



Activities Report (2013-2016)

Institute of Health and Society
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Institut de recherche santé et société

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*“If you want to go fast, go alone.
If you want to go far, go together”*

Proverbe africain

Chairman’s foreword

The **Institute of Health and Society** (IRSS) holds a unique position, not only within our University but also within Belgium, in attempting to consider, in the broadest sense, the full complexity of issues contributing to the health of both individuals and the community. Such issues are generated by a broad range of interacting factors. Indeed, the most important of these are often not only purely medical but reflect those affecting the overarching influence of society in its broadest sense. Drugs are developed and tested in other institutes at UCL. But as Prof. Dobbels, the recent winner of the Francqui Chair explained, *“understanding the conditions and factors that influence the use of these drugs (at the right time by the “right” person) is at least as important as the development of the drugs themselves”*. Not taking into account, in a correct way, the broader range of factors that influence health may result in the development of and subsequent application of sub-optimal health policies. Clinicians have increasingly acknowledged that working with IRSS members is inspiring and can often result in unusual and unexpectedly interesting findings. We, at IRSS, approach health issues in a multi-dimensional manner, requiring the presence of a wide variety of disciplines. Policymakers appreciate the importance of this philosophy. It is therefore no surprise that the intersectorial and multidisciplinary work at the institute regularly both influences and impacts upon health policies.

This report, be it a simplified version of our many activities, reflects the wide variety and richness of themes that are dealt with at IRSS. Indeed, important themes such as health in the elderly and vulnerable populations, child and adolescent health and a variety of related topics such as mental health, clinical epidemiology, primary care, health sciences education and information systems are handled by IRSS researchers. Innovative methodological approaches such as agent-based, mathematical and network models are continually being developed and applied by our scientists, the aim being to

address both the individual and the population aspects of health. Both qualitative and quantitative methodological approaches are in use. This report highlights some of our latest projects, recognizing the increasing recognition, importance and competitiveness of our research in the science landscape.

The last four years have been challenging for our Institute in several ways:

Firstly, a number of academics have either retired or are in the process of retirement, with the inevitable loss of considerable experience and expertise. We thank them for their relentless involvement in passing on their knowledge and assisting our Institute to grow further. The hope is now that the young bright spirits that will replace them will contribute to the further success of our institute. The IRSS staff will do their utmost to provide them a warm, welcoming and stimulating environment to further develop their skills.

Secondly, the matrix system we are using for administrative support has demanded, and still is in need of, continuous fine-tuning. I use this opportunity to thank our administration for their efforts to make the scientific lives of the scientists and academics alike as effective as possible.

Finally, it has been and will continue to be a challenge to create a common vision from the wide and rich variety of ideas circulating within the very diverse group that comprises IRSS. An African proverb says *“If you wish want to walk quickly you will walk alone but if you walk slowly, you will go far.”* Walking together does not only mean that academics need to have joint projects, but also that IRSS successes are felt as important to all, not only to the ones that are at the forefront.

Health control is always developing in response to issues of ill health in all sectors of the community. There are many

new challenges for us to jointly face, and we expect that our added value will be measured in terms of scientific excellence and meaningful output. Fulfilling our potential for scientific excellence is only possible with the full contribution of all. My respect and appreciation for the way IRSS staff (scientists, academics and administrative support) takes on the new challenges cannot be expressed in a few words only. Going further along this road will continue to reinforce IRSS as a leader in the field of health and society, both in Belgium and further afield both in Europe and the wider international community.

Professor Niko Speybroeck
President Institute of Health and Society (IRSS)
Université catholique de Louvain

IRSS Presentation

Background and Objectives

The UCL Institute of Health and Society provides high-quality, multidisciplinary research and scientific capacity building aimed at improving both the quality of life of individuals and also population health through innovation in public health and healthcare that is both socially responsible and evidence-based.

The Institute was established in 2010 and influenced by the World Health Organization's (WHO) definition of health: "*Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*".¹ This definition includes physical, mental, and social dimensions as well as themes in health and well-being - both individual and collective. The objective of the Institute is to develop research activities aimed at improving understanding within these dimensions and the complex interactions that link them to individuals and the population.

The work at IRSS requires the collaboration of practitioners and researchers from different disciplines. Indeed, an examination of health determinants indicates the complexity of interactions between individuals and society and highlights present conflicts between the health of individuals and their overall health as part of society.

The central tenet of the Institute is that high quality research is contingent on knowledge being created collectively, discussed and shared, and on the development and availability of a technical and scientific platform of expertise.

1 Preamble to the Constitution of WHO as adopted by the International Health Conference, New York, 19 June - 22 July 1946; signed on 22 July 1946 by the representatives of 61 States [Official Records of WHO, no. 2, p. 100].

Goals

The UCL Institute of Health and Society aims to become a research centre of excellence through international publications, PhD projects, scientific research, and participation in international research programmes, coupled with the development of a network of collaborations.

Its main objectives are to:

- > Develop and stabilize an inter-disciplinary research network in order to support high-level academic and scientific activities, involving researchers from the Institute.
- > Promote excellence in scientific output
- > Support capacity building among young researchers, with a long-term perspective
- > Disseminate socially-relevant and beneficial scientific findings

Research topics

Projects at IRSS currently cluster around seven research axes:

- 1. Health systems and services:** Framed into a multidisciplinary approach involving researchers with different backgrounds and focused on four levels of action: clinical; services; inter-organizational; and policy. This axis includes mental health and psychiatry components, focussing on acute and chronic problems experienced by all age groups, ranging from young children to the elderly.
- 2. Vulnerable populations, law, and ethics:** Aiming to improve the health of vulnerable populations by analysing aspects such as health inequalities, law and health, health ethics, and mental health.

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- 3. **Health sciences education:** Promoting improvements in healthcare by advancing the education and training of health professionals.
 - 4. **International health:** Includes public health research and epidemiology in low-, middle-, and high-income countries; involves more than one country, and may be global.
 - 5. **Methodological tools for public health:** Quantifying health problems and building evidence for how different health determinants influence health systems. This axis seeks to develop methodological tools, both qualitative and quantitative, to assess the impact of disease, to gain a better understanding of the determinants and inter-related factors influencing health, and to understand and improve health information systems.
 - 6. **Clinical epidemiology:** Consists in the application of general epidemiological principles in clinical research to improvements in the aetiology, diagnosis, prognosis, treatment, and prevention of disease. This research area entails close collaboration between staff within clinical, laboratory and epidemiology departments.
 - 7. **Geriatric medicine:** This is a hospital-based specialization and is focused on preventive, clinical, and social aspects of illnesses in elderly people. The scope of geriatric medicine is broader than strictly medical facets and is mostly concerned with community care, psychological, social and ethical aspects, and organization of care.

Research topics include health behaviors, health prevention and promotion, disability and aging, well-being of health professionals, promotion of mental health and medical psychology, medical education, health services and management of health facilities, ethics and legal aspects related to health, epidemiology, bio-statistics and information systems, and health and development.

Members of the Institute have developed, and continue to develop, strong links between their research, teaching, and service activities. They contribute to the wider community by sharing expertise and collaborating with stakeholders outside the university setting.

The team²

The team is comprised of academic staff, scientific staff (including researchers, research fellows outside the university and grant-funded PhD candidates), and administrative staff:

- > Academic staff (tenure track and clinical professors, assigned or affiliated to IRSS): 37
- > Scientific staff (assigned or affiliated to IRSS): 45 (from which 20 registered as PhD students)
- > Technical and administrative staff: 22
- > Current grant-funded PhD candidates: 49

² Includes the staff under contract at February 2017

1/ Health systems and services research

Redaction coordinated by Pr Isabelle Aujoulat, Pr Jean Macq and Dr Pablo Nicaise

Description of the topic

Health services research (HSR) “is the multidisciplinary field of scientific investigation that investigates how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviours affect access to health care, the quality and cost of health care, and ultimately our health and well-being. Its research domains are individuals, families, organizations, institutions, communities, and populations” (Academy for Health Services Research and Health Policy, 2000). By essence all the research in HSR is framed into a multidisciplinary approach, simultaneously involving researchers with different backgrounds, such as: sociology; economics; nursing; psychology; psychiatry; medicine; and health informatics.

This vast area includes a wide range of topics that, for the purpose of this document, have been assembled as four levels of action:

- > The clinical level - e.g. clinical and human interventions assessment and their impact on the health of the population and the organization of care;
- > The services level - e.g. hospital care organization and clinical governance, strategies for quality of care, nursing;
- > The inter-organizational level - e.g. health and social care integration and continuity of care for people with complex needs;
- > The policy level - e.g. health policy and reform strategies assessment and their impact on organization and effectiveness of health systems and health economy.

The Institute focuses more specifically on five fields of study across these levels of action, namely:

1. Child and adolescent health
2. Primary Care
3. Mental Health
4. Care to older people and people with chronic conditions
5. Health information systems

Several research projects have been undertaken by the Institute in the last years, corresponding to the level-field crossing. The ambition is to develop further research projects that aim at strengthening the system dimension of the health and social care organisational structure in Belgium, Europe and globally.

New projects and collaborations

Projects developed by HSR researchers at IRSS have continued to focus on persons with chronic health needs, with mental health problems and with health problems associated with (frail) older people. Strong emphasis has also been placed on primary care (including networks and local health and social care systems), although some research focuses on care organization at hospital level.

At clinical level, a new project has started on 2012 with the aim to assemble assess results from the implementation of complex health promotion interventions targeting health behaviours and health skills in adolescents with chronic conditions (I. Aujoulat, D. Charlier). Another project is entitled ‘Characteristics and care pathways of users of the Autism Diagnosis Centre’.

Early diagnosis is highly recommended for children suffering from autistic disorders. The aim of the newly-established Autism Diagnosis Centre is to undertake such early assessments. The study is aimed at exploring the influence of personal and environmental characteristics on the onset, symptomatology, and evolution of autistic disorders, and to explore the care pathways of the users.

A European FP7-funded research project lies at the crossroads of clinical and inter-organizational levels. This project, entitled "COFI" (Comparing policy framework, structure, effectiveness and cost-effectiveness of functional and integrated systems of mental health care) started in 2014 and runs to 2018, and is coordinated by the Unit of Social and Community Psychiatry of the Queen Mary University of London, UK. The main aim is to address the organisation of continuity of care in the transition between in-patient and out-patient care for chronic and severe Mentally-Ill (SMI) patients. The study compares the integrated approach, with at least one clinician providing personal care continuity across in- and out-patient settings and the functional approach, with different teams providing specialised care in each setting. The study is carried out in Germany, Italy, Poland, the United Kingdom, and Belgium. Data on more than 7,500 hospitalised psychiatric patients have been collected between 2014 and 2016, among whom more than 1,000 live in Belgium, at baseline and after 1-year follow up. The IRSS team is Work Package (WP) leader regarding care system assessment and care pathways (P. Nicaise, F. Wyngaerden, H. Zabeau, D. Bourmorck, M. Molera Gui, L. Borremans, P. Smith, and V. Lorant).

At inter-organizational and system level there are ongoing projects such as the 'Scientific evaluation of innovative health care project', aiming at maintaining frail older persons living at home (S. Cès, J. Macq, O. Schmitz & T. Van Durme). A new project has started in 2012 in support of Brussels Local Multidisciplinary Network (RML-B) with the aim to assist RML-B in defining strategies to strengthen care for people with chronic conditions. This is done through participatory research supported by rule-based computer simulation (J-C. Chiêm, J. Macq & T. Van

Durme). Furthermore "Morpheus", a study on the social support networks and use of services of severe and chronic psychiatric patients commenced in 2012 (V. Dubois).

At policy level, the scientific support and evaluation of the Belgian Mental Health Policy Reform 'Towards Better Mental Health Care (Title 107)' started in 2011 and ran to 2015. The IRSS team (V. Lorant, P. Nicaise, N. Gurnet, A. Grard, H. Zanelli) focuses more specifically on service relationships in care delivery, users' pathways of care, and users' social inclusion. Another research project following on from the previous one and regarding care pathways and accessibility to care for forensic mentally-disordered offenders in Belgium (For-care), in collaboration with the VUB, the Ugent, and the ULg (P. Nicaise, D. Bourmorck, M. Molera-Gui, V. Lorant) commenced in 2015.

Secondly, with the aim to contribute to a Belgian 'White Paper' on how to adapt the current Belgian system to raising chronic care needs (piloted by KCE), the IRSS team carried out in 2012, with colleagues from the University of Antwerp (group of GP practices, Pr. R. Remmen), a study on stakeholders' perception of care for people living with chronic conditions (J. Macq, O. Schmitz & T. Van Durme).

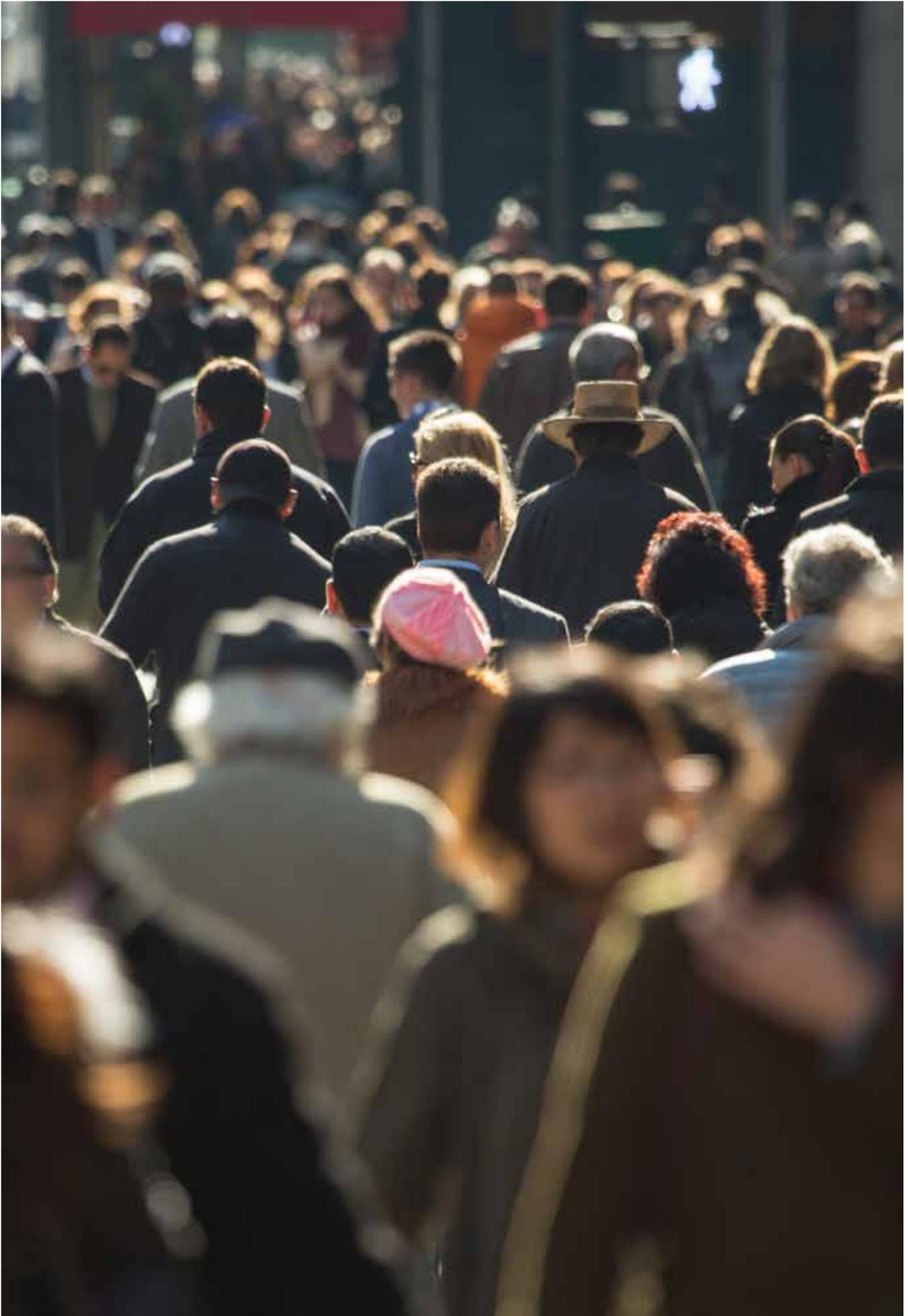
Thirdly, in the area of primary care, an exploration of new professions emerging in primary care as well as their implication for the future organization of primary care in Belgium has been completed in collaboration with the "Fédération des maisons médicales" (K. Barbosa, J. Macq).

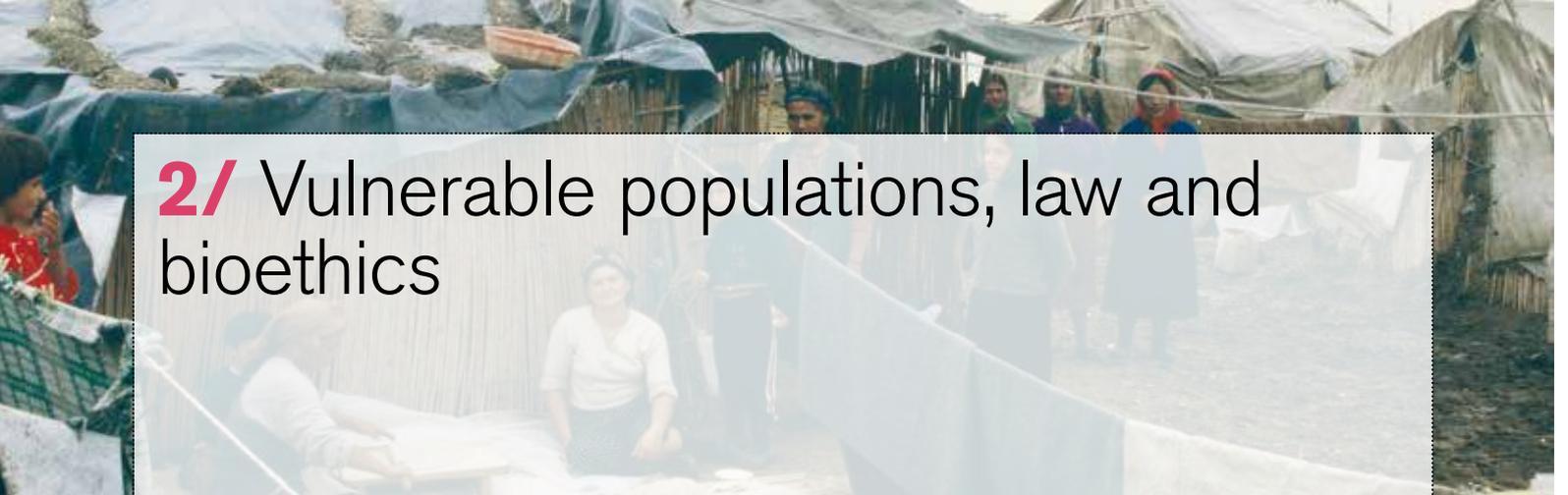
A protocol developed with the Brussels Mental-Health Coordination Platform for routine data collection on Substance Abuse services and use (P. Nicaise), and is currently being tested in relevant organizations.

Other activities

In the area on research into mental health services, the Institute organises a yearly study day, bringing together researchers, clinicians, and health providers to provide an update on advances in mental health services research both in Belgium and abroad. In 2013, the topic was: 'Decentralisation of policies for mental-health care organisation'. In 2014, the topic was: 'The patient's social support network and the coordination of care', with the participation of B. Pescosolido (Indiana University) and V. Pinfold (McPin Foundation, London). In 2015, two study days were organised on the topics 'social integration and supported employment for chronic psychiatric patients' and 'collective action within the Belgian mental-health care delivery reform'. Finally, in 2016, a seminar was organised around the results of the 'Study of care continuity for vulnerable groups in the Brussels Capital Region' (see section on Vulnerable Groups).

In the area of nursing sciences regular meetings (resonance meetings) are organized to enhance the use of findings of rigorous scientific research by nursing practitioners in different health care settings.





2/ Vulnerable populations, law and bioethics

D^r Marie Dauvrin and P^r Vincent Lorant

Description of the topic

Efforts to describe, analyse and improve population health have to cope with the frustrating finding that some population groupings often have much poorer health status than others and may also have lower access to health-enhancing resources. These vulnerable groups may be identified along several dimensions, for example socio-economic status, ethnicity, sexual orientation, disability or age: different health problems have different vulnerable groupings. Health inequalities is the domain of research describing and analysing such health differences while Law and Ethics provide frameworks to assess the extent to which such inequalities are deemed unfair and how they may be addressed.

The research studies carried out in the Institute may be classified into four 4 topics:

- > Ethnicity, socioeconomic status and health inequalities
- > Mental health
- > Child and adolescent health
- > Ethics and the law

The ambition is to link the different inequality streams together under a general theoretical framework. Socio-economic and ethnic inequalities in health tend to stay rather aloof and consequently apart from one another, whereas underlying mechanisms are rather generic.

New projects and collaborations

1/ Ethnicity, socio-economic status and health inequalities:

Ethnicity is relevant stream of inequality in Belgium and in Europe. This is the result of the increasing globalization, of the migrant crisis and – possibly – of the international composition of Belgium. As far as health is concerned, the question is not only how can we better tailor health care to ethnic minorities but also to all vulnerable social groups of our society. This is a fundamental question in the current context of widening social inequalities and could provide an opportunity for health care professionals, health care organizations and health systems to adapt to this new challenging environment and to evolve toward a more equitable health care system. This topic includes several projects covering patient-doctor interaction, the migrant integration policy index for health, barriers to care for asylum seekers and refugees, research on continuity of care for vulnerable groups, and social network analysis of adolescent health behaviour among migrants and non-migrant adolescents. This topic has also been quite performant in sustaining evidence-based policies and, for example, making recommendations to the Belgian state regarding access to care for undocumented migrants.

Interethnic medical consultation. One objective is to provide a conceptual frame, leading to a better understanding of the ways in which interethnic medical consultation may influence medical doctors' daily practice. More precisely, we focus on

individual, interactional, contextual determinants that affect doctors' attitudes, stereotype, beliefs, emotions, decision-making, cooperation or partnership building during the medical interethnic consultation. The aim of our research is to identify doctors' underlying cognitive mechanisms leading to differential treatment (discrimination) of vulnerable patients and also to analyze the context in which they appear, or are potentiated. We are convinced that benefits of our researches are relevant not only for all patients, but also for health care students and professionals and finally, for society as a whole. One paper on this topic from our Institute was published in 2014 (Lepiece, B., et al. General practice and ethnicity: an experimental study of doctoring. *BMC Fam Pract* 2014; 15: 89).

Supporting Member States to respond to the health needs of asylum seekers and refugees.

The SH-CAPAC aims at supporting the Member States in providing a coherent national and/or international approach to the health needs of asylum seekers and refugees. In this WP, the specific objective is to identify the measures and the effective instruments to improve the access to health services in the current context of the refugee crisis. To achieve this objective, this WP aims at developing, disseminating and implementing a resource package to tackle the barriers in the health services for asylum seekers and refugees in the Member States (European Union Health Programme, 2014-2020). The final report of the project is available at <http://www.sh-capac.org/course/view.php?id=16>

Continuity of health care for socially deprived persons with chronic diseases. Based on the participation of the indigent persons, the first line health and social care professionals and the public authorities, this stakeholder survey aims at identifying the options of continuity of patient care that may improve the quality of the management of indigent persons suffering from a chronic affection, including mental health problems, in the specific context of the region of Brussels-Capital (Post-doctoral fellowship awarded to Marie Dauvrin, Prospective Research for Brussels, Region Bruxelles-Capitale, 2014 -2017).

Migrant Integration Policy index (MIPEX) health strand: Belgium. The objective of this project is to assess the integration of migrants within the Belgian health care system through the standardized questionnaire MIPEX. The deliverable is a national country report. This questionnaire includes various indicators assessing the legal and political frameworks, the policies facilitating access to health care, the responsiveness of the health services and the measures to implement changes. Website: <http://www.mipex.eu> (International Organization for Migrations, 2014 – 2015). Dauvrin, M. (2016). Public Policy, Immigrant Experiences, and Health Outcomes in Belgium. In D. Raphael. Immigration, public policy, and health. Newcomer experiences in developed nations. Toronto: Canadian Scholars' Press.

Urgent Medical Aid for undocumented migrants. This study aims at providing an in-depth analysis of the current practices related to the Urgent Medical Aid for undocumented migrants or migrants in irregular situations in Belgium. This study also aims at suggesting, if necessary, scenarios in order to improve access to health care for this vulnerable population in relation to the fundamental human rights. This project is a collaboration between the Université catholique de Louvain and the Ghent University. (Funding: *Belgian Health Care Knowledge Center, 2015*). Dauvrin, M., Gysen, J., & Lorant, V. (2016). L'accès aux soins pour les personnes sans-papiers : un chemin parsemé d'embûches. *Education Santé*, 324, 2-4.

Roberfroid, D., Dauvrin, M., Keygnaert, I., Desomer, A., Kerstens, B., Camberlin, C., Gysen, J., Lorant, V. Derluyn, I. (2015). What health care for undocumented migrants in Belgium? Report 257. Brussels, Belgium: KCE.

Evidence-based nursing interventions in the context of vulnerability. This project is included in a short-term scientific mission at the Faculty of Nursing Sciences of the Université of Montréal. This project aims at conceptualizing the cultural competences in the approach of vulnerable populations and its operation in several areas of practice. More specifically, this project aims at identifying the evidence-based nursing interventions in context of vulnerability, assessing the competencies of nurses in primary care when caring for vulnerable populations and

suggesting a canvas of culturally competent training for nurses in Belgium and in Canada (Programme de bourses d'excellence pour étudiants étrangers, Fonds de la recherche du Québec, Ministère de l'Éducation, des Loisirs et du Sports (PBEEE), 2014-2015).

SILNE: A social network analysis of substance use among immigrant adolescents in six European cities. Since 2012 onwards, the Institute has been involved in a FP7 European project on inequalities in smoking. It aims to generate new empirical evidence on strategies to reduce socio-economic inequalities in smoking in Europe. The SILNE 2013 survey was also able to describe the composition of adolescents' social networks according to migration background, and to examine how social networks are associated with substance use. One key publication: Lorant, V., et al. (2016). "A social network analysis of substance use among immigrant adolescents in six European cities." *Soc Sci Med* 169: 58-65.

2/ Mental Health

Suicide inequalities in Europe, a DEMETRIQ project. Although suicide has been decreasing over the last decade it is unclear whether socio-economic inequality in suicide victims has decreased in parallel. The DEMETRIQ project assessed recent trends in socio-economic inequalities in suicide in 15 European populations. The study collected and harmonized register-based data on mortality follow-up of population censuses in fifteen Northern, Southern, Western, and Eastern European populations. Data from Census of 1991 and 2001 were obtained, with four years of follow-up for each census. Absolute and relative inequalities of suicide according to educational status were computed on more than 89,000 suicides in 300 million person-years. The persistence of absolute inequalities suggests that all socio-economic strata have not shared the benefits of new mental health care interventions. Fair opportunity of mental wellbeing is thus not likely to be met. Attention to young less-educated men in Eastern European countries should become a priority in suicide prevention strategies.

Mobilising the Network of mental health users (Morpheus project). Continuity of care for users with psychiatric disorder is key challenge for community mental health care and is much dependent on the social support to these patients. The Morpheus project aims to describe the structure support to patients with severe mental disorder. Using the Hogan Bull'eye name generator, Morpheus shed light on the composition, structure and coordination of the support network among 300 patients with severe mental disorder.

Psychosocial development of children with autism: involvement of the parents of autistic children in daily care. The aim of the study is to contribute improving the quality of relational life of children with autism by involving their parents in daily care, and to adapt this approach to the sociocultural context of the Democratic Republic of Congo.

Psychological assessment of donors before paediatric liver transplantations. The study was carried out in the Cliniques Universitaires Saint-Luc (CUSL), which is a major centre for liver transplantation in Europe. Psychosocial assessments of 350 donor candidates were carried out in order to identify possible vulnerable situations. The study indicated that living donor liver transplantations may have a psychological impact on the donor and on the families.

See other Mental Health services projects in the HSR section.

3/ Child and adolescent Health and inequalities

Smoking Inequalities – Learning from Natural Experiment (SILNE). In Western countries, smoking accounts for a large share of socio-economic inequalities in health. As smoking initiation occurs around the age of 13, it is likely that school context and social ties at school play a role in such inequalities. So far, there has been little generic explanation of how social ties at school contribute to socio-economic and gender inequalities in smoking. The SILNE survey was designed to test the hypothesis that a combination of peer effect, social ties and school context

may help to explain how smoking inequalities are magnified at school – a theory known as network-induced inequality. The SILNE project addresses different aspects of this theory: socio-economic inequalities in smoking, academic performance and smoking, gender homophily and substance use. Publication: Pierre-Olivier Robert et al. Academic performance and adolescent smoking in six European cities: the role of friendship ties. BMC Public Health 2017 (in press).

4/ Ethics and Law

Reflexive thinking on care for vulnerable persons and robotic assistance has invaded the media without any supporting ethical and societal tools in order to understand the impact of such techniques on the health care. By developing artificial empathy, the humanization of robot behaviors allows the use of these 'so-called caregivers' to support patient empowerment, to maintain or improve the physical and cognitive abilities of people with degenerative diseases. Relying on social robots has been increasing these last years, especially in elder care, dementia or other chronic disabling diseases. This responds to the growing needs related to the exponential growth demands of dependent persons.

3/ Health sciences education

Pr Dominique Vanpee

Description of the topic

Research in health sciences education is a recent area of work implemented within the Institute. It aims to improve healthcare by advancing the education and training of health professionals. Our small and dynamic team is particularly interested in the teaching and assessment of clinical and ethical reasoning and draws from its multiprofessional background (i.e. emergency medicine, general practice, midwifery and education) complemented with strong local and international networks (i.e. Institut Catholique de Lille, Université de Provence, Université de Montréal) to develop cutting-edge applied research.

Past projects and collaborations

The previously reported projects (i.e. one F.R.S.-FNRS funded post-doctoral project and three PhD projects) are on-going:

- > The construct validity of various written tests of clinical reasoning, V. Dory. Supervisors D. Vanpee and B. Charlin (Université de Montréal). F.R.S.-FNRS, 2010-2013
- > Cognitive difficulties in midwifery students, A. Demeester. Supervisor D. Vanpee and C. Eymard. In association with Université de Provence, 2008-2013.
- > Le raisonnement clinique en situations d'urgences. Apport du Test de Concordance de Script. C. Boulouffe. Supervisor D. Vanpee and B. Charlin (Université de Montréal), 2009-2013
- > The issues raised by competency-based education in ethics. Supervisors D. Vanpee and J.P. Cobbaut. In association with Institut Catholique de Lille, 2009-2013.

New project and activities

- > Pedagogic interventions to help medical students to accept and deal with ambiguity/uncertainty. Baptise Motte. Supervisors D. Vanpee and J.P. Cobbaut. 2015. In association with Institut Catholique de Lille.



4/ International Health

Pr Debarati Guha-Sapir

Description of the topic

Research on international health issues has been a long tradition at the former Louvain School of Public Health, starting with front line research on tropical diseases and health service delivery in developing countries. Over the years, the programme has extended its scope by incorporating public health research and has widened its collaboration with scientific networks, not only in developing countries of Africa, Asia and Latin America regions but also in developed settings such as United States, Japan and EU countries. International health research in the Institute not only includes topics that address gaps in public health and epidemiology in poorer settings but its members actively work on concerns that Belgium shares in common with other countries. A major focus on the programme in international health is its health service systems and delivery in poor settings together with complex systems in health care delivery and long term care.

Several professors within the Institute are engaged in health services research, addressing related public health issues such as:

- > Health service delivery and effects of policy reform in different areas in the world in order to strengthen the provider's capacity to respond to the needs of specific vulnerable populations;
- > Improving estimations and understanding of the burden of malaria and zoonoses;
- > Primary health care and ageing in the Russian Federation
- > Health effects of natural and climate-related disasters and

civil conflict

- > Effects of abandonment of infants in urban setting
- > Strengthening bioethics capacity and justice in health

The variety of projects made this area of work very attractive for many students and researchers. Improving health in the low income settings has risen on the global agenda in the recent years, but the Institute is also always moving forwards in response to new problems and challenges. We are committed to build a strategy clearly articulated around three areas of expertise that currently exist in the international health group:

- > Health services and evaluation of complex systems
- > Quantitative epidemiology and modelling techniques
- > Public health and humanitarian crises.
- > Projects and collaborations

Enhancing risk management for natural disasters (Partner):

The project aims to develop and analyse new ways to enhance society's resilience to catastrophic natural hazard impacts by providing new scenarios and information in selected hazard cases in close collaboration with stakeholders. The project also contributes to the development of new multi-sector partnerships to reduce or re-distribute risk (European Union, 2012-2016).

Building resilience among communities in Europe - emBRACE

(Coordinator): emBRACE is a FP7 project with 10 European partners. It aims to improve the framing of resilience in the context of natural disasters in Europe. It develops a conceptual framework and methodological approach to clarify how resilience capacity of a society confronted with natural hazards and

disasters can be characterized, defined and measured (European Union, 2011-2015).

Public Health in Emergency Settings: The objective of this study is to reduce the mortality in population victims of natural disasters and conflict situations (Fonds de la Recherche Scientifique (Fonds de la Recherche Scientifique - FNRS-FRSM, 2011-2014).

Global Earthquake Consequences Databases: This is a consortium of partners involved in the establishment of an earthquake consequences database. The role was to identify the socio-economic indicators and collect the information on 20 major earthquakes (Global Earthquake Model Foundation, 2010-2013).

The RESPECT study (RESearch on the PrEvalence and the diagnosis of COPD and its Tobacco-related aetiology) in two north-west regions of the Russian Federation (Funding: Unconditional Grant AstraZeneca International, 2012-2014).

Methods and analyses of global natural disasters (EM-DAT): The disaster events database (EM-DAT) collects information on all major natural and technological events worldwide since 1900 (over 20,000 records). The overall activities related to EM-DAT are part of a long-term funding from OFDA/USAID, 2010-2020.

Bayesian methods in Emergency Response: The goal of the research is to improve public health needs assessments in poor emergency settings. There are two specific aims: to develop a new method to derive informative prior probability distributions for epidemiological and demographic indicators in emergency settings and to test whether these informative prior probabilities and Bayesian methods can be used to decrease sample sizes in emergency needs assessments (Fonds de la Recherche Scientifique - FNRS, 2013-2015).

Lower the impact of aggravating factors in crisis situations thanks to adaptive foresight and decision-support tools – SNOWBALL (partner): Its overall objective is to increase preparedness and response capacities of decision-makers,

emergency planners and first responders in respect to amplifying hazards in large disasters.

SnowBall consists in a deep analysis of cascading effects and development of methods to anticipate them; and in a Decision Support System able to display current crisis monitoring and results of simulated decisions integrating cascading effects, thanks to a data collection system, an Events Log Database, Simulators and a Dashboard (European Commission, 2014-2017).

BRidges the Gap for Innovations in Disaster resilience – BRIG-AID (partner). This project is designed to bridge the gap for innovations that reduce the impacts of climate-related events in the EU, its associated countries and overseas territories. This 'gap' refers to a combined lack of methodologies and support that are needed to turn already existing innovations into complete and market ready products (European Commission, 2016-2020).



5/ Methodological Tools for Public Health

Pr Niko Speybroeck

Quantifying health problems and building evidence about how health determinants influence health and health systems is the main goal of this topic, articulated around three major evidence-related questions:

- 1/ What is the impact of a health problem?
- 2/ How do different determinants shape this problem?
- 3/ How do we best dedicate resources to monitor and maximize health improvement?

This area of work aims to develop methodological tools to allow handling the three following themes:

1/ Impact Assessment: In public health, it is crucial to quantify and measure the impact or burden of a health problem; this calls for the development of appropriate health indicators and a choice of the level at which these indicators should be measured [i.e. local, national or global].

2/ Understanding: Once the impact of a health problem is known and quantified, it is important to understand how this health problem is linked to the different determinants and how interventions can be envisaged. It therefore requires the development and application of innovative methodological tools such as classification trees, spatiotemporal models and decomposition tools.

The presence of a complex set of interacting factors influencing health in public health studies calls for even more complex methodological approaches. The Institute is in particular interested in studying complex health problems such as the functional decline in elderly (the social context interacts with other determinants), and vector-borne

diseases (interactions between vectors, humans the environment and climate). Also, most statistical classical approaches assume statistical units to be independent. In practice, this is never the case. For example, health behaviours of an individual (ego) is often connected to the health behaviours of other individuals (his alters). Social network analysis is thus increasingly necessary to describe and understand the structure or dynamics of health behaviour or health status within a community. All these problems have in common that the traditional analytical tools cannot always handle the existence of all these complexities in a flexible way. We therefore often work with simulation models and network models.

3/ Health Information Systems: Based on the indicators developed and the knowledge gained in the two previous themes, the last step is to develop a health information system. This ambitious goal is now seen in some projects conducted by the Institute, e.g. in Peru we try to compare the performance of active and passive surveillance systems.

The cycle of the aforementioned themes is illustrated in Figure 1. Examining these three components jointly, provides a broad picture of how to respond to health challenges and the basis for a health information system which is sustainable, efficient (e.g. cost-efficient) and optimal.

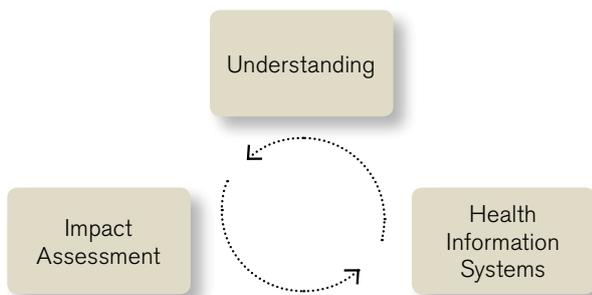


Figure 1: Cycle of the three “Methodological Tools for Public Health” themes.

The methodological work at the Institute is multidisciplinary by essence and is conducted through interaction between several research teams within IRSS, and with other research teams within and outside UCL.

The Institute aims to, through the development of the aforementioned themes, fine-tune an evidence-based health model, promoting excellence by applying the best scientific methods to the challenges of health measurement, evaluation and comprehensibility by making measurements comprehensible by broad audiences including the public, policymakers, health professionals and researchers. This model could be developed through working with countries and national and international organisations, optimising the collection and use of data [health information systems] and evaluating the impacts of interventions.

Ongoing projects and collaborations

Enhancing the effectiveness of programs and strategies to prevent youth smoking: a comparative realist evaluation of 7 European cities [SILNE-R, 2015-2018].

Assessing the implementation and effectiveness of the implementation of networks of mental health services (Federal Ministry of Health and Social Affairs, 2010-15).

Evaluation du fardeau mondial de la listéria monocytogènes en 2010 et projetée pour 2050 (Organisation Mondiale de la Santé, 2012-2017)

Agent-Based modelling as a multifactorial risk assessment of Schistosomiasis spread in Europe (FSR grant, 2016 – 2019).

The public health impact of congenital toxoplasmosis and cytomegalovirus infection in Belgium (Research Foundation - Flanders (FWO Aspirant), 2014 – 2018).

Mortalité Infantile en Afrique (UCL, 2011-2018).

Malaria and water resource development: the influence of the Gilgel-Gibe hydroelectric dam in Ethiopia. Le paludisme et le développement des ressources en eaux en Ethiopie. Phase II: 2013 à 2017 (VLIR)

Strengthening the diagnosis, treatment and surveillance strategies for the malaria control and elimination in Peru (CIUF-CUD - Commission universitaire pour le Développement, [2014-2018]).

Mise en place d’un système de surveillance de la résistance de *Plasmodium falciparum* aux antipaludéens par marqueurs moléculaires en RD Congo (CIUF-CUD - Commission universitaire pour le Développement, 2016-2020).

Polyparasitisme aux géohelminthes, schistosomes et Taenia Solium dans une région de co-endémie en République Démocratique du Congo : épidémiologie et contrôle (Bourse de développement, UCL, 2014-2018).

Tick-borne diseases in Belgium: identifying and communicating disease burden (HUMTICK), (Projet WIV-ISP, 2015 – 2019).

Outils sérologiques pour cibler les infections à *Plasmodium vivax* et surveiller les efforts de lutte et d’élimination du paludisme dans les pays amazoniens (ERANET-LAC, Union européenne, 2017-2020).

Collaborations

- > **National:** Centre for Research on the Epidemiology of Disasters (CRED), Cliniques St-Luc, Faculté des Sciences, Institut de Médecine Tropicale d'Anvers (IMT), Université de Gand, Université de Liège (ULg), Institut Scientifique de Santé Publique
- > **International:** Amsterdam Medical Centrum, Amsterdam University ; Centre for the Dynamics of Ethnicity, University of Manchester, UK ; Centre for Psychiatry, Queen Mary University London; Organisation Mondiale de la Santé, Ethiopie (Jimma University), Pérou (Instituto de Medicina Tropical Alexander von Humbold, Universidad Peruana Cayetano Heredia – Peru), Ouganda (Ministère de Santé, Institut de Santé Publique), Vietnam (Ministère de Santé), Pays-Bas (Utrecht University, RIVM (Santé publique), Gambie (Medical Research Council-The Gambia Unit).

Other news and activities

In 2016, N.Speybroeck has been re-elected as member of the scientific committee of the «Agence fédérale (Belge) pour la sécurité de la chaîne alimentaire » (AFSCA).

The SILNE social network survey (2012-2014), funded by the Seventh Framework programme, was renewed and replicated thanks to a Horizon2020 grant (SILNE-R).

N.Speybroeck is member of the scientific committee of the European Food Safety Agency (EFSA) BIOHAZ panel.



6/ Clinical epidemiology

Pr Jean-Marie Degryse

Description of the topic

Clinical epidemiology consists of the application of general epidemiologic principles in clinical research. The research goal is to improve knowledge on aetiology, diagnosis, prognosis and treatment or prevention of disease by applying these principles to particular research questions, and studying the methods themselves. Generally, the research concerns questions which necessitate a numerical approach, and in which the patient is the primary unit of observation. Specifically, the programme focuses on aetiology and prognosis in several fields such as the diagnosis and monitoring of broncho-obstructive diseases, heart failure and cardiac dysfunction, the development of a new clinical method to assess renal function in the elderly and the diagnosis and prognosis of sarcopenia.

This research effort entails close collaboration with different clinical and laboratory departments of the Cliniques Universitaires Saint-Luc-Brussels (cardiology, pulmonology, nephrology, clinical chemistry). On a meta-level, the work contributes to the development of new specific research methods (e.g. diagnostic methods, new approaches for the elaboration of systematic reviews and meta-analysis of diagnostic studies, the development of clinical prediction models and diagnostic algorithms).

Within this context, several large-scale observational studies are organized as collaborative projects, of which the most significant are:

- 1/ The BELFRAIL study:** Resulting from a UCL/K.U.Leuven joint effort, it is also involving international partnerships and collaborations (Departments of primary health care of the University of Leiden, the Medical Academy for Post-graduate studies of St Petersburg Russia and University College London). It consists in a prospective, observational, population-based cohort study of subjects aged 80 years and older in three well-circumscribed areas of Belgium. The study was designed to acquire a better understanding of the epidemiology and pathophysiology of chronic diseases in the very elderly, and to study the dynamic interaction between health, frailty and disability in a multi-system approach (www.belfrail.be). Nine PhD studies have been successfully run on this project.
- 2/ The CRYSTAL study:** This is the first population-based study in Russia concerning the health and functional status of the community-dwelling elderly (www.crystalproject.ru).
- 3/ The RESPECT study (RESearch on the PrEvalence and the diagnosis of COPD and its Tobacco-related aetiology)** is a prospective, observational, population-based cohort study of subjects aged 35-69 years (n=4000) in two north-west regions of the Russian Federation (Saint Petersburg and Arkhangelsk region) run in close collaboration with North-West State Medical University (named after I.I. Mechnikov), in Saint Petersburg and the Northern State Medical University, Arkhangelsk. Unconditional grant by AstraZeneca International.

Additionally, the Institute supports the analytical work of other groups such as medical studies conducted at the Cliniques Universitaires Saint-Luc with different units and departments (Hematology, Pneumology, Cancer, Pharmacy, Pediatric Endocrinology, Cardiology & Department of Geriatrics, Cardiovascular and Thoracic Surgery, Emergency Department, School of Dentistry).

The ambition is to pursue efforts to foster the rigorous application of epidemiology, biostatistics, and informatics skills, combined with strong clinical and evidence-based medical perspectives and to continue to focus on the development of new methodologies in diagnostic research. Benefits of this approach will foster objective, data-driven resourcing decisions, reduce practice variation, improve disease management, and identify best clinical practices.

THE EVALUATION OF MOBILE HEALTH APPLICATIONS (M-HEALTH).

The use of mobile and wireless technologies to support the achievement of health objectives (mHealth) has the potential to transform the face of health service delivery across the globe. Many new applications are launched without a comprehensive evaluation of the potential benefit from a public health perspective. An important part of health technology assessment is the clinical validation (=assessment in the real world) of the application. Rather than strategic implementation, the emergence of mHealth is occurring in most countries through experimentation with technologies in many health settings. Policy-makers and administrators need to have the necessary knowledge to make the transition from pilot programmes to strategic large-scale deployments. Therefore a comprehensive and in depth assessment including clinical validations studies as well a health-economic analyses are needed.

NEW METHODOLOGICAL CHALLENGES IN DIAGNOSTIC RESEARCH

Recently Net benefit approaches to the evaluation of prediction models, molecular markers, and diagnostic tests have received a growing interest.

Many decisions in medicine involve trade-offs, such as between diagnosing patients with disease versus unnecessary additional testing for those who are healthy. Net benefit is an increasingly reported decision analytic measure that puts benefits and harms on the same scale. Net benefit is useful for determining whether basing clinical decisions on a model, marker, or test would do more good than harm.

New projects and collaborations

- > **The INCIVAR study** (Influence of CMV on Influenza Vaccination Response)
With aging the susceptibility to infectious diseases increases. The influenza virus accounts for an important part of this excess infectious diseases-associated morbidity and mortality among older people. Both the increased susceptibility for infectious diseases and the decreased response to vaccination are consequences of the age-related deleterious changes of the immune system referred to as immunosenescence. The primary objective of the INCIVAR study is to investigate the association between CMV infection and the humoral and cell-mediated immune responses to influenza vaccination in persons aged 65 years (A collaborative project with the University of Tübingen, G. Pawelec), (Fondation Louvain: Chaire GSK-biologicals).
- > **Sleep studies**
This new research line concerns topics such as the association of sleep-related breathing disorders (SRBD's) and chronic heart failure, the prevalence of SRBD's in older persons, the evaluation of the psychometric characteristics of

scales that have been proposed to assess sleep quality or to diagnose SRBD's

- > **A new Comprehensive Geriatric assessment IT tool for clinicians:** www.geristeps.org. This interactive tool that integrates seamlessly with the Electronic Medical Record is the result of a research project run by a group of last year medical students. Since the 'proof of the pudding' is in the eating, a future trial will have to clarify if this new comprehensive approach leads effectively to a better outcome for older patients.
- > **A new "finger prick" method** has been developed and fine-tuned in close collaboration with the department of Clinical Chemistry (P. Wallemacq) to assess renal function in older patients (G. Van Pottelberg), (Fonds de la Recherche Scientifique -FNRS).

Other news

A national guideline for the management of Chronic Kidney disease in primary care was published and made available to all interested clinicians.

B. Vaes, who works as a post-doctoral researcher, became a member of the Belgian Tasks Group on Heart Failure.

A distant education e-learning course in Russian on the diagnosis and management of Chronic Obstructive Lung disease was developed and successfully launched in the Russian federation (www.spirocourse.ru)



7/ Geriatric Medicine: Tailored care for older people in a public health perspective

Pr Marie de Saint-Hubert

Description of the topic

Geriatric medicine focuses on preventive, clinical and social aspects of illnesses in older people and is a hospital-based specialty. In the context of an ageing population with increasing frailty and dependence, the scope of geriatric medicine is broader than medical aspects and is most concerned with community care, psychological, social and ethical aspects, and organization of care. Promotion of health, autonomy and quality of care for older persons encourages geriatricians to develop close collaborations with many disciplines including gerontology, new technologies and biology. These specificities of geriatric medicine strongly support its implantation in the Institute.

Main research axes

Assessment in frail older persons

Providing care for frail older persons requires a tailored diagnosis and therapeutic approach through an appraisal of their strengths and needs. Comprehensive Geriatric Assessment (CGA) provides tools to help the clinicians to set up a global care plan. A major concern in our team is to identify frail older persons, at risk for adverse health event such functional decline, readmission and mortality, who will most benefit from geriatric intervention. We focus on emergency department, design and of screening tools for risk of functional decline, multidrug resistant infections, advance care planning.

Quality of drug prescription

Inappropriate prescription is an important cause of morbidity and hospital (re)admission in older persons. Our research team has projects related to screening for older patients at risk of drug-related problems, assessment and indicators of inappropriate prescribing, medication reconciliation and continuity of care. This research axis is developed in close partnership with Anne Spinewine and her team (Clinical Pharmacy Research Group, LDRI)

Ongoing PhD projects

Caregivers' health: CAREGIVER project

Caregivers play a key role in the support of vulnerable and dependent older patients at home. Evidence suggests that providing care may represent a risk for the health of the caregiver. A PhD research project is ongoing to assess the stress load supported by spousal caregivers, with clinical and biological markers (F. Potier, supervisors: M. de Saint-Hubert and J-M. Degryse). Based on the recruitment of a prospective cohort of caregivers, we aim to identify risk factors of vulnerability in caregivers and sensitize home-care professionals to pay more attention to their health outcomes.

Continuity of medication

The subject of continuity of medication is particularly important as older people are the most vulnerable when it comes to discrepancies in medication (polypharmacy, multimorbidity,

multiple caregiver, cognitive disabilities). The PhD research of S. Marien is part of a project called SEAMPAT, which is coordinated and promoted by Professor A. Spinewine (LDRI). SEAMPAT aims to develop an electronic tool for Medication Reconciliation (MedRec) that gives the opportunity to the patient to validate his medications' list. Seampat is a project funded by the Region Wallone with 3 levels of "team-members": the partners, godparents and the Advisory Committee. Team-members have a range of expertise and come from different horizons. As geriatrician, S. Marien will study two possible solutions to improve MedRec. More specifically she aims to understand if and how: [1] patient participation could reduce discrepancies through the use of an [2] electronic tool. (S. Marien, supervisors; A. Spinewine, B. Boland)

Emergency department: a key intervention gate

The PhD research of I. De Brauer (supervisors: P. Cornette, W. D'Hoore) is to optimize the management of older persons admitted through the emergency department. More specifically, it aims to better understand the structure and processes existing in the emergency wards in order to better fine-tune the procedures of management of older population. The project also examines performance as a screening tool for risk of functional decline after discharge.

Other activities

- > M. de Saint-Hubert (honorary secretary) and I. De Brauer are members of the board of the Belgian Geriatric and Gerontological Society.
- > B. Boland is an associate member of the Royal Academy of Medicine and of the College for Geriatric Medicine.
- > M. de Saint-Hubert is a member of the scientific committee of Louvain4Ageing (www.louvain.be/en-louvain4ageing) and of the advisory committee for SHARE.
- > I. De Brauer and S. Jassogne organize monthly the Journal Club of Geriatrics and Gerontology in the Institute of Health and Society.



8/ Services: a dialogue between the Institute and its social environment

Pr William D'hoore

Background and description

As its name suggests, the Institute of Health and Society is naturally concerned with social issues. One of its primary goals is to disseminate scientific outcomes that are socially relevant, which means ultimately improving population health.

Members of the Institute have developed strong links between their research, teaching and services activities and are involved in two major social issues: expertise, knowledge and know-how knowledge; and development of cooperation within and outside the University. This has involved membership of official committees, being consulted for individuals, companies and for other research teams; and participating in expert missions.

The Mental Health Services Research (MHSR) group has been involved, since 2011, in expertise and research activities in support of policy decision. The scientific support and evaluation of the Belgian Mental Health Policy Reform 'Towards Better Mental Health Care (Title 107)', which started in 2011, was carried out until 2015. From 2016 onwards, the group (P. Nicaise, D. Bourmorck, M. Molera-Gui, V. Lorant) was involved in the support and processual evaluation of the 'Masterplan interneer', a policy reforming access to care for forensic mentally-disordered offenders in Belgium (For-care), in collaboration with the VUB, the Ugent, and the ULg.

The project CAPP (M. Dauvrin, P. Smith, P. Nicaise, V. Lorant) aims to support policy decision in the Brussels-Capital Region towards organizing continuity of care for vulnerable and

socially deprived people, particularly regarding the integration of health and social care.

In 2014, a protocol was developed with the Brussels Mental-Health Coordination Platform for routine data collection on Substance Abuse services and use (P. Nicaise).

V. Lorant and P. Nicaise are regularly consulted as experts to support the development of collaborative networks of services in the fields of mental health care, substance abuse, and care for socially deprived people.

Another example is the service provided by the University Service of Health Promotion (RESO and RESODOC), a centre for documentation in health promotion, linking research, continuing education, and evidence-based policymaking (Pr I. Aujoulat, Pr W. D'hoore, Mrs D. Doumont, Ms S. Malengreaux, Mr Q. Colla and Mr Ph. Van Stippen).

The field of expertise and knowledge transfer has provided several examples of the strong links between research and services involving members of the Institute the National Sickness Fund has mandated since 2009 a large interdisciplinary group to develop a comprehensive evaluation approach of multiple projects in the field of health and social care for community-dwelling frail elderly (Pr J. Macq, Mrs T. Van Durme, Mrs S. Cès and Mrs A.S Lambert).

The international health topic is illustrated by several projects conducted by the Centre for Research on the Epidemiology of Disasters (CRED), active for over 30 years in the field

of international disaster and conflict health studies, with research and training activities linking relief, rehabilitation and development. The Centre manages two main databases (EM-DAT and CE-DAT) and is involved in management of public health projects and training of Pdh Students. With its international scope, the CRED also takes part in development cooperation. Again, a strong link is present between teaching and research, or between service and research.

Finally, a substantial part of service is provided to our University, through several projects which demonstrate that this service has major social relevance through its implications for student life and health promotion at institutional level, academic support, and counselling. For example, Pr I. Aujoulat and Pr V. Lorant are members of the executive board of Univers Santé, which targets health promotion of university students; Pr Aujoulat and Pr W. D'hoore are members of the executive board of the Centre de Santé (health promotion in Brussels schools).

In conclusion, members of the Institute are actors of our society and feed their traditional academic activities –research and teaching– into the community by answering questions related to challenging social issues with the aim of improving population health. The Institute's ambitions are to strengthen the links between service, research and teaching; to align its service strategy with the University policy, and to enhance its impact upon health improvement.

9/ The graduate school and PhD students

Pr Jean-Marie Degryse

There is a very close link between the Institute of Health and Society and the Public Health, Health and Society Graduate School (EDT-SPSS)¹. This graduate school trains PhD students associated with the Institute, while the Public Health, Health and Society Doctoral Admission Committee (CP-SPSS) is in charge of the various stages of the PhD programme undertaken by PhD students working at the Institute (admission, mid-term evaluation and defence). Professor Jean-Marie Degryse succeeded Professor Vincent Lorant as Chair of the CP-SPSS in September 2015.

The graduate school is an inter-university body, the second to be set up within the *Académie*, and comes under the authority of the Health Science Doctoral Committee. Providing support for PhD students is one of the main tasks of the CP-SPSS and the Institute of Health and Society. The Admission Committee aims to apply a rigorous admission procedure, encourage students to complete their programme swiftly, offer doctoral training focused on individual PhD students' needs, and enable them to acquire transferable skills that are likely to improve their chances of finding employment. The quality of admission assessments, the support offered to students by the Health Science Doctoral Committee as they complete their PhD programme, the annual review of progress with the supervisory panel, regular meetings with the supervisor, seminars and peer-to-peer sessions at which work is presented and discussed are all vital factors in a high-quality PhD programme.

1 <http://www2.frs-fnrs.be/fr/financer-les-chercheurs/ecoles-doctorales-congres-publications/ecoles-doctorales/graduate-schools/243-spss.html>

Doctoral seminars

Twice a month a doctoral seminar is organised to which all of our PhD students and tutors are invited. These seminars offer an opportunity to starting students to present their work in progress while the more advanced researchers are offered a critical audience and the opportunity to receive constructive feedback. Additional thematic and methodological seminars are organized "ad hoc" by different research groups in the Institute. The programme of all these events is announced on the IRSS website.

"Doc's day"

Since 2010, we have organized, on an annual basis, a special one-day session ("Doc's Day") for PhD students with our other partners (Université libre de Bruxelles, Université de Liège, Facultés Universitaires Notre-Dame de la Paix de Namur, Institute for Tropical Medicine and Institut Scientifique de Santé Publique). These sessions provide around a hundred PhD students with the opportunity to meet and discuss their work and other aspects of their doctoral studies in different thematic groups.

Summer course

In 2016 a summer course entitled "Research methods in public health and clinical medicine: the essentials" targeting starting PhD students was organized for the first time. The programme of the course involves research themes associated with ongoing research at our institute including clinical epidemiology,

statistics, health technology assessment, integrated care, prevention and health promotion, and qualitative and quantitative research designs. A similar course will be organized every second year.

Facts and figures

Currently there are 49 PhD students registered under the Public Health, Health and Society Doctoral Admission Committee and actively working towards their PhD.

PhD dissertations

AIGUIER Grégory. L'éthique comme démarche collective d'apprentissage. Une illustration à partir de la problématique de la collaboration interprofessionnelle dans les soins en gériatrie
Promotor: D. Vanpee; thesis defended on June 11, 2014

ALTARE Chiara. Harvesting knowledge from insecure settings: the case of nutrition in Ethiopia
Promotor: D. Guha-Sapir; thesis defended on June 17, 2016

ADRIAENSEN Wim. Clinical impact of immunosenescence and the complex interaction with Cytomegalovirus
Promotor: J-M. Degryse; thesis defended on December 7, 2015

BERTHE Abdramane. Le système Burkinabé de maintien des personnes âgées en autonomie fonctionnelle à domicile : analyse centrée sur les acteurs de la ville de Bobo-Dioulasso
Promotor: J. Macq; thesis defended on July 4th, 2013

CHIEM Jean-Christophe. Utilizing computer simulation to support public health experts' elicitation: studies on elderly depression and case management
Promotor: J. Macq; thesis defended on January 13, 2014

DAUVRIN Marie. Cultural competence in health care: challenging inequalities, involving institutions
Promotor: V. Lorant; thesis defended on October 30, 2013

DEVLEESSCHAUWER Brecht. The burden of zoonoses in Nepal
Promotor: N. Speybroeck; thesis defended on March 17, 2015

HENRARD Séverine. Impact of a rare disease on Public Health today and tomorrow: the case of haemophilia
Promotor: N. Speybroeck; thesis defended on December 3, 2013

HIEN Mwinone Hervé. Utilisation inappropriée des médicaments chez des personnes âgées avec des multimorbidités: Traceur utile pour l'analyse du système de soins au Burkina Faso
Promotor: J. Macq; thesis defended on July 2, 2015

KAJUNGU Dan. Data mining methods for pharmacovigilance in Africa
Promotor: N. Speybroeck; thesis defended on December 22, 2015

KAREMERE BIMANA Hermes. Gouvernance hospitalière adaptative en contexte changeant. Etude des hôpitaux de Bunia, Logo et Katana en RDC
Promotor: J. Macq; thesis defended on December 23, 2013

KEUGOUNG Basile. Interface entre programmes verticaux et services de santé généraux. Comment optimiser cette relation dans les systèmes de santé d'Afrique subsaharienne?
Promotor: J. Macq; thesis defended on November 20, 2014

LEGRAND Delphine. Sarcopenia in very old persons. A study of the relationship between muscle mass, muscle strength, physical performance and adverse events
Promotor: J-M. Degryse; thesis defended on April 23, 2014

LEPIECE Brice. Discrimination dans la consultation médicale interethnique de médecine générale?
Promotors: P. Van Meerbeek and C. Reynaert; thesis defended on June 1st, 2016

LEROY Marie. Autonomie du patient et accès direct à son dossier médical informatisé via Internet depuis son domicile
Promotor: M. Dupuis; thesis defended on December 18, 2013

MAYAKA MANITU Serge. Le financement basé sur la performance dans un système de santé complexe : cas de la République Démocratique du Congo

Promotor: J. Macq; thesis defended on September 11, 2015

MAULET Nathalie. Perspectives des femmes prises en charge pour fistule obstétricale au Mali et au Niger

Promotor: J. Macq; thesis defended on June 29, 2015

MBIYA MUADI Florence. Attachement et capacités interactives des jeunes enfants congolais abandonnés en institution résidentielle

Promotor: D. Charlier; thesis defended on September 11, 2013

MPEMBI NKOSI Magloire. Caractéristiques et suivi de la dépression post-accident vasculaire cérébral à Kinshasa

Promotor: E. Contant; thesis defended on June 2, 2014

MUPENDA MPOMBO WA IBONGA Bavon. Stigmatisation et vulnérabilité chez les jeunes vivant avec le VIH à Kinshasa en République Démocratique du Congo : essai de "sociobioéthique"

Promotor: M. Dupuis; thesis defended on January 19, 2015

NABYONGA Juliet. Diffusion of evidence into public health policies and practice: investigating the black box

Promotor: J. Macq; thesis defended on February 13, 2015

NICAISE Pablo. Mental Health Service Networks: the Challenge of Articulating Community Care and Integrated Care

Promotors: V. Lorant and V. Dubois; thesis defended on April 29, 2013

NUGGEHALLI SRINIVAS Prashanth. Capacity building and performance in local health systems: a realist evaluation of a capacity building intervention in Tumkur, India

Promotor: J. Macq; thesis defended on April 21, 2015

RIBESSE Nathalie. Comprendre l'accompagnement du changement dans les interventions d'assistance technique long-terme en appui à l'administration de la santé : Cas de l'appui à la mise en œuvre de la Stratégie de Renforcement du Système de Santé au niveau provincial en République Démocratique du Congo

Promotor: J. Macq; thesis defended on August 25, 2015

RODRIGUEZ-LLANES José. Recurrent floods, food insecurity and child undernutrition in rural India

Promotor: D. Guha-Sapir; thesis defended on August 30, 2016

ROSAS AGUIRRE Angel. Understanding transmission dynamics for malaria control and elimination in Peru

Promotor: N. Speybroeck; thesis defended on September 16, 2015

ROUSSEL Sandrine. Interactions entre les représentations sociales des professionnels de soins de santé et leurs pratiques d'éducation du patient.

Promotors: M. Frenay, A. Deccache; thesis defended on September 26, 2016

SCHOEVAERDTS Didier. Epidemiology of Extended-spectrum lactamase producing Enterobacteriaceae amongst old persons in the healthcare setting

Promotor: Y. Glupczynski; thesis defended on June 5, 2013

SOTO ROJAS Victoria Eugenia. Colombian Fiscal Decentralisation: equity in health outcomes across municipalities

Promotor: V. Lorant; thesis defended on April 19, 2013

TASHOBYA Christine. Developing an appropriate district health system performance assessment framework for Uganda

Promotor: J. Macq; thesis defended on May 27, 2016

TROMME Isabelle. Melanoma detection by optical and digital dermoscopy: epidemiology in Belgium.

Promotor: N. Speybroeck; thesis defended on February 18, 2015

TURUSHEVA Anna. A study of the different frailty phenotypes among community dwelling older people in the St Petersburg district and the development of a risk prediction model for adverse outcomes.

Promotor: J-M. Degryse; thesis defended on November 25, 2016

VAN POTTELBERGH Gijs. The diagnosis and outcome of chronic kidney disease in older persons

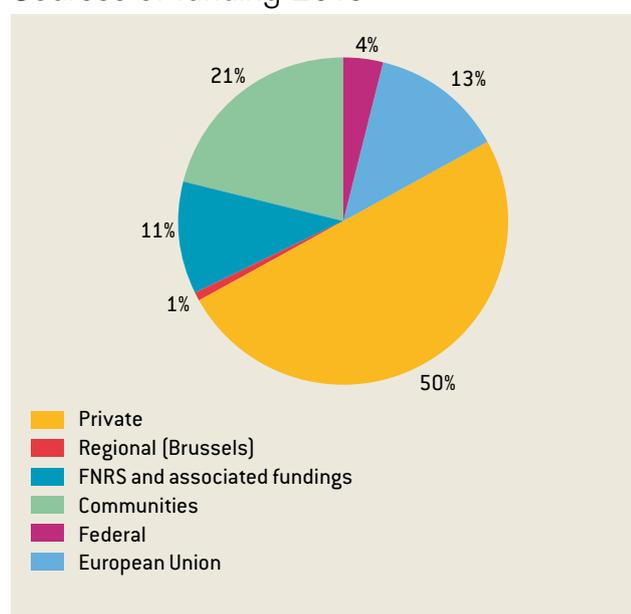
Promotor: J-M. Degryse; thesis defended on May 31, 2013

10/ Sources of funding

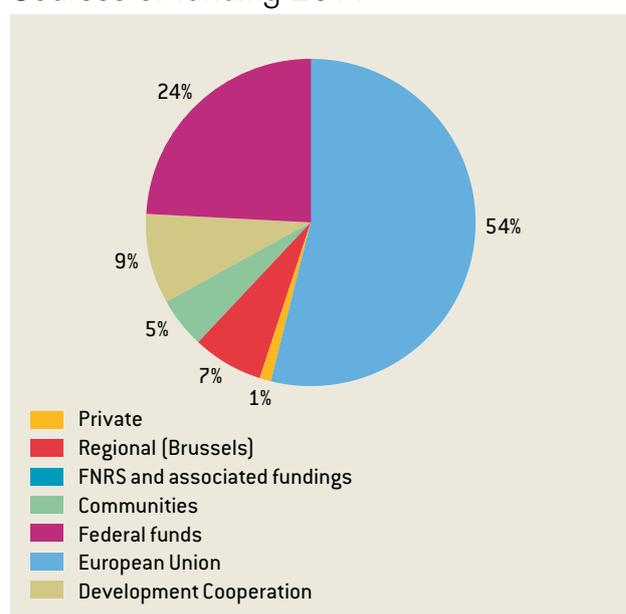
The annual turnover of the Institute for the time period 2013-2016 is 2.9 million Euros.

The figures presented are related to external fundings obtained for each year. These credits run for several years, the reason why the differences may be important from one year to the next, but not significative.

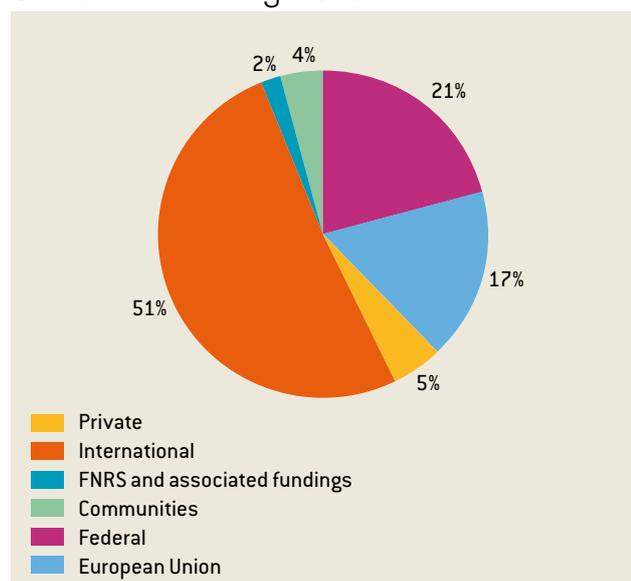
Sources of funding 2013



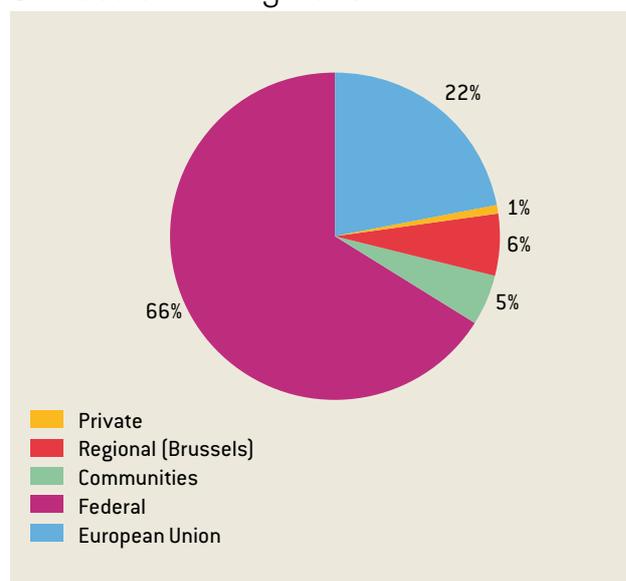
Sources of funding 2014



Sources of funding 2015

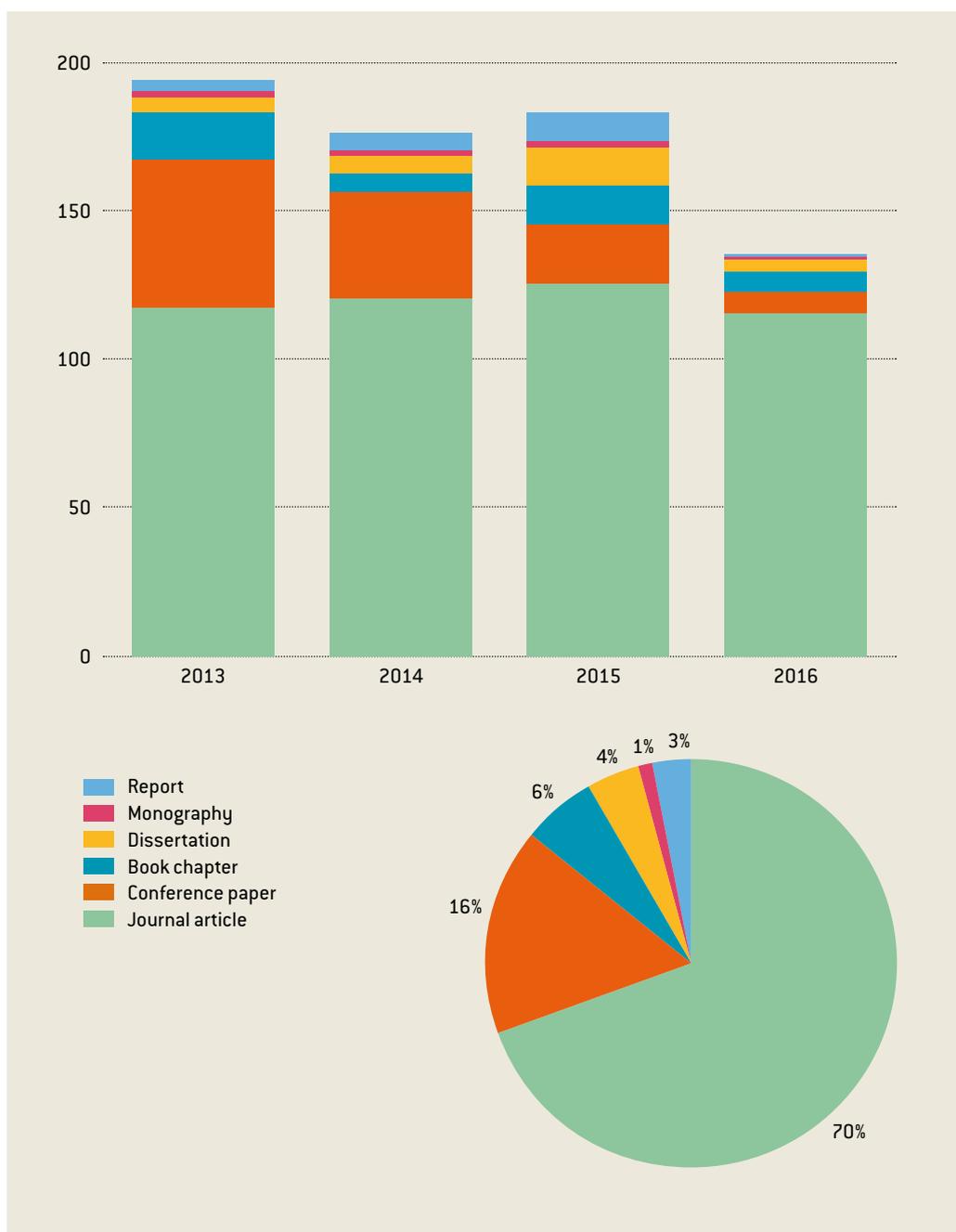


Sources of funding 2016

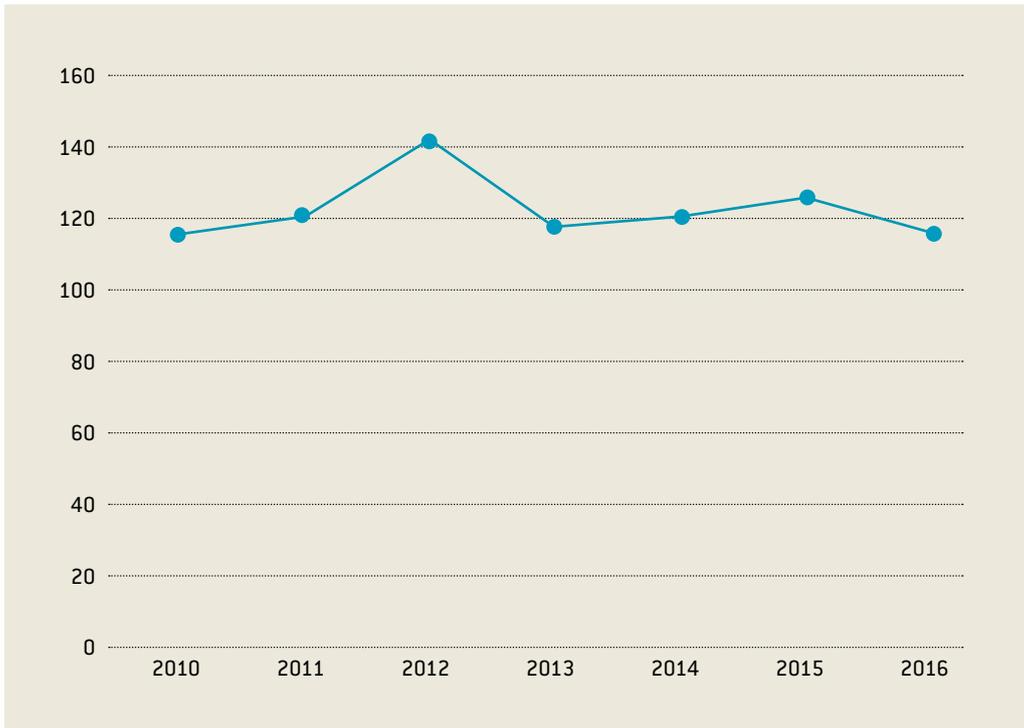


11/ Publications

During the last 4 years, the Institute has published 692 publications, from which 70% were in international peer – and non – reviewed journals.

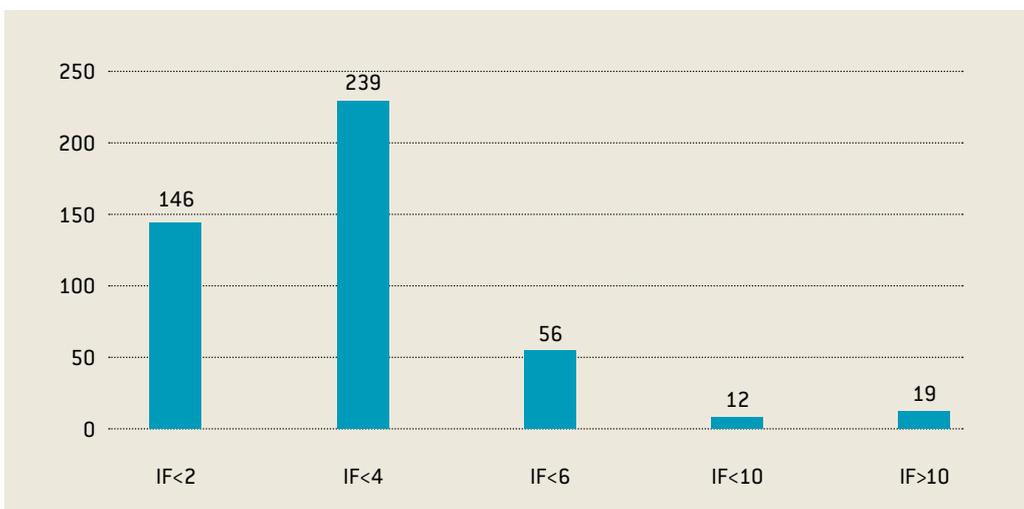


Evolution over the time of the number of annual publications (journal articles) published by the Institute



Histograms of the number of publications (2010 to 2016) according their Impact factor (IF)

856 articles have been registered from which 472 had an Impact Factor



Evolution of the mean Impact Factor (IF)

