



Research evaluation

FINAL RESUME ON THE RESEARCH UNIT  
SPHERE - methodS in Patient-centered outcomes and  
HEalth ResEarch

UNDER THE SUPERVISION OF THE  
FOLLOWING INSTITUTIONS AND RESEARCH  
BODIES:

Université de Nantes

Université de Tours

Institut national de la santé et de la recherche  
médicale - INSERM

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**EVALUATION CAMPAIGN 2020-2022**  
GROUP B

Report published on November, 30 2021

High Council for evaluation of research and higher education



In the name of Hcéres<sup>1</sup>:

Mr Thierry Coulhon, President

In the name of the experts committee<sup>2</sup>:

Mr Francis Guillemin, Chairman of the committee

Under the decree No.2014-1365 dated 14 November 2014,

<sup>1</sup> The president of Hcéres "countersigns the evaluation reports set up by the experts committees and signed by their chairman." (Article 8, paragraph 5);

<sup>2</sup> The evaluation reports "are signed by the chairman of the experts committee". (Article 11, paragraph 2).

Tables in this document were filled with certified data submitted by the supervising body on behalf of the unit.

## UNIT PRESENTATION

**Unit name:**

methodS in Patient-centered outcomes and HEalth ResEarch

**Unit acronym:**

SPHERE

**Current label and N°:**

UMR 1246

**ID RNSR:**

200815512F

**Application type:**

Renewal

**Head of the unit (2017-2021):**

Ms Véronique Sébille (director); Mr Bruno Giraudeau (deputy director)

**Project leader (2022-2026):**

Ms Véronique Sébille (director); Mr Bruno Giraudeau (deputy director)

**Number of teams and/or themes:**

1

## EXPERTS COMMITTEE MEMBERS

**Chair:**

Mr Francis Guillemin, Université de Lorraine, Vandœuvre-lès-Nancy

**Experts:**

Ms Sara Ahmed, McGill University, Canada

Mr Olivier Chassany, Université Paris-Diderot, Paris

Ms Karla Hemming, University of Birmingham, United Kingdom

Ms Hélène Jacqmin-Gadda, INSERM, Bordeaux

Mr Benoit Lepage, Université Paul Sabatier, Toulouse

## HCÉRES REPRESENTATIVE

Mr Bernard Tardy

## REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Ms Catherine Beaumont, Université de Tours

Mr Bertrand Cariou, Université de Nantes

Mr Olivier Grasset, Université de Nantes

Mr Gaël Grimandi, UFR de Sciences Pharmaceutiques Nantes

Mr Milan Lazarevic, CHU Nantes

Mr Julien Le Bonniec, CHU Tours

Mr Remy Slama, INSERM

## INTRODUCTION

### HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

SPHERE 'methodS in Patient-centered outcomes & HEalth ResEarch' was created *de novo* in 2008 in Nantes as the EA 4275 and renewed in 2012. The unit has evolved as a two-site inter-regional research unit (jointly accredited by the University of Nantes and the University of Tours) and successfully obtained the INSERM label in 2017.

### RESEARCH ECOSYSTEM

In both Nantes and Tours, members of the SPHERE units are in charge of the methodological-biostatistical departments of the university hospitals. These departments (DRCI at CHU Nantes, CIC 1415 INSERM at CHU Tours) aim to help design and analyze data from clinical studies.

The unit also has a close link with the Western Cancer Institute (ICO) notably through its 'Site de Recherche Intégrée sur le Cancer' (SIRIC) and also with clinical research organizations with oversight of various cohorts (DIVAT and the European EKITE, ATLANREA, CORDOBA, EVALADD).

Finally, researchers conduct numerous Monte-Carlo simulation studies with both the CCIPL and CaSciModOT computing centers, which both are university and regional support infrastructures.

### HCÉRES NOMENCLATURE AND THEMATIC OF THE UNIT

SVE Sciences du vivant et environnement

SVE6, SHS4, SHS1, SVE5

The scientific goals of the unit aimed at strengthening the methods in patient-centered health research from a pluridisciplinary perspective involving biostatistics, public health, clinical disciplines (addictology, dermatology, general practice, nephrology), pharmacology, health psychology, and health economics.

The main research topics are about outcome research and psychometrics, pragmatic trials with a focus on cluster randomized trials, and prediction models.

### MANAGEMENT TEAM

The unit is directed by Ms Véronique Sébille (director) in Nantes and Mr Bruno Giraudeau (deputy director) in Tours.

### UNIT WORKFORCE

SPHERE			
	Active staff	Number 06/01/2020	Number 01/01/2022
Full professors and similar positions		9	8
Assistant professors and similar positions		8	10
Full time research directors (Directeurs de recherche) and similar positions		0	0
Full time research associates (Chargés de recherche) and similar positions		0	0
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")		0	0
High school teachers		0	0

Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	15	16
<b>Permanent staff</b>	<b>32</b>	<b>34</b>
Non-permanent professors and associate professors, including emeritus	2	
Non-permanent full time scientists, including emeritus, post-docs (except PhD students)	2	
PhD Students	24	
Non-permanent supporting personnel	5	
<b>Non-permanent staff</b>	<b>33</b>	
<b>Total</b>	<b>65</b>	<b>34</b>

## GLOBAL ASSESSMENT OF THE UNIT

The unit SPHERE aims at strengthening methods in patient-centered health research from a pluridisciplinary perspective involving biostatistics, public health, clinical disciplines (addictology, dermatology, general practice, nephrology), pharmacology, health psychology, and health economics along three axis: 1/ Measurement and interpretation of patients' perception and experience, 2/ Real world evaluation: considering the patient within his/her environment, 3 / Patient-centered stratified medicine. The unit has a strong interdisciplinary team with the expertise to advance the measurement methodology and clinical application of patient-reported outcomes (and more broadly of clinic-reported outcomes). There is a strong link between clinical care and research (e.g., nephrology, pediatric dermatology) in important public health issues. The unit applies biostatistical methodology to pragmatic evidence-based medicine in cluster-randomized trials, causal inference and in medical decision making.

The unit has demonstrated an impressive track record (479 publications of which 220 (46%) as first, last or corresponding author) in methodology (*Statistical Methods in Medical Research, Statistics in Medicine*) and the application of research findings in evidence-based clinical practice (*Journal of Clinical Epidemiology, British Medical Journal, International Journal of Epidemiology, ...*) for all three axis.

Since 2015, 37 grants were obtained as principal investigators (PIs) or work package (WP) leaders, representing more than 4.5 M€ (4 ANR, 6 DGOS, 1 INCa, 1 IReSP-INSERM and 1 H2020 European grant as workpackage leader).

This dynamic has enabled the SPHERE unit to gain international recognition in cluster trials (unique expertise at the national level) and psychometrics.

The SPHERE unit has great impact on the socio-economic world as illustrated by the changes in national patient care according to their research outputs, their publicly available software and risk calculators, tools for clinical practice including several prediction scores, strong private-public partnerships with for example the LabCom RISCA, three CIFRE contracts rare in public health, the involvement of members in national entities (HAS, Ministry of health, ANSM), the use of their developed methods by target clinicians and the engagement of patients early in the process of research projects (SONG).

The team has thus the expertise, the human resources and the capacity to raise funds and conduct all the projects presented, which are focusing on vulnerable populations impacted by different situations (from addiction to after ICU discharge). The concepts they intend to capture are original as they are under-explored and relevant. Most of the objectives they assume to complete in the five-year project and strategy appear attainable and are expected.

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