Institute of Health Research

Current Research, Completed Research, PhD, Department Head and Research Team

June 2016
Abbreviations for research Foundations

- **CTI**: The innovation promotion agency
- **DORE**: Do Research, the Swiss National Science Foundation's (SNSF) funding instrument for practical research at universities of applied sciences
- **HES-SO**: University of Applied Studies Western Switzerland
- **OPET**: Federal Office for Professional Education and Technology
- **SNSF**: Swiss National Science Foundation
- **FOPH**: Federal Office of Public Health
Aging, end of life

Health services utilization associated with growing elderly population is a serious challenge for health care systems around the world. In 2009, 36.1% of patients discharged from acute care in Switzerland were older than 65 years. Growing economic pressure, care complexity, comorbidities related to ageing, decreasing hospital length of stay and thus available time for discharge planning are responsible for many adverse events after hospital discharge. Effective discharge preparation should ensure better preparation to go home for patients and therefore, decrease the risk of adverse events, rehospitalization and unplanned health service utilization. Discharge planning process was identified as the weak point of hospital stays. It is difficult to determine the contribution of these multiple interventions to elderly and caregivers health-related outcomes. The aim of this systematic review is to determine the best available evidence of the effectiveness of nursing discharge planning interventions and to assess their relative impact on health related outcomes and quality of life for elderly patients returning home.

Current Research

A systematic review on the effectiveness of nursing discharge planning interventions on health-related outcomes in elderly inpatients discharged home.

CEDRIC MABIRE
In collaboration with Andrew Dwyer (CHUV).
Funding: Commission scientifique du domaine santé HES-SO.

1 Hall, DeFrances, Williams, Golosinskiy, & Schwartzman, 2010
2 Coffey, 2006; Rydeman & Tornkvist, 2006

Adhering to a right-to-die movement: analyzing a life course transition and an end-of-life anticipation in members aged 65 and older.

MURIELLE POTT
In collaboration with Stefano Cavalli (SUPSI), Laetitia Stauffer (HESAV), Sarah Lou Bertrami (SUPSI).
Funding: SNSF Div. I.

Right-to-die organizations fight for new end-of-life courses such as euthanasia or assisted suicide (EAS). People aged 65 and older, women and those with higher education and socioeconomic position are more likely to become a member. Nevertheless, the profiles and motivations of these members are largely unknown, especially in Switzerland. Regarding the enrolment, we know that it can occur at a specific biographical turning point, it can be in strong relationship with the values promoted by these organizations, and that when an individual becomes a member she or he is invited to express her or his advance directives. The sociology of aging, especially researches on life course and disengagement (or “deprise”) can highlight the profiles and motivations of elderly members of right-to-die organizations. Using a life course approach, we’ll analyze the enrolment conditions, the shapes of membership and the end-of-life anticipation among members aged 65 and older of one main organization in Switzerland, EXIT Western Switzerland.
Completed Research

Annick Anchisi
In collaboration with Nicolas Kühne (EESP), Marie-Christine Follonier (HESAV), Jérôme Debons (HESAV). End 2013

Annick Anchisi
In collaboration with Rose Anna Foley (HESAV), Clothilde Palazzo Crettol (HES-SO). End 2011

Annick Anchisi
In collaboration with C. Bigoni and B. Despland (HESAV), V. Hugentobler (INAG). End 2008

Rose-Anna Foley
In collaboration with Annick Anchisi (HESAV), Sandro Anchisi (Hôpital du Valais Sion), Claire Ansermet (HESAV). End 2015

Clothilde Palazzo-Crettol (HES-SO Valais)
In collaboration with Annick Anchisi (HESAV), Corinne Dallera (HESAV). End 2013

Pierre Gobet and Elisabeth Hirsch (EESP, HES-SO)
In collaboration with Annick Anchisi (HESAV). End 2011

Cédric Mabire
In collaboration with Céline Goulet (UNIL), Christophe Büla (CUTR Sylvana), Diane Morin (UNIL), Joanie Pellet (HESAV). End 2013

Murielle Pott
In collaboration with Laetitia Stauffer (HESAV), Claudia Gamondi Palmesino (Unità e Servizio Cure Palliative, Istituto Oncologico della Svizzera Italiana). End 2013

Murielle Pott
In collaboration with Jérôme Debons (HESAV). End 2012

Murielle Pott
In collaboration with Rose Anna Foley (HESAV), Laurence Seferdjeli (Oncology Dpt Valais). End 2009

Work organisation in the provision of help and care at home to persons aged 80 and over: the example of three home care centres.

Oral chemotherapy by persons aged 70 and over: Crossed representations and practices between patients, general practitioners and specialist.

Implementation of home support for people in age AVS* in the context of the 2nd revision of the LaMal: the example of the county Valais.

Representations of medicines and therapeutical transitions in palliative treatment of cancer: stages perceived by patients aged 70 and over in the illness trajectory.

Growing old together under the gaze of professionals: theatricalised intimacy?

Health systems and long-term care for older people in Europe – Modelling the INTERfaces and LINKS between prevention, rehabilitation, quality of services and informal care.

Discharge planning and readiness for hospital discharge, anxiety and avoidable utilization of health care of hospitalized elderly in medical unit.

To take part in an assisted suicide: an exploratory study on the experiences of relatives and their representations of end of life, death and bereavement.

Four seasons in a nursing home. Analysis of the adjustment process during the first year of life in a nursing home.

Palliative home care for persons in a symptomatic stage: crossed view points of the actors involved.

Mental health

HESAV
RECHERCHE
This research project draws on the conceptual and methodological framework of analysis of enunciation. It aims at a better understanding of the changes in the clinic of autism, which will help re-think communication between professionals and parents. We have identified three enunciative realms where the process of redefinition of autism and of its care can be observed. The first is the realm of legitimacy of expertise, which is constituted by confrontations between professionals in the field of psychiatry and “new professionals”; the second is the realm of legitimacy of experience, which is constituted by confrontations between activist parents and some high functioning people with autism; finally, the third is the realm of epistemic legitimacy between expertise and experience, which is constituted by confrontations between parents – activists and non-activists alike – and their children on one side, the professionals on the other side. Thus, this project aims at exploring the ways in which these tensions reconfigure the clinic of autism in the French-speaking part of Switzerland, under the angle of the following research questions:

1. How are the socially available discursive resources (i.e. the biomedical discourse, the diversity discourse) mobilized by different categories of laymen (parents, activists, people with autism) in order to challenge or defend the validity of professionals’ expertise?
2. Why is the confrontation between experience and expertise structured in a three-protagonist system (professionals, parents, persons with autism) in the USA, in Canada and partly in France while in Switzerland there are only two protagonists (professionals and parents)?
3. What are the consequences of these conflicts on strategies of care for autism in the French-speaking part of Switzerland?

In order to address these issues, we will use an innovative methodology which is inspired by the sociological discourse analysis and ethnomethodology, namely the analysis of enunciation. The latter will be applied not only to the study of “virtual” enunciative supports (blogs, websites, forums from all of the stakeholders, as well as traditional media) but also “real” enunciative supports (institutions and associations). As far as “real” enunciative supports are concerned, complementary methodologies will be used for data collection, namely non-participant in-site observations of child/autism health services, video recording of clinical interviews and short restitution interviews with professionals and families following immediately their clinical encounters. Data collection will be completed by focus groups with families and professionals as well as direct observations of various public manifestations such as conferences and public seminars, whether they are organized by either of the protagonists of autism.

This project evolved from an acknowledgement, shared by practitioners and researchers working in the field of mental health: the transmission of professional skills fails to account the oral narrative and the historical context of the psychiatry in the French speaking part of Switzerland. This project aims to make students, professionals and the general public aware of the complexity of psychiatry, through a documentary support with “filmed portraits”, which reflect the variety of actors in the psychiatric field (eg nurses, architects, psychiatrists, patients, occupational therapists, pharmacists, neuroscientists, historians, etc.).

This project seeks:
(a) to value the importance of oral transmission in the psychiatric field
(b) to show the various issues of practicing psychiatry, at an historical level, in therapeutic knowledge, in stories and in mental health policies.

We work with two partners, IUHMSP (Institute of History of Medicine) and Facteur (i) Interfaculty Research Group of the University of Lausanne.
Chronic disease, integration

Completed Research

Krzysztof Skuza
In collaboration with Emmanuelle Opsommer (HESAV), Gilles Bangerter (HESAV), Raymond Panchaud (Fondation de Nant), Julie Dubois (Fondation de Nant), Audrey Linder (HESAV), Diane Martin (HESAV).
End 2014

Marion Droz Mendelzweig, (HEdS La Source)
In collaboration with Krzysztof Skuza (HESAV).
End 2013

Alexia Stantzos
In collaboration with Gilles Bangerter (HESAV), Angelika Güsewell (HEMU), Cédric Bottand (HEIG-VD), Emilie Bovet (HESAV). End 2014

Alexia Stantzos
In collaboration with Gilles Bangerter (HESAV), Bertrand Graz (CHUV). End 2010

Cold wet sheet packs (CWSP): clinical indications, efficacy and subjective experience of the patients in adult acute in-patient psychiatric ward.

Patient but not sick: effects of an equivocal clinical diagnosis on persons with MCI diagnosis, their relatives and on professional care givers. The case of MCI on question.

Rethinking the practice of intensive care in acute psychiatry units. Towards the construction of a research-action. Elaboration, application and evaluation of a musical object in an intensive care room.

Assessing an interview technique aimed at improving the admission and prognosis of acute psychotic patients.
Neuropathic pain affects about half the individuals with spinal cord injury (SCI) and is mostly described as severe altering the patient’s participation and the activities in their daily life. Quantitative sensory testing (QST) and laser evoked potentials (LEPs) are recommended and have been used extensively to assess neurological dysfunction in several populations affected by neuropathic pain. The main project aims at evaluating the capacity of combined LEPs and QST for quantifying the neurological dysfunctions in persons with and without below level pain after SCI in accordance with the International Spinal Cord Injury Pain (ISCIP) classification. Yet, for this population we lack normative data from multimodal studies and information regarding reliability and validity of these neurophysiological methods. Hence, we will first conduct a feasibility study before conducting a project on a large scale.

Non-specific chronic low back pain guidelines recommend rehabilitation along with a biopsychosocial approach. However, though psychological and social issues address important needs of professionals and patients, they have been scarcely developed in this area so far. Noteworthy, little is known about patients’ expectations relative to physiotherapy for chronic low back pain (CLBP), while professional recommendations advocate taking them into consideration. A study about patients’ experience will provide knowledge about the ill person’s perspective and how the physiotherapists are perceived as well as the role attributed to them. The aim of this study is, thus, to explore the experience of the patients suffering from CLBP in order to highlight their expectations toward physiotherapy services and physiotherapists. We will apply a critically interpretive socio-anthropological approach based on patients’ interviews and observations in an intensive CLBP rehabilitation program. The results will help improve the care patients receive by facilitating the integration of biopsychosocial issues related to patient’s expectations into the treatment.

FRANCIS DEGACHE
In collaboration with Diane Schmied (HESAV), Christopher Newman (CHUV).
Funding: Fondation Terre-vent, Genève.

Following successful results about postural adaptations with people suffering from motor disabilities and cerebral palsy during sports activities such as hypotherpy, ice skating and tandem ski, this study aims to evaluate if the tandem ski involve as well postural adaptations, more specifically in the cervical and trunk areas, for polyhandicap children and polyhandicap teenagers. This study is a pilot one, as never such a project has been carried on with this type of population and in this type of conditions. 1 control group (GC), consisting of 10 healthy children/teenagers and 1 polyhandicap group (Gpo), consisting of 17 polyhandicap children/teenagers, have been assessed. Each subject has been equipped with a set of 9 captors type Physilog (www.gaitup.ch), 7 inertial captors spread over the subject to the different body segments such as « head », « C7 », « sternum », « trunk », « pelvis », « right leg », « left leg » and « seat » (scotched on the tandem ski); 1 Physilog Gold Mote located in the examiner’s pocket, 1 Physilog Gold+GPS located in the pocket of the tandem ski’s driver. One slalom, consisting in 5 left turns and 5 right turns, has been organised on the same slope’s portion for the entire study. Each subject led by the same tandem ski driver has done twice the slalom. The results provide first evidence of postural adaptations, more specifically in the cervical and trunk areas, against the acceleration forces caused by the turns during skiing down a slope with a tandem ski for the polyhandicap children/teenagers. Indeed, despite their disabilities, when we examined the cumulated movement’s quantity on the totality of the slope’s portion without making any difference between left turns and right turns, we find absolutely no difference for any segments in terms of quantity motricity’s activity’s between the GC and the Gpo. However, our results do not bring any information on the fact to know if these postural adaptations are the consequence of voluntary movements or a submission to the accelerations caused by the turns.
Completed Research

Kenny Guex
Director of thesis: Prof. Grégoire Millet.
Co-director: Dr. Gerald Gremion.
Faculty of biology and medicine of the University of Lausanne.
Institute of Sports Science, department de Physiologie of the University of Lausanne.
End 2015

Testing, performance and injury prevention of the hamstring in sprinters

Training and professionnal practices
### Current Research

**The social space of nursing in Western Switzerland. Topology of a profession.**

**PHILIPPE LONGCHAMP**

In collaboration with Kevin Toffel (HESAV), Amal Tawfik (HESAV, UNIGE) and Felix Bühlmann (UNIL).

*Funding: SNSF Div. I.*

**Research topic.** Sociological, anthropological and historical approaches of the nursing profession are strongly influenced by U.S. research tradition from the second half of the twentieth century. The latter is characterized by a predominance of interactionist approaches which depict the nursing profession as a relatively homogenous entity, defined by its relationship with the medical profession. While taking cue from this tradition, the present research aims to break from some of its aspects, viewing the nursing profession as a social space possessing certain field properties. The objective is to demonstrate in which ways this profession forms a relatively autonomous system composed of specific positions which entertain competitive relationships with each other. We thus propose to answer a triple question: 1) How does the space of professional positions structure itself within the nursing profession? 2) How does the space of opinions and beliefs structure itself within the nursing profession? 3) What relationship unites both structures?

**Method.** An exploratory research based on 20 interviews with nurses as well as a documentary analysis has been done in 2012 and allowed to uncover the main structuring lines of the nursing professional space. On this basis, a questionnaire has been designed and forwarded to nurses throughout Western Switzerland. The data processing will favor multiple correspondence analysis (MCA), as it entertains an affinity with the concept of field.

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**Occupational trajectories of University of Applied Sciences’ Graduates in gender-atypical field: men in health and social work, women in engineering and architecture.**

**SEVERINE REY**

In collaboration with Morgane Kuehni (EESP), Ophélie Guélat (HESAV), Rachel Fasel (HESAV).

*Funding: SNSF Div. I.*

**Research topic.** The feminization of the active population is an important advance in gender equality. However, the training and employment choices still remain strongly segregated according to gender, including in qualified jobs (OFS 2013; von Erlach & Segura 2011). In the Swiss Universities of Applied Sciences (UAS), the work sectors with the least gender integration are health, social work, engineering and architecture. In 2013, in the French-speaking part of Switzerland, the proportion of male graduates was 24.8% in social work and 16.4% in health, while women were 17.9% of graduates in engineering and architecture. This study aims to focus on the career beginnings of these gender minorities after they graduated in one of these four fields of training.

Generally defined as a transition period between school and integration into the labor market (Demazière & Pélage 2001), entry into the labor market is a turning point in the trajectories of people’s lives. Many recent studies have focused on people who chose a training or occupation atypical with regard to their gender (Maihofer et al. 2013; Schmid et al. 2010), and confirmed that such orientations do not have same consequences for minority males than for their female counterparts.

Our study aims to fill some gaps in the current knowledge and will focus on two aspects the least studied: the institutional dimension and the individual dimension of entry into the labor market. It pursues three major objectives:

1. To document the professional and private situation of minority UAS graduates in these four fields, with a secondary analysis of statistical data.
2. To analyze existing politics and practices for welcoming minorities in enterprises and institutions of the French speaking part of Switzerland. To do this, we will conduct semi-structured interviews with people in charge of HR and management.
3. To analyze the professional path of minorities from an objective perspective (employment duration, job characteristics, work conditions, etc.) and a subjective point of view: using semi-structured interviews with graduates who obtained their diploma less than 5 years ago. We will attribute special attention to the experience of this step and on the impact it has on professional and personal life.

The multi-perspective analysis of these data will allow us to show the structural, institutional and individual dimensions that make entry into the labor market easier or harder for people who have chosen an atypical profession, and to reveal some gender issues that have a greater impact on this turning point in life trajectories.
Completed Research

Geneviève de Ram
In collaboration with Marcelo Valli (HESAV), Pascal Wagner-Egger (HESAV). End 2008

José Jorge
In collaboration with Livia Schell (CNAM, Paris), End 2011

Véronique Addor (HES-SO, Genève)
In collaboration with André Jeannin (IUMSP), Phillip Lehmann (HESAV), René Schwendimann (INS, Basel), End 2013

Yvonne Meyer
In collaboration with Claudia König (ZHAW), Franziska Schläppy (HESAV), and Vincent Barras (IUMSP). End 2010

Christine Pirinoli
In collaboration with Véronique Hasler (HESAV) and Vincent Barras (IUMSP). End 2010

Eliane Perin (HEDS Geneva)
In collaboration with Murielle Pott (HESAV). End 2009

Séverine Rey
In collaboration with José Jorge (HESAV), Céline Schnegg (HESAV). End 2014

Séverine Rey
In collaboration with Christine Pirinoli (HESAV), Mélanie Battistini (HESAV). End 2013

Séverine Rey
In collaboration with Christine Pirinoli and Nicole Richil Meystre (HESAV). End 2011

Corinne Schaub
In collaboration with Marie-Christine Follonier and Catherine Borel (HESAV). End 2009

Veronika Schoeb
In collaboration with Jan Kool (ZHAW), Marco Barbero (SUPSI), Amir Tal (BFH), Barbara Rau (HESAV), Irina Nast (ZHAW). End 2012

Status of the physiotherapy profession.
Communicative activity: effects and functions analysis in medical radiation technologists.

nur (Nurses at Work), Longitudinal retrospective cohort study of nurses’ career paths and retention (Feasibility Study).

Birth complications in home-settings or in free standing centres.Midwives’ and women’s perspective on decision making.

Socio-historical approach of physiotherapy and its education in the state of Vaud.

Women’s course of action when requesting termination of pregnancy (TOP) and healthcare professionals’ and social workers’ point of views within the framework of the new provisions of the law (art. 119-120 PC, 02.07.2002) concerning TOP in French-speaking Switzerland.

Seing, thinking and doing with images: technological mediation and professional practices in the medical radiology technologists community. An anthropological study.

Gender and atypical education choices within the HES-SO (University of Applied Sciences and Arts Western Switzerland).Trajectories of minority students (fields of study: Engineering-Architecture and Health).

Gender and horizontal segregation in the health professions: sharing the daily practice.

Care of demented elderly in institutions: Analysis of the influence of representations of caregivers regarding their practices of touch.

Physiotherapy relevant scientific projects: how are they defined and what is expected?

Current PhD Research

A social and cultural history of physiotherapy in Western Switzerland (Twentieth century).

VÉRONIQUE HASLER
Director of thesis : Professeur Vincent Barras. Faculty of Biology and Medicine of the University of Lausanne.

Physiotherapy is gradually recognized in Switzerland as a separate profession from a legal point of view since the Interwar period. The laws reveal a plural profession, built by aggregation or fragmentation, depending on multiple logics. (Switzerland being a decentralized country, each canton has its own legislation.)

This dissertation aims to present physiotherapy in western Switzerland during the 20th century through social and cultural history angles. Beyond a purely descriptive approach, it aims to deconstruct the ‘physiotherapy entity’, in order to revisit categories of thinking and social representations. In this purpose, physiotherapy will be seen in the light of its diversity and its «dynamic». In other words, it will be seen as a profession in constant change and in interdependence with other neighbouring professional activities. The analysis will include identifying which clinical practices establish themselves, regress or disappear through people who are using them under given conditions. Furthermore, the social and cultural practices that characterize physiotherapy will be highlighted from the perspective of cultural and anthropological history. In this more thematic approach, I will particularly focus on the representations and social uses of body. Gender and transnational dimensions will also be taken into account in this analysis.

The sources include (1) archives of cantonal and federal authorities, of professional associations and schools. This investigation also relies on a large selection of primary and secondary sources (2), as well as on (3) semi-structured interviews with women and men chosen for their connection with the subject of the dissertation. I expect to enlighten physiotherapy in a novel way and contribute to rethink the profession and its contemporary issues.

The object of this thesis lies within the context of the current transformation of educational and professional practices of health professions but with a particular focus on the profession of Medical Radiologic Technologists. The problem of the articulation between the educational practices and the “professionalism” of the Medical Radiologic Technologists is built on a diachronic level starting from three dimensions: genesis of medical radiology as an emblematic interdisciplinary field of modern scientific medicine; the development of medical radiology as a production sector of medical services within the modern hospital; evolution of the educational devices of Medical Radiologic Technologists compared to the changes of the professional practices. Synchronically, the concept of “professionalism” describes the product of the professionalization processes with their share of implicitness complexity and opacity. It is objectified in its symbolic dimension in reference to the works in anthropology of technology which define the technique as “effective traditional act” (Mauss). In addition, its functional dimension relating to competences and the professional gestures as cognitive structures and operations is made understandable by a clinical approach of the activity in the work situation related to ergonomic psychology.
Development, validation, evaluation of clinical or technical tools and practices

Current Research

The effectiveness of interventions to prevent or reduce Contrast Media Extravasations among patients undergoing computerised tomography scanning: a systematic review protocol.

SANDRINE DING

In collaboration with Nicole Richli Meystre (HESAV), Cosmin Campeanu (HESAV), Giuseppe Gullo (CHUV).

Funding: Commission scientifique du domaine santé HES-SO.

Review question/objective

The primary objective of the review is to identify the effectiveness of interventions to prevent or reduce contrast medium extravasation in patients undergoing Computerised Tomographic (CT) examination. The specific review question is: What is the effectiveness of methods to prevent or reduce Contrast Media Extravasations among patients undergoing computerised tomography scanning?

Inclusion criteria

Types of participants

This review will consider studies that included patients (adults or children), undergoing a CT examination, for any indication and of any part of the body, and requiring use of an IV administration of contrast media material. The examination can be either a classical CT or an interventional radiology CT procedure. The participants may be either inpatients or ambulatory care patients.

This review will not consider studies investigating extravasations in the framework of chemotherapy, anaesthesiology or parenteral nutrition. Indeed, the products used present a very different composition and thus different properties (e.g. viscosity and toxicity) compared to contrast media.

Types of intervention(s)/phenomena of interest

This review will consider studies that evaluated interventions which may prevent extravasation of contrast media or reduce its severity. Accordingly, it will include any strategies, related to:

- The contrast agent (volume, concentration, viscosity, temperature)
- The injection per se (patient injection site, preparation room)
- The material used for injection (catheter gauge, cannulas, butterfly, venflon)
- The apparatus used (detection device: ultrasound, radiofrequency)
- The healthcare professionals (profession, skills)
- The patient risk assessment by the radiology personnel (medication, morbidity, language).

The comparators of this study will be either other interventions, such as a different contrast agent, another cannula, or usual care, such as the absence of preparation room or detection device.

Types of outcomes

This review will consider studies that include the primary and secondary outcomes described below.

Primary patient outcomes will include:

- Extravasation frequency
- Extravasation volume
- Extravasation severity, including inflammatory reactions, necrosis, pain
- Complications, including plastic surgery and amputation.

Secondary outcome measures will include:

- Diagnostic value and accuracy
- Workflow
- False positive detection of extravasation. This outcome is particular to the interventions using detection device.
After a cerebrovascular accident (stroke), more than 80% of patients have sensory-motor dysfunctions of the upper limb in the acute phase and 50 to 70% of them keep a non-functional arm. These deficiencies limit activities and restrict participation in situations of everyday life. Hence, the work of therapists is fully oriented towards the recovery of function or compensation by appropriate therapies. A novel approach, capable of modulating mechanisms of bilateral cortical reorganization, is temporary deafferentation. It reduces voluntarily the somatosensory input in a body part by temporary anesthesia. Early studies on deafferentation used a pneumatic tourniquet, or nerve block to achieve anesthesia. However, these methods have significant disadvantages. Currently, studies focus on the use of an anesthetic cream (such as Emla®) covered with an occlusive bandage. This anesthesia is an inexpensive technique with only minimal side-effects and is better tolerated by the patients. The rapid changes in somatosensory and motor bilateral cortical representations during and after deafferentation have been demonstrated in several functional brain imaging studies. These changes occurred in healthy subjects but also in patients with chronic stroke. To date, there is no systematic review summarizing these studies. Therefore, our goal is to produce a systematic review of studies on the effectiveness and acceptability of temporary deafferentation on sensorimotor functions of the upper limb after stroke.


The project is part of the development of a robot named Lambda parallel kinematic Health System (LHS). It was designed by the High School of Engineering and Management of Vaud (HEIG-dv) for use in hospital settings. The project’s primary objective is to show the feasibility of training with stroke patients on LHS in terms of safety, ergonomics and intensity. Secondly, clinical data collected on motricity and spasticity will guide future research projects aimed to measure the effects of training with LHS.

Completed Research

Pierre Baltazard
In collaboration with Philippe Demeulenaere (HESAV), P. de Gusmoens (CHUV, Lausanne), Olivier Deriaz (CRR Sion). End 2009

Sandrine Ding
In collaboration with Alexandre Dominguez (HESAV). End 2008

Alexander Knob (HEIG-dv)

S. Grabherr (CHUV, Lausanne)
In collaboration with A. Dominguez (HESAV); F. Doenzi, R. Meuli and P. Mangin (CHUV); Dinhofer (Fumedica AG); B. Steger (Fumedica AG); B. Sollberger and E. Gygax (University Hospital Bern). End 2011

Régis Le Coutre
In collaboration with Leonor Alamo Meystre (CHUV), Ariane Boubaker (CHUV), Francis R. Verdun (IRA), Jennifer Pilot (HESAV). End 2014

Régis Le Coutre
In collaboration with Verdun Francis R., Institut Universitaire de radiologie physique appliquée (IRA), Lausanne, Coenod Stéphane (DRM)(CHUV), Arnaud-Abbas, (AHEAD) End 2011

Yvonne Meyer
In collaboration with C. Desaulles and V. Schoeb (HESAV), J. Cornuz (University of Lausanne). End 2003

Emmanuelle Opsommer
In collaboration with Isabelle A. Knutti (HESAV), Marc R. Suter (CHUV, UNIL), End 2014

Emmanuelle Opsommer
In collaboration with Sylvie Ferchichi (HESAV). End 2014

Claude Pichonnaz
In collaboration with Jean-Philippe Bassin (HESAV), Alain Farron and Brigitte Jolles-Haeberli (CHUV), Kamiar Aminian (EPFL, Lausanne), Céline Ancey (HESAV), Hervé Jaccard (HESAV). End 2014

Claude Pichonnaz
In collaboration with Jean-Philippe Bassin (HESAV), Brigitte Jolles-Haeberli (CHUV), Kamiar Aminian (EPFL), Enrico Stademi (DAL). End 2010


AUDoRaP: Ubiquitous access to radiological patient record.

PPAO-3D: Computerized three dimensional pre-operative planning for total hip arthroplasty.

Dynamic Post-Mortem Angiography.

Dosimetric aspects of CT and PET/CT examinations repeated in children suffering from lymphoma: towards an optimisation of the practice.

A pilot study on the exposure of the population by medical radiology and how it can be automatically checked.

Smoking cessation counselling for mothers during postpartum.

Test-retest reliability of thermal quantitative sensory testing on two sites within the L5 dermatome of the lumbar spine and lower extremity.


Development and validation of the simplest possible kinematic functional shoulder test.

Outcome of manual lymphatic drainage following total knee arthroplasty surgery.
Diabetic Kidney Disease (DKD) is becoming a global health concern. Despite advances in pharmacological and management strategies, DKD remain associated with high morbidity and mortality. Patients living with such chronic disease, are expected, on daily basis to manage their self-care activities. Patients’ non-adherence to the treatment is thought to be the major cause for the poor control and the occurrence of complications. Previous researchers have shown that multidisciplinary management of chronic disease can improve patients’ self-care and outcomes. However, none of these programs was centered on self-care and targeted the patients with DKD. A multidisciplinary self-care management program could improve the outcomes of patients with DKD, and delay the progression of the disease.

The aim of the study is to investigate the effect of a multidisciplinary self-care management program on self-care behavior, quality of life, medication adherence, glycemic control and renal function, in patients with DKD.

The study will use a cross-over design. 40 patients with DKD, will be randomly recruited from the Vaud University Medical Center, nephrology department and will be enrolled in the program for 12 month. All variables will be measured at baseline, three, six, nine and 12 month. We will measure the patients’ self-care behavior, quality of life, adherence to the anti-hypertensive medication taking using, the Revised Summary of Diabetes Self-Care Activities questionnaire, the Audit of Diabetes-Dependent Quality of life questionnaire and the Medication Events Monitoring System. We will assess the patients’ glycemic control by measuring the glycated hemoglobin and the renal function by measuring the serum creatinine and the microalbumin creatinine ratio.

The study will clearly show if a multidisciplinary self-care management program will improve the health outcomes of patients with DKD and will allow us to recommend the establishment of such a program.
Measurement of shoulder function is a controversial issue. There is a great
variety of measurement tools but none of them has been universally accep-
ted. There is therefore a need to develop extensively validated and conve-
nient measurement tools. Embedded computerized movement analysis can
potentially meet these requirements for measurement of shoulder func-
tion. Ambulatory measurement devices allow application in various clinical
conditions, display adequate precision and accuracy, and are considerably
more straightforward than laboratory-based systems. Using a Physilog-
ite system, Coley (2007) developed a relatively simple score of
shoulder function (P Score). The method is based on arm power measure-
ment by three-dimensional accelerometers and gyroscopes during seven
consecutive shoulder movements. It demonstrated reliability, responsive-
ness and criterion-based validity. However, additional knowledge and tech-
nological progress could now contribute to further simplification of the. A
secondary analysis of Coley’s study data based on principal component
analysis and multiple regressions highlighted that a procedure including
only two selected movements produces comparable results to P Score.
Moreover, the development of wireless systems considerably simplifies set
up. Consequently, simpler but equivalent measurement procedure can now
be considered. However, this new approach has now to undergo extensive
validation to precisely establish its measurement properties.

Aim
The aim of the study is to establish measurement properties of a simpli-
fied shoulder functional kinematic score, considering scope of application
in shoulder pathologies, intra- and inter-observer reproducibility, responsi-
veness, minimal clinically important difference and criterion-based validity.

Methods
A clinical validation study is planned. Measurement will be carried out with
four groups of patients representative of frequent shoulder conditions (ro-
tator cuff condition, shoulder instability, diaphyseal or subcapital hume-
rus fracture, frozen shoulder) and a control group free from any shoulder
condition. Measurement procedure includes two consecutive measure-
ments, alternatively conducted by two evaluators at baseline, and an addi-
tional single measurement 6 months later. Currently used functional ques-
tionnaires will be completed at both stages.

Analysis will address intra- and inter-observer reproducibility, responsive-
ness, minimal clinically important difference and criterion-based validity,
respectively for the four considered shoulder conditions.
Maternity protection at work: practices, obstacles, resources

ISABELLE PROBST
In collaboration with Peggy Krief (IST), Brigitta Danuser (IST), UNIL), François Kaech (HESAV), Alexia Cochand (HESAV).

Funding: SNSF Div. I.

Current Research

The purpose of this research project is to study organ donation as a public problem in the Swiss context, using both sociological and historical approaches. Two main empirical fields are planned. The first one aims to reconstitute historically how the concept of organ donation has developed on one side, and how organ donation has been recognized as a social problem and as a category of public action on the other side. In other words, we will examine how transplantation as a medical issue has progressively become a focus of social and political concern. Analysis will be based on a corpus of various historical sources. The second empirical field aims to describe and understand how patients associations contribute to construct organ donation as a public problem. In particular, we will examine their engagement in the public sphere as well as in providing psychosocial support to transplant patients. Focus will be on associations’ political and symbolic work, which can be defined as actions and strategies aiming to influence social perception frames of organ donation and to shape patients’ personal experience. Semi-directive interviews with members of transplant patients associations and with non-engaged transplant patients will be carried out.

The implementation of existing legal provisions (Federal Labour Law, Ordinance on the Protection of Maternity) aimed at protecting the health of pregnant workers or new mothers and their children contains flaws, both in the employment field and in the health care system. These flaws cannot merely be attributed to a lack of information; rather, they seem to stem from the contradictory requirements of employment and of maternity protection that lead protagonists to fail to apply some legal provisions, or to develop prevention practices that lie outside legal guidelines.

The project, conducted by a multidisciplinary team (psychologist, midwife and occupational health physician) has the goal of providing an overview of the current implementation of legal provisions for maternity protection in two employment sectors (health care and food production), as well as by gynecologists and midwives in French-speaking Switzerland. It seeks to identify the obstacles and the resources that have an impact on the implementation of these provisions, and aims at evaluating the perceptions of women workers themselves. Data collection will be comprised of two facets: 1) questionnaires for gynecologists, midwives and employers; 2) case studies in 6 to 8 enterprises including interviews with women workers, human resources managers, occupational health physicians and workplace security specialists.

This study will contribute to increasing knowledge and to provide concrete information on health protection practices for workers facing professional risks, as well as on work and maternity conciliation in Switzerland. Its results should promote improvements in maternity protection measures as well as in professional practices.

Living under the new paradigm of the Swiss disability insurance.

JEAN-PIERRE TABIN (EESP)
In collaboration with Isabelle Probst (HESAV).

Funding: SNSF Div. I.

Lead

The Swiss disability insurance (DI) has recently undergone fundamental changes. For example, medical conditions previously seen as debilitating are no longer considered as such, pensions are now reviewed every few years, rehabilitation measures are considerably more numerous, and so-called « early intervention measures » (on the job) have been implemented. As a consequence, the former boundary of the DI between disability and ability has been blurred. What are the consequences of these changes on former, potential or current DI recipients and their relatives?

Content and aims of the project

In accordance with policies aimed at activating social welfare recipients, the 5th and 6th revisions of the DI have restricted the right to disability pensions and introduced various measures in order to sustain the employability of persons with health issues. As a whole, these revisions sketch a new paradigm in the DI: the distinction between people working and pension recipients is no more clear-cut: every – even potential – recipient is now a target for rehabilitation or reintegration measures. Our project aims at understanding the consequences of this new paradigm on people undergoing rehabilitation and their relatives: how do they experience it?

We will first examine how the DI administration has carried out these new policies in the canton of Vaud (Switzerland). In a second phase, we will interview former, potential or current DI recipients and their relatives in order to understand how they experience these measures, but also if they support or criticise the norms and values of the new disability policy.

Using the tools of the critical disability studies perspective, we will collect and analyse the data in partnership with persons with disabilities and disability lobbyists.
Completed Research

Beatrice Despland
In collaboration with Claudia von Ballmoos (HESAV). End 2009

Michael Schumacher (HEVs)
In collaboration with Sandrine Ding (HESAV). End 2009

Nicole Richli-Meyste
In collaboration with J-L Bulliard (IUMSP). End 2011

Claudia von Ballmoos
In collaboration with Béatrice Despland (HESAV). End 2011

Current PhD Research

How to elicit and record women's views and preferences for care around birth: Case study approach of Scotland vs. Lausanne Switzerland.
CLAIRE DE LABRUSSE
Director of the thesis: Dr. Janet Tucker.
College of Life Sciences and Medicine, University of Aberdeen, Scotland.

Background: this project will explore women's experiences, opportunities and views about expressing their preferences for care during labour and birth in two tertiary units in Scotland and in Switzerland. A previous pilot study in Scotland (case note review of 250 cases using the Scottish Women Hand Held Record) showed only 26% of women contributed to the section related to their birth plan and that their birth-plan preferences varied. Furthermore, some women preferred to be passive and "go with medical advice", but others preferred to be "in control" with a more active role in decision-making 1-3.

Preliminary observations in Switzerland indicate that women at >25 weeks gestation are offered a birth-plan consultation with a midwife counsellor, and ~40% of women attend.

The aim: to explore the systems in place in Scotland and Switzerland to elicit women's preferences for labour and birth and evaluate "what works"?

Objectives:
1. To describe and compare the context policies, systems in place to elicit women's preferences.
2. To describe and compare the extent to which women's preferences are sought, expressed and recorded in Scottish vs. Swiss maternity records.
3. To explore women's views about opportunities and methods in place to seek their preferences for labour and birth
4. To critically appraise the extent to which the two systems and maternity records in place capture women's antenatal preferences about birth (as expressed in interviews)
5. To test if women who do express antenatal preferences about birth are associated with obstetric risk? Or particular maternal socio-demographic or theoretical psychological traits arising from qualitative data (eg. measures of perceived health competence and health locus of control).

Methods: A comparative mixed method study in two tertiary units: Scotland and Switzerland.

For Objective 1: A retrospective medical record review in Switzerland (as completed in Scotland) of socio-demographic, clinical characteristics, attendance at a birth-plan consultation and recorded birth preferences. A statistical descriptive review of the data collected in Scotland will inform us about the sample size needed and the variables that matter retrospectively for the caseload study in Switzerland.

For Objective 2: Qualitative interviews with 10 women in both settings to elicit their views on expressing and recording their preferences for birth and shared decision-making.

For Objective 3: Synthesis and critical appraisal of findings arising from phase 1 and 2.

For Objective 4: Using data from phase 1 and 2-develop and pilot a theory-based questionnaire survey of women in both settings to assess their perceived level of being able to express preferences, and their ideal level of expressing preferences (this would be to measure their "dissatisfaction" between actual vs. ideal? + locus of control and/or perceived health competence).

In order to pursue this research with a reflective angle, a flexible framework will be drawn so that every step will be informing the next one.

A health service perspective will be sought in order to achieve better user services utilization that require further attention in the development of future initiatives.
**Communication, interaction, therapeutic education**

**Current Research**

**Interprofessional collaboration: How do health professionals interact with each other in collaborative practice situations?**

**STAFFONI LILIANE**

In collaboration with Veronika Schoeb (HESAV), David Pichonnaz (HESAV), Camille Bécherraz (HESAV), Isabelle Knutti (HESAV), Monica Bianchi (SUPSI)

_Funding: SNSF Div. I._

**Introduction**: Collaboration in health care has become increasingly important. Some research has been conducted about the way interdisciplinary meetings and teamwork take place and how this collaborative work is accomplished in healthcare settings. Yet, we know very little about in what institutions/contexts interprofessional collaboration is performed regularly and how health care professionals interact with each other in collaborative situations. The objective of this study is to investigate where, when and how clinicians collaborate with each other within clinical patient care.

**Methods and objectives**: In the first phase of the study, interviews and focus groups will be undertaken with clinicians in French-, German- and Italian-speaking institutions, as well as with coordinators for clinical placement at the Swiss Universities of Applied Sciences (HES-SO, BFH, ZHAW, SUPSI). This first phase intends to (a) to identify clinical settings in which collaborative practices take place on a regular basis (e.g. rehabilitation hospitals, geriatric institutions), and (b) to characterise collaborative practices as defined by the key stakeholders interviewed. Interviews and focus groups will be analysed using qualitative content analysis. Based on the analysis generated by this first phase of the investigation, around 40 collaborative practice situations in four or five institutions will be video-recorded. We plan to include professionals with various levels of experience (students, novices, experts) in order to see how participants of different categories deal with the requirements of collaborative practice, and to identify what interactional resources (verbal and embodied) they deploy. Transcription and analysis of video-recordings will be performed using Conversation Analysis. Conversation Analysis sheds light onto processes, rather than on the outcome of interactions. The third phase of our study includes knowledge transfer interventions targeting both professional practice settings and educational settings (workshops, educational interventions).

**Expected results**: The results of this project will help understanding what interprofessional collaborative practice consists of in the context of healthcare, and identify the particular interactive skills required for their successful accomplishment.
Completed Research

Raphael Hammer
In collaboration with Yvonne Meyer (HESAV), Sophie Inglis (HESAV), Stéphanie Pfister Boulénaz (HESAV), Céline Schnegg (HESAV). End 2015

Emmanuelle Opsomer
In collaboration with Veronika Schoeb (HESA). End 2013

Veronika Schoeb
In collaboration with Liliane Staffoni (HESAV), Silvia Riva (Institute of Communication and Health, Università della Svizzera Italiana), Sara Keel (HESAV). End 2014

Veronika Schoeb
In collaboration with Liliane Staffoni (HESAV), Alison Pilnick and Ruth Parry (University of Nottingham, UK). End 2011

Veronika Schoeb
In collaboration with Claude Pichonnaz (HESAV). End 2008

Risks of alcohol consumption during pregnancy: couples’ management and professional issues.

« Tell me about your troubles »: Description of patient-physiotherapist interaction during initial encounters.

Discharge from rehabilitation centers: how are decisions taken?

Analysis of the interaction between patients and health professionals.

Analysis of patient-physiotherapist interaction in an orthopaedic outpatient setting – Research in progress.

Impact of Goal Attainment Scaling on quality of life, functional results and patient satisfaction in an orthopedic outpatient setting.

Current PhD Research

Relational care around maternity: the experience of independent midwives as a confronting mirror to Evidence Based Practice.

PATRICIA PERRENOUD
Director of thesis : Professor Ilario Rossi.
Faculty of Social Sciences and Political of the University of Lausanne.

Patricia Perrenoud is preparing her PhD thesis in Health Anthropology. She’s currently working on a comparison about conceptions and practices in the fields of Evidence Based Research and independent midwifery. Evidence Based Research is examined through a systematic and critical review of randomized controlled trials designed to assess interventions implying social skills (e.g. counseling, depression prevention, motivational interviewing) and occurring during pregnancy or the first year post partum. Midwives’ conceptions and practices are being described through a field research and a grounded theory approach. Three main topics are being thoroughly observed and analyzed in order to illustrate reflexivity in research and practice fields. These topics are equity and acknowledgement of population’s personal, social and cultural diversity, acknowledgement and insight about context of care and finally conceptions and practices of helping behaviors. This twofold research’s aims are to describe similarities and differences between two activity fields, to unveil shared issues and to discuss complementary roles of Evidence Based Research and field reflexivity.

GIVING BIRTH - Expectations and experiences of first time mothers in Switzerland.

VALERIE FLEMING (ZHAW)
In collaboration with Yvonne Meyer (HESAV), Michoud Bertinotti Bénédicte (HESAV), Schirinzì Laura (HESAV), De Labrusse Claire (HESAV), Van Gogh Suzanne (ZHAW), Franziska Parpan (ZHAW).

Funding: SNSF Div. I.

Aim. To develop a model of the emerging expectations of the mode of giving birth and the subsequent experiences of healthy primigravid women in Switzerland.

Research questions:
• What are the expectations in early pregnancy of healthy primigravid women of giving birth?
• How do expectations change during pregnancy?
• What are the influences on these expectations?
• What were the experiences of giving birth?
• How did the experience of giving birth match the expectations?

Method. The hermeneutic method of Fleming et al (2003a) involving a five stage approach will be used to inform this study. Participants will be 65 healthy primigravid women, who will be recruited from four cantons in Switzerland, through obstetricians and midwives providing ante natal care. Each consenting woman will take part in four guided conversations at approximately 20 and 34 weeks of pregnancy, six weeks and six months postpartum. Data will be transcribed verbatim and analysed according to the chosen methodology from which a model will be generated. Strict ethical standards will be maintained throughout the project.

Context. This study is being carried out in the context of a rising caesarean section rate, the perceived desire of women for elective caesarean and increasing costs of care (Gibbons et al, 2010). No well carried out longitudinal studies have been published which identify women’s changing expectations throughout and after pregnancy.

Outputs. Themes will be identified from which a model of expectations vis a vis experiences will be generated. This will in the future be used to develop a national questionnaire, which in turn will form the foundation for an epidemiological study.
Department Head and Present Research Team

SCHOOLS OF HEALTH SCIENCES
Christine Pirinoli
Dean of Research
Av. de Beaumont 21
1011 Lausanne
T: +41 21 316 81 00
F: +41 21 316 81 02
christine.pirinoli@hesav.ch
www.hesav.ch

URS Secretariat
Véronique Dussault
Joana Carrim
Av. de Beaumont 21
1011 Lausanne
T: +41 21 316 81 01
F: +41 21 316 81 02
veronique.dussault@hesav.ch
joana.carrim@hesav.ch
recherche@hesav.ch
www.hesav.ch
ALEXANDRE Kétia
Lecturer

ANCHISI Annick
Full professor

BECHERAZ Camille
Research assistant

BOVET Emilie
Lecturer

COCHAND Alexia
Research assistant

DEGACHE Francis
Associate professor

DE GUMOËNS Véronique
Lecturer

DE LABRUSSE Claire
Lecturer

DIDIER Amélia
Lecturer

DING Sandrine
Lecturer

FASEL Rachel
Senior scientific collaborator

FERREIRA Cristina
Associate professor

FLORIS Lucia
Associate professor

FOLEY Rose-Anna
Associate professor

GUEX Kenny
Associate professor

HAMMER Raphaël
Full professor

HASLER Véronique
Lecturer

HELOU Nancy
Associate professor

JAMMET Thomas
Junior Scientific collaborator

JORGE José
Lecturer

KNUTTI Isabelle
Research assistant

KOROGOD Natalya
Principal investigator

LE COULTRE Régis
Lecturer

LINDER Audrey
Research assistant

LOFFEIER Iris
Senior scientific collaborator

LONGCHAMP Philippe
Full professor

MABIRE Cédric
Full professor

MAUGUE Ludovic
Senior scientific collaborator

Mahlini Sandrine
Research assistant

MBARGA Josiane
Teacher

MEYER Yvonne
Full professor

MICHAUD Diane
Research assistant

MOREAU Delphine
Senior scientific collaborator

OPSOMMER Emmanuelle
Full professor

PERRENOUD Patricia
Associate professor

PERRET Nicolas
Lecturer

PFISTER Stéphanie
Research assistant

PICHONNAZ Claude
Associate professor

PICHONNAZ David
Senior scientific collaborator

POTT Murielle
Full professor

PROBST Isabelle
Associate professor

REY Séverine
Full professor

RICHLI MEYSTRE Nicole
Associate professor

SCHIRINZI Laura
Research assistant

SCHOEB Veronika
Senior scientific collaborator

SKUZA Krzysztof
Associate professor

STAFFONI Liliane
Associate professor

STAUFFER Laeticia
Research assistant

STANTZOS Alexia
Senior scientific collaborator

TAWFIK Amal
Research assistant

TOFFEL Kevin
Scientific collaborator

TURTSCHI Nicolas
Scientific collaborator