13. Drug related research in Europe - Organisation, news, and perspectives concerning research into drugs and addiction phenomena in France

1. The general organization of drug research in France.

1-1. The place occupied by drug research as part of French public policy in the fight against drugs and drug addiction.

Faced with the rapidly changing situation observed in France during recent years where the use of both legal and illegal drugs are concerned (particularly among teenagers and young adults, but also in a number of specific subgroups, for example those with highly precarious lifestyles and living conditions) the government has noted that the usable research potential in addition to the available knowledge and assessment tools are still insufficiently developed to enable the public authorities to take the right decisions in sufficient time. At the same time, key players operating in the field with responsibility for preventing drug addiction and treating addicts have issued warnings to the political establishment concerning the limited scientific resources available to them (in terms of both expertise and evaluation) needed to face up to the challenges and difficulties involved in their daily work. For this reason, since 1998 the development of a system designed to monitor and research drugs, consumption patterns and addiction phenomena has become a key priority as part of the pluriannual plans drawn up by the French public authorities.

In view of the scale and diversity of the needs expressed by the various players and contributors where drug policy is concerned (government departments, treatment organisations, associations, professionals and civil society) vis-à-vis scientific circles, the decision has been taken to begin by encouraging the development of all aspects of drug research, including the neurosciences and clinical research in the biomedical field, in addition to research in the human and social sciences and in public health with regard to public policy making. From among these various areas, the public authorities have highlighted a number of priority areas in their action plans, including (recently) the critical question of boosting the effectiveness of treatment protocols for addicts or the delicate matter of the relationship between drug consumption, violence and delinquency.

1.2. The key characteristics of the potential for drug research in France.

Since the early 1980s, France has used a central structure to coordinate government action in the drugs field, i.e. the Interministerial Mission for the Fight against Drugs and Drug Addiction (Mission Interministérielle de Lutte contre les Drogues et les Toxicomanies or "MILDT"). Since 1995, this mission has reported to the prime minister. Originally a modest initiative, the mission's scientific organization role has developed over the years, and today constitutes a major activity for the MILDT. The central role given to the MILDT since 1998 in organizing and coordinating research is a result of two characteristics specific to the French situation in the field of drug research.

1.2.1. First characteristic: the complexity of the challenges facing public policy in the drugs field, with regard to the available scientific resources.

Although research into the field of drugs and drug addictions has come a long way in the last 20 years, the knowledge currently available to us still remains insufficient when we consider the diversity of the needs expressed by the key public players and professionals in this field, concerning the implementation and assessment of their activities.

Firstly, the public players require descriptive knowledge: who is consuming what, what sort of changes in consumption patterns are we witnessing, who is producing the drugs and who is selling them? This requirement for descriptive data upstream of statistics measuring the activities of the state's different departments (including statistics on drug seizures or arrests for drug use) led to the establishment of the French Monitoring centre for Drugs and Drug Addiction (OFDT) between 1993 and 1996. The OFDT is linked both institutionally and via its budget to the MILDT. This observatory works on a regular basis with the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) as part of the REITOX network. Here, the focus is on descriptive knowledge, drawing upon the various statistical and epidemiological disciplines, in addition to socio-anthropological skills.

Secondly, both the public players and the drugs treatment/prevention professionals need to have access to knowledge concerning the mechanisms and underlying logic where behaviour related to drug use, abuse, and addiction is concerned, this has been vital in order to make headway when it comes to identifying and understanding individual, family, social and cultural factors related to drugs consumption, including their biological substrate. This explanation of underlying mechanisms involves carrying out fundamental research, both in the field of the neurosciences and human/social sciences. Here, we begin to enter fields in which direct outside control (in the form of a restrictive research programme dictated from outside by the public authorities) is neither possible nor desirable. On the other hand, an approach aimed at encouraging consensus among the scientific community concerning the areas for research to be explored as a priority is seen as a useful course of action, which the MILDT makes use of via its scientific seminars. As an example, in spring 2006 the MILDT organized a meeting of French and international specialists to discuss the issue of cocaine. This seminar made it possible to identify a number of research areas concerning effective treatments for addiction to cocaine, the use of which is rising in France.

Thirdly, professionals and public players need to be able to draw upon the resources of evaluative research in order to measure the effects and results of the actions and policies introduced (prevention systems based on the provision of information or education, legal tools and regulations, treatment and addict-assistance schemes, risk reduction schemes, etc.). At a central level, this evaluative research involves three separate areas of research: clinical research for the "treatment" aspect, public health research for prevention through the provision of information and education, risk reduction and health indicator definition aspects, and research via an assessment of public policies requiring combined assistance in the fields of sociology, law and the political sciences, criminology (which is not particularly well developed in France) and public economics.

1.2.2. Second characteristic: the varied and fragmentary nature of the various participants engaged in drug research in France.

France has developed no particular targeted scientific strategy in this research field since the 1960s. Consequently, the various parts of the scientific world involved in research into the fields of drugs and the phenomena of drug abuse and addiction are relatively fragmented in nature.

In the field of the neurosciences, the research potential is divided among the laboratories of two public research bodies (the National Institute of Health and Medical Research / Institut National de la Santé et de la Recherche Médicale [INSERM] and the National Centre for Scientific Research / Centre National de la Recherche Scientifique [CNRS]) to which should be added several university laboratories or those linked to the Grandes Ecoles (advanced universities). This fragmentation does not particularly restrict the dynamism of the drug research sector. This is a highly active research environment, closely linked to major trends in international research.

The situation is far less encouraging for the Human and Social Sciences (HSS). The research teams in the field of the HSS are chiefly located either in the universities or at the CNRS (Department of Human and Social Sciences) with a significant number of laboratories and research groups "associated" with the universities, or at the National Institute for Agricultural Research (Institut National de la Recherche Agronomique - the economics and sociology of food consumption), at the Institute of Research for Development – (Institut de Recherche sur le Développement - the geography, economics and sociology of development), at the School for Advanced Studies in the Social Sciences (Ecole des Hautes Etudes en Sciences Sociales) and to an extent at the various associations. This fragmentation of research teams is combined with a wide spread of research issues being pursued. This situation hampers dialogue and discussion, which remain far more sporadic and limited in the HSS then in the area of biomedical research. We should also note that the research teams are less open to international research and the European dimension of research in this area.

Concerning the research potential in public health, the teams concerned are divided among the above mentioned OFDT , the INSERM (epidemiology, biostatistics), the university hospital centres possessing public health departments and/or drug monitoring or toxicant monitoring programmes, the Regional Health Observatories (Observatoires Régionaux de la Santé or "ORS"), the health agencies (the Health Monitoring institute / Institut de Veille Sanitaire and the Institute for Prevention and Health Education / Institut de Prévention et d'Education à la Santé), not forgetting the various associations and their field staff.

Finally, concerning clinical research into the treatment of addiction, the teams operating in this field are divided among the psychiatric departments of the university hospitals, pharmacology departments, centres specializing in the treatment of addicts, which (in France) are usually based outside the hospitals, not forgetting the preclinical and clinical research teams working for medicine manufacturers (in particular concerning nicotine or opioid substitutes).

The current structure of the French system for organising and coordinating drug research.

Faced with an increase in the consumption of tobacco, cannabis and synthetic drugs among teenagers and young adults, in addition to the rapid spread of the aids epidemic among opioid injectors, it appeared unrealistic to totally abandon the vital research effort into these issues, purely at the researchers' initiative. For this reason, the choice was made in France to have this coordination function managed by the MILDT, which is a governmental organisation.

1.3.1. The MILDT's areas of activity in the research field.

The MILDT is particularly keen to stimulate research into drugs and drug addiction in two major and complementary areas.

First area: an active policy aimed at encouraging the development of new knowledge.

This initial objective has resulted in a number of activities being undertaken.

Firstly, the MILDT covers virtually all of the financial requirements related to the activities carried out by the French Observatory for Drugs and Drug Addiction (OFDT) in order to guarantee among other things the long-term future of the observation scheme which includes epidemiological surveys among the general population concerning consumption levels and their changes, in addition to the alert and monitoring system for new trends in the field of drug use (the Trend-Sintes scheme). Each year, this support totals some €3.4 million, making a total of €24.5 million over the period 2000-2007. Additionally, the MILDT also

provides regular financial support to a French network of Drug Addiction Evaluation and Information Centres (Centres d'Evaluation de la Pharmacodépendance or "CEIP") in partnership with the Agence Française du Médicament (the AFSSAPS, the French Health Products Safety Agency). This support totals some €300,000 per year, i.e. approximately €2.1 million for the period 2000-2007. These centres play a drug monitoring and toxicant monitoring role concerning the consumption of psychoactive substances or medicines used illegally, and organises studies into the potential for drug abuse and addiction of these substances.

Next, since 1999, the MILDT has introduced a system aimed at encouraging research, and which involves the launch each year of a multi-themed tender (in the biomedical, public health, human/social and political science fields) in order to encourage work on addictions of all kinds. As part of this scheme, the MILDT works with two other partners: the INSERM and the National Cancer Institute, a recently created research and assessment organisation. Via this tender-based programme, the MILDT and its partners encourage initiatives in the field of fundamental research aimed at understanding action mechanisms as well as application research, whether this concerns the fields of treatment, prevention or the assessment of public policies. Finally, the tender-based system also encourages researchers to work on a number of disciplinary interfaces (neuroscience/clinical disciplines, clinical disciplines/human and social sciences, etc.) in order to promote a comprehensive understanding of the problems of drug consumption and addiction.

In total, over the 1999-2006 period, the tender scheme has made it possible to finance more than 100 research contracts, approximately half or which are today completed. This financial support represents an overall financial package of €6.3 million for the whole period, equal to roughly 800,000 to €1 million per year, with the average aid package per project being roughly €60,000 paid over two years. A scientific committee at the MILDT, comprising top level experts from the various disciplines concerned, carries out a rigorous assessment and selection process for the projects to be financed.

Approximately 20% of the supported research concerns projects in the field of the neurosciences, a further 20% concerns clinical projects and the remaining 60% concerns projects in the areas of the human and social sciences and/or public health. This decision to provide the bulk of the funding to the HSS area is a deliberate strategy. The MILDT and its partners aim to build up and stabilize the research potential in this area, which today still remains somewhat fragile.

Over time, while protecting the open nature of its tender process, the MILDT has nevertheless highlighted a limited number of research priorities in keeping with public action requirements. As an example, these priorities include the question of a sudden cessation of consumption (with no therapeutic treatment involved, which the Anglo-Saxons referred to as "change without treatment"), which raises major questions concerning the methods and limitations applicable to treating addictive behaviour, that of innovation in the prevention and clinical processing field, or that of the recent development of addictions in which no drug is involved, such as addictions to games or to the Internet.

Accompanying these initiatives, since 2001, in collaboration with the French Ministry for Research and the Universities, the MILDT has also financed thesis grants for students studying for a doctorate, who have chosen to focus their doctorate on the field of drugs and addiction research.

In addition to the MILDT, a number of other French public or private institutions are involved in financing drug-related research. Firstly, we find the Ministry for Health, which finances several clinical projects in some years, concerning protocols for the treatment of addicts as part of a national scheme for the financing of research carried out in the French hospitals: the

Clinical Research Hospital Programme (Programme Hospitalier de Recherche Clinique or "PHRC"). The Ministry of Health also finances several field studies into specific groups of drug users. Moreover, two specialised public agencies, the Agence Nationale de Recherche sur le Sida (National Agency for AIDS Research) and the Institut de Veille Sanitaire (National Institute for Public Health Surveillance) regularly support surveys and research projects examining the relationship between intravenous drug consumption and transmissible illnesses (mainly HIV and HCV). Finally, numerous associations and private foundations representing either the professionals concerned, or the users, or the companies related to this area in various ways (distributors of alcoholic drinks, tobacco manufacturers or pharmaceutical firms) finance surveys and research work with varying degrees of regularity.

Second area: the policy of summarising and making available the newly acquired scientific knowledge.

In addition to the actions aimed at encouraging new knowledge creation, the MILDT also works to put this available scientific knowledge at the disposal of the public authorities and key players in the fields, to help them to better focus their activities.

Firstly, the MILDT regularly organises colloquiums intended to present and to make best possible use of the results obtained from the research supported by it as part of its tender programme. The most recent colloquium of this type was held in February 2005 in Paris. The next is scheduled for August 2007. Additionally, the MILDT regularly asks the INSERM to carry out collective assessments at its request, which cannot be described as studies in the strict sense of the word, but are rather critical analyses of available knowledge, carried out by a multidisciplinary scientific team assembled by the INSERM, which is given the task of analysing and summarising the published literature for a given subject over a period of months. Typically, this activity involves assessing knowledge based on research. In view of the conflicting views always inherent to public intervention in the drugs field, this collective assessment provides the French authorities with two distinct benefits: drawing up an objective overview of approved knowledge concerning subjects which usually result in conflicting and contradictory opinions, thereby encouraging the emergence of shared viewpoints, and secondly to allow for the scheduling of the relevant programme of research, highlighting any gaps in our knowledge of a given issue.

Since the year 2000, four collective assessments have been carried out by the INSERM at the MILDT's request. The first, concerning "The benefits and risks of alcohol consumption for health" was completed in July 2001 and its results made public in September 2001. The second concerning "the effects of the consumption of cannabis upon health and behaviour" was completed in September 2001 and its results circulated in November 2001. Two other assessments have also been carried out, one into "The individual risks and social harm associated with alcohol consumption" the results for which were circulated during the second half of 2002, and the other into the question of "Tobacco addiction: origins, solutions, and factors associated with the success and failure of attempts to stop smoking" the conclusions for which were made public in 2003.

The performance of these assessments is not only intended to generate shared viewpoints faced with the uncertainty surrounding certain aspects of the questions examined. Action to circulate the results of these critical summaries based on this work was carried out subsequently, aimed at the public authorities and professionals, as well as at civil society. Consequently, the drafting of drug prevention documents regularly published by the MILDT and aimed at the general public, beginning with the recently updated reference book "Better knowledge means fewer risks" which is now entitled "Drugs and addiction, your information guide", is directly based on the approved data assembled via the four above-mentioned assessments. More generally, the mission works closely with the INSERM in order to ensure the extensive circulation of the conclusions of these assessments, thereby contributing to

ensuring that public and private bodies speak with a single voice on issues which ultimately concern the daily lives of us all. Indeed, nothing is more counterproductive than a "fragmented" public message concerning the question of drug use, as this often results in uncertainty, which is a factor severely hampering key players in the field.

The relationship between "drug research" and "public policymaking" in France.

Where the French situation is concerned, relationships between "research" and "public action" are forged fairly easily in the field of descriptive research and the epidemiological observation of consumption trends. The various players involved in drugs policies (authorities, professionals, experts and associations, etc.) use the data regularly produced by the French Observatory for Drugs and Drug Addiction. Similarly, the clinicians who treat patients suffering from addiction have fully understood the need to regularly keep informed about the latest research results pertaining to their speciality fields. For particularly complex questions, clinical psychologists' associations have also taken the initiative of organizing clinical consensus conferences working with the specialised agency in France which organises this type of event (the National Agency for Health Accreditation and Evaluation / Agence Nationale d'Accréditation et d'Evaluation en Santé or "ANAES"). Two consensus conferences were held in recent years in France, one focusing on strategies for treating alcoholic patients, and the other on therapeutic strategies for opioid addicts.

Additionally, the Ministry of Health supervises the activities of committees of experts aimed at providing a greater understanding of the scientific dimension of those problems to which the authorities need to provide responses in the form of new legislation and regulations. Where the drugs field is concerned, this is particularly the case for the National Commission on Narcotics and Psychotropic Substances (Commission Nationale des Stupéfiants et des Substances Psychotropes), which supplies the French authorities with its justified opinion concerning the appropriateness of classifying certain substances as narcotics, when their usage increases or changes. This is also the case with a new, recently established "addictions" committee which is intended to assist the health authorities to take suitable decisions concerning the treatment of addicts based on available scientific data.

On the other hand, in those areas covered by fundamental research, the relationship between "research breakthroughs" and "public action" are far more problematic. This is due to the fact that the benchmarks for fundamental research are by their very nature very different from the benchmarks used for decision-making and action by the public policy decision makers. Moreover, very few players in the field of drugs policy have a scientific background, enabling them to directly understand the progress made by fundamental research. It was precisely in order to tackle such obstacles that an organisation such is the INSERM developed its collective expertise system, which the MILDT uses in its own particular field.

Another difficulty concerns the fact that in France we are trailing when it comes to assessing implemented public policies, compared to the system generally used in the Anglo-Saxon countries. This is due to several factors: the fact that evaluative research is a fairly young discipline in France, whether this involves assessing policies or assessing drug prevention or rehabilitation schemes, the absence of an "assessment culture" among many key players, and finally the insufficient circulation of assessment methods and tools. This is a major area to be tackled in the years to come, in which the MILDT is heavily committed.

CURRENT TRENDS AND OUTLOOKS IN THE FIELD OF DRUG AND ADDICTION RESEARCH IN FRANCE.

2.1. Neuroscientific research themes in the addiction field

The French teams specializing in the neurosciences are chiefly concentrating their investigations on three main research themes, closely allied with the main topics of international research.

An in-depth understanding of the neurobiological action mechanisms involved in the creation and continuation of drug addiction.

Achieving such an understanding involves analysing interactions taking place at a cellular and molecular level between the various neuronal systems involved, particularly when the user moves from controlled consumption to compulsive consumption. Although each of the systems is currently fairly well known for its overall operation and its potential contribution to triggering and/or maintaining addictive processes (beginning with the key system of dopaminergic neurons), the question of interdependence and reciprocal interaction remains a subject meriting greater attention. With this in mind, the MILDT supports a number of research projects participating in this forward looking approach, including a project focusing on the role of cannabinoidergic and serotoninergic systems in alcohol dependency with the aid of genetically modified murine models (Laurence LANFUMEY –INSERM Unit U. 288 - Paris). Another concerns the interaction between dopaminergic and noradrenergic systems in opioid addiction (François GEORGES – UMR CNRS 5541 – Bordeaux), while a third concerns the interaction between the dopaminergic system and the hypotalamo-hypophyso-adrenal axis (glucocorticoid hormones) in the modulation of the addictive effects of cocaine and other psychostimulants (Pier Vincenzo PIAZZA –INSERM Unit U.588 – Bordeaux).

2.1.2. The exploration of biological factors influencing vulnerability to drug addiction

Not all drug takers become addicts. In other words, not all drugs users fall into a compulsive consumption pattern of a product which they continue to take despite its harmful consequences. Only a minority of them (between 5 and 15% of users according to the drug concerned) actually go on to become addicts. This raises the question of the differential factors which explain this inter-individual variability where vulnerability to addiction is concerned. This area for research is currently being explored by a fairly large number of teams, as it represents a major challenge with the potential to help improve the way we treat addiction through greater awareness of the biological substrate of individual vulnerabilities. The MILDT is supporting work carried out by several research groups currently involved in examining vulnerability factors such as in utero alcoholism, perinatal stress, genetic mutations affecting certain receptors activated by drug consumption, interactions between genes and their environment, or the phenomena of hypersensitivity to glucocorticoids.

2.1.3. Research in the field of neuroimaging.

The differentiation of cerebral reactions between occasional drug takers and drug addicts is one of the key areas of progress achieved in recent neuroimaging work. Focusing on substances as varied as heroin, tobacco or alcohol, the studies carried out have highlighted the fact that addicts react differently from occasional users during the reward pathway whether in terms of their level of neuronal activation or in the number of cerebral structures activated. The MILDT is supporting work carried out by numerous French research teams working on pre-clinical and clinical studies on numerous factors concerning addiction to tobacco, opioids and cannabis-based on neuroimaging techniques. Among these, we should mention the work coordinated by Jean-Luc MARTINOT and Christian TRICHARD (a

combined INSERM – CEA unit at Orsay) on the inhibition of certain cerebral locations among regular tobacco smokers.

2.2. Areas for clinical research into addictions.

The increased dialogue between the various specialities involved in the field of addiction treatment over the last eight years (alcohologists, tobaccologists and specialists in illegal drugs) has created an environment which is favourable for the expansion of clinical research into the treatment of addictive behaviour. By comparing their practices, the clinical psychologists have even been able to identify common and recurrent problems in the performance of treatment such as the question of craving (an irresistible urge to take the substance under the effect of external stimuli and in the absence of any detoxification syndrome) which remains a key factor in preventing addicts from kicking their drugs habit, the regulation of the misuse of drugs (subutex injections, a return to normal smoking habits despite wearing a nicotine patch, or simply a move from one form of drug addiction to another, etc.) not forgetting the question of how related psychiatric problems should be dealt with. Concerning the various aspects of the treatments, current clinical research in addictology is essentially being focused on four main areas

2.2.1. The explanation of cognitive, emotional and affective processes involved in the reinforcement of addictive behaviour by the addict.

This first area for research is handled by clinical psychologists and psychiatrists involved in treating addicts. The challenge of the work undertaken is to highlight the affects, emotions and cognitive processes experienced and employed by patients in maintaining their addictive behaviour, and which constitute obstacles to helping them to distance themselves from the drug and to regain their freedom of choice. The MILDT supports several clinical research teams participating in this work, dealing with themes as diverse as emotional regulation and the quest for sensations among tobacco addicts or alcoholics (Solange CARTON – University of Paris 5), the cognitive dissonance upstream of addicted tobacco smokers (Patrick GOSLIN – CNRS – University of Paris 10 - Nanterre), the capacity to deal with the stress of abstinence among alcoholic patients or the specific impact of psychophysiological reactivity among opioid addicts (Marc AURIACOMBE – University of Bordeaux 2).

The analysis of psychiatric comorbidity.

The MILDT supports a number of research contracts in topical themes such as the relationship between schizophrenia and cannabis consumption or the analysis of the interactivity between psychopathological problems and specific personality traits before addiction sets in (involving samples of non-clinical population groups).

The analysis of the neuropsychological and somatic consequences of addictive behaviour and the side effects of treatment.

In this field too, the MILDT makes a point of participating in this key aspect of clinical research by supporting research groups working on themes as diverse as the measurement of neuropsychological changes brought about by alcohol addiction (Michel REYNAUD –Paul Brousse Hospital – Villejuif), the biophysiological mechanisms involved in myocardial dysfunctions caused by cocaine consumption (Christelle MONTEIL –INSERM Unit U.644 – Rouen) or the mechanisms involved in the respiratory problems which may be provoked by the combination of a Subutex treatment with the concomitant prescription of benzodiazepines (Frédéric BAUD –Fernand Widal Hospital– Paris).

2.2.4. The construction and assessment of clinical protocols for "new" addictions

Over the last 10 years, French clinical psychologists have had to deal with a rapid increase in requests for treatment for relatively new forms of addiction such as the intensive consumption of cannabis or the addictive and sometimes exclusive use of cocaine and/or crack. What has made it all the more difficult for the clinical psychologists to treat these new types of patient is that there are currently no effective benchmark treatments, whether for cocaine addiction or for cannabis addiction. For this reason, the MILDT has taken the initiative of supporting two major research operations. The first is a European multicentre clinical research protocol entitled the INCANT Study: INternational CAnnabis Need of Treatment, the purpose of which is to assess a multidimensional family therapy protocol (the MDFT method) for intensive younger users of cannabis. The INCANT study seeks to test the transposability of the MDFT method, developed by clinical psychologists in Miami, in European treatment environments, in addition to assessing its effectiveness compared to usual therapeutic approaches. Five countries are participating in this forward looking study which is to be extended until 2009: France, Holland, Belgium, Germany and Switzerland. The MILDT provides financial support for the two French teams participating in this European multicentre trial, namely the team run by Olivier PHAN (Institut Mutualiste Montsouris – INSERM Unit 669 – Paris) and that of Jean-Pierre COUTERON (CEDAT – Mantes la Jolie). In total, this financial support from the MILDT represents a budget of €890,000 for the period 2005-2009. The total budget for the INCANT totals almost €4.5 million for the five countries concerned over the same period. The second clinical research protocol supported by the MILDT is the first part of a study concerning the treatment of cocaine addicts. This involves testing the contribution made by a modafinil treatment in order to improve the detoxification of patients hospitalised for cocaine addictions. This clinical trial is based both on recent hypotheses derived from neuroscientific research into the role of the dopamine transporter (DAT) in the triggering and deepening of cocaine addiction, and on high resolution medical imaging techniques. This ongoing project is managed by Michel REYNAUD and Laurent KARILA from the Paul Brousse Hospital in Villejuif.

2-3. Areas for research in the human or social sciences and in the field of public health.

2.3.1. An analysis of professional practices concerning their interaction with the attitudes and characteristics of patients.

This initial research contract is managed by the teams working in the fields of quantitative sociology, professional sociology and medical anthropology. We have long known that the effectiveness of treatments is not only dependent upon the pharmacological characteristics of the medicines prescribed and/or the treatment techniques used by the treatment provider (psychotherapeutic or behaviour therapy). The context and the quality of the relationship established in the treatment environment also play a decisive role, particularly regarding the patient's observance of his own treatment. A wide variety of factors are involved in building up this relationship, including the culture and professional practices of the treatment providers, the patient's history, the imaginary and symbolic aspects which the latter attaches to aspects of his treatment (particularly his relationship to the medicine), his beliefs, values and views, not forgetting the social or family-related characteristics which have helped shape his identity and which influence his relationship with the medical institution. The MILDT supports a number of research projects in this area. Two research contracts, which have today been completed, have focused on the question of prescription practices for psychotropic medicines in relation to the characteristics of the doctors and of the people receiving treatment, including their symbolic relationship with the medicine concerned (Philippe LE MOIGNE – Cesames INSERM Unit U.611 – Paris ; Anne LOVELL – Diasporas – University of Toulouse Le Mirail). Another research project deals with the issue of factors

concerning the heterogeneousness of general practitioners' medical practices in the field of opioid substitution treatments (Isabelle FERONI – INSERM Unit U.379 - Marseille). Another also focuses on general practice, in order to be able to describe the various practices used by general practitioners concerning the detection and treatment of tobacco addiction among their patients (Valérie SCHWOEBEL – GRES Médiation Santé – Toulouse).

2.3.2. The relationship between drug consumption, acts of violence and delinquency.

French researchers are only now beginning to explore this area for research. The MILDT contributes to financing an epidemiological survey into violence against women in New Caledonia (the ENVEF survey), which includes a subsection dealing with the relationship between this violence and the consumption of alcohol or illegal drugs by the aggressor, but also by the victim. (Marcel GOLDBERG –INSERM Unit U.88 – Saint Maurice). Two research contracts focus on legal issues and the penal treatment of violence and road accidents related to recurrent drunk driving (Claudine PEREZ – DIAZ, Cesames INSERM Unit U. 611 – Paris ; Jean-François LAE, Source – University of Paris 8).

2.3.3. The analysis and evaluation of public policies in the field of drugs.

From the outset, via its tendering programme, the MILDT has been keen to encourage research into (and the assessment of) changes in sensitive public policies over the last 15 years. It has assembled teams of legal experts, legal sociologists, and specialists in political science. Currently, several research projects are being supported, focusing on various themes such as the issue of relationships and dialogue between the associations and the public authorities with regard to drug prevention schemes (Didier TAVERNE – Sciences, Regions and Societies – University of Montpellier), changes in the specialised addict-care sector (Benoit BASTARD – CNRS – Centre for Organisational Sociology – Paris), the economic and commercial challenges of the international classification of drugs (François-Xavier DUDOUET – CNRS ESA 7026 – Nanterre), or a European comparison of public policies aimed at reducing smoking or the excessive consumption of alcohol such as those being carried out in four countries: Sweden, Finland, Germany and France (Arnaud RAYNOUARD – Faculty of Law - Toulouse).

2.4. A number of perspectives.

With the support of the INSERM, the MILDT seeks to initiate research projects which develop operational interfaces between disciplines. Two projects in particular demonstrate the potential offered by such interfaces. The first concerns the phenomenon of cannabis consumption by heroin users involving a substitution treatment using high dosage buprenorphine or methadone. The protocol develops the neuroscience-clinical research interface as it includes a preclinical neurobiology aspect devoted to studying the interactions between cannabinoid and opioid systems on animal models and a clinical aspect which will describe the usage methods of cannabis by a sample of patients undergoing substitution treatment in addition to clinical variables associated with their dependency upon this product. The aim is to be better able to understand the interaction between the two systems generated by the use of cannabis and to assess the clinical impact among patients with a major opioid addiction (Jean-Pierre LEPINE and Jean-Michel SCHERRMANN – Combined laboratory: INSERM U. 705 – CNRS UMR 7157 – Paris). The second project illustrates the potential concerning the interface between clinical disciplines and human and social sciences. It focuses on the possible impact of a clinical consensus conference organized in 1999 by the French Society of Alcohology (Société Française d'Alcoologie) concerning "Methods and recommendations for the detoxification of alcohol addicts" in the professional environment concerned, namely alcohologists operating in specialised centres and general practitioners (Martine BUNGENER – Combined laboratory: INSERM U. 502 – CNRS UMR 8559 – Paris)..

2.5. Articles published by French researchers in international journals.

2.5.1. Published articles in the field of addiction neuroscience

Between 2004 and 2006, four French research groups, the first based in Bordeaux (François Magendie Neuroscience Institute – INSERM Unit U.588 "Behavioural Physiology Laboratory" –Victor Segalen University), the second and third in Paris (Institut Pasteur – CNRS URA 2182 "Receptors and Cognition" unit; Collège de France – INSERM Unit U.114 "Pharmacological neurobiology"), and the last in Marseille (Combined unit: CNRS/University of Provence - "The Neurobiology of cognition) produced five major articles published respectively in the following journals: Science, Nature, Proceeding of the National Academy of Science USA (PNAS) and in Nature Neuroscience.

Deroche-Gamonet; V., Belin, D., Piazza, PV., "Evidence for addiction-like behaviour in the rat", Science. 2004 Aug 13;305(5686):1014-7.

Maskos, U., Molles, BE., Pons, S., Besson, M., Guiard, BP., Guilloux, JP., Evrard, A., Cazala, P., Mameli-Engvall, M.? Dufour, N., Cloëz-Tayarani, I.? Bemelsmans, AP., Mallet, J., Gardier, AM., David, V., Faure, P., Granon, S., Changeux, JP., "Nicotine reinforcement and cognition restored by targeted expression of nicotinic receptors", Nature. 2005 Jul 7; 436(7047):103-7.

Salomon, L., Lanteri, C., Glowinski, j., Tassin, JP., "Behavioral sensitization to amphetamine results from an uncoupling between noradrenergic and serotonergic neurons", Proc Natl Acad Sci USA. 2006 May 9;103(19):7476-81.

Gutkin, BS., Dehaene, S., Changeux, JP., "A neurocomputational hypothesis for nicotine addiction", Proc Natl Acad Sci USA. 2006 Jan 24;103(4):1106-11.

Baunez, C., Dias, C.? Cador, M., Amalric, M., "The subthalamioc nucleus exerts opposite control on cocaine and natural rewards", Nat Neurosci. 2005 Apr;8(4):484-9.

Additionally, over the last 18 months (2006 and the first half of 2007), the French teams working on addiction neurosciences have produced 26 articles in international journals with review committees, such as the Journal of Neuroscience, Neuropsychopharmacology, Neuroscience, the European Journal of Neuroscience, Neuropharmacology, Psychopharmacology , the British Journal of Pharmacology , the Journal of Neurochemistry, Chemical Research in Toxicology, etc. In appendix one you will find a list of these 26 articles in alphabetical order based on the name of the first author.

Published at the end of 2005, the SAM (initials standing for drugs and fatal accidents in French) study deals with more than 17,000 accidents and 11,000 drivers involved in fatal accidents between September 2001 and 2003. It is by far the largest study in France. It also represents another first in that it is based on a quasi-exhaustive sample of road accidents (all the instantly fatal accidents which took place during the two years studied) and concerns drivers who were killed, injured or unhurt, whereas previous studies only looked at injured and hospitalised drivers.

Laumon, B. et al., (2005). Cannabis intoxication and fatal road crashes in France: population based case-control study. British Medical Journal (331) 1371-4.

See also National Report 2006 for more details.

2.5.2. The publication of articles in the clinical research field.

Over the period spanning 2004 to the first half of 2007 (3 ½ years), 19 articles were published by French clinical teams in international journals with review committees and covering various aspects in the treatment of addicts. These articles have been published in internationally renowned journals, including Addiction, the American Journal on Addictology, Critical Care, European Addiction Research, Drug and Alcohol Dependence, European Psychiatry, Psychiatry Research, Substance Abuse Treatment Prevention and Policy, Toxicology Review, Substance Use and Misuse, or Psychopathology, etc..

2.5.3. The publication of articles in the field of the human and social sciences, and public health.

Over the period from 2003 to the first half of 2007, 15 articles were published by French research teams working the field of the human and social sciences and/or public health, in international journals with review committees. These articles chiefly concern four areas: epidemiology, the monitoring of road accident data related to drug consumption, heath economics and health sociology. These articles have been published in a wide range of international journals with an excellent standing, including Addiction, Health Economics, Journal of Health Economics, Addictive Behaviors, Journal of Addictive Disorders, British Medical Journal, Drug and Alcohol Dependence, Substance Use and Misuse, Social Science and Medicine, etc. In appendix three you will find a list of these 12 articles in alphabetical order based on the name of the first author.

The circulation of observational data and research results.

3.1. The circulation of observational data produced by the French Observatory for Drugs and Drug Addiction (Observatoire Français des Drogues et des Toxicomanies).

The OFDT's mission as defined by its constitution is twofold. Firstly, it is intended to meet the need for information expressed in the public field, by field operatives or by private individuals. The second is the production and circulation of information in a number of forms: through the production of articles, by the publication of periodicals (and in particular the fortnightly journal "Tendance"), via the publication and participation in the drafting of various works (with an example being the collective work on cannabis published in July 2007).
The circulation of information produced by the OEDT is also one of the OFDT's responsibilities and can also be considered as something of a focal point.

3.2. The circulation of research results via national scientific journals

In France, there are three scientific journals with review committees specifically dedicated to the issue of drugs and clinical research into addiction.

The most important of these is the journal "Alcoologie et addictologie" which is published on a quarterly basis. It is aimed at clinical psychologists treating various types of addictions (alcohol, tobacco, illegal drugs, and "product-free" addictions, etc.). The articles cover both the somatic and mental aspects of treating addicts. The journal is managed by an editorial committee supported by a scientific committee and a review committee. The publication criteria for the articles are the usual international criteria. The articles are drafted in French but include a resume in English. The authors are mainly French but the journal also regularly includes work from contributors throughout the French speaking world (Quebec, Switzerland, Belgium, and French speaking Africa).

The second journal is the journal "Psychotropes", including the subheading "Revue internationale des toxicomanies et des addictions" (the international journal for drug abuse

and addictions). This was founded by clinical psychologists, psychoanalysts and psychiatrists specializing in the treatment of patients suffering from addiction. This initial mission continues to dominate where the selection of scientific articles is concerned, but the journal is also very open to contributions from other disciplines including epidemiology, anthropology or health sociology. It is published on a quarterly basis and is managed by a scientific committee supported by a review committee. The publication criteria for the articles are the usual international criteria. The journal has a network of French speaking correspondents (Belgium, Senegal, Lebanon) and from Mediterranean Europe (Spain, Portugal, Italy, Greece) giving it an international dimension where the choice of authors is concerned. The articles are drafted in French with a resume in English.

The third review is far more specific as it focuses on the toxicological aspects of drug taking. This is the "Annales de Toxicologie Analytique" which is produced by the French Society of Analytical Toxicology (Société Française de Toxicologie Analytique or SFTA). The articles deal with the question of screening for drugs in various biological environments, and include details of case studies related to fatal intoxications following the consumption of psychoactive substances, also covering certain forms of psychotropic medicine misuse. A certain percentage of the articles deal with toxicological issues outside the drugs field. The journal also contains transcriptions of verbal information and laboratory notes. The articles are mostly drafted in French and include a resume in English. Several articles are published in English. The journal is managed by the SFTA's executive board supported by an editorial committee. The publication criteria for "long" articles are the usual international criteria. The journal is published on a quarterly basis.

Apart from these three journals focusing on the question of drugs, several general scientific journals in France also regularly publish articles dealing with the field of addictions. For researchers in epidemiology and public health, there is the "Revue d'Epidémiologie et de Santé Publique" published by Elsevier, the articles for which are written in French or English (published on a monthly basis). For researchers in the fields of the human and social sciences, the leading French journal is "Sciences sociales et santé" (a quarterly journal published by Libbey Eurotext). For researchers in legal sociology and political science working more specifically on the consequences of drug consumption upon public order, the leading French journal is "Déviance et société" (a quarterly journal published by the CNRS). Finally, researchers in addiction neurosciences should opt for the major international journals in this field. They are also to be found in numerous French scientific journals written more with the layman in mind, as civil society is relatively interested in progress with the neurosciences. In France we find a large number of professional journals covering the field of addictions. These professional journals play a non-negligible role in the circulation of scientific results outside the scientific community, i.e. aimed at various field operatives working in the area of drug addiction, whether these are health professionals, social workers or associations representing drug users.