in teaching activities and in organizing research at the local level

The unit is recognised locally and is fully accounted for in the next 4-year development plan of the university in close connection with canceropole, gerontopole, and other hospital and university sites.

The unit makes a substantial contribution to the master in public health with 2 specialities in clinical epidemiology and in health management. Most of the researchers are involved in this teaching programme. This provides a good 'breeding' ground for high quality doctoral candidates.

- Appreciation on the project
  - Existence, relevance and feasibility of a medium- or long-term scientific project

Overall, the project for the next four years is very good. Teams have evolved to meet the challenges of the current research environment and have identified a scope covering the next important research questions in their field.

The quality of the teams, despite being moderate in size, has guaranteed some good to excellent outputs. Several cohorts and databases are already collected or ongoing, representing a precious research resource which needs to be capitalised upon. Therefore, reinforcement of analytical staff would not only guarantee the feasibility, but will also improve the Unit's capacity to make maximum use of the data they have already invested much effort in collecting; to not do so would represent an enormous lost opportunity.

To make the most of the data available and the project as proposed requires further investment in statistical analysts and a senior biostatistician to lead analytical developments in several aspects of the Unit's work.

- Existence and relevance of a resource allocation policy

Available resources seem to have been allocated appropriately. New staff have been recruited to meet clearly identified need.



## – Originality and risk-taking

This is a public health unit headed by epidemiologists undertaking, in a multi-disciplinary environment, a good balance of research to investigate fundamental questions alongside more pragmatic applied questions of major public health importance.

Primary prevention and the evaluation of complex intervention programmes are difficult to implement, difficult to evaluate and are risky propositions. That the researchers in this Unit have not avoided such projects because of their complexity is one of the merit of both the previous and future research programme and represents an appropriate and important level of risk-taking.

A close collaboration exists with clinicians for clinical epidemiology, with sociologist, and psychologist for social epidemiology, and bioethics.

The quality of the research outputs to date has guaranteed the success of the teams, has doubtless contributed to their success in obtaining research fundings and provides reassurance as to their likely success in the future.

## 4 • Appreciation team by team

**Team 1:** Aging and Alzheimer disease : from observation to intervention

**Team leader:** S. ANDRIEU

- Staff members (on the basis of the application file submitted to the AERES)

	Past	Future
N1: Number of researchers with teaching duties (Form 2.1 of the application file)	6	6
N2: Number of full time researchers from research organizations (Form 2.3 of the application file)	0,5	0
N3: Number of other researchers including postdoctoral fellows (Form 2.2 and 2.4 of the application file)	5	5
N4: Number of engineers, technicians and administrative staff with a tenured position (Form 2.5 of the application file)	1	1
N5: Number of other engineers, technicians and administrative staff (Form 2.6 of the application file)	1	1
N6: Number of Ph.D. students (Form 2.7 of the application file)	2,5	2,5
N7: Number of staff members with a HDR or a similar grade	6	6



- **Appreciation on the results**

The primary focus of the team's research interest has shifted from a general approach to aging and geriatric medicine to more specific analysis of Alzheimer's disease. This choice has particularly characterized the more recent work of the team, opening novel and unexplored research opportunities. In this new area, the team has conducted several clinical trials. Of particular relevance, is the GuidAge study, a trial for the prevention of Alzheimer's dementia in Europe assessing the effect of Ginkgo Biloba in 2,854 subjects with memory complaints (over a 5-year follow-up). Another major (currently ongoing) study is the MAPT, a trial aimed at testing the effect of a multidimensional intervention (on cognition, physical exercise, and nutrition) on 1,200 frail older persons for the prevention of cognitive decline. As well as being characterised by excellent quality and organisation, the studies proposed and conducted by the team are characterised by a high potential for direct and relatively easy implementation of findings in the daily clinical practice for older persons and, more in general, in public health.

This team has demonstrated an excellent capacity to conceptualise, design, develop, and successfully accomplish research programs in the fields of aging and geriatric medicine. This ability is documented by the high number (more than 180) peer-reviewed original articles, reviews, and scientific position papers produced in the last four years. The quality of such productivity is confirmed by the international relevance the team has been gaining over time, becoming a center of excellence and a primary reference for geriatric and gerontological research in the world. The team's output is particularly striking considering the limited number of full-time researchers.

The team is involved in and coordinates national and international scientific networks. As well as providing support to its own research activities, the primary role played in these collaborations promotes the team's visibility worldwide. The quality of the partnerships created by the team in recent years is particularly high because they are directed towards national and international centres of excellence in geriatric and gerontological research.

- **Appreciation on the impact, the attractiveness of the research unit and of the quality of its links with international, national and local partners**

This team has devoted part of its research activity to the development of scientific position papers (coordinating task forces of experts) aimed at promoting the results of geriatric and gerontological research at national and international level. In particular, special efforts have been made to encourage the standardization of assessment methods/instruments for the evaluation of older persons. In addition to the important contribution to the field, this choice has provided a high visibility of the team in the field of geriatric medicine at an international level. In fact, the key team members are all well-known in the world of geriatric and gerontological research. They are constantly an active part of the major international scientific meetings in the field, and are frequently invited to international conferences and symposia to present their work and positions. In particular, the team has published more than 180 articles in peer-reviewed scientific journals and a further 49 in journals with peer-review not listed in international databases, given 77 invited lectures and 72 oral presentations at national/international conferences, presented 49 posters at national/international conferences, and been involved/written 24 book chapters. Moreover, the team is particularly involved in the editing of several scientific books/journals. In particular, it is important to mention that Prof. Vellas is the Editor of the Journal of Nutrition Health and Aging (which received its first IF in 2008: 2.32).

The team has an excellent record of national and international fundings, both from public and private institutions aimed at financing their research activities (e.g., ICTUS, PI: Vellas, FP5; DESCRIPA, PIs: Verhey, Visser, FP5; ENIR, PI: Frisoni, FP6; INNOMED, PI: Lovestone, FP6; EDAR, PIs: Visser, Schelstens, FP6; NEUROGRID, PI: Frisoni, FP7; E-ADNI, PIs: Frisoni, Vellas, Alzheimer Association Chicago). The team has also demonstrated their ability to obtain scientific fundings from local institutions (e.g., PLASA from the Hospital Program for Clinical Research) and pharmaceutical industry (e.g., GuidAge study).

As mentioned, a major feature of the team resides in its ability to create national and international research networks to 1) promote the standardization of a multidisciplinary approach in geriatric research (e.g., Gerontonet), 2) coordinate scientific task forces of experts aimed at facing major controversies in geriatric medicine (e.g., task force on sarcopenia), and 3) develop multicenter clinical studies (e.g., the GuidAge study). All these aims are accomplished through a close interaction between the clinical and research expertises characterising the team. For this reason, results from the team's research activities are highly clinically-oriented, allowing their easy and direct implementation into daily clinical practice and, in general, to public health.



- **Appreciation on the strategy, governance and life of the research unit**

The team is composed by both clinicians and researchers, creating the optimal mix for the development of clinical studies in older persons. There are no major concerns about the protection of time devoted to research for those clinicians involved in it. The team takes particular advantage of the Master programs in clinical epidemiology and public health that the unit contributes too and several of their PhD students have completed one of the two streams of the Masters. A limitation may lie in the absence of a senior biostatistician supporting the research activities, especially to facilitate the performance of more complex analyses and in the development of new analytical methods.

Offices are located in the University buildings and in the local Hospital Purpan. Having two sites where research is conducted does not limit the team's activities. No major issues related to the team's infrastructures were noted.

Concerning the future perspectives of PhD students working in the team, it is important to mention that former students recently completing their degrees have all been permanently employed at respectable levels. The overall level of enthusiasm and positive comments made by members of the team was particularly noteworthy.

For the next mandate, the team decided to alter the focus of its research from the previous topic (i.e., "Epidemiology and sociology of aging") to more centrally focus its expertise in aging and Alzheimer's disease (i.e., the team's new project title is: "Aging and Alzheimer disease: from observation to intervention"). This choice is meritorious because it: 1) provides a clearer characterisation of the team's interest (from a global approach to geriatric research to a more specific aspect of it); 2) allows the implementation and expansion of their experience gained during the previous years (especially on nutrition and sarcopenia) in a novel field of research; 3) demonstrates the capacity/maturity of the team to face risky decisions for the growth of research knowledge (it is noteworthy in this context, how difficult it is to conduct research in Alzheimer's disease patients due to problems of assessing willingness to participate, compliance of participants/caregivers, ethical issues etc.). Finally, it is important to highlight that research on Alzheimer's disease by adopting a geriatric and innovative approach (i.e., particular focus on primary prevention) as proposed by the team is extremely promising.

Other teams in this unit share common interests with Team 1 (especially Teams 3, 5, and 6). The level of interactions with other teams is currently under development, and mainly informal. Increasing and strengthening the collaboration across teams, as well as improving the overall unit's results and visibility, is likely to result in possible solutions to common issues being found (e.g. limited human resources).

All the team members are involved in teaching activities and the supervision of PhD students. The team is very open and active at the local level having produced studies involving, for example, general practitioners, nursing homes, and hospitals in the area of Toulouse and, more generally, in France.

- **Appreciation on the project**

As mentioned, the team will change the aim of its research in this new mandate. The new topic is innovative and will fill a gap in current knowledge. In fact, research aimed at evaluating Alzheimer's disease from a geriatric point-of-view with special attention to preventive medicine is paving the road for unexplored hypotheses and unknown potential.

Research on Alzheimer's disease is particularly challenging. Nevertheless, the team has already demonstrated the ability to adequately work in this field. Moreover, the experience of the team has been shown by an optimal doses of self-criticism, the capacity to identify potential issues, and an ability to deal with unforeseen difficulties. In terms of the technical/logistic capacities to conduct the project, there are no major concerns. Current infrastructures, together with the presence of agreements with neuroimaging facilities, will support the successful accomplishment of the project. A formal and well-established agreement with a laboratory facility (for the handling, storage, and assessment of possible biological measures) is currently not in place. However, the team already has some external/ad hoc support for biological measurements.



- Conclusion
  - Overall appreciation

This team is an internationally recognized group of researchers devoted to aging research. The quality of the group is well-documented by the relevance of their numerous contributions in geriatric and gerontological research. The proposed project is intriguing, but at the same time extremely challenging. However, the experience and organisation of the team has the clear potential to successfully accomplish the proposed tasks, with the likelihood of producing unique data in the field.

- Strengths and opportunities

Several strengths can be identified in the team and in its project: the internationally recognised quality of the team members; the wide experience in the field of geriatric medicine and gerontology; the access to numerous national and international networks of research; the local presence through ongoing collaborations with general practitioners, nursing homes, hospitals etc of the area; the adequate infrastructures; and the high satisfaction of the team's personnel.

- Weaknesses and threats

No major weaknesses in the ongoing activities and structure of the present team were identified. The presence of a senior biostatistician providing adequate support to the team's analytical work is currently missing.

- Recommendations

The inclusion of a senior biostatistician in the team would be extremely valuable. Besides supporting ongoing research activities, this addition may facilitate 1) the adoption of more complex analytical approaches, and 2) to further strengthen the quality of the team in grant proposal submissions.

Closer formal collaborations and interaction of Team 1 with other teams (especially, teams 3, 5, and 6) might be of benefit. Combined efforts in the development of common projects might significantly increase the strength and productivity of the entire unit, while potentially facilitating the solution of shared problems (for example, limitation of human resources).



## Team 2: Perinatal epidemiology and childhood disabilities, adolescent health

Team leader: C. Arnaud

- Staff members (on the basis of the application file submitted to the AERES)

	Past	Future
N1: Number of researchers with teaching duties (Form 2.1 of the application file)	3	3
N2: Number of full time researchers from research organizations (Form 2.3 of the application file)	2	0
N3: Number of other researchers including postdoctoral fellows (Form 2.2 and 2.4 of the application file)	4	5
N4: Number of engineers, technicians and administrative staff with a tenured position (Form 2.5 of the application file)	0	0
N5: Number of other engineers, technicians and administrative staff (Form 2.6 of the application file)	1,9	1,9
N6: Number of Ph.D. students (Form 2.7 of the application file)	3	2
N7: Number of staff members with a HDR or a similar grade	2	3

- Appreciation on the results
  - Relevance and originality of the research, quality and impact of the results

This team, led by C Arnaud, has made important contributions to the fields of perinatal health, child development, and child and adolescent health in several main areas of major public health interest using a combination of standard and novel methodological approaches. Major contributions have been made in the areas of: high risk neonates, their complications and subsequent impairments and disabilities; the monitoring of a range of the most common and serious childhood disabilities using the Haute-Garonne (HG) Child Disability Register which has also led to other important lines of research; the psychosocial consequences of congenital malformations; the development and evaluation of early interventions for high risk preterm infants; more recently the evaluation of intrapartum fetal CTG traces in the prevention of disability; the evaluation of the quality of life and social participation of children with cerebral palsy which is highly original and in particular led to the development of novel methods of evaluation in this group of children who are challenging to involve in research and as a consequence are often overlooked; the health and health behaviour of adolescents with a particular interest in risk behaviours including sexual activity and the use of drugs, alcohol and tobacco; and childhood nutrition with a focus on obesity and its prevention. Importantly the team has chosen to focus on several of the key areas of public health importance in infant, child and adolescent health.



- **Number and quality of the publications, scientific communications, thesis and other outputs**

This team is highly productive, especially when the small size of the team (4.2FTE) is taken into consideration, furthermore, their productivity has increased over the past four years. The majority of their papers have been published in both high quality specialist journals with a smaller number in top international general medical journals. However, the latter must be seen in the context of the general difficulty of publishing maternity and paediatric orientated work in the top general journals. Furthermore, their publications have been highly influential in the field, particularly in childhood disability which has led to a paradigm shift in thinking about social participation of children with major motor disabilities. They have had several doctoral students as members of the team and the number is commensurate with the number of senior staff available to provide supervision and their other teaching responsibilities which are considerable.

- **Quality and stability of partnerships**

Several members of the team have been involved in a number of very long standing European collaborative networks which have been highly successful in attracting EU and other funding. Local partnerships are also numerous and important to both the ability to execute research but also in terms of the translation of research into clinical practice. Of note also is the relationship with the Regional Education Authority in Toulouse which has facilitated both access to populations of school children for the adolescent research and importantly the dissemination and implementation of findings.

- **Appreciation on the impact, the attractiveness of the research unit and of the quality of its links with international, national and local partners**
  - **Number and reputation of the prizes and distinctions awarded to the unit members, including invitations to international conferences and symposia**

The team has a good level of invitations to speak at international and local conferences which shows a good balance in the tension between concentrating on journal publications and presentation at conferences.

- **Ability to recruit top-level scientists, post-docs and students, and more particularly from abroad**

Two new researchers joined the group in the past four years, one of whom has just unfortunately left for a more senior position in Paris which will limit the future plans of the group in relation to nutrition research. In common with other teams in the Unit the retention of post-docs to the group is problematic in the absence of a stable source of funding for this key group of new researchers. The contribution of members of the team to teaching on the two Master's programmes has led to the recruitment of a healthy number of PhD students.

- **Ability to raise funds, to successfully apply for competitive funding, and to participate to scientific and industrial clusters**

The team has a very good track record in securing competitive research grants. Of note is the success in obtaining on-going funding for the H-G child disability disease register. Disease registers are problematic to fund as research funders are generally not interested in funding research infrastructure, but would prefer just to fund exciting new projects. In the area of childhood disabilities research registers are a key resource for high quality population-based research both in terms of disease surveillance but also as a source of 'cases' for population-based research of what are relatively rare conditions. Success in the European funding forum is also evident with several long-standing funded collaborations across Europe. Again this must be viewed against the background of the changing priorities of research funders overtime and the generally relatively low priority of child and adolescent health related research.





- Participation to international or national scientific networks, existence of stable collaborations with foreign partners

The major childhood disabilities and children at high risk of disability are numerically rare and as a consequence collaborative research is essential to accumulate sufficient 'cases' for studies to have appropriate power to investigate risk factors and outcomes and to evaluate interventions. The team has taken the appropriate and essential strategy of being involved in a number of long-standing international collaborations mainly focused in Europe. This strategy has been highly successful and, for example, the SCPE collaboration led to the development of the SPARCLE project which was also successful in obtaining European funding. The team is now involved in SPARCLE2 which is a natural extension of the original SPARCLE study spawned from the SCPE collaboration.

- Concrete results of the research activity and socio-economic partnerships

The research of the team has had a very important impact locally which has been facilitated by the close integration of the team with local clinical services and their satellite office in the department of paediatrics. Members of the team are involved in national organisations which develop national recommendations, particularly in the obstetric field. This is an appropriate strategy for assisting with the integration of research findings into clinical practice and national health policy formulation.

- Appreciation on the strategy, governance and life of the research unit
  - Relevance of the unit's organization, quality of the governance and internal and external communication

The relatively small size of the team assists with internal organisation and an appropriate amount of time is devoted to team meetings and discussions which assist with the development of new projects and the successful execution of already funded projects.

- Relevance of initiatives aimed at scientific coordination, emergence of cutting edge projects and taking of risks

The team takes the strategy of making the most of national plans and research initiatives and always ensure that they respond to specific calls for research in the field. Their involvement in local and national networks ensure that they are in a good position to capitalise on such calls when they involve paediatric and adolescent health. The past four years have seen increasing involvement with other teams in the Unit in ways which might need seem obvious from the outside, when one considers that the Unit has teams dealing with both ends of the age spectrum and disease groups (eg cardiovascular disease) which are of limited immediate importance to child health and development.

- Involvement of the unit's members in teaching activities and in organizing research at the local level

The team is heavily involved in the teaching of two Master's programmes and although this takes up a lot of time it is a highly fruitful source of well trained PhD students. The team makes an important contribution to local research. Of note the H-G child disability register is a very important local research resource as well and being one of only two such registers nationally.



- Appreciation on the project
  - Existence, relevance and feasibility of a medium- or long-term scientific project

The future plans of the team build on their strengths to enable them to take important new project forward. The team has at its disposal large quantities of valuable research data and it is important that they have the resources to capitalise on the value of these data in terms of analysis and publication. Their future plans are relevant, feasible and deal with important questions in the field of child and adolescent public health and also highlight new collaborative developments, for example the work with Team 6 on drugs in pregnancy which is an extremely important innovative new development.

- Existence and relevance of a resource allocation policy

In common with several of the other teams the rate limiting resource for this team is the relatively small number of full-time equivalent staff. They deal with this in a highly appropriate way by ensuring that they focus on a number of key issues rather than trying to spread their expertise across the whole field of maternal, infant, child and adolescent health and health behaviour. This is a very sensible and commendable strategy.

- Originality and risk-taking

The team is planning to continue to work in key areas using an appropriate mixture of standard and innovative methodological approaches. Working with new groups such as adolescents with serious to profound disabilities is an example of an important but risky novel approach.

- Conclusion

- Overall appreciation

Despite its small size (4.2FTE) this team has made a very important contribution in several key areas of infant, child and adolescent health. They have developed several novel methodological approaches, for example, whilst working in the new and challenging environment of social participation and quality of life of children with serious to profound disabilities. At the same time they have ensured the continued funding of long-term research infrastructure. Their future plans build on their strengths but also demonstrate new departures as they follow important new lines of enquiry, for example the involvement of this team with the pharmacoepidemiological project on the use of drugs in pregnancy in their collaboration with Team 6.

- Strengths and opportunities

Their strengths include: their long-standing productive collaborations, locally, nationally and internationally; the fact that they are well embedded in the local clinical environment which ensures that their research is highly clinically relevant but also that the results can be translated into clinical practice quickly; the involvement of relevant multi-disciplinary stakeholders in the development and execution of their research; the amount of valuable research data already available to them; their ability to secure research funds for child related research in a highly competitive funding environment which places relatively a low value on child health related research; their focus on key research areas of public health importance and their development of excellence in these fields rather than becoming too diversified and thus ineffectual; whilst at the same time remaining open to important new and exciting developments, for example the pharmacoepidemiological collaboration with Team 6.

- Weaknesses and threats

In common with other teams in the Unit the relatively small size of the team is a potential threat since one consequence of their small size is the fact that they are highly dependent on individuals. For example the departure of Professor Ahluwalia has compromised their capacity to further develop the specific nutrition strand of their work.



– Recommendations

In common with other teams the addition of further permanently funded statistical and analytical posts would greatly enhance the work of this team which has more data than the team members can reasonably exploit in the next four years. This would also enable the group to continue to develop novel analytical approaches and to use high level statistical methods.

**Team 3: Epidemiology of Atherosclerosis and Cardiovascular Disease: Risk Factors and Management of Cardiovascular Disease in Populations**

**Team leader:** M. Jean FERRIÈRES

- Staff members (on the basis of the application file submitted to the AERES)

	Past	Future
N1: Number of researchers with teaching duties (Form 2.1 of the application file)	3	4
N2: Number of full time researchers from research organizations (Form 2.3 of the application file)	0,5	1
N3: Number of other researchers including postdoctoral fellows (Form 2.2 and 2.4 of the application file)	1	1
N4: Number of engineers, technicians and administrative staff with a tenured position (Form 2.5 of the application file)	1	0
N5: Number of other engineers, technicians and administrative staff (Form 2.6 of the application file)	0,8	0,8
N6: Number of Ph.D. students (Form 2.7 of the application file)	2	2
N7: Number of staff members with a HDR or a similar grade	3	3

- Appreciation on the results
  - Relevance and originality of the research, quality and impact of the results

The team 'Epidemiology of Atherosclerosis and Cardiovascular Disease' has made a major and relevant contribution to the study of cardiovascular diseases in the general population from its early subclinical stage to its progression to overt disease. This work is very well recognized both on a national and an international level and their particular analytical epidemiological work on the role of bacterial endotoxins in the pathophysiology of the metabolic syndrome and the development of carotid atherosclerotic plaques is regarded as challenging and innovative. Moreover, the team's work on the evaluation of clinical practice regarding the management of cardiovascular disease may have an important societal impact and can help decision- and policy-makers to optimize their strategy in the field of preventive medicine.

- Number and quality of the publications, scientific communications, thesis and other outputs

Based on their original research as well as their collaboration with other national and international partners, the team is consistently producing a considerable number of manuscripts and communications. Most papers have been published in highly ranked scientific journals in the field and the team members and their PhD students regularly present their work at major national and international scientific meetings. In the epidemiological cardiovascular research scene, the quality of this output can be regarded as exemplary.



- Quality and stability of partnerships

The team is involved in national and international networks that are known in the field as stable and of high quality. For instance, their established partnership within the WHO MONICA network has been active for over 25 years.

- Appreciation on the impact, the attractiveness of the research unit and of the quality of its links with international, national and local partners
  - Number and reputation of the prizes and distinctions awarded to the unit members, including invitations to international conferences and symposia

The head of the team, Jean Ferrières, has been invited over 50 times in the past four years to give lectures on cardiovascular epidemiology and prevention at national as well as international meetings while other team members have received important research awards. For instance, a junior researcher of the team has recently received the prestigious Young Investigator Award at the annual congress of the European Society of Cardiology.

- Ability to recruit top-level scientists, post-docs and students, and more particularly from abroad

During the past 4 years, the team was joined by a high level researcher from the United States in the field of nutritional epidemiology and has recruited and supervised several doctoral students of whom some have defended their PhD thesis successfully in the meantime and are currently working in a post-doctoral position in the unit or elsewhere.

- Ability to raise funds, to successfully apply for competitive funding, and to participate to scientific and industrial clusters

During the past 4 years, the team has sufficiently proven its ability to raise funding to conduct cross-sectional and prospective cohort studies (EVADEC, VAIOMER) whose scientific value can be judged from the high number of publications in the field. Importantly, the unique acute coronary syndromes register of the Toulouse region that was started in 1985 is continuously funded through their efforts and support. Moreover, the team succeeded in finding the financial means to set up an interventional trial (PROMS) that will soon be started.

- Participation to international or national scientific networks, existence of stable collaborations with foreign partners

The team's research value is also made possible through its close cooperation with other public health centres both in France and abroad. Building on existing networks and partnerships in the field of both the primary and secondary prevention of cardiovascular diseases, team members have been actively participating in several international initiatives (WHO-MONICA Project, MORGAM Study, CEPHEUS Study) and have played a prominent role in other projects (PRIME Study, MONA LISA Study). These collaborations have proven to be solid and should enable them to be involved in national and international projects, in response to new project calls.

- Appreciation on the strategy, governance and life of the research unit
  - Relevance of the unit's organization, quality of the governance and internal and external communication

Given the small size of the team, these issues may seem less relevant. Nevertheless, the team seems well organized and meets at regular times. Although all working on the central theme of cardiovascular disease epidemiology and prevention, team members get sufficient opportunities to explore and develop other related research topics, which is quite positive as it stimulates creativity in conducting research.



- Relevance of initiatives aimed at scientific coordination, emergence of cutting edge projects and taking of risks

As mentioned earlier, most team members have sufficient experience in coordinating and conducting research programs to make sure that these projects will reach the aimed objectives. For instance, the innovative and challenging idea of dental infections as risk markers for cardiovascular disease has already proven to be sufficiently sound from a methodological as well as a conceptual point of view as evidenced by some of the papers.

- Involvement of the unit's members in teaching activities and in organizing research at the local level

As regards teaching, the team is involved in running several master programs (Master in Public Health, Master in Clinical Epidemiology). Team members are responsible for teaching (methodology in clinical research and epidemiology, health prevention, basic biostatistics) and for supervising and providing continuing scientific and administrative support for several students at the master and doctoral level. Moreover, the team is very active in providing continuing medical education (CME) at a regional and national level and has written a large amount of CME articles for general practitioners and cardiologists.

At a local level the participation in organizing and supervising research in the field of cardiovascular prevention is established through strategic memberships of several health organizations and authorities (eg. Board of the cardiovascular disease program in France, Board of the French Society of Cardiology, President of the French Heart Foundation for Southwest of France).

- Appreciation on the project
  - Existence, relevance and feasibility of a medium- or long-term scientific project

The presented project for the years to come consists of a synergistic mixture of developing new research ideas (study of novel risk factors, e.g. with respect to the role of gram-negative bacteria in relation to the metabolic syndrome) and the maintenance and further enhancement of existing lines of research (epidemiology of coronary heart disease in France, aetiological factors in the development of atherosclerosis). This project is very relevant from a public health point of view and is feasible within the limits as described below ('threats').

- Existence and relevance of a resource allocation policy

The teams seems to have adequate experience in raising funds to assure the financial support of their research proposals.

- Originality and risk-taking

The team has sufficient maturity to ensure that the innovative elements of the project proposal are very well reflected upon and based upon scientific evidence.

- Conclusion
  - Overall appreciation

Despite its relatively small size, the team 'Epidemiology of Atherosclerosis and Cardiovascular Disease' has made a major and highly relevant contribution to the epidemiology and prevention of cardiovascular diseases in the general population through high quality publications, involvement in important local and international networks and strategic positioning during the past 4 years. Their excellent research performance provides definite motivation to continuing their support to maintain and strengthen their highly regarded position in the field.



– Strengths and opportunities

As described above, the team *excels* at cutting-edge multidisciplinary research in France and abroad. The skills, experience and striking enthusiasm of the team, and especially its head, creates a very stimulating research environment and will establish further opportunities to strengthening existing collaborations and broadening networks. Moreover, this is done without ignoring their direct research environment (university, university hospital and research unit), for instance through their active participation in the VISAT cohort study involving several other teams from the unit. This intense collaboration with other teams within the unit obviously consolidates an ideal platform for future research perspectives.

– Weaknesses and threats

As with some other teams within this unit, the team on ‘Epidemiology of Atherosclerosis and Cardiovascular Disease’ is understaffed in terms of full-time equivalent positions which might compromise the expansion of their research activities in France and abroad. In addition, most researchers of the team are both hospital practitioners and/or university professors or lecturers with everyday concerns in relation to their activities in direct healthcare delivery and in teaching.

The departure of a high-level full-time researcher, specialized in the field of nutrition, may compromise the further development of the team’s scientific work. Although he will be replaced part-time, this may prove to be a major threat in the short term.

Another major threat is represented by financial aspects as over the past few years there has been a significant reduction in funding for research conducted in the field of cardiology, in favour of cancer and emerging infectious diseases. Funding from the public sector is therefore essential to the team’s survival and continued success.

– Recommendations

As is the case for the other teams, there is an acute need for a team of statutory full-time analysts and a senior biostatistician to exploit the numerous existing databases. Concentrating the current statistical expertise in the unit will definitely not be sufficient to promote the research output to a higher level.

**Team 4: Genomics, biotherapy and public health: an interdisciplinary approach**

**Team Leader: A CAMBON-THOMSEN**

- Staff members (on the basis of the application file submitted to the AERES)

	Past	Future
N1: Number of researchers with teaching duties (Form 2.1 of the application file)	4	4
N2: Number of full time researchers from research organizations (Form 2.3 of the application file)	1	2
N3: Number of other researchers including postdoctoral fellows (Form 2.2 and 2.4 of the application file)	4	3
N4: Number of engineers, technicians and administrative staff with a tenured position (Form 2.5 of the application file)	0	0
N5: Number of other engineers, technicians and administrative staff (Form 2.6 of the application file)	0,5	0,5
N6: Number of Ph.D. students (Form 2.7 of the application file)	7	7
N7: Number of staff members with a HDR or a similar grade	4	4



- **Appreciation on the results**
  - **Relevance and originality of the research, quality and impact of the results**

The research topics of the team are relevant to the current and future status of research in genomics, but also Ethics, Law, Population Genetics, Genetic Epidemiology, and also Public Health. The scientific production of the team in the past four years in International Journals is relatively abundant, but high impact publications are rare. The team's expertise has had a strong impact on decision makers in the organization of Bone Marrow Registries in Europe.

- **Number and quality of the publications, scientific communications, thesis and other outputs**

The scientific production of the team in the past four years in International Journals is relatively abundant, but high impact publications are rare. However, it is quite difficult for the team to publish in high impact biomedical journals for two main topics (law and ethics) since the space reserved for these topics in major Biomedical Journals certainly exists, but is still limited.

They produced major communications (unfortunately not published as papers yet) which are very useful for the organisation of Bone Marrow Registries. However, the team needs to communicate more actively on the achievements of its expertise in Bone Marrow Transplantation which is a very costly activity for most Western Societies and probably a major justification for the inclusion of the team in a Unit oriented in Epidemiology and Public Health.

Another important aspect of the work of the team is its contribution to the organization of the major European Histocompatibility Conference in Toulouse in 2008.

The scientific output in Law is very difficult to evaluate since major papers are usually published in French Journals. However, this sub team has been also active in comparative approaches of different legal systems (in Europe or Worldwide).

Finally, in the area of Ethics the reputation of the group is excellent and several of its projects are actively funded by European and National Institutions. Again, a more active policy for the publication of its results should be pursued.

The number of PhD theses produced by the team is also very satisfactory.

- **Quality and stability of partnerships**

The team is very well "anchored" in European Networks in biobanking and Ethics with several recurrent collaborations. The future of Genetics seems less stable since the departure of a major contributor for a post doctoral fellowship in the USA. However, the team leader is aware about the importance of retaining this researcher, and has guaranteed that all the efforts will be made to facilitate his return from abroad at the end of his fellowship. However, if it becomes clear that this is not possible strenuous efforts will be made to recruit an alternative top quality genetic epidemiologist to fill the same position.

- **Appreciation on the impact, the attractiveness of the research unit and of the quality of its links with international, national and local partners**

The international impact of the team in Ethics is very strong. The impact of the team in Genetics was good in the last four years, but the future of this topic strongly depends on the recruitment of a young researcher since the departure of a Population Geneticist for a post doctoral fellowship clearly 'clouds' the future. However, as mentioned above, the team is aware of the importance of Dr. Gouraud for its future, and is making plans to facilitate his return.

The attractiveness of the team is also potentially hampered by its multi disciplinarity. At the same time, this peculiarity makes this team unique at National and maybe International level.



Indeed, young researchers in Ethics, Law or Population Genetics might prefer a highly specialized team or unit in order to ensure a higher published output and a more obvious career track. Nevertheless, the team seems to have no difficulty recruiting PhD students and all the former PhD students (independently of their sub team) have easily been permanently employed following graduation.

Notably, the University of Toulouse “granted” the team with a “chaire d’Excellence” for a Professor of Law from Canada for six months. However, a substantial effort should be made by the team to attract and fund younger researchers.

- **Number and reputation of the prizes and distinctions awarded to the unit members, including invitations to international conferences and symposia**

The production of the team in the field is extremely good. The main danger of this recognition is that there might be a disequilibrium between the effort members of the team put into the presentation of their work at international conferences and meetings and the effort put into scientific manuscript writing of their research for publication in peer-reviewed journals.

- **Ability to recruit top-level scientists, post-docs and students, and more particularly from abroad.**

The ability to temporarily recruit top-level scientists has been proven for the Law topic. The team also has several PhD Students who graduated in French Universities. However, the team’s ability to recruit post-docs is extremely limited and clearly undermines the future of the team.

- **Ability to raise funds, to successfully apply for competitive funding, and to participate to scientific and industrial clusters**

The team’s ability to obtain competitive research grants is excellent and most of its work is through participation in scientific clusters and networks both in Europe and beyond.

- **Participation to international or national scientific networks, existence of stable collaborations with foreign partners.**

The overall international participation of the team in national and international networks is excellent. It is the same for stable collaboration with foreign partners.

- **Concrete results of the research activity and socio-economic partnerships**

Two projects of the team funded by the EU (MADO and POSEIDON) will have a major impact on the organisation of Bone Marrow Registries in Europe. Indeed, most of the Registries are trying to orient the recruitment of potential Bone Marrow Donors in order to better match the needs of a population for a bone marrow graft in a cost-effective way. The implication and good collaboration of Immunogeneticists with Population

Genetics within the team is unique in France. However, most of these results are presented in meetings and congresses and not published in Journals, thus potentially limiting the visibility and impact of the team and their results at the International level. Furthermore, the “loss” of the team’s top Population Geneticist may put this aspect of the team’s work at risk.





- **Appreciation on the strategy, governance and life of the research unit**

The strategy of the team seems sound in terms of discovery of interesting and competitive topics in their respective fields. Unfortunately, only half of the team members were present during the visit and a formal appreciation of the feelings of the members of the team for the governance could not be drawn. The major problem for the life of the team is the lack of young researchers ready to “replace” senior members that will be leaving the team soon.

- **Relevance of the unit’s organization, quality of the governance and internal and external communication**

Team 4 does not have strong links with the rest of the Unit’s teams except in a potential collaboration with team 3. Its internal communication with other teams within the unit is thus relatively limited and at a more informal level and the expertise of the team in ethics in Biobanking and other research areas is probably not sufficiently well exploited by the other teams.

As noted above the team’s external communication would benefit from great exposure of their work in the peer-reviewed published literature. For example the team has developed methods to improve the recruitment of bone marrow donors which have been extensively presented at conferences but have not yet been published in the literature, thereby, limiting the impact of this important work.

- **Relevance of initiatives aimed at scientific coordination, emergence of cutting edge projects and taking of risks**

The scientific coordination of the team is unique. Indeed, it is a multidisciplinary team including genetists, ethicists, jurists/lawyers and sociologists. This might lead in the future to the emergence of several cutting edge projects, but it is unlikely that all the different sub topics will all be highly productive. Among the numerous projects proposed by the team, we face a continuum of high to low risk projects which is difficult to summarise as a whole.

- **Involvement of the unit’s members in teaching activities and in organizing research at the local level**

The overall teaching activity of the team’s members is excellent. The team gives the impression of a team devoted to education and training, and both Faculty Members of the Toulouse University and Pure Researchers are very active in teaching and supervising students.

There is also a member of the team who is the local coordinator of Medical Education for young residents in Rheumatology.

- **Appreciation on the project**

- **Existence, relevance and feasibility of a medium- or long-term scientific project**

The medium or long term scientific project of the team is under the responsibility of each of the senior team members. However, the long term existence of the team is under some threat as most of the senior members of the team are towards the end of their careers. Without an aggressive policy of recruitment of post-docs and young professional researchers the relevance and feasibility of their proposed project may be compromised.

- **Existence and relevance of a resource allocation policy**

The resource allocation policy within the team is not a major issue for a team mostly working with documents found in Public libraries and on “computer screens”. Furthermore, they are highly successful in obtaining grant funding for projects which require funding.



## – Originality and risk-taking

The main originality of the team lies in its inter disciplinary, but this is also a huge risk. The topics of the team are numerous, and thus range in originality and their level of risk.

### • Conclusion

This team presents a challenge for an INSERM Unit due to its quite extreme multi-disciplinarity. However, the overall production of the team in the past 4 years has been quite good. Its future strongly depends on the team's ability to recruit young scientists within the next two or three years. If young scientists are recruited we will probably face a reduction in the number of topics proposed by the team and a "better" specialization which will probably render the team more productive in specific fields.

The unit as a whole needs to think and act on the future of team 4 very rapidly, since there is the big risk of losing its international visibility in Ethics and Immunogenetics quite soon.

## – Overall appreciation

The overall appreciation of the team's past is good. However, a clear reduction of the number of projects for the future will probably boost the team's productivity.

## – Strengths and opportunities

Major strengths include the team's international recognition in Immunogenetics and Ethics, and these topics should be actively pursued in the future.

## – Weaknesses and threats

The major weakness of the team is its need to attract and eventually recruit young post doctoral students in order to ensure its survival.

## – Recommendations

The team's ability to deal with complex issues in Biomedical Research is a big strength. However, the fact that the number of topics covered by the team encompasses many different disciplines is not a clear advantage. The team could be more efficient if the number of topics covered is clearly reduced in the very near future and if several people are working on the same project. Finally, the survival of a team with a good International recognition in the past clearly depends upon the recruitment of young Senior Researchers or Faculty Members with less teaching responsibility.



**Team 5:** Cancer and chronic diseases: social inequalities in health, primary and secondary access to care

**Team leader:** T LANG

- Staff members (on the basis of the application file submitted to the AERES)

	Past	Future
N1: Number of researchers with teaching duties (Form 2.1 of the application file)	5	4
N2: Number of full time researchers from research organizations (Form 2.3 of the application file)	1	1
N3: Number of other researchers including postdoctoral fellows (Form 2.2 and 2.4 of the application file)	5	5
N4: Number of engineers, technicians and administrative staff with a tenured position (Form 2.5 of the application file)	0	0
N5: Number of other engineers, technicians and administrative staff (Form 2.6 of the application file)	3,3	3,3
N6: Number of Ph.D. students (Form 2.7 of the application file)	6	6
N7: Number of staff members with a HDR or a similar grade	5	5

- Appreciation on the results
  - Relevance and originality of the research, quality and impact of the results

The research work of the team represents a good mix of epidemiological and public health approaches to the original topic of inequalities in health and access to health care. This topic is as yet not well developed from a research perspective in France, in particular there is a lack of teams approaching the issue of inequalities from an epidemiological perspective. This gives the team in Toulouse a nationally and internationally recognised position. Their results have had a significant impact on national government policy. For instance, recent public health national plans have incorporated their recommendations. The position of the team leader at the national as well as international level provides an opportunity for them to have a strong influence on public health policy.

The approach is original also in that it targets mechanisms of psycho-social factors influencing disease occurrence and outcome across 3 groups of chronic diseases (cancer, cardio-vascular diseases, HIV), at work, and in access to care. Their results have potentially important translation implication in health economics and disease prevention.

- Number and quality of the publications, scientific communications, thesis and other outputs

The team has a good level of publication. Their published output has gained increased visibility and level in the past two years with papers mainly published in specialized journals and a reasonable number in general journals. The recognition of quality is assessed by the good number of national and some international conference invitations. This level should grow further with the recent recruitment of a permanent researcher by INSERM.



- **Quality and stability of partnerships**

Locally, the team leader has created a multidisciplinary federation of about 20 research laboratories (IFERISS) which is an excellent opportunity for cross-disciplinary exchanges, fruitful for the team's research topic. It is structured in a GIS (a structure with enough flexibility for administration). At the national level, there are good and longstanding partnerships, in particular with FRANCIM (for registries), and the team belongs to an good quality informal network of national and international epidemiologists interested in socio-epidemiology.

- **Appreciation on the impact, the attractiveness of the research unit and of the quality of its links with international, national and local partners**

This team has a particular impact in knowledge transfer toward public health action. The quality of the team can be measured by the high number of student (master, PhD) that were welcomed over past the 4 years, as well as in day-to-day unit life by links with other teams in shared discussions.

The team has links with the small number of French teams in the field, and international teams on life course epidemiology, although this has not yet produced significant publications. They have strong links with other team involved in cancer epidemiology.

Like other teams in the unit, and elsewhere in France, this team experiences difficulty in keeping young scientists through a lack of funded post-doctoral posts and permanent researcher positions. However, they recruited recently a young researcher funded by INSERM, and should be commended for this success.

- **Number and reputation of the prizes and distinctions awarded to the unit members, including invitations to international conferences and symposia**

Not only senior researchers, but also younger investigators have been invited to national and international conferences. Given the small number of team members, this is a good sign of the recognition of their activity.

- **Ability to recruit top-level scientists, post-docs and students, and more particularly from abroad**

As mentioned above, the recruitment of one CR INSERM is a great success of the period, together with 2 post-doctoral researchers, and 5 PhD students. This is a good and balanced proportion compared with the research force (3 FTE)

- **Ability to raise funds, to successfully apply for competitive funding, and to participate to scientific and industrial clusters**

The team has been able to raise funds for running their research projects over the past four years. This was at a reasonable capacity at the beginning of the contract, becoming a higher capacity in recent years, with a significant contribution from the growing number of national networks in which they are involved.

- **Participation to international or national scientific networks, existence of stable collaborations with foreign partners**

The team has a good productive involvement in several network related both to public health and epidemiology. This is certainly an original aspect of their work which has important implications for their output. In particular 2 senior researchers (T Lang, P Groschalude) have taken many responsibilities at the national (FRANCIM, CNR, PHRC, DOCCOR) and international (WHO, ENCR) level.



- Concrete results of the research activity and socio-economic partnerships

In addition to direct socio-economic results, the results of the team's research activity should be viewed in an indirect way, especially in the translation of their findings in national public health plans, and the noteworthy implications of their findings for prevention.

- Appreciation on the strategy, governance and life of the research team
  - Relevance of the team's organization, quality of the governance and internal and external communication

The governance of this group mixing university members, clinicians and full time researcher demonstrates a strong organisation, with regular monthly meetings, bimonthly seminars with IFERISS lab researchers, and frequent informal links with other teams, facilitated by their closeness on the same site at the faculty of medicine.

- Relevance of initiatives aimed at scientific coordination, emergence of cutting edge projects and taking of risks

The episode of the investigation of the AZF explosion has shown some particularly striking qualities of this team, who were able to react quickly to an unplanned external event (a public health disaster) to produce rapidly an epidemiological investigation; to answer important public health questions; and to extract new knowledge on the perspective of their primary research (ie that exposure of deprived population to unexpected threats in their environment may aggravate inequalities in health). No doubt this unexpected research somewhat decreased their productivity of planned research, temporarily, but given its importance this was highly appropriate. It is also important to note that they have maintained the teams skills to respond to unexpected events demonstrating a valuable flexibility not always present in research teams elsewhere.

The quality of scientific governance stems from the team's ability to coordinate research projects calling for an interdisciplinary approach from epidemiologists, sociologist, and others, and this has resulted in original research and publications about inequalities in health, in access to health care and in work exposure.

- Involvement of the team's members in teaching activities and in organizing research at the local level

The involvement of the team's members in teaching is very high, in particular in the master programmes. The research management is well appreciated by all team members with a positive perspective on the importance of communication, and the need to attend internal scientific meetings. The environment is perceived as productive, and this is reinforced by a strong willingness to embrace interdisciplinary work, in a concrete manner through IFERISS.

- Appreciation on the project
  - Existence, relevance and feasibility of a medium- or long-term scientific project

The project on life course construction of inequalities in health is certainly the most original, and represents an innovative approach that will be shared with an English team, thanks to the access to a very large and longstanding birth cohort database. Because of the number of variables, and the uncertainty of the validity and construction of the models to be developed and the variables to be used, this project is as yet exploratory. Combining clinical and social determinants over a life course will open the exciting possibility of developing new models of understanding.

The project on secondary access to care, for example in prostate cancer, represents a very timely question, and the relationship of general physician with patients (INTERMEDE) allows a highly relevant problem to be investigated in the French model of care. Because of the generalisability of models of care across many countries, this will also have international relevance.



The project focused on methodological difficulties pertaining to their area of research is also of excellent relevance. However, the specific question of the adequacy of perceived health indicators to inequalities in risk of death probably requires further exploration and some clarification, since perceived health relates to current status.

Overall, the project of this team is relevant and is anticipated to produce important results in the coming years, and represent an appropriate investment in the longer term, with the possibility of the generation of highly innovative results over the medium to long-term.

- **Existence and relevance of a resource allocation policy**

The resource allocation policy is clear. Significant fundings have already been obtained. Researchers appreciate the liberty they have to seek additional funding. The limitation here is rather in the limitation in human resources to ensure stability of the team, in particular the need for a biostatistician with a permanent contract.

- **Originality and risk-taking**

This work is original in France in both the research topic and the epidemiological approach to be taken; this team is taking the risk of starting an ambitious project on life course epidemiology which has a great relevance to public health, it represents a long-term view and has important potential implication for prevention.

- **Conclusion**

- **Overall appreciation**

The limited size of the team makes the production and publications appreciable. The impact on public health is mostly at the national level in inequalities in health, but also at the international level in cancer and cardiovascular diseases

- **Strengths and opportunities**

The research produces results that clearly provides pay back for the public funds invested in the research of this team in terms of the impact of the results on public health nationally, but also internationally.

The recruitment of a permanent researcher in this team has already translated into a significant increase in publications, and this opportunity should be further developed in timely research on life course epidemiology. The promotion of a researcher in economics is also a good opportunity for further development in health economics which will enhance the research profile of the team and the utility of their research.

- **Weaknesses and threats**

The team has not provided leadership as yet at international level, but is greatly involved and has gained clear recognition at the national level. Taking risks in developing new approach should be supported. The involvement in IFERISS should be more highly valued, at least in the presentation.

- **Recommendations**

Integration and mutualisation of the technical staff with other teams across the unit could be an opportunity to share human resources, for example research nurses and IT support which may be to the benefit of all the teams.

An attempt of increasing publications in general medical journals with a wider readership is certainly an effort that the team has on their agenda. Innovative results and methodology deserve it.



**Team 6:** Pharmacoepidemiology, evaluation of drug use and of drug safety

**Team leader:** M. LAPEYRE-MESTRE

- Staff members (on the basis of the application file submitted to the AERES)

	Past	Future
N1: Number of researchers with teaching duties (Form 2.1 of the application file)	5	5
N2: Number of full time researchers from research organizations (Form 2.3 of the application file)	0	0
N3: Number of other researchers including postdoctoral fellows (Form 2.2 and 2.4 of the application file)	8	8
N4: Number of engineers, technicians and administrative staff with a tenured position (Form 2.5 of the application file)	0,5	0,5
N5: Number of other engineers, technicians and administrative staff (Form 2.6 of the application file)	1,9	1,9
N6: Number of Ph.D. students (Form 2.7 of the application file)	3,5	3,5
N7: Number of staff members with a HDR or a similar grade	5	5

- Appreciation on the results
  - Relevance and originality of the research, quality and impact of the results

It is proposed that Team 6 will join the Unit for the next mandate. Team 6 was previously a university research team part of Unit EA 3696 with the aim of promoting pharmacoepidemiology.

Team 6 has relevant experience in pharmacology, pharmacoepidemiology, and pharmacovigilance. In particular, its research activities are focused on the evaluation of drug use in the overall population.

There are currently few teams nationally involved in the area of pharmacoepidemiology. One of the main difficulties in this field is represented by the limited number of relevant databases and the limited access to them.

The team has already shown its ability to link data in different national databases from different specialities/origins (i.e., maternal and childcare agency, health insurance databases, antenatal diagnostic centre), and doing this using methods which respect confidentiality.

The team focuses its research on two main objectives: 1) the development of methods for the study of drug-related risk factors (especially during pregnancy), and 2) the evaluation of possible drugs abuse.

These topics are of major public health importance, and the team's findings have already been used by national health authorities to formulate suggestions or recommendations.



- **Number and quality of the publications, scientific communications, thesis and other outputs**

The number of publications and communications is relatively high, especially considering the limited experience in the field due to the relatively recent establishment of the team and the relatively small number of team members.

The choice of primarily publishing the research findings in pharmacology and pharmacoepidemiology journals (in order to obtain international recognition in the field) may have penalized the overall impact of the team. However, it is noteworthy that the impact factors of these journals are improving steadily.

Collaborations with other teams could raise the level of publications by expanding the potential spectrum of target-journals, for example in the maternal and child health area.

- **Quality and stability of partnerships**

The team is involved in national, European and international networks that can be regarded as long term and stable partnerships. National partnerships with AFSSAPS, health insurance organisations, and other partners providing access to databases will facilitate the work of the team, allowing the development of research on topics of major interest for public health. The presence of very good relationships of the team with the School of Medicine, the clinicians from regional hospitals, and researchers from other regional networks involved in the topic is noteworthy.

International partnerships have been established in the context of European projects (Eudragene, Osiap).

- **Appreciation on the impact, the attractiveness of the research unit and of the quality of its links with international, national and local partners**
  - **Number and reputation of the prizes and distinctions awarded to the unit members, including invitations to international conferences and symposia**

Several members of the team have national expertise in pharmacoepidemiology (i.e., HAS, AFSSAPS, etc). National distinctions have been awarded to the team's members.

The members' international expertise is less well developed, but progressively increasing due to their contributions to EMEA and their participation on the Editorial Boards of scientific journals in pharmacoepidemiology.

- **Ability to recruit top-level scientists, post-docs and students, and more particularly from abroad**

Most of the members of the unit are hospital and university staff (teacher-research scientists). There are no full time research associates. Seven theses were defended, and 4 are currently in progress. Fourteen Masters students have been supervised by the team. Finally, 38 dissertations were defended as part of the thesis programme of Medicine or Pharmacy.

- **Ability to raise funds, to successfully apply for competitive funding, and to participate to scientific and industrial clusters**

This team has shown its ability to raise grants from national and international public institutions.

The majority of the grants are used to support the recruitment of research assistants, data managers, and biostatisticians. Funding has been obtained from institutions such as European Community commission, AFSSAPS, ARC (national league against cancer), SAEC (Serious adverse events consortium).





- Participation to international or national scientific networks, existence of stable collaborations with foreign partners

Numerous national and international collaborations were set up within different networks. In particular, it is important to mention the OSIAP project (for which the team serves as leader group), and the EUDRAGENE project (aimed at exploring pharmacogenetics and rare adverse drug effects).

The team has also been collaborating with the London School of Hygiene and Tropical Medicine (LSHTM). Finally, the team also participates in the European network ENCePP, potentially leading to stronger collaborations in the research of population drug exposure.

- Concrete results of the research activity and socio-economic partnerships

The results obtained from the different analyses performed have a direct impact on public health leading to recommendations and suggestions by national health authorities.

- Appreciation on the strategy, governance and life of the research unit
  - Relevance of the unit's organization, quality of the governance and internal and external communication

As already indicated, this team consists of hospital university staff who have strong connections with clinicians specialised in the field. Their research activities also facilitate the promotion of collaborations with national pharmacovigilance and addictovigilance systems. For several years, the team has been working closely with the other teams of the present unit.

Both their affiliation to and the location in the hospital and university allowed them to supervise students in PhD or masters level research.

Monthly meetings are scheduled to discuss ongoing and future projects among all the team's members.

- Relevance of initiatives aimed at scientific coordination, emergence of cutting edge projects and taking of risks

Pharmacoepidemiology is a relatively new science which is poorly developed in France, despite of its major impact on Public Health. The expertise of the team in the field of pharmacovigilance and pharmacology will be crucial for the development of new methods (including innovative statistical approaches) aimed at exploring the effects of drugs prescription in the overall population.

The access to and development of databases combining clinical and drug data is of primary importance. The team has already shown its capacity to link data from different sources which will be a vital skill in taking forward the proposed programme of work. The partnerships the team have established with international institutions and other teams will facilitate the solution of the critical issues in relation to data access and linkage.

- Involvement of the unit's members in teaching activities and in organizing research at the local level

The team is involved in several teaching activities during the first and second cycle of the School of Medicine and the School of Pharmacy, Masters programmes, and at doctoral level.



- **Appreciation on the project**
  - **Existence, relevance and feasibility of a medium- or long-term scientific project**

The proposed project is fundamentally based on the team's field of expertise. The team aims to develop social pharmacology, that is the study of population behaviours in relation to medical products (including factors related to drug abuse).

This project is directly related to the other teams by providing pharmacological and pharmacoepidemiological expertise in fields such as at-risk populations (elderly, children or adolescents).

The team will develop analytical methods to examine the effects of drug exposure. These innovative approaches might be beneficial for the other teams, too. Moreover, the team may support the entire unit activities by facilitating the recruitment of permanent high level biostatisticians and data managers.

This project is very interesting and cutting edge from a public health point-of-view because it is likely to promote the release of novel public health recommendations.

- **Existence and relevance of a resource allocation policy**

The team has adequate experience in raising funds to assure the financial support for the proposed project.

- **Originality and risk-taking**

The team tackles research questions that are relatively undeveloped and of potentially high impact on public health.

- **Conclusion**

- **Overall appreciation**

This team has acquired a national recognition for its expertise in different regulatory systems and the ability to pursue studies using different databases. The establishment of recent international partnerships and collaborations with other teams in the unit will allow the team to achieve higher levels of scientific recognition and publication quality.

- **Strengths and opportunities**

Major strengths of this team reside in its very close involvement in research partnerships at local, national, and international level. The team has demonstrated the ability to efficiently combine resources from different databases with the aim of exploring and exploiting their full potential.

- **Weaknesses and threats**

The team is only composed of teacher-research scientists, with no permanent researchers. The lack of senior staff purely devoted to research personnel represents a major weakness and may partly explain the limited number of publications in high impact factor journals.

In particular, the absence of permanent senior statisticians and data managers limits the exploration of the available databases, and potentially limits the analytical approaches.



– Recommendations

Given the expertise in pharmacoepidemiology applicable to a wide spectrum of research domains, it is crucial for the team to define a clear research strategy (in particular, the development of novel research questions and methods) involving a close collaboration and interaction with the other teams most importantly to avoid becoming too thinly spread across a range of topics. The relatively small number of staff is also of consideration here since it would be very easy for the small number to become involved in too many projects leading to research at a relatively superficial level. The original research aims are highly valuable and are worth being pursued (in particular, drug effects during pregnancy and drugs abuse) provided that there is the adequate support of statisticians and data managers; these aims will build on the existing strengths of the team.

Note de l'unité	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A	A	A	A+	A

Nom de l'équipe : VIEILLISSEMENT ET MALADIE D'ALZHEIMER : DE L'OBSERVATION À L'INTERVENTION

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A+	A+	A+	A+	A+

Nom de l'équipe : EPIDÉMIOLOGIE PÉRINATALE, HANDICAP DE L'ENFANT, SANTÉ DES ADOLESCENTS

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A	A	A	A	A



Nom de l'équipe : GÉNOMIQUE, BIOTHÉRAPIES ET SANTÉ PUBLIQUE : APPROCHE INTERDISCIPLINAIRE

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
B	A	A	B	B

Nom de l'équipe : EPIDÉMIOLOGIE DE L'ATHÉROSCLÉROSE ET DES MALADIES CARDIOVASCULAIRES : FACTEURS DE RISQUE ET PRISE EN CHARGE DES MALADIES CARDIO-VASCULAIRES EN POPULATION

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A	A+	A+	A	A

Nom de l'équipe : CANCER ET MALADIES CHRONIQUES : INÉGALITÉS SOCIALES DE SANTÉ, ACCÈS PRIMAIRE ET SECONDAIRE AUX SOINS

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A	A	A	A+	A

Nom de l'équipe : PHARMACO-ÉPIDÉMIOLOGIE, ÉVALUATION DE L'UTILISATION ET DU RISQUE MÉDICAMENTEUX

Note de l'équipe	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A	B	A	A	A

Toulouse, le 29 mars 2010

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Le Président

au

Président du comité d'experts de l'AERES

**Objet : Observations de portée générale** sur le rapport d'évaluation  
de l'unité « **Epidémiologie et Analyses en Santé Publique : risques, maladies  
chroniques et handicap** » - UMRS 558  
portée par **Sandrine ANDRIEU**

Nous remercions le comité de visite pour son évaluation et ses commentaires. Notre réponse portera sur trois questions qui concernent l'ensemble des équipes et sur quelques points spécifiques à certaines équipes.

### 1/ Question du lien entre les équipes de l'unité :

A plusieurs reprises dans l'évaluation, la question des liens entre équipes est posée :

*"To date many of the interactions between the teams have been quite informal and the value of cross collaborations are only just beginning to bear fruit". (page 5, general appreciation of research unit, weaknesses and threats).*

*"Enhancing the collaboration and sharing methods across teams represents a major opportunity of the next 4 years and the Committee suggests that the Unit consider developing one or two fully collaborative projects across the teams" (page 6, recommendations to the head of the unit).*

*"Other teams in this unit share common interests with Team 1 (especially Teams 3, 5, and 6). The level of interactions with other teams is currently under development, and mainly informal. Increasing and strengthening the collaboration across teams, as well as improving the overall unit's results and visibility, is likely to result in possible solutions to common issues being found (e.g. limited human resources)". (page 11, strategy team 1).*

*"Closer formal collaborations and interaction of Team 1 with other teams (especially, teams 3, 5, and 6) might be of benefit. Combined efforts in the development of common projects might significantly increase the strength and productivity of the entire unit, while potentially facilitating the solution of shared problems" (page 12, recommendations team 1).*

*"Team 4 does not have strong links with the rest of the Unit's teams except in a potential collaboration with team 3. Its internal communication with other teams within the unit is thus relatively limited and at a more informal level and the expertise of the team in ethics in Biobanking and other research areas is probably not sufficiently well exploited by the other teams". (page 23, strategy team 4).*

*"involving a close collaboration and interaction with the other teams most importantly to avoid becoming too thinly spread across a range of topics. (page 33, recommendations team 6).*

.../...



Les collaborations entre équipes existent depuis longtemps, comme en attestent les 13 publications communes pour la période 2005-2009 (page 283 du bilan) mais elles n'ont peut-être pas été suffisamment soulignées dans le dossier.

Le développement de ces collaborations est une préoccupation importante pour toutes les équipes. Des séminaires d'échanges ont été déjà organisés dans le passé, et pour 2010 deux nouveaux séminaires ont été programmés : un séminaire réunissant l'ensemble des doctorants sur les publications et la réponse aux appels d'offre, un séminaire transversal pour l'ensemble des chercheurs sur la thématique de la nutrition.

Des collaborations formalisées entre équipes existent déjà mais sont pour la plupart limitées à deux ou trois équipes :

- une thèse de sociologie soutenue fin 2005 a été menée dans l'équipe 4 sur le consentement dans l'étude GENES (équipe 3),
- un projet financé dans le cadre d'un PHRC national (étude Eco-Mapt) est porté par un chercheur de l'équipe 5 (L Molinier) pour étudier le coût de différentes stratégies de prévention testées dans un projet (étude MAPT) porté par un chercheur de l'équipe 1 (B Vellas),
- un projet IRESP porté par P Ducournau (équipe 4) aussi bien que son contrat d'interface sur les usagers et les usages de l'information génétique dans des maladies multifactorielles s'appuient sur l'équipe 1 et l'équipe 3.

Une réflexion sur le partage des données entre équipes avait été amorcée (page 12 du bilan), la participation de l'unité au projet toulousain d'Institut Hospitalo-Universitaire "Vieillesse et prévention de la dépendance" fournit l'occasion de mettre en place un véritable projet collaboratif qui mobilisera un nombre important de chercheurs de l'unité : il s'agit de la constitution d'une cohorte à partir des sujets recrutés dans l'étude MONALISAnut (équipe 3), afin d'étudier les facteurs liés à l'entrée dans la dépendance (équipe 1). Les expertises méthodologiques présentes dans l'unité seront sollicitées pour ce projet, notamment sur les biobanques (équipe 4) et la *lifecourse epidemiology* (équipe 5). Ce projet est en cours de définition et sera également proposé à différents appels d'offre pour financement courant 2010.

Un deuxième projet collaboratif est en cours d'élaboration entre les équipes 2 et 6 sur les conséquences des expositions médicamenteuses pendant la grossesse.

## **2/ Le manque de statisticiens et de techniciens permanents et de biostatisticiens seniors**

*"In order to attract and retain high quality staff for data management and analysis on permanent contract, the University and/or INSERM and/or external grants should provide financial support for a senior biostatistician and technical support posts". (page 6, **recommendations to the head of the unit**)*

*"A limitation may lie in the absence of a senior biostatistician supporting the research activities, especially to facilitate the performance of more complex analyses and in the development of new analytical methods." (page 11, **strategy team 1**)*

*"The inclusion of a senior biostatistician in the team would be extremely valuable. Besides supporting ongoing research activities, this addition may facilitate 1) the adoption of more complex analytical approaches, and 2) to further strengthen the quality of the team in grant proposal submissions." (page 12, **recommendations team 1**)*

*"In common with other teams the addition of further permanently funded statistical and analytical posts would greatly enhance the work of this team which has more data than the team members can reasonably exploit in the next four years. This would also enable the group to continue to develop novel analytical approaches and to use high level statistical methods". (page 12, **recommendations team 2**)*

*"As is the case for the other teams, there is an acute need for a team of statutory full-time analysts and a senior biostatistician to exploit the numerous existing databases. Concentrating the current statistical expertise in the unit will definitely not be sufficient to promote the research output to a higher level." (page 20, **recommendations team 3**)*

*"The limitation here is rather in the limitation in human resources to ensure stability of the team, in particular the need for a biostatistician with a permanent contract". (page 29, **resource allocation policy team 5**)*

*The original research aims are highly valuable and are worth being pursued (in particular, drug effects during pregnancy and drugs abuse) provided that there is the adequate support of statisticians and data managers; these aims will build on the existing strengths of the team (page 31, **recommendations team 6**)*

.../...



Nous remercions le comité de visite de souligner la nécessité de renforcer l'unité par l'attribution de postes permanents de biostatistique. Nous n'avons jamais obtenu d'ingénieurs statisticiens INSERM malgré des demandes réitérées depuis la création de l'unité. L'unité a certainement été pénalisée sur ce point pour avoir accueilli des ingénieurs en reconversion qui faisait apparaître un rapport chercheur/ingénieurs relativement favorable mais artificiel puisque les domaines d'activité de ces ingénieurs (électronique, pharmacie, documentaliste) ne correspondaient pas aux priorités de l'unité. Des demandes sont encore actuellement en cours à l'INSERM.

Concernant le recours à un biostatisticien sénior, des rapprochements ont été entrepris depuis longtemps au sein de l'université avec l'Institut de Mathématiques. Un master2 Recherche est co-enseigné depuis 2005 en lien avec cet Institut. Les thèses sont réalisées dans le cadre de l'école doctorale MITT (Mathématiques, Informatique, Télécommunications de Toulouse), avec, pour certaines, un co-encadrement par un épidémiologiste de l'UMR 558 et un mathématicien. Des collaborations spécifiques sur projets existent également avec des enseignants-chercheurs de biostatistiques pour la plupart des équipes.

### 3/ La mutualisation des moyens

*"Due to the relative lack of technical support resources, the Committee thought that full integration and mutualisation of information technology (IT) systems, technical support for sharing common procedure and research assistants should be considered. This has been successfully achieved for statistics in tiers-Mip. This is a point for consideration by the Unit director and team leaders, taking into account issues of local organisation and the relationship with hospital IT systems and support" .(page 6, **recommendations to the head of the unit**)*

Nous sommes tout à fait conscients de la nécessité de mutualiser nos ressources. La formalisation a été initiée par la mise en place de la plateforme TiersMIP. Ce plateau technique est une plateforme de l'IFERISS, qui a permis de recruter, en regroupant des contrats de recherche, quatre ingénieurs statisticiens.

La plupart des ingénieurs statisticiens travaillant actuellement dans les équipes sont ainsi financés sur contrats de recherche, plusieurs d'entre eux travaillent à mi-temps pour deux équipes. Toutefois, le financement sur contrat qui implique des tâches spécifiques interdit de pousser plus loin la mutualisation.

### 4/ Commentaires spécifiques par équipe

#### Equipe 4 (A Cambon-Thomsen)

Les publications sur les aspects éthiques, légaux et sociologiques ont suivi en priorité les exigences pour les thèses dans ces disciplines. Certains travaux sont cependant parus dans des revues à fort impact (JAMA, 2008, IF = 31,7 ; EUR RESPIR J 2007 : IF = 5,5). De plus, l'éditeur de Nat Rev Genet vient de répondre favorablement à une proposition d'article de l'équipe sur le sujet « Are published data free to be used for any scientific work ? », enfin les travaux sur la polyarthrite rhumatoïde, non mentionnés dans le rapport, ont été publiés dans Arthritis and Rheumatism, (2ème revue de la discipline, IF = 7,2 ; 1 article ) ; ARTHRITIS RES THER (5ème revue de la discipline, IF = 4,5 ; 3 articles) ; Rheumatology (7ème revue de la discipline, IF = 4,1 ; 1 article). La publication dans des revues à comité de lecture des travaux sur les registres de donneurs de cellules souches hématopoïétiques a été en partie retardée par le souci d'obtenir des données de validation complémentaires, elle devrait intervenir prochainement. De plus, les résultats de ces travaux, menés de 2002 à 2005 dans le cadre du projet européen MADDO, ont trouvé un prolongement dans un projet de santé publique, également coordonné par l'équipe (projet européen POSEIDON), destiné à définir des stratégies au niveau européen.

Le Comité a souligné l'impact du congrès européen d'immunogénétique et d'histocompatibilité organisé à Toulouse en 2008 (plus de 800 participants) ; il faut aussi mentionner le Congrès mondial de droit médical organisé aussi à Toulouse par AM Duguet en août 2006 a rassemblé un nombre similaire de participants et pourrait être un argument pour apprécier l'impact dans le domaine du Droit médical des membres de l'équipe, qui organisent aussi chaque année une école européenne et un séminaire international dans ce domaine.

.../...



En ce qui concerne l'avenir de l'équipe, il faut noter que la responsable assurera entièrement le prochain mandat, son départ à la retraite ne survenant pas avant la fin 2014. Indépendamment de contacts pris pour assurer le développement de l'équipe, il faut souligner l'appartenance à cette équipe de trois jeunes chercheurs dont la qualité devrait permettre un prochain recrutement. Blandine Julaird-Condat, AHU, devrait obtenir prochainement un poste de MCU en pharmacie. Les deux autres candidats se présenteront à des recrutements d'EPST.

Pour Pierre Antoine Gourraud, plusieurs solutions sont envisagées : une Chaire d'excellence dans le domaine de la statistique génétique à l'Université Paul Sabatier ou un recrutement CR1 Inserm, appuyé sur un contrat d'interface hospitalier. La possibilité d'une « grant » ERC sera aussi considérée en fonction de l'évolution du dossier scientifique.

Emmanuelle Rial-Sebbag, post-doctorante en droit et ayant soutenu sa thèse sur la gouvernance des biobanques, candidate cette année au CNRS en sections 36 et 40 et à l'Inserm en CSS3, après avoir été financée plus de 6 ans à l'Inserm sur divers contrats. Son profil, son expérience et sa reconnaissance internationale sont très adaptés à cette équipe interdisciplinaire dont elle est un des piliers. Cependant les critères classiques de recrutement des chercheurs ne sont pas très favorables pour un bon classement de son dossier. Son recrutement nécessiterait donc une attitude volontariste des tutelles, pour un vrai soutien à l'interdisciplinarité.

Enfin il faut remarquer que l'obtention de deux contrats d'interface avec l'Inserm (l'un avec l'Université, l'autre avec l'hôpital) est exactement dans la ligne de la recommandation « recruitment of Faculty members with les teaching responsibility ».

La difficulté rencontrée par cette équipe n'est pas d'attirer des candidats sur ses thématiques, mais celle de les maintenir dans l'équipe lorsqu'ils obtiennent un recrutement pérenne ; en effet les 2 recrutements de MCU qui ont eu lieu dans la mandature se sont accompagnés d'une obligation de rejoindre des équipes dans ces disciplines, ce qui n'était pas le premier choix des candidats.

Concernant les recommandations sur la nécessité de réduire les thèmes, il faut noter que le projet comporte deux thèmes principaux. Le choix de l'équipe a été d'en faire une présentation qui mette en évidence les apports de chaque discipline, ce qui a pu donner une impression de dispersion. La diversité des sous-thèmes est donc en partie liée à l'interdisciplinarité. La réalisation de certains sous-thèmes dépendra, évidemment des recrutements effectués.

#### Equipe 5 (T Lang) :

La dimension internationale et le leadership au niveau européen se confirment en 2010. Dans le cadre de l'action conjointe de l'UE sur les Inégalités sociales de santé, le groupe du Haut Conseil de la Santé Publique, présidé par T Lang, est le responsable français du WP6 (réseau d'expertise scientifique) ; il est également associé, avec l'IReSP, à la préparation de la réponse française au 7eme PCRD sur l'axe Inégalités sociales de santé.

Dans le cadre de l'Action conjointe Cancer, l'équipe participe pour la France au WP4 (Health Information, Registers). Enfin, T Lang a été auditionné en mars par le Conseil Economique et Social de l'UE à Bruxelles sur la communication de l'UE sur les inégalités sociales de santé.

#### Equipe 6 (M Lapeyre-Mestre)

En ce qui concerne les publications, après s'être orientée principalement vers des revues de pharmacologie et de pharmacoépidémiologie, l'équipe 6 a déjà débuté une stratégie de publications dans des journaux généraux ou spécialisés à fort impact factor (Pain, Addiction, Ann Rheum Dis...).

Comme le recommande le comité de visite, l'équipe a décidé de se recentrer sur deux grands axes de recherche : (i) l'étude de l'exposition médicamenteuse pendant la grossesse et (ii) l'étude des substances à potentiel d'abus.



Gilles FOURTANIER