

R&D expenditures in Biomedical research : the case of France

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- Introduction
 - University hospitals in France
 - Organisation of the biomedical research
- Measurement of expenditures for biomedical research

Research hospitals in France



- 1958: Creation of the University Hospitals (« CHU »)
 - Three missions: Care, Education and Research
 - Statute of Teaching Hospital Professors (PU-PH)
- Key figures
 - 32 CHU including AP-HP (37 hospitals)
 - 40 Medical Colleges associated to CHU

Organisation of Biomedical research in France: Many organisations



- Public research organisations:
 - INSERM (Biomedical and clinical research) +++
 - CNRS (Biomedical and life sciences)
 - INRA (Animal sciences)
 - CEA (Biomedical)
 - IRD (Biomedical)
- Universities
 - Medical colleges associated to CHU (40)
 - Universities of life sciences (80)
- University hospitals (CHU) (32)
- Cancer treatment centers (CLCC)
- Private foundations:
 - Institut Pasteur
 - Institut Curie
 - Institut Gustave Roussy

Organisation of Biomedical in France: an intricate system



- « Mixed » research units:
Among 791 research units in Biomedical research
 - 310 (39%) belong to Universities
 - 75 (9 %) belong to CNRS
 - 406 (51%) are « mixed »:
 - 310 belong to INSERM or CNRS **and** university
 - 96 belong to at least 3 organisations
- Mixed personnel:
 - INSERM and/or CNRS
 - University (PU or PU-PH for Medical colleges)
 - A few hospital personnel

A key actor for medical research: INSERM



- The only French public organization entirely dedicated to biological, medical and public health research.
- 316 research units
 - 80 % are housed within university hospital or cancer treatment centers
 - the others being located on research campuses of the CNRS or of the Pasteur and Curie Institutes.
- 54 clinical research centers in CHU
- 13,000 people (including 6000 researchers) work in Inserm's 316 research units

University hospitals as actors of research ?



- Through their links with INSERM (biomedical and clinical research): Research units and Clinical research centers
- Through their participation in research projects funded by:
 - M. of Health : Programme for clinical research in hospital – PHRC (70 M€/year)
 - Own hospital budget
 - Charities
- Through their own participation and engagement to clinical trials (funded by public or private sector)
- => No hospital research laboratories, but hospital research activity: difficult to measure!

Measurement of expenditures of Biomedical and clinical research in France





The national R&D survey

- Performed by DEPP (Direction of evaluation, foresight and performance – M. Education and M. Higher Education and Research)
- Frascati Manual adapted to the French R&D system
- Exceptional analyses in a domain (Health R&D)
- Since 1994: Yearly survey on clinical trials in hospitals



BIOMED study (2008)

- Performed in 2008 on ‘biomedical research in the Public sector’ – Futuris-M. of research- Inserm
- Perimeter:
 - Clinical research
 - Medical research
 - Basic Life sciences useful for medical research
- Methodology
 - Data from the national survey (DEPP – 2003)
 - Estimates For multidisciplinary institutions (CNRS, Universities...) Measurement of the Biomedical activity part (Official reports, number of personnel etc...)
- Long and difficult!

Performers of biomedical research in 2003 (*Biomed*)



Type of Institutions	Institutions	M€	% total
Higher education	Universities	1 160,5	42,4%
University hospitals	<i>CHU</i>	91,4	3,3 %
	CLCC	97,9	3,6%
Research institutes	CNRS	517,0	18,9%
	Inserm	424,4	15,5%
	Inra	104,7	3,8%
	CEA	96,5	3,5%
	IRD	19,3	0,7%
	Others	13,6	0,5%
Foundations	Pasteur, Curie...	171,7	6,3%
Others		41,0	1,5%
TOTAL		2 737,9	100%

*BIOMED
2008
Data 2003*

Origin of biomedical Research funding

Sector	Categories of Funders	Funders	M€	% Total
A. Government	National	Min. Research	90.6	3.3 %
		Min. Health	38.8	1.4 %
		Others Min.	37.3	1.4%
		National Agencies	33.9	1.2%
	Regional		46.1	1.7%
	Total		246.7	9.0%
B. Private non profit	Medical charities (ARC, AFM...)		32.7	1.2 %
	Research performers (I. Pasteur, Curie...)		157.3	5.7 %
	Total		190.0	6.9 %
C. Higher education (incl. public research organisations)	Public research organisations	Inserm	370.1	13.5 %
		CNRS	500.4	18.3 %
		Inra	92.1	3.4 %
		CEA	84.5	3.1 %
		Others	54.5	2.0 %
	Universities		948.5	34.6 %
	CHU		27.4	1.0 %
	CLCC		71.0	2.6 %
	Total		2148.5	78.5 %
D. Business	Total		105.0	3.83 %
E. Abroad	Higher education		7.7	<0.1%
	FP		40.0	1.5 %
	Total		47.7	1.7 %
F. Others	Total		105.0	3.8 %
TOTAL			2 737.9	100%



BIOMED
2008
Data 2003

University hospital expenditures for R&D



- DEPP survey (2003): 91 M€ - 3.3 % of total expenditures of biomedical R&D
- Underestimation:
 - Because of the intrication of Hospital activity with INSERM and Universities
 - Because of the difficulties to know the part of the hospital budget dedicated to R&D activities and the part of the staff involved in clinical research.

Future directions for estimation of University hospital expenditure for R&D



- DEPP survey on Clinical trials
- Better estimation of the R&D attribution of the hospital budget ?
- Case study (e.g. with a research oriented CHU): identification of the mechanisms of funding for R&D, including CT
- Better knowledge of R&D activities (CT) in private hospitals and clinics

Thank you for your attention

Reference (in French):
BIOMED study (available on:
<http://www.anrt.asso.fr/fr/futuris/pdf/071115-RapportBiomed-VF.pdf>)

