

# **Research Seminar in Health Sciences**

## **Fall Semester 2019**

**Department of Health Sciences and Medicine**

**Prof. Dr. Stefan Boes**

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# Research Seminar in Health Sciences

## Fall Semester 2019 (HS191518)



# Roles and tasks of advanced practice nurses in Swiss primary care: An ethnographic study

Renata Josi, SUPSI and University of Lucerne

Monday, 23 September 2019

<b>Speaker</b>	Renata Josi started her PhD in 2017 at the Scuola universitaria professionale della Svizzera italiana (SUPSI) in the Swiss Learning Health System Project which is hosted by the University of Lucerne. Her main research interest within the Swiss Learning Health System are advanced roles of health professionals and their implementation in the Swiss healthcare system.
<b>Date and time</b>	Monday, 23 September 2019, 14:15 – 15:15h
<b>Room</b>	Room HS 14, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne
<b>Content</b>	The increase of patients with chronic diseases calls into question existing models of care. Especially the primary care sector is more and more under pressure. The Swiss primary care sector has in the past mainly relied on general practitioners (GPs) operating in solo practices. However, the aging physician workforce and lack of physicians as well as the feminization among physicians have in the last years led to structural changes in the organization of primary care. New care models including advanced practice nurses and medical practice assistants have been introduced in a handful of primary care practices in Switzerland in the last years. The aim of this ethnographic study was to explore these newly evolving roles in Swiss primary care with a focus on tasks that are fulfilled by these professionals and the potential of these new roles for public health.

# **Research on smartphones *with* smartphones: Introducing digital trace data and ecological momentary assessments in research on digital media use and well-being in adolescents**

**Anne-Linda Camerini, USI Università della Svizzera italiana**

**Laura Marciano, USI Università della Svizzera italiana**

**Monday, 30 September 2019**

<b>Speakers</b>	Anne-Linda Camerini is Researcher and Lecturer at the Faculty of Communication Sciences, USI Università della Svizzera italiana, where she obtained her PhD in Health Communication in 2013. She has two research streams: 1) digital media use and its impact on the development and well-being of adolescents and young adults, and 2) health literacy and patient empowerment in the context of chronic disease management. She currently coordinates two SNF-funded projects in the first research stream, and she was recently appointed Associate Editor of the European Journal of Health Communication. Laura Marciano is a Ph.D. candidate at the Faculty of Communication Sciences, USI Università della Svizzera italiana (Switzerland). She completed her Master studies in Psychology and Neuroscience. Her research focuses on digital media use and psycho-physical well-being in youth, and new methodological approaches. In particular, her work is currently focused on methods like systematic review and meta-analysis, longitudinal panel analysis, and use of trace data.
<b>Date and time</b>	Monday, 30 September 2019, 14:00 – 15:00h
<b>Room</b>	Room 3.B58, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne
<b>Content</b>	Technological advancements in the form of smartphones and wearables have revolutionized the behavioral social and health sciences by introducing objective and ecological momentary assessments of individuals' activities (e.g., physical activity, sleep), psychological states (e.g., emotions, stress), contextual determinants (e.g., air, light, and noise pollution) and even biomarkers (e.g., heart rate, electrodermal activity). Despite an ongoing debate about the validity and reliability of these new forms of measurement, they have been increasingly used in the last decade, though primarily in adult populations. This presentation illustrates research from 2018 and 2019 using the smartphone-enabled Ethica application to trace smartphone usage and emotional well-being in 100 middle school students as part of a larger longitudinal study on digital media use and well-being among adolescents in Canton Ticino, Switzerland. The presentation consists of two parts including the presentation of preliminary results on 1) non-participation bias in the Ethica study and 2) estimation bias in self-report smartphone use by comparing offline questionnaire data, ecological momentary assessments, and trace data. The presentation creates the basis for the discussion of issues around data collection via smartphones and to evaluate the added value of trace data and ecological momentary assessments in the social and health sciences.

## (In)appropriate medication for patients with multimorbidity

**Jael Rachamin, University of Zurich and University of Lucerne**

**Monday, 7 October 2019**

<b>Speaker</b>	Yael Rachamin is a PhD student at the Department of Health Sciences and Health Policy at the University of Lucerne. She is doing her research at the Institute of Primary Care at the University of Zurich, focused on polypharmacy and the appropriateness of medication for patients with multimorbidity.
<b>Date and time</b>	Monday, 7 October 2019, 14:00 – 15:00h
<b>Room</b>	Room 3.B58, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne
<b>Content</b>	<p>Multimorbidity is increasingly considered as one of the main challenges in health care. Patients with multimorbidity typically require more complex care, particularly with regards to their medication. In the seminar, two approaches to the evaluation of medication appropriateness will be presented.</p> <ol style="list-style-type: none"><li>1) Hospital based cluster RCT: Treating patients according to guidelines of single diseases can lead to a medication regimen that is not appropriate for patients with multimorbidity. In addition, with increasing age and changing health status, drug indications might change. Accordingly, medication reviews for elderly patients with multimorbidity have been advocated. On these ground, we investigate in a cluster RCT whether a medication review by the physician at hospital discharge, coupled with an improved communication strategy between hospital physician and general practitioner, can decrease rehospitalisation rate of elderly patients with multimorbidity. The pragmatic trial is accompanied by a process evaluation for better understanding of the implementation and interpretation of the results. Both the ongoing trial and process evaluation will be presented.</li><li>2) Observational study using an electronic medical record database (FIRE): In Switzerland, there are different cantonal legislations regulating the drug-dispensing channel. While some cantons allow drug dispensing by general practitioners, others have a strictly pharmacy dispensing policy. Whether physician dispensing (PD) or physician prescribing (PP) provides better quality and lower costs is a matter of ongoing debate, with research typically focusing on drug costs and volume. We target the qualitative aspect by investigating whether the drug-dispensing channel is associated with differences in clinical outcomes in three common chronic conditions.</li></ol>

# **Quality measures in Swiss primary care with electronic medical records – from recording data to Pay-for-Performance**

**Rahel Meier, University of Zurich and University of Lucerne**

**Monday, 21 October 2019**

<b>Speaker</b>	Rahel Meier is a PhD in health science and health policy at the University of Lucerne and has her home base at the Institute of primary care at the University of Zurich. She is also the project leader of the FIRE Project, a project holding the largest medical routine database in primary care in Switzerland.
<b>Date and time</b>	Monday, 21 October 2019, 14:00 – 15:00h
<b>Room</b>	Room 3.B58, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne
<b>Content</b>	Access to relevant and valid health care data is a key element for quality initiatives, health service research and health policy initiative. The decentralized, fragmented organization and use of electronic medical records in Swiss primary care impedes the establishment of such a repository. Nevertheless, the FIRE-Project was able to establish a database with clinical routine data from Swiss primary care. This research database offers a broad knowledge base for diverse methodological, epidemiological and clinical research projects. The database also provides a foundation for a regular feedback and benchmark system for the participating GPs and for a quality measure system across practices and doctoral networks. In many European countries, nationwide quality and outcome framework are established to promote high quality care. However, in Switzerland, the trend towards transparency and monitoring in the health care system is a rather recent development. The aim of this seminar is to give an overview of current quality initiatives in Swiss primary care and to introduce a current randomized controlled trial investigating the effect of a pay-for-performance scheme on quality measures.

# **Developmental origins of self-regulation: Prenatal maternal stress and psychobiological development during childhood**

**Regula Neuenschwander, University of Bern**

**Monday, 28 October 2019**

<b>Speaker</b>	I am interested in understanding how self-regulatory processes develop during early childhood, how they contribute to children's adaptation to early educational contexts, and how environmental factors (stress, contemplative practices) can either support or undermine children's self-regulation. I am committed to conducting research that has the potential to expose novel opportunities for targeting children's self-regulation as a means of interventions in early school and family settings.
<b>Date and time</b>	Monday, 28 October 2019, 14:00 – 15:00h
<b>Room</b>	Room 3.B58, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne
<b>Content</b>	<p>Self-regulation encompasses diverse control mechanisms functioning at the biological and behavioral level that enable an individual to manage arousal, attention, emotion, behavior, and cognition in an adaptive way facilitating goal-directed actions. This capacity is important for social, emotional, and academic success during childhood and shapes physical and mental health risk trajectories across the lifespan. Studies of parental neglect and abuse have shown that early experiences shape the neurobiological systems involved in stress reactivity and regulation, suggesting a heightened risk of behavioral and emotional problems in children and adolescents with early disruptions in stress response systems. It appears though that, even before birth, the brain pathways and neurobiological processes associated with self-regulation are affected by the in utero environment, including by the mother's mood and use of antidepressants during pregnancy.</p> <p>In this talk, I will examine how stress regulation is altered by early adverse experiences (i.e., prenatal exposure to maternal depression – which is one of the earliest and most common risk factors in modern Western societies), and how early stress regulation shapes children's executive function (EF), the cognitive component of self-regulation.</p> <p>By examining cortisol responses in both everyday and lab challenge settings, we tested whether the child/offspring hypothalamic-pituitary-adrenal (HPA) axis mediates effects of prenatal maternal mood on child EF at age 6. In 107 Canadian children born to women with a wide range of anxious and depressive symptoms during pregnancy, we found that in boys but not girls, depressed and/or anxious prenatal maternal mood is associated with heightened diurnal cortisol levels in everyday settings, as well as heightened cortisol reactivity to a lab challenge and that this heightened reactivity was associated with poorer EFs. Among boys we also observed that cortisol reactivity but not diurnal cortisol mediated the association between depressed and/or anxious prenatal maternal mood and EFs. Importantly, depressed and/or anxious prenatal maternal mood was related to child EFs for both girls and boys. To our knowledge this is the first study to demonstrate a mediating role for child stress regulation in the association between prenatal maternal stress-related mood disturbances and child EFs, providing evidence of a mechanism contributing to fetal programming of self-regulation.</p>

# **Health Insurance Literacy Assessment Tools: A Systematic Literature Review**

**Ana Cecilia Quiroga, University of Lucerne**

**Monday, 4 November 2019**

<b>Speaker</b>	Ana's research focuses on the concept of Health Insurance Literacy (HIL), specifically its conceptualization and assessment. As part of her project she aims to develop and validate a measurement tool for Health Insurance Literacy in the Swiss context.
<b>Date and time</b>	Monday, 4 November 2019, 14:00 – 15:00h
<b>Room</b>	Room 3.B58, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne
<b>Content</b>	<p><b>Background:</b> Even though there is extensive research on Health Literacy, the concept of Health Insurance Literacy (HIL) is a relatively young concept. Despite gaining increasing attention in the last decades, most of the research on Health Insurance Literacy has taken place in the United States, usually employing non-validated instruments. The objective of this systematic review is to (1) find and summarize information on assessment tools for HIL and related constructs, (2) describe conceptual dimensions assessed and when possible, (3) describe psychometric properties of reviewed tools.</p> <p><b>Methods:</b> After consulting with a librarian and performing a Peer Review of Electronic Search Strategy (PRESS) A systematic literature review was performed on various databases (ERIC, Econlit, PubMed, PsycInfo, CINAHL and Google Scholar) during April 2019, searching for tools that assessed Health Insurance Literacy and related constructs such as health insurance knowledge or understanding. Two independent reviewers will screen abstracts and studies included for full-evaluation. To assess the quality of the included studies and measurement properties, the Consensus-based Standards for the selection of health Measurement Instruments (COSMIN) (Mokkink et al., 2016) will be used.</p> <p><b>Results:</b> A summary of the found tools will be completed, including information on type of measure (objective, or subjective, quantitative or qualitative), number of items and/or scales, details on scoring, target population, assessed domains, administration time and if available, correlation with other measures.</p>

# **Pregnant and employed: experiences of the implementation of pregnancy protective policies in Western Switzerland companies**

**Alessia Zellweger, University of Lausanne**

**Monday, 18 November 2019**

<b>Speaker</b>	I am currently working on an interdisciplinary research conducted by the School of Health Sciences (HESAV), HES-SO University of Applied Sciences and Arts Western Switzerland in collaboration with the Center for Primary Care and Public Health (Unisanté), Occupational Health and Environment Department (OHED).
<b>Date and time</b>	Monday, 18 November 2019, 14:00 – 15:00h
<b>Room</b>	Room 3.B58, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne
<b>Content</b>	<p>Background: The protection of pregnant workers from strenuous and hazardous workplaces is subject to specific laws and regulations. In Switzerland, the Ordinance on Maternity Protection at Work (OProMa) requires that companies assess the occupational risks and take the necessary measures to protect the health of their pregnant employees. However, findings in the literature and the experience of occupational health specialists highlighted that the OProMa is only partially applied. Our study tries to identify the main causes for such cases in order to provide a better protection.</p> <p>Methods: Two complementary methods were used: 1) A quantitative part that included telephone questionnaires among 202 companies in the food industry and the healthcare sector; 2) A qualitative part consisted of case studies in three (3) companies of the healthcare sector with different stakeholders – e. g. employers, human resources managers, occupational health specialists, supervisors and, of course, workers –.</p> <p>Results: The majority of companies agreed that the OProMa is an important tool for the protection of pregnant employees. However, only a minority of them performed risk analysis and made the necessary adjustments to comply with the legislation. It was found that the application of OProMa was better in large versus small and public versus private companies. Also, a better application was found for the healthcare sector. Our findings showed that only 2% of pregnant workers in the food industry and 12% in the healthcare sector are protected as recommended in OProMa.</p> <p>Qualitative data shows that perceptions about the occupational risks and the safety and supportive work climate may differ between managers and workers. The representations of the different stakeholders about risks and protection policies affect their implementation.</p> <p>Conclusion: The poor implementation of protective measures (OProMa) in the surveyed companies means that a significant number of pregnant workers was not protected according to the regulation. The personal experience of the pregnant workers should be taken into consideration in order to provide them with a better protection.</p>

# **Feasibility and preliminary results of a short inpatient energy-management education for persons with Multiple Sclerosis related fatigue**

**Ruth Hersche, SUPSI and University of Lucerne**

**Monday, 25 November 2019**

<b>Speaker</b>	Fatigue is a very common and disabling symptom in chronic diseases and in long-term conditions with a high impact on all quality of life and well-being dimensions. In 2017, Ruth, together with the rehabilitation center Valens gained a research grant from the Swiss Multiple Sclerosis Society for a project on fatigue management education in persons with MS. Her research interest is in self-management education and behavior change in persons with chronic disease-related fatigue and in knowledge transfer and in the implementation of evidence-based practices for occupational therapy.
<b>Date and time</b>	Monday, 25 November 2019, 14:00 – 15:00h
<b>Room</b>	Room 3.B58, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne
<b>Content</b>	The presentation will highlight the results of a feasibility study of a randomized controlled trial with mixed methods conducted in 2018 with 47 persons with MS-related fatigue during a 3-week inpatient rehabilitation. The aim was to explore the feasibility of the study protocol, the effects and costs of the newly developed Inpatient Energy Management Education (IEME). IEME is a structured group education led by an occupational therapist (OT) and consisting of six thematic sessions. During an IEME participants train the use of energy conservation strategies and plan the implementation of behavioral change in their daily routine. The outcome domains were fatigue impact, occupational performance, self-efficacy in performing energy conservation strategies, and health-related quality of life assessed at the end of the intervention and after four months from returning home. In conclusion, new research questions and needs arising from the results will be discussed.

# **External validation of EPIC's Readmission Risk model and the LACE+ index as predictors of all cause hospital readmissions: A multi-centric, retrospective case-control study in Switzerland**

**Aljoscha Benjamin Hwang, Cantonal Hospital Lucerne**

**Monday, 9 December 2019**

<b>Speaker</b>	Research Project Manager at the Cantonal Hospital Lucerne, responsible for the hospital wide introduction of acute care and preventive care prediction models.
<b>Date and time</b>	Monday, 9 December 2019, 14:00 – 15:00h
<b>Room</b>	Room 3.B58, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne
<b>Content</b>	<p>Introduction: Readmissions after an acute care hospitalization are relatively common, costly to the health care system and are associated with significant burden for patients. As one way to reduce costs and simultaneously improve quality of care, hospital readmissions receive increasing interest from policy makers. It is only relatively recently that strategies were developed with the specific aim of reducing readmissions by applying prediction models. EPIC's Readmission Risk model, developed in 2015 for the U.S. acute care hospital setting, promises superior calibration and discriminatory abilities. However, its routine application in the Swiss hospital setting requires external validation first. Therefore, the primary objective of this study is to externally validate the EPIC's Readmission Risk model and to compare it with the LACE+ index. As secondary objective, this study will adjust or re-estimate the EPIC's Readmission Risk model to the Swiss acute care hospital setting.</p> <p>Methods: For this reason, a multi-centric, retrospective case-control study will be conducted. The study will include all adult inpatients, who were hospitalized between 1st January 2018 and 31st January 2019 in one of seven larger, cantonal, second level of care Center Hospitals in Switzerland. Cases will be inpatients that experienced an unplanned all-cause readmission within 30 days after the index discharge. The control group will consist of individuals who had no unscheduled readmission. Cases and controls will be randomly matched for sex and age. Discrimination of the scores under investigation will be assessed by calculating the area under the receiver operating characteristics curves (AUC). For calibration, Hosmer-Lemeshow test will be used. All patient data will be retrieved from clinical data warehouses.</p> <p>Discussion: This is a presentation of the study protocol only. Results and discussion will be published after completion of this study.</p>

# To be or not to be in the social media arena: The perspective of healthcare providers working within AYA oncology

Eva De Clercq, University of Basel

Monday, 16 December 2019

<b>Speaker</b>	Eva De Clercq is a senior postdoctoral researcher at the Institute of Biomedical Ethics at the University of Basel, Switzerland. She has a background in philosophy and gender studies. Her main research interests are: capacity and decision-making in pediatrics; vulnerability and vulnerable populations; embodiment and lived-experience; palliative care for children and AYA, gender related issues. Currently, she is leading two qualitative research projects with adolescents and young adults, one on the use of social media within AYA oncology (which received funding from the Swiss Cancer League), the other one on the lived experiences of AYA with an intersex variation (funded by the Forschungsfonds of the University of Basel).
<b>Date and time</b>	Monday, 16 December 2019, 14:00 – 15:00h
<b>Room</b>	Room 3.B58, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne
<b>Content</b>	<p>Cancer is still the most common natural cause of death among adolescents and young adults (AYA). There is a growing awareness that AYA, who are maturing physically, cognitively and emotionally, are a unique population which should be treated by a multidisciplinary team. Although AYA tailored programs are emerging, in most countries they are unfortunately still rare or non-existent. As a result, AYA's needs and preferences are often underestimated as they fall in a kind of grey area between pediatric and adult oncology. Furthermore, studies reveal that available programs and services for AYA cancer patients are often not used due to lack of awareness and emphasize the need for more effective ways to deliver ("tailored") information.</p> <p>Given the extensive use of social media within this age group, it is important to explore how these technologies can be used to reduce the health disparity experienced by the AYA cancer population. Much has been written about the possible ethical and legal risks of the use of social media in healthcare – patient confidentiality, the privacy rights of colleagues, the credibility of the institution, the professionalism and the reputation of the healthcare provider, the professional and therapeutic relation between patient and provider, work-life balance etc. – but much less attention has been given to the myriad opportunities that these technologies can offer both for patients and healthcare providers and this across the cancer continuum, such as peer-support, legacy building, information seeking, networking, research opportunities etc.</p> <p>The present presentation aims to encourage a conversation about the use of social media to improve patient-centered care in AYA oncology by discussing the results of a focus group study with healthcare professionals' attitudes on the emerging role of social media to provide high quality care within the AYA oncology context. The study results will be used to inform more focused best practice guidelines that will reduce healthcare professionals' uncertainty about using these technologies.</p>