



# RESEARCH PROJECTS

(active/completed)

**INSTITUTE OF NURSING SCIENCE  
AND PRACTICE**



**PARACELSUS  
MEDICAL  
UNIVERSITY**



**PARACELSUS**  
**MEDICAL**  
**UNIVERSITY**

1<sup>st</sup> Edition of the Research Book of the Institute of Nursing Science and Practice at Paracelsus Medical Private University, Salzburg

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## Foreword

Welcome to the first edition of the Research Book of the Institute of Nursing Science and Practice at Paracelsus Medical Private University, Salzburg.

We are pleased to present in this volume an insight into the wide range of research projects that have been initiated, carried out, or are currently being supervised by our dedicated staff between 2010 and today. These projects reflect both the breadth of nursing science research questions and our Institute's strong commitment to scientific quality and practical relevance.

The Institute's nursing science research is embedded within the field of health services research, with a central focus on bridging the gap between theory and practice. Considering profound social and healthcare system changes, our research aims to ensure sustainable, needs-based care that remains close to people. We pursue a holistic approach that integrates preventive, curative, rehabilitative, and palliative perspectives. In doing so, we not only generate new knowledge but also ensure its transfer into professional and interprofessional healthcare practice. Our goal: to improve the quality of patient care based on scientific evidence.

The research profile of the Institute encompasses five main areas, which structure our activities in research, teaching, and practice. Methodologically, our research is broadly positioned, with recognized expertise in reviews as well as in qualitative, quantitative, and mixed methods approaches. This profile provides the foundation for our nationally and internationally oriented research activities and serves as a strategic framework for research-based and practice-oriented advancement of healthcare.

Salzburg, August 2025



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Jürgen Osterbrink  
Head of the Institute

## Overview

This book presents 41 projects, which are assigned to the five research priorities (RP) of the Institute (see Fig. 1).



Research within this field acknowledges and enhances contemporary evidence-based knowledge in nursing education and advanced nursing practice in health systems. By integrating natural, human, and social sciences, research recognizes and seeks to further explore the interplay between patient factors and nursing practice, which may lead to a shift in dynamics as nursing roles expand and develop. These activities consider health outcomes, quality of care, patient safety, and the impact of various nursing roles and skill levels.

Research in this area focuses on integrating nursing practice within multidisciplinary teams to improve health outcomes across various healthcare sectors. This includes aligning the goals of nursing science and practice with those of other professions by supporting and contributing to inter- and intra-professional education and transdisciplinary cooperation. Additionally, this research seeks to enhance the potential of individuals as change agents, making a meaningful impact on people's lives.

Research objectives include improving health outcomes related to pain management and age-associated or work-related diseases and enhancing cross-sectoral care by utilizing the most appropriate interventions and evaluation processes. Public health research spans from local to global contexts, encompassing prevalence, biostatistics, and the prevention of both communicable and non-communicable diseases across populations. Promoting health as a human right and addressing all determinants of health are central objectives, with a focus on improving public health, health literacy, and overall well-being.

Research in this area focuses on the experiences of those individuals who depend on nursing care and support. Vital issues are addressed relating to acute, critical, and chronic care needs. The application of clinical and system leadership supports health care organizations in enhancing the quality of nurses' professional lives and reinforcing a culture of patient safety. By employing various theoretical approaches, our research promotes the efficiency and efficacy of health care delivery and advocates for patient-centred interventions. Adopting a humanistic and reflexive perspective, this research improves health and organizational outcomes whilst encouraging the active involvement of patients and their relatives. It considers both the importance of delivering high-quality, safe patient care and the need to set organizational priorities and critical standards.

This research priority is committed to fostering a culture of innovation, encouraging the implementation of new ideas and the novel application of existing concepts. Adopting the view that every nurse is a change agent, pioneer, and facilitator, this research sustains an inclusive and reflexive approach to enhance the quality and safety of patient care and health outcomes. Research activities in this area include the development, implementation, and evaluation of contemporary nursing concepts, digital health care solutions, assistive technology, and AI-based applications.

Fig. 1: Research priorities of the Institute of Nursing Science and Practice

The diversity of study designs and methodological approaches employed reflects the broad scope of nursing science research: it ranges from qualitative and quantitative methods to mixed-methods approaches, as well as various systematic and narrative review formats (see Fig. 2). The individual project descriptions provide detailed information on study design, methodological approach, and specific objectives. These summaries offer a differentiated insight into the thematic and methodological orientation of the research projects.



*Fig. 2: Design and methodological competence*

A structured overview of all projects is presented in Fig. 3, serving as a guide for readers who wish to gain an overview of the content and focus areas quickly.

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- Project period:** 2010 – 2014
- Personnel:** Osterbrink J., Ewers A., Nestler N., Hemling S., Krutter S., Kutschar P., Mitterlehner B., Schüßler N.
- Study designs:** Multicenter pre-post studies (ex post facto design), exploratory qualitative designs, semi-structured interviews, and group discussions.

The health services research project “*Alliance for a Pain-Free City of Münster*” (2010–2014) was the first worldwide to study the pain situation and interprofessional pain management within an entire urban healthcare system. Across the sectors of nursing homes, hospitals, outpatient nursing services, pain practices, and hospices in the city of Münster, more than 4,000 residents, patients, guests, general practitioners, and nurses were surveyed. Both the pain situation and existing knowledge and care gaps were analyzed, institution-specific interventions were implemented, well-functioning structures were strengthened, and improvements were realized. This flagship project will, in the future, enable a networked and comprehensive pain care and treatment that transcends institutional and sectoral boundaries—a goal that has recently received special recognition through its designation as a “Best Practice Model” by the World Health Organization (WHO).

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## ALFIT – Age and Fitness



- Project period:** 2009 – 2011
- Personnel:** Osterbrink J., Schreier M. M., Bauer U., Kutschar P.
- Partners:** Universitätsinstitut für Sportmedizin, Universitätsklinik für Geriatrie des Landeskrankenhauses Salzburg
- Study designs:** Pilot study, prospective randomized controlled trial (RCT), qualitative interviews.

As part of the ALFIT study, a program of progressive resistance training using exercise therapy equipment was tested for its effectiveness in improving strength, endurance, and balance among geriatric day clinic patients in Salzburg. In addition, motivation, training experiences, and impacts on participants’ daily lives were examined. Positive effects were identified. The training program was subsequently implemented in nursing homes.

## ANIA – Advanced Nursing in Intensive Care & Anaesthesia

<b>Project period:</b>	2022 – 2023
<b>Personnel:</b>	Osterbrink J., Glarcher M., Ewers A., Eßl-Maurer R., Bacher T.
<b>Partners:</b>	Landeskrankenhaus Salzburg Universitätsklinikum der PMU
<b>Study design:</b>	Literature review, Mixed-Methods Design

The first part of ANIA aims to provide an overview of the international literature on the competencies and qualifications of Advanced Nursing Practitioners in the fields of intensive care and/or anaesthesia. Subsequently, a mixed-methods approach—consisting of individual interviews and questionnaires—will be used to gather information on the qualifications and current tasks of nurses working in intensive care units or anaesthesia at Salzburg University Hospital, Austria.

The overarching goal is to combine the analyzed literature with empirical data to develop an overview of the academic content that can serve as the foundation for future ANP programs in intensive care and anesthesia at Paracelsus Medical Private University.

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## AM Anima Mentis



<b>Project period:</b>	2017 – 2019
<b>Personnel:</b>	Osterbrink J., van der Zee-Neuen A., Eßl-Maurer R., Kutschar P., Mitterlehner B., Nestler N., Pitzer S., Seibold K., Schmidt Y.
<b>Study design:</b>	Prestudy, Pilot

Anima Mentis describes a research collaboration among experts in the field of mental health. Its primary goal is to strengthen mental performance and enhance quality of life sustainably. For each client, an individualized mental fitness plan is developed in collaboration with experts, incorporating a range of applications. PMU developed all Anima Mentis applications based on scientific studies in the field of mental health. Examples include multisensory colour light and bright light therapy, virtual reality and nature experiences, cycling and yoga, as well as Snoezelen (sensory stimulation therapy).

The *Anima Mentis pilot study* aims to evaluate the effectiveness of Anima Mentis and its applications. PMU investigates changes across various aspects of mental health, such as depression, anxiety, stress, and well-being. In addition, the study examines whether improvements in mental resilience can be sustained over time.

## Ö-BL: Austrian National Football League-Study – Risk Control and Prevention of Covid-19 in Professional Football Players in Austria

<b>Project period:</b>	Mai 2020 Juli 2020
<b>Personnel:</b>	Osterbrink J., van der Zee-Neuen A., Kutschar P.
<b>Partners:</b>	Red Bull Athlete Performance Center, Thalgau/Österreich, Electronic Caregiver, USA
<b>Study design:</b>	Prospective cohort study

As part of this study, PMU collaborated with the Red Bull Athlete Performance Center in Thalgau and the U.S.-based company Electronic Caregiver to collect and analyze data from professional soccer players in Austria, to generate new insights into COVID-19 risk factors and preventive measures in elite team sports. The study was motivated by the challenges that contact sports teams have faced since the onset of the COVID-19 pandemic in safely continuing training and competition. The goal was to design and implement a structured monitoring concept for the Austrian national soccer league.

The study examined the relationship between COVID-19 incidence and mental health among 225 team members and staff from five professional Austrian soccer clubs. A total of 146 professional players from five Austrian Football Bundesliga clubs were monitored over 12 weeks. Subjective health parameters, PCR test results, and data from a geo-tracking app were collected. Simulations were conducted to model the effects of a COVID-19 case under varying reproduction numbers. No COVID-19 infections occurred among the players during the observation period. However, infections in the surrounding environment increased the players' perceived risk of infection. A rising number of new COVID-19 cases was significantly associated with worsening sleep quality, though not with other proxies of mental health. An increase in active COVID-19 cases was significantly associated with both a higher perceived risk of infection and greater variance in mobility patterns.

The study yields the following conclusions: A structured monitoring concept can facilitate the safe continuation of contact sports during a pandemic. Collaboration among all stakeholders is essential. The adverse association between rising COVID-19 incidence and mental health among professional players and staff was particularly evident in subjectively reported mental health indicators. During an ongoing pandemic, targeted psychological support should be integrated into the daily routines of this population.

## CCC: Corporate Culture Change – Institutional Excellence Reloaded: A 17-year, Two-phase In-depth Study of Corporate Culture Change in the Health Care Sector



**Project period:** 2014 – 2017  
**Personnel:** Beil-Hildebrand M.  
**Study design:** Ethnography

**Purpose:** This ethnographic revisit of a general hospital aims to critically re-analyse a much-lauded corporate culture. Rather than accepting the managerial and academic claims concerning the mobilisation of corporate culture at face value, this ethnographic revisit again builds upon a labour process analysis and takes a close look at how it truly seems to work.

**Design/methodology/approach:** By means of an ethnographic revisit, this research work explores and describes once again how management practitioners still seek to design and impose corporate culture change and how it affects the nursing employees of this hospital organisation. This was achieved by means of a five-month field study of day-to-day life in the hospital's nursing division.

**Findings:** Using labour process analysis and ethnographic data from a general hospital, the researcher represents the corporate culture as faceted, complex, and sophisticated and brings results into play which still lend little support to the official claims that if managerial objectives are realised, they are achieved through some combination of shared values, beliefs, and practices. The findings lend more support to the critical view in labour process writing that modern managerial initiatives lead to tightened corporate control, advanced employee subjection, and extensive effort intensification. Drawing on ethnographic data and using labour process analysis, the way in which the employees enthusiastically embrace many aspects of the managerial message, yet at the same time, remain suspicious and distance themselves from it through misbehaviour and adaptation, and in some cases, use the rhetoric against management for their own ends, can be demonstrated.

**Originality/value:** This research work considers ethnographic data from a labour process analysis of corporate culture change in a general hospital, revisiting the ways in which nursing employees and management practitioners experience contradictory expectations and pressures.

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## EL: Describing the Ethical Landscape – Perspectives from Nursing Leaders in the U.S., Canada, Germany, Austria and Switzerland

**Project period:** 2018 – 2024  
**Personnel:** Beil-Hildebrand M., Birkholz L., Poston R.  
**Partners:** Old Dominion University in Norfolk, Virginia USA; Chatham University Pittsburgh, PA, USA  
**Study design:** Descriptive qualitative study

Background/purpose: Nurse leaders are challenged by ethical issues across health care settings. Ethical issues interfere with the principles of nursing and nursing leadership and can be defined as situations that occur as a consequence of a moral conflict that must be addressed and happen at the threshold between employees' needs at the unit level and organisational directives. The purpose of this research is to describe and analyse key elements of moral distress and ethical decision-making identified by nurse leaders from health care systems in the U.S., Germany, Austria, and Switzerland.

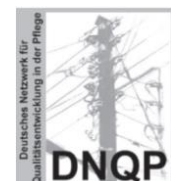
Research Questions/objectives: What are the morally distressing ethical issues nurse leaders face in the U.S., Germany, Austria, and Switzerland? What are the similarities and differences between nurse leaders in the U.S., Germany, Austria, and Switzerland regarding these distressing ethical issues? The primary objective is to compare and contrast ethical decision-making among nurse leaders in these four countries by understanding the non-rewarding ethical issues that nurse leaders face and by testing the Ethical Decision-Making Confidence (EDMC) scale in the U.S., Germany, Austria, and Switzerland.

Design/methodology/approach: A descriptive cross-sectional study surveys a convenience sample of nurse leaders in the U.S., Germany, Austria, and Switzerland. The voluntary anonymous survey also includes qualitative questions and will be distributed using the Qualtrics® platform. The online survey will be offered to nurse leaders who self-identify as holding a leadership position. A statistical as well as thematic analysis of the survey data in each country will be carried out, and a comparative analysis will identify ethical decision-making confidence and experiences between the groups of nurse leaders, comparing the data of each continent.

Originality/value: Understanding and comparing the ethical decision-making confidence and experiences associated with distressing ethical situations enables nurse leaders and health care organizations to identify effective solutions and foster resilience, thereby mitigating moral distress in the U.S., Germany, Austria, and Switzerland. Through ongoing comparative research, the research group continues to strengthen health care organisations, promote awareness, and reinforce international research collaborations.

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## DNQP – Update of the Expert Standard for Pain Management in Nursing



<b>Project period:</b>	2018 – 2020
<b>Personnel:</b>	Osterbrink J., Berger S., Glarcher M., Klausner T., Krutter S., Schüßler N., Stauber A., Stewig F.
<b>Partners:</b>	Fachhochschule in Osnabrück, Deutschland
<b>Study design:</b>	Literature Review

The German Network for Quality Development in Nursing (DNQP) is dedicated to developing evidence-based expert standards on key issues in nursing practice. Within the DNQP framework, Osnabrück University collaborates with various partners on the development and

updating of these standards. In this project, Osnabrück University and the Institute of Nursing Science and Practice at Paracelsus Medical Private University (PMU), Salzburg, worked together to update the expert standard “*Pain Management in Nursing: Acute Pain – 1st Revision 2011*” and the expert standard “*Pain Management in Nursing: Chronic Pain – Development, Consensus, and Implementation (2015)*”.

PMU was responsible for preparing the literature review, providing scientific leadership to the expert group, and ensuring the content quality of the subject areas covered by the standards. Osnabrück University ensured the methodological quality of the development process.

Based on the literature review submitted by PMU, it was decided whether and to what extent the two expert standards required updating. The expert working group revised the standard criteria and commentaries under PMU’s leadership in accordance with the current state of knowledge. Additionally, Osnabrück University plans to conduct workshops with the professional community to present and discuss the updated expert standards.

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## EDUPALL – Palliative Care Standardized Curriculum – Translating International Recommendations into Undergraduate Palliative Care Curriculum



**Project period:** 2017 – 2020  
**Personnel:** Piret Paal, Cornelia Brandstötter  
**Partners:** Universität Transilvania Brasov, Rumänien  
**Study design:** Erasmus+ Project Strategic partnership

EDUPALL was funded under the *Erasmus+ Cooperation for Innovation and the Exchange of Good Practices* action. The aim was to develop a comprehensive program for training medical students in palliative care, based on the recommendations of the European Association for Palliative Care (EAPC) for the design of medical curricula. The developed palliative care curriculum is available in Romanian, English, and German.

The curriculum for educators includes interactive teaching methods, the use of modern technologies, student supervision, and innovative assessment formats. The topics covered range from the fundamentals of palliative care, pain assessment and management, and symptom evaluation and treatment, to ethical and legal issues, communication, teamwork, and self-reflection.

The monitoring and scientific evaluation of the impact of the new program will be published in the medical literature.

## GeDePa – Optimization of Interprofessional Perioperative Care for Geriatric Patients at Risk for Delirium after Elective Procedures

<b>Project period:</b>	Mai 2023 Juli 2024
<b>Personnel:</b>	Kutschar P., Krutter S.
<b>Partners:</b>	Dietmar Ausserhofer, Giuliano Piccoliori, Chiara Muzzana( Claudiana Research, Bozen), Ingrid Ruffini (Südtiroler Sanitätsbetrieb), Bernhard Iglseder (Christian-Doppler-Klinik, SALK), Maria Flamm (PMU)
<b>Study design:</b>	Sequential mixed-methods study

Delirium is a complex neuropsychiatric syndrome that manifests as the brain’s response to internal or external disturbances, sometimes resulting in cognitive changes in consciousness, attention, or perception. Delirium is a common complication in older patients following surgical procedures and can lead to prolonged hospital stays and increased mortality. Despite growing international evidence, challenges remain in the preoperative identification of at-risk patients to prevent postoperative delirium. Systematic identification of risk factors and the development of individualized risk profiles—which can be conducted pre-hospital in primary care and integrated into medical and nursing perioperative care—can significantly optimize delirium prevention and management in older patients undergoing elective surgery.

The overarching objectives of the GeDePa study are:

1. The initial development of a *Geriatric Delirium Passport* (GeDePa), i.e., an analog, paper-based profile of risk factors based on scientific evidence and the clinical experience of key healthcare professionals.
2. A qualitative and quantitative expert evaluation (n = 21; general practitioners, anaesthesiologists, nurses) of the relevance, feasibility, and practicability of the GeDePa in clinical care.

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## HAIP – Optimization of Hygiene Management in Out-of-Hospital Intensive Care



<b>Project period:</b>	2019 – 2021
<b>Personnel:</b>	Gnass I., Berger S., Brandauer A., Freywald N., Kutschar P., Kraus A., Lex K., Strobl A., Walter C.
<b>Partners:</b>	Deutsche Pflegegruppe GmbH (DPG)
<b>Study design:</b>	Systematic Literature Research

The research collaboration between PMU and the DPG focused on the care of ventilated patients in out-of-hospital intensive care settings (shared living communities). In the field of outpatient intensive care, there is a need for both practice development and foundational research, driven by the increase in multimorbidity, the growing chronicity of illnesses, and changing financing models. There has been a significant and continuous increase in the number of patients receiving outpatient intensive care, resulting in a higher demand for outpatient intensive care facilities. To date, relatively little scientific research has been conducted in this area, which was the reason for this collaborative research effort.

The objectives of the collaboration were to optimize hygiene management in out-of-hospital intensive care communities and to implement a digital solution for hygiene-specific knowledge transfer within nursing services.

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## InTherAKT – Initiative for the Safe Use of Medication in the Aged through Cooperation and Teamwork



<b>Project period:</b>	2014 – 2018
<b>Personnel:</b>	Osterbrink J., Flamm M., Nestler N., Mahlkecht A., Bauer U., Hemling S., Krisch L., Letz N., Schürholz N.
<b>Partners:</b>	Institut für Allgemein-, Familienund Präventivmedizin der Paracelsus Medizinischen Privatuniversität Salzburg; Institut für Pharmazeutische und Medizinische Chemie der Westfälischen Wilhelms-Universität Münster
<b>Study design:</b>	Prä-Post-Design und qualitative Methods

As part of the InTherAKT project, medication safety in nursing homes was improved through the optimization of interprofessional cooperation and communication among the involved professional groups, as well as through the establishment of structured documentation and reflection on residents' medication.

InTherAKT was conducted in the city of Münster, North Rhine-Westphalia, Germany. Participating organizations included inpatient care facilities, general practitioners, and pharmacies. The project involved building competencies in medication therapy and safety for physicians, pharmacists, and nursing staff, as well as a comprehensive analysis of the current medication regimens of participating residents using the InTherAKT online platform.

## IPAP – Implementation of Nursing Experts/Advanced Practice Nurses in Nursing Care Models for Specific Patient Groups

<b>Project period:</b>	2024 – 2027
<b>Personnel:</b>	Nestler N., Berger S., Kaiser K.
<b>Partners:</b>	OÖG – Oberösterreichische Gesundheitsholding GmbH
<b>Study design:</b>	Practice development project

Scientific Support and Implementation of Nursing Experts (PEX) / Advanced Practice Nurses (APN) within the defined nursing care model. PEX/APN are integrated into the care process for patients with specialized needs, performing specific tasks that enable a structured and consistent care pathway. Through structural, procedural, and content-related realignment, the care and support of patients and their families are optimized.

Scientific supervision and the evaluation of outcome criteria ensure that the new care process is documented and that an evidence-based practice is established.

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## iQuest<sup>Med</sup> – Smartphone Application for Pre- and Postoperative Care of Patients with Liposuction

<b>Project period:</b>	January 2021 to November 2022
<b>Personnel:</b>	Osterbrink J., Nestler N., Kutschar P., Schüßler N., Brandauer A., Dellinger J.
<b>Partners:</b>	iQ Digital Health GmbH (Grödig/Österreich)
<b>Study design:</b>	Scientific supervision and evaluation

The collaboration between the Institute of Nursing Science and Practice at Paracelsus Medical Private University, Salzburg, and iQ Digital Health GmbH aimed to contribute to research in the treatment of lipoedema. The joint goal was the scientific support of the development and initial use phase of an app for pre- and postoperative guidance of patients undergoing liposuction, as well as the scientific evaluation and optimization of the app during and after use by patients, using both qualitative and quantitative research methods.

Lipoedema is a rare chronic condition affecting women, characterized primarily by enlargement of the lower—and less commonly the upper—extremities due to pathological fat accumulation. The cooperation responded to the research need and potential for improvement in care for affected women. Supporting self-management of the condition improves coping and daily therapy outcomes, with a particular focus on the preoperative preparation and postoperative recovery process. Increasingly, smartphone applications are being used to provide patients with information, enable direct communication with healthcare professionals, and actively support users' health behaviours.

This project targeted a specific patient group, and the app developed by the cooperation partner offers a tailored selection of evidence-based knowledge for patient education, informed decision-making, and empowerment for successful self-management. Anticipating fundamental

insights in this research area, PMU accompanied the development process and scientifically investigated its benefits for users.

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## MP Morbus Parkinson's Disease in Salzburg Nursing Homes

**Project period:** 2017 – 2018  
**Personnel:** Lorenzl S.  
**Study designs:** Exploratory, interdisciplinary mixed-methods design, including guided interviews and a quantitative questionnaire survey.

The background of this research project was the lack of available information on the living situation of residents with advanced Parkinson's disease (PD) living in nursing homes in Salzburg.

The leading research questions focused on how residents perceive their current situation and the extent to which symptoms burden them. In the international literature, the symptom burden of patients with advanced PD is similarly high, or in some cases even higher, than that of patients with advanced oncological diseases. Guideline-based interviews with both residents and their caregiving relatives were also conducted to illustrate their situation better.

Although 23 residents were initially considered eligible, the diagnosis could only be verified in 9 cases. While all participants were severely limited in their mobility (most being bedridden), the majority were not desperate about their situation. They acknowledged experiencing significant symptom-related distress in the past and naturally expressed a wish for health improvements, but overall described their current condition as tolerable. None of the residents required a feeding tube (PEG) for nutrition or medication intake. All received only minimal doses of standard Parkinson's medication.

Both residents and relatives shared the feeling of being “well cared for.” This perception can be primarily attributed to the comprehensive and appropriate nursing and medical care provided by the staff and physicians in Salzburg's nursing homes.

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## NursEduPal@Euro – Palliative Care Core Competencies and Novel European Matrix for Education Bachelor-degree Nurses

**Project period:** 2020 – 2023  
**Personnel:** Paal P., Cornelia Brandstötter

International research indicates that innovative and engaging methods for experiential and immersive training are required to ensure high-quality education in palliative care. Educators need the appropriate knowledge, skills, and attitudes to manage the complexity of palliative care. Moreover, it is widely recognized that palliative care is insufficiently represented in most, if not all, undergraduate nursing curricula.

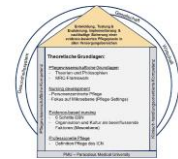
Against this background, the NursEduPal@Euro project was initiated to improve the quality of higher education in palliative care. The project pursued four interrelated objectives:

1. Define common European core competencies in palliative care and produce a report supported by international experts.
2. Develop innovative teaching resources to convey these competencies and create a European matrix to facilitate their integration into nursing curricula.
3. Train educators in using the European matrix and the innovative teaching materials.
4. Networking: Establish a virtual showroom for European palliative care educators to enable collaborative interactions.

During the project, seven intellectual outputs were developed. In the long term, the report on European core competencies in palliative care, along with the European matrix for palliative care education, is expected to strengthen educators' competencies, make a significant contribution to the training of bachelor-level nurses, and ultimately improve patient care in palliative settings delivered by nursing professionals.

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## Nursing Development Center (NDC)



**Project period:** sustainable  
**Study design:** Practice Development Project

The Institute of Nursing Science and Practice has established the Nursing Development Center to support the implementation and sustainable maintenance of evidence-based nursing practice and the integration of academically trained nurses. The Center provides scientific supervision of professional nursing practice in partner organizations.

Within the cooperating institutions, Nursing Development Units (NDUs) are established to ensure the long-term development of evidence-based clinical nursing expertise. The primary goal is to create the necessary structures and processes for successful implementation within the institutions. This implementation is scientifically monitored by PMU, and its success is systematically evaluated.

Together with the partner organizations, the Nursing Development Center also supports the establishment and/or expansion of nursing research and promotes professional development in nursing practice. Currently, multiple collaborations exist with institutions in Austria (e.g., Kardinal Schwarzenberg Klinikum in Schwarzach im Pongau) and Germany, with further partnerships planned.

## NDU KSK Kardinal Schwarzenberg Klinikum

*Scientific support for the implementation and sustainable establishment of evidence-based nursing practice at the Kardinal Schwarzenberg Klinikum*

**Project period:** 2023 – 2026  
**Personnel:** Nestler N., Osterbrink J., Kaiser K.  
**Partners:** Kardinal Schwarzenberg Klinikum  
**Study design:** Practice Development Project

Through the collaboration between Kardinal Schwarzenberg Klinikum and the Nursing Development Center (NDC) of the Institute of Nursing Science and Practice, an evidence-based nursing practice was systematically developed and sustainably established. Specifically, existing nursing experts within the hospital were strengthened in the implementation of evidence-based care and supported in the evidence-based preparation and application of clinical questions.

Systematic work on key topics, scientific supervision of these activities within the hospital, and their evaluation were carried out. The collaboration-initiated development processes were used to ensure that newly gained knowledge and concepts could be implemented in practice over the long term. To this end, practice development and research projects were used for the development, evaluation, and implementation of nursing interventions, minimizing the rigidity of institutionally bound organizational practices. The specific interactions between nurses and patients were intended to change in a way that would lead to an improved, as autonomous as possible, situation for patients. Evidence-based working methods were introduced for specific topics, thereby sustainably implementing nursing at an academic level.

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## NDU Upper Austrian Health Holding (OÖG)

*Scientific supervision of nursing practice: Patient Safety*

**Project period:** 2019 – 2022  
**Personnel:** Nestler N., Ebner L.  
**Partners:** OÖG – Oberösterreichische Gesundheitsholding  
**Study design:** descriptive Cross-Sectional Study

Healthcare organizations are complex systems with a high potential for errors, which can be influenced by the existing organizational culture. Safety culture is a general aspect of organizational culture, and its measurable parameter is the safety climate. The safety climate affects staff behaviour and, consequently, patient outcomes. Based on these considerations, at the beginning of 2019, the Medical Directorate of Oberösterreichische Gesundheitsholding GmbH (OÖG) decided to evaluate the company's safety culture and develop measures to strengthen it.

Using an online survey, elements of the safety culture across all OÖG clinics (except Kepler University Hospital) were assessed, incorporating the multiprofessional perspectives of staff in patient-facing areas. Based on the results, measures for establishing a safety culture will be derived and implemented across the organization.

The goal of this project is to enhance patient safety at the clinical sites of Oberösterreichische Gesundheitsholding.

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*Scientific supervision of nursing practice: Competent nursing case and professional leadership (KOPFF)*

**Project period:** 2021 – 2023  
**Personnel:** Gnass I., Kaiser K., Langegger D.  
**Partners:** Oberösterreichische Gesundheitsholding GmbH  
**Study design:** Practice Development Project

With the increasing medical, nursing, and therapeutic complexities in patient care, new challenges in nursing arise. To ensure optimal care for patients within the planned Skill & Grade Mix and to provide staff with security in their practice, experts / Advanced Practice Nurses (APNs) are required. They act in selected cases in clinical practice and provide support with evidence-based expert knowledge.

In collaboration with the Nursing Development Center (NDC) of the Institute of Nursing Science and Practice, a sustainable implementation of nursing experts / APNs is planned and carried out. The goal of the project is to develop a concept for the long-term implementation of competent nursing case and specialist management within the Skill & Grade Mix.

- in cooperation with the Competence Management for Health and Social Professions (KMGS) and the nursing directors, and
  - based on international approaches, literature sources, and the PEPPA framework.
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## NDU Bamberg Social Foundation

*Scientific supervision of the implementation of the Nursing and Healthcare Research department at the Sozialstiftung Bamberg I*

**Project period:** 2019 – 2021  
**Partners:** Sozialstiftung Bamberg  
**Study design:** Practice development project

Since 2018, the Sozialstiftung Bamberg and the Nursing Development Center (NDC) of the Institute of Nursing Science and Practice have pursued a joint effort to sustainably establish evidence-based nursing practice within the foundation's facilities. The target group for

developing evidence-based practice are staff members of the Sozialstiftung Bamberg who are clinically active and whose expertise in clinical care is to be further deepened and expanded. In addition to developing structures and tools for care delivery—such as a trainee program and the establishment of network structures—a dedicated project lead for nursing science was also introduced. Together, a model project was carried out to implement Bachelor-level nursing graduates into clinical practice across various specialties.

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*Scientific supervision of the implementation of the Nursing and Health Services Research division at Sozialstiftung Bamberg II*

**Project period:** 2021 – 2024  
**Partners:** Sozialstiftung Bamberg  
**Study design:** Practice development project

Since 2021, the cooperation project for the scientific support of the Department of Nursing and Care Research at Sozialstiftung Bamberg (SSB) has been specifically focused on promoting clinical research.

The aim is to strengthen nursing and care research to generate direct evidence of impact on patient care. Each year, PMU and SSB jointly select care-related priority topics with the goal of collaboratively developing, defining, implementing, and refining them. Ultimately, these processes aim to produce project outlines for further research.

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**OSiA – Optimized Pain Management in Nursing Homes**



**Project period:** 2011 – 2014  
**Personnel:** Osterbrink J., Pitzer S., Bauer U.  
**Study design:** Non-experimental pre-post study with cluster sampling

The OSiA Study (2011–2014) aimed to optimize pain management in nursing homes through targeted interventions and to integrate key elements of scientific evidence for best-practice nursing pain management. To this end, a baseline analysis was conducted to identify specific areas for improvement, a systematic pain assessment was implemented, and nursing staff were trained through the “Pain Nurse” program. The optimization of pain management was confirmed in the study’s post-test results.

## NDU RKH – Implementation of an Advanced Nursing Practice in the Regional Clinics Holding GmbH

**Project period:** 2019 – 2022  
**Partners:** Regionale Kliniken Holding GmbH  
**Study design:** Review / Practice development project

In cooperation with the Regionale Kliniken Holding and the Nursing Development Center (NDC) of the Institute of Nursing Science and Practice, an expanded professional nursing practice was systematically developed. For this purpose, a holding-wide competency profile as well as a matrix of roles and responsibilities for different nursing qualifications were created and implemented within the holding. Systematic work on thematic focal points was undertaken, accompanied by scientific support and evaluation. The cooperation-initiated development processes for establishing and implementing a skill and grade-mix, using models of practice development and evaluation as a basis for communication with Regionale Kliniken Holding GmbH.

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## Pabee – Patient Support for Endoprosthetic Procedures



**Project period:** 2017 – 2020  
**Personnel:** Osterbrink J., Nestler N., Stauber A., Bruns D., Krisch L., Letz N., Palmdorf S., Schürholz N., Schüßler N.  
**Study design:** Non-randomized, controlled two-arm study

The pabee project investigated to what extent the RECOVER-E app can be used as a tool to improve patients' outcomes after total hip or knee replacement. Specifically, the study examined whether app use leads to better mobility in daily and sports-related activities, reduced pain intensity, improved joint-related quality of life three months postoperatively, and lower preoperative anxiety compared to patients not using the app. The non-randomized, controlled two-arm study included patients from six participating hospitals, with a control group (CG) receiving standard care and an intervention group (IG) additionally using RECOVER-E. Data were collected at five time points, supplemented by semi-structured interviews with patients in the IG and with hospital staff.

RECOVER-E is designed to support education and motivation around surgery, aiming to promote faster recovery of mobility and pain reduction. The app integrates features such as reminders, reference materials, education modules, self-reflection and monitoring, motivation, gamification, communication tools, and generates aggregated datasets for hospitals' quality management. Animated educational films and exercise videos provide additional support. App use varied, with the most consistent engagement observed during hospital stays. Qualitative interviews with IG participants highlighted the app's usefulness, particularly in the post-

hospital phase, with exercise videos rated as especially helpful. Hospital staff described the app's application as smooth, emphasizing functions like "structured self-assessment" and "exercises" as particularly valuable, as patients were perceived to be better informed and more proactive.

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## PainApp – Mobile Pain Monitoring



**Project period:** 2013 – 2015  
**Personnel:** Sari Kunt F.  
**Study design:** Development and formative evaluation

The "painApp – Mobile Pain Monitoring" project was developed with the aim of improving pain management for older adults through the creation of the painApp software for mobile devices (e.g., tablets, smartphones) and its testing in outpatient care. The user-centred design of the painApp tailored the application to the specific needs of older people. Its core features include self-documentation of pain events by patients and enhanced communication between key actors involved in pain treatment (general practitioners, outpatient nursing services, and patients).

The evaluation demonstrated that the use of the painApp improved communication and strengthened networking among those involved in care.

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## PainApp Plus



**Project period:** 2016 – 2018  
**Personnel:** Gnass I., Ewers A., Brandauer B.  
**Partners:** Diakonie Düsseldorf  
**Study design:** Development and formative evaluation

The project "painApp Plus – Pain, Go Away! Optimized Pain Management for Elderly Care-Dependent People" was a follow-up to the painApp project. This project also focused on improving pain management for older and care-dependent individuals in inpatient, semi-inpatient, and outpatient care settings. The project aimed to optimize residents'/guests'/clients' pain levels and self-management, improve pain management from the perspective of care staff, and enhance coordination and communication among the involved professionals (general practitioners/specialists/palliative care teams/nursing staff).

The primary goal was to develop the competencies of staff within the care team (nurses, caregivers, housekeeping, social services, etc.). The technical software solution painAppPlus

was used to support pain assessment, documentation, and communication with the other involved professionals.

The project was implemented by Diakonie Düsseldorf in cooperation with the Paracelsus Medical Private University (PMU), Institute for Nursing Science and Practice, Salzburg. The PMU was responsible for the scientific supervision and evaluation of the project. Funding was provided by the Stiftung Wohlfahrtspflege NRW under the “Pflege inklusiv” call.

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## PAiS – Informal Caregiving for Patients with Dementia in Salzburg



<b>Project period:</b>	2016 – 2018
<b>Personnel:</b>	Osterbrink J., Flamm M., Kriechmayr C., Mann E., Krutter S., Eßl-Maurer R., Wurm L. R., Schaffler-Schaden D.
<b>Partners:</b>	Dialogund Transferzentrum Demenz Universität Witten/Herdecke
<b>Study design:</b>	Questionnaire survey and qualitative interviews

The PAiS research project investigated the burdens experienced by family caregivers of people with dementia in rural areas of the province of Salzburg, as well as the availability and utilization of support services. The study identified gaps in existing services and formulated recommendations for optimization.

Family-oriented support measures were highlighted, specifically tailored to the care situations of families in rural Salzburg where a member is living with dementia.

The project and its results contributed directly to protecting family caregivers from excessive strain and achieving a sustainable improvement in regional care provision.

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## PD\_PAL – Palliative care in Parkinson’s Disease

<b>Project Duration:</b>	2019 – 2022
<b>Personnel:</b>	Paal P., Lorenzl S.
<b>Project Partner:</b>	Universität Padua, Stichting Katholieke Universiteit, PD Neurotechnology LTD, Universität Ioannina, King's College London, Mediolanum Cardio Research SRL, University College London, Estnische Gesellschaft für Bewegungsstörungen, PMU Salzburg, Philipps-Universität Marburg
<b>Study Design:</b>	Multicentre, randomized controlled study

This project brings together a multidisciplinary team with extensive expertise that will also develop evidence-based Guidelines and a MOOC for Palliative Care in Parkinson’s Disease, involving experts from the European Association for Palliative Care, the European Academy of Neurology, and the Movement Disorders Society. Parkinson’s patients have considerable

(and mounting) unmet physical, psychosocial, and spiritual needs, and experience great problems with coordination and continuity of care.

The overall ambition of this project is to integrate palliative care with traditional care and suggest a new model of palliative care focused on the patient's quality of life along the entire course of disease. The MOOC “Best Care for People with Late-Stage Parkinson” will be integrated into the WHO-supported interdisciplinary postgraduate palliative care curriculum. PD\_Pal will provide an added layer of support to patients, their loved ones, and treating clinicians.

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## PhideLa – Phytotherapy in Long-Term Care

**Project period:** 2023 – 2024  
**Personnel:** Carola Walter, Stefanie Berger, Doris Langegger, Annemarie Strobl, Patrick Kutschar, Stefan Pitzer, Nadja Nestler  
**Study design:** Sequential mixed-methods design

The treatment of diseases and associated medication management becomes increasingly complex due to frequent multimorbidity. In older adults, the effects and metabolism of medications change, and multiple conditions often require numerous medications. The resulting polypharmacy or even hypermedication arises from guideline-based therapy for individual diseases, each treated according to its respective medical guidelines.

No guideline sufficiently addresses multimorbidity or the need to adjust medications accordingly. This can lead to medication accumulation, with interactions and potential adverse drug effects becoming difficult to predict. The use of naturopathic treatments could help reduce care escalation, as these therapies typically have fewer side effects and less harmful interaction patterns. However, an evidence gap exists, as naturopathic methods are widely used but insufficiently studied, particularly in long-term care settings. The application of phytopharmaceuticals by professional caregivers and family members remains largely unclear.

The PhideLa project examines the use of phytopharmaceuticals in two phases:

- Phase 1: Assess the current evidence-based use, needs, and outcomes of naturopathic therapies through a systematic literature review for geriatric patients and conduct a legal review of the regulatory framework for naturopathic methods in long-term care.
- Phase 2: Investigate the current use of naturopathic methods by caregivers, family members, and residents in long-term care using both quantitative and qualitative data.

## PIASMA – Project to Implement an Adequate Pain Management in Nursing Homes

<b>Project period:</b>	2016 – 2019
<b>Personnel:</b>	Gnass I., Osterbrink J., Kutschar P., Lorenzl S., Berger S., Brandauer A., Freywald N., Lex K.
<b>Study design:</b>	Cluster-randomisierte, kontrollierte Studie (C-RCT)

The PIASMA project was a three-year health services research study investigating the pain situation and nursing pain management, including palliative care structures, in residential long-term care facilities.

In a cluster-randomized, controlled pre-post intervention study across 20 Bavarian nursing homes of a large provider, data were collected on facility structures and resident-specific documentation. Residents were assessed either through direct questioning, depending on cognitive ability, or using proxy assessment instruments, while registered nurses completed web-based surveys. The intervention phase included targeted training for nursing staff on pain management and palliative care, as well as the implementation of interdisciplinary quality circles.

The study aimed to improve residents' pain outcomes (primary outcomes: pain intensity and stability) and pain-associated phenomena (e.g., quality of life, behavioural disturbances in people with dementia) and to optimize nursing pain management following the implementation of nursing interventions in long-term care settings.

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## PICo – Professional Identity and Coping Strategies of Nurses in the Face of the Corona Crisis

<b>Project period:</b>	2023 – 2025
<b>Personnel:</b>	Schnell M., Dunger C., Osterbrink J., Schüßler N., Kutschar P., Dellinger J.
<b>Partner:</b>	Universität Witten/Herdecke
<b>Study design:</b>	Mixed-Methods Design

PICo – Professional Identity and Coping Strategies of Nurses in Response to the COVID-19 Crisis is a BMFTR-funded project aimed at strengthening the nursing profession as a response to societal challenges in healthcare.

The project examines the long-term effects of the COVID-19 pandemic on residential long-term care and seeks to develop recommendations for maintaining high-quality nursing care under high-stress conditions. These recommendations are developed in an interdisciplinary and multiperspective manner and presented as practical scenarios.

The focus is on actions aimed at coping with individual burdens, and on how these can be sustainably preserved, protected, and supported through structural and societal measures.

## PiloTT-A: Pilot Study of the Virtual Telecare Technology “Addison”

<b>Project period:</b>	2020-2022
<b>Personnel:</b>	Osterbrink J., Krutter S., Eßl-Maurer R., van der Zee-Neuen A., Kutschar P., Dellinger J., Langegger D., Mitterlehner B., Nestler N., Pitzer S., Sari Kundt F., Schüßler N., Seibold K., Winkler A.
<b>Partners:</b>	Electronic Caregiver, New Mexico/USA
<b>Study designs:</b>	Cross-Sectional Study, Mixed-Methods Design

The research of the Institute of Nursing Science and Practice, which focuses on health services research, was supported by Electronic Caregiver in the course of this project to close gaps in knowledge and initiate necessary changes, striving to gain fundamental knowledge in this research area. The collaboration aimed to contribute to basic research in the field of health services research in virtual care and cross-sectoral patient care.

A virtual caregiver platform called Addison Care® was developed by Electronic Caregiver. This platform is a system and method for a voice-based, intelligent, augmented reality-based, on-demand medical assistant. The method comprises several functions, e.g., receiving health data of a user's medical testing equipment, storing the health data of the user in a retrieval database, processing the health data of the user, the keywords, and the domain of use to determine a medical assessment for the user. According to the embodiments of the present technology, an automated, voice-based, and intelligent augmented reality virtual medical assistant is provided by way of an electronic device. This medical assistant facilitates user interaction with the device to assist the user with various home healthcare activities.

The project aimed to translate the Addison Care platform® dialogues into German. Furthermore, the Addison Care platform® was supported by a backend for platform deployment throughout the German-speaking regions of the European Union. Quality assurance was completed and user experience tested. In addition, the project aimed to design and complete small-scale pilot investigations related to the Addison Care platform utilization across German-speaking cohorts.

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## POET Pain – Prevention of Persistent Postoperative Pain through the Implementation of a Perioperative “Transitional Pain Service“

<b>Project period:</b>	2021 – 2025
<b>Personnel:</b>	Gnass I., Nestler N., Berger S., Schürholz N.
<b>Konsortialführung:</b>	Deutsche Schmerzgesellschaft
<b>Konsortialpartner:</b>	BARMER, Berufsgenossenschaftliches Universitäts-klinikum Bergmannsheil GmbH, Georg-August-Universität Göttingen, Hochschule für angewandte Wissenschaft und Kunst Hildesheim/Holzminde /Göttingen, IKK classic, Universitätsklinikum Carl Gustav Carus Dresden, Universität zu

Lübeck, Universitätsklinikum Würzburg, Universitätsmedizin  
Greifswald, Westfälische Wilhelms-Universität Münster

**Study design:** Mixed-Methods-Design

The Transitional Pain Service (TPS) is an interdisciplinary team of physicians, nurses, physiotherapists, and psychologists that supports patients at risk of chronic pain in the perioperative period. Based on a multiprofessional assessment, an individualized and modular treatment plan is developed for each patient.

Through TPS support for up to six months post-surgery, the focus is on optimal implementation of the treatment plan, enhancing patients' self-management and problem-solving strategies for pain, and supporting their ability to manage activities of daily living.

The role of the PMU consortium partner includes designing the nursing module and conducting a structural and process evaluation of this new care model.

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## PRE Study ISI COPD – PRE Study of the Interdisciplinary, Structured, and Cross-Sectoral COPD (ISI COPD) Management

**Project period:** 2015 – 2017

**Personnel:** Osterbrink J., Firuzan Sari Kundt, Maria Flamm

**Partners:** Institut für Allgemein-, Familien- und Präventivmedizin der Paracelsus Medizinischen Privatuniversität Salzburg; Universitätsklinik für Pneumologie Salzburg; Universitätsklinik für Pneumologie Nürnberg

**Study design:** Qualitative Study

The PRE study ISI COPD, focusing on Chronic Obstructive Pulmonary Disease (COPD), assessed the strengths and weaknesses of coordinated care for COPD patients in Salzburg. Statistical data were collected on the status of the disease, followed by focus group interviews to identify challenges and potential improvements in care.

Both healthcare professionals and affected patients participated in the focus groups. The results of the PRE study inform the further development of interdisciplinary, structured, and cross-sectoral COPD care (ISI COPD).

The PRE study ISI COPD was funded by the PMU Research Funding Fund (PMU FFF).

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## REIF – Reflection, Empowerment, Evaluation, and Identity Formation

**Project period:** 2015 – 2017

**Personnel:** Brandner M. C., Sari Kundt F., von der Heide J.

**Partner:** Gesundheits- und Krankenpflege Schulen Linz, Schwarzach, Steyr, Vöcklabruck, Wels

**Study design:** Longitudinal, mixed-method Study

The REIF project examined whether professional competencies increase during nursing education or training, whether reflective ability develops, whether a clear professional identity emerges, and to what extent burnout or “cool out” plays a role during training.

To investigate this, cohorts of 2014 nursing students and trainee nurses from cooperating nursing schools were surveyed at two time points: T0 (students at the beginning of the 2nd semester and trainees in Spring 2015) and T1 (students at the end of the 6th semester and trainees in Spring 2017). Data collected included demographics and responses to several instruments: FKK (Questionnaire on Competence and Control Beliefs), GRAS (Groningen Reflection Ability Scale), BIP (Bochum Inventory for Occupational Personality Description), M&R Larcher Questionnaire for burnout status, and reactions to a case study.

Participation rates were 91% among students and 72% among trainees for both survey points. Both groups showed similar results across the scales: a subclinical risk of burnout in the majority, average reflective ability, and no significant differences in competence or control beliefs.

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## Salzburg Palliative Care Conversations

**Project period:** 2016 – 2018

**Personnel:** Piret Paal

The Salzburger Palliative Conversations event series was designed and organized by the Chair of Health Services Research at the Institute for Nursing Science and Practice in the field of Palliative Care. The series was guided by three core questions central to the chair’s work: “*Who needs Palliative Care?*” “*Who wants Palliative Care?*” and “*Who gets Palliative Care?*”

The aim of the series was to engage citizens from Salzburg and the surrounding region in PMU activities and to provide an accessible (i.e., free of charge) opportunity for the public to participate in moderated expert discussions on the topic of “*dying with dignity.*”

Each of the five events featured renowned experts from diverse professions—including representatives of various religious communities, cultural practitioners, legal professionals, and more—while also including patients, family members, and bereaved individuals as discussants. The events explored the question of what constitutes dignified dying. The Salzburger Palliative Conversations attracted unexpectedly high participation and received positive press coverage.

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## SeneCura Campus



**Project Period:** 2015 ongoing

<b>Personnel:</b>	Osterbrink J., Strobl A., Ebner P., Kraus A., Krutter S., Mülleder P., Schüßler N., Winkler A., Seidl K.
<b>Product:</b>	eLearning-Plattform for the Personnel of Senevita and Senevita Casa
<b>Partners:</b>	SeneCura Gruppe

The SeneCura Group has maintained a long-standing successful collaboration with the Institute in the areas of medication safety, Pain Nurse training, and other practice-based projects. Through the use of innovative educational structures, personnel—particularly nurses—are enabled to meet both societal and job-specific demands.

Professional nursing standards and a minimum level of subject-specific continuing education must also be met. One of the key challenges is the development of a flexible continuing education system that simultaneously fulfils legal obligations, standardizes content, and allows for individualization of theoretical and practical training to support both organizational and personal development.

The SeneCura Campus is an eLearning platform developed in cooperation with the SeneCura Group. Its primary aim is to provide nurses with continuously updated, scientifically based content via online courses, which can be accessed anywhere and anytime using smartphones, tablets, or laptops. The courses focus on interactive learning modules combining images, audio, text, and quizzes. Participants who successfully complete the assessments receive a personalized certificate.

In addition, online offerings for managers and personnel across different professional qualifications are provided, including leadership workshops, hygiene and infection prevention modules, and SeneCura group standards. The campus was initially piloted in 2017 with three sites and expanded to 90 locations in 2018. In 2021, it was further extended to 26 OptimaMed sites. Currently, over 4,300 personnel use the campus to enhance their knowledge and engage in continuing education. Strategically, future expansion is planned for locations in the Czech Republic, Slovenia, and Croatia.

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## Senevita Campus



<b>Project period:</b>	2021 ongoing
<b>Personnel:</b>	Osterbrink J., Strobl A., Kraus A., Krutter S., Mülleder P., Schüßler N., Winkler A., Seidl K.
<b>Product:</b>	eLearning-Plattform for the Personnel of Senevita and Senevita Casa
<b>Projektpartner:</b>	Senevita AG

A long-standing successful collaboration with the SeneCura Group exists in the areas of research and innovative educational structures. This collaboration has been expanded to include Senevita, which, like SeneCura, is part of the ORPEA Group. Senevita provides inpatient and outpatient care in the German-, French-, and Italian-speaking regions of Switzerland. It operates

37 residential and care facilities as well as 26 Senevita Casa locations offering home care services. Innovative educational structures enable personnel—especially nurses—to meet societal and job-specific demands.

The Senevita Campus is an eLearning platform developed in cooperation with Senevita and SeneCura. Learning content is provided in German, French, and Italian. Its primary aim is to continuously offer personnel, particularly nurses, scientifically based online training. Courses can be accessed flexibly and independently of location or time via smartphones, tablets, or laptops. Interactive learning objects, consisting of images, audio, text, and quizzes, are at the centre of the platform. Participants who successfully complete course assessments receive a personalized certificate. Additionally, online offerings are available for nursing personnel across different professional qualifications.

Existing courses from the SeneCura Campus are adapted and translated for Senevita. The campus was piloted in 2021 with three facilities and expanded in 2022 to a total of 63 sites. Currently, over 3,500 personnel can enhance their knowledge through the courses offered and use the learning platform for ongoing professional development.

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## SensiCare – Sensor-Based Fall and Pressure Ulcer Prevention to Optimize Nursing Care

<b>Project period:</b>	May 2023 – April 2026
<b>Personnel:</b>	Osterbrink J., Nestler N., Pallauf M., Krutter S., Kutschar P., Winkler A.
<b>Partners:</b>	IT-Care Holding AG (Mönchengladbach, Deutschland)
<b>Study design:</b>	Scientific supervision, proof-of-concept, and efficacy evaluation

In cooperation with IT-Care Holding AG, the implementation of sensor-based pressure ulcer and fall prevention in long-term residential care is being scientifically accompanied, aiming to optimize nursing care. In addition, the acceptance of these systems will be assessed and subsequently improved, while resident-centred health outcomes are intended to be enhanced.

Based on a systematic literature review and analysis of needs, evidence, and application possibilities—as well as user-centred factors for the use of sensor-supported assistance systems—a sensor-based outcome measurement is being developed and tested using expert interviews and standardized expert ratings.

The implementation of the sensor-based support systems is scientifically accompanied, focusing both on the education of users in long-term care and on supporting them in the practical application of the systems.

Subsequently, a feasibility and practicability assessment will be conducted to evaluate the introduction of the systems and to identify facilitating and hindering structures and processes. Finally, an effectiveness evaluation will be carried out in the form of a pragmatic controlled study.

## SiMba – Medication Safety in Older Nursing Home Residents

<b>Project period:</b>	2016 – 2018
<b>Personnel:</b>	Osterbrink J., Schreier M. M., Pitzer S., Flamm M., Dellinger J., Schaffler-Schaden D., Brandauer B.
<b>Partners:</b>	Institut für Allgemein-, Familien- und Präventivmedizin der Paracelsus Medizinischen Privatuniversität Salzburg, SeneCura Kliniken- und HeimbetriebsgmbH
<b>Study design:</b>	quasi-experimentelle Felduntersuchung mit Kontrollgruppenplan

The care of older adults in residential long-term care faces numerous challenges due to the increasing complexity of medical and nursing tasks. A particular challenge is medication safety in the context of multimorbidity and polypharmacy.

SiMba was a joint project of the Paracelsus Medical University Salzburg and SeneCura Kliniken- und HeimbetriebsgmbH. The project primarily supported the cooperation among involved professional groups (general practitioners, pharmacists, and nursing staff). This was achieved through the development of an online training program addressing the specific aspects of medication management in long-term care, as well as the structured reflection on residents' medication.

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## APN The role of Advanced Practice Nurses (APN) in Austria

<b>Project period:</b>	2020 – 2021
<b>Personnel:</b>	Glarcher M.
<b>Study design:</b>	explorative, qualitative study

Internationally, the development of Advanced Practice Nursing (APN) has a long tradition. APN is characterized by an expanded professional knowledge base in specific nursing care, complex decision-making skills, and clinical competencies acquired in a master's degree program. APN roles and core competencies are defined in a conceptual framework required to guide health care professionals, but currently, there is no international consensus on the conceptual definition of APN and their roles.

In Austria, training of the first APNs began about five years ago, but an official professional title, professional recognition, as well as specific fields of action in nursing practice are missing. For a successful implementation of APN, however, role clarity seems to be essential. The project's overall goal is to develop an 'Austrian APN competency framework'. Based on research and analysis of the current literature, an explorative, qualitative study will be conducted, and focus group discussions will be performed with APNs in Austria.

The understanding of what constitutes the role of an APN and how it should be implemented varies from country to country, and in some cases within countries. Specific roles, core

competencies, and learning outcomes, which can act as a guide for health care professionals, managers, and politicians, should be defined in a conceptual framework. A framework, as the general conceptual basis of a study, allows a broader meaning and usefulness of the content.

The findings will provide insights into international research as well as national APN roles and competencies. Based on these results, a first conceptual framework for APN in the Austrian health care system will be developed for further consultation with experts.

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## SCZ Certification of SeneCura Facilities

<b>Project period:</b>	2019 – 2021
<b>Personnel:</b>	Osterbrink J., Nestler N., Berger S.
<b>Partners:</b>	SeneCura-Einrichtungen
<b>Study design:</b>	Practice development (PD) through checklist-based standardized certification

The study of pain and pain management, as well as the optimization of pain management in residential long-term care facilities, is a research focus of the Institute for Nursing Science and Practice. This is particularly important because it has a direct impact on the quality of life of affected individuals.

To this end, the PMU collaborated with selected SeneCura facilities on nursing pain management. The PMU supported SeneCura facilities in obtaining the “Qualified Pain Management in Full-Time Long-Term Care” certification. All certifications were conducted using the recognized procedure by Certkom, a project of the German Pain Society (Deutsche Schmerzgesellschaft e.V.). This procedure was developed by Certkom in cooperation with the Institute for Nursing Science and Practice at PMU.

Through this procedure, facilities optimized their nursing pain management, while the PMU supported the process by strengthening nursing competencies. In total, 15 SeneCura facilities successfully obtained certification. The certified facilities demonstrate that they provide nursing pain management in line with current scientific evidence, improving the pain situation of residents and thus enhancing their quality of life.

## Leading Researchers, Coordinators, and other Researchers

Annemarie Strobl .....	18
Bacher T. ....	2
Bauer U. ....	1, 8, 14
Beil-Hildebrand M. ....	4
Berger S. ....	5, 7, 9, 19, 20, 26
Birkholz L. ....	4
Brandauer A. ....	7, 9, 19
Brandauer B. ....	16, 25
Brandner M. C. ....	21
Bruns D. ....	15
Carola Walter .....	18
Cornelia Brandstötter .....	6, 10
Dellinger J. ....	9, 19, 20, 25
Doris Langedger .....	18
Dunger C. ....	19
Ebner L. ....	12
Ebner P. ....	23
Eßl-Maurer R. ....	2, 17, 20
Ewers A. ....	1, 2, 16
Firuzan Sari Kundt .....	21
Flamm M. ....	8, 17, 25
Freywald N. ....	7, 19
Glarcher M. ....	2, 5, 25
Gnass I. ....	7, 13, 16, 19, 20
Hemling S. ....	1, 8
Kaiser K. ....	9, 12, 13
Klausner T. ....	5
Kraus A. ....	7, 23
Kriechmayr C. ....	17
Krisch L. ....	8, 15
Krutter S. ....	1, 5, 7, 17, 20, 23, 24
Kutschar P. ....	1, 2, 3, 7, 9, 19, 20, 24
Langedger D. ....	13, 20
Letz N. ....	8, 15
Lex K. ....	7, 19
Lorenzl S. ....	17, 19
Mahlknecht A. ....	8
Mann E. ....	17
Maria Flamm .....	21
Mitterlehner B. ....	1, 2, 20
Mülleder P. ....	23
Nadja Nestler .....	18
Nestler N. ....	1, 2, 8, 9, 12, 15, 20, 24, 26
Osterbrink J. ....	1, 2, 3, 5, 8, 9, 12, 14, 15, 17, 19, 20, 21, 23, 24, 25, 26

Paal P.....	10, 17
Pallauf M.....	24
Palmdorf S.....	15
Patrick Kutschar .....	18
Piret Paal .....	6
Pitzer S. ....	2, 14, 20, 25
Poston R. ....	4
Sari Kunt F. ....	16, 20, 21
Schaffler-Schaden D. ....	17, 25
Schmidt Y.....	2
Schnell M. ....	19
Schreier M. M. ....	25
Schreier, M. M. ....	1
Schürholz N.....	8, 15, 20
Schüßler N.....	1, 5, 9, 15, 19, 20, 23
Seibold K.....	2, 20
Seidl K.....	23
Stauber A.....	5, 15
Stefan Pitzer .....	18
Stefanie Berger.....	18
Stewig F.....	5
Strobl A. ....	7, 23
van der Zee-Neuen A. ....	2, 3, 20
von der Heide J.....	21
Walter C. ....	7
Winkler A.....	20, 23, 24
Wurm L. R.....	17

# Projects overview

	ACRONYM & PROJECT TITLE	DESIGN (YRS)
 <b>RP 1: Developing Professional Nursing</b>	ANIA - Advanced Nursing in Intensive Care & Anaesthesia	MMR 2022-2023
	APN - The Role of Advanced Practice Nurses (APN) in Austria	QUAL 2020-2021
	DNQP - Update of the Expert Standard for Pain Management in Nursing	REV 2018-2020
	EDUPALL - Palliative Care Standardized Curriculum – Translating International Recommendations into Undergraduate PC-Curriculum	REV 2017-2020
	NDC - Nursing Development Center - Scientific Support & Evidence-Based Nursing (NDU KSK, OÖG, RKH, SSB)	PD 2019-2024
	NDU OÖG - KOPFF - Scientific Support of Nursing Practice: Competent Case and Professional Management in Nursing NDU KSK - Scientific Support for the Implementation and Sustainable Assurance of Evidence-Based Nursing Practice at KSK	REV 2021-2023
	NDU RKH - Implementation of an Expanded Professional Nursing Practice in the Regional Clinics Holding GmbH	REV 2019-2021
	NursEduPal@Euro - Palliative Care Core Competencies and Novel European Matrix for Education of Bachelor-Degree Nurses	REV 2020-2023
	REIF - Reflection, Empowerment, Evaluation and Identity Formation	QUAN 2015-2017
	SCC / SVC - SeneCura Campus / SeneVita Campus	PD 2015-2025
	SCZ - Certification of SeneCura Nursing Homes	PD 2019-2021
	SVC - Senevita Campus	PD 2021-2025
 <b>RP2: Enhancing Continuity &amp; Cross-Sectoral Care</b>	GeDePa - Optimization of Interprofessional Perioperative Care for Geriatric Patients at Risk for Delirium after Elective Procedures	MMR 2023-2025
	PD-PAL - Developing New Standards for Palliative Care in Parkinson's Disease	QUAN 2019-2022
	PhideLa - Phytotherapy in Long-Term Care	REV 2023-2024
	POET Pain - Prevention of Surgery-Related Persistent Pain through a Perioperative "Transitional Pain Service"	MMR 2021-2025
	PRE Studie ISI COPD - PRE Study of the Interdisciplinary, Structured, and Cross-Sectoral COPD (ISI COPD) Management	QUAL 2015-2016
	SIMBa - Safety of Drug Therapy in Nursing Home Residents	MMR 2016-2018
 <b>RP 3: Safe-guarding Health Promotion</b>	ABSM - Action Alliance Pain-Free City Münster	MMR 2010-2014
	ALFIT - Age and Fitness	MMR 2009-2011
	AM - Anima Mentis Mental Health	MMR 2017-2021
	AM-V - Anima Mentis - Preliminary Study	QUAN 2020-2021
	IPAP - Implementation of Nursing Experts/Advanced Practice Nurses in Nursing Care Models for Specific Patient Groups	PD 2024-2027
	PAiS - Informal Caregiving for Patients with Dementia in Salzburg	MMR 2016-2018
 <b>RP 4: Ensuring High-Quality, Safe Care &amp; Leading Change</b>	PiCo - Professional Identity and Coping Strategies of Nurses in the Face of the Corona Crisis	MMR 2023-2025
	CCC - Institutional Excellence Reloaded: a 17-year, Two-phase In-depth Study of Corporate Culture Change in the Health Care Sector	QUAL 2014-2017
	EL - Describing the Ethical Landscape: Perspectives from Nursing Leaders in the U.S., Canada, Germany, Austria and Switzerland	MMR 2018-2024
	HAIp - Optimization of Hygiene Management in Out-of-Hospital Intensive Care	QUAN 2019-2021
	InTherAKT - Initiative for the Safe Use of Medication in the Aged through Cooperation and Teamwork	MMR 2014-2018
	MP - Parkinson's Disease in Salzburg Nursing Homes	MMR 2017-2018
	PIASMA - Project to Implementation an Adequate Pain Management in Nursing Homes	QUAN 2016-2019
	OSiA - Optimized Pain Management in Elderly Care Facilities	QUAN 2011-2014
WIBEPP - Scientific Support for Nursing Practice & Patient Safety	QUAN 2019-2023	
 <b>RP 5: Advancing Scientific &amp; Clinical Innovations</b>	BL-Ö - Austrian National Football League-Study – Risk Control and Prevention of Covid-19 in Professional Football Players in Austria	QUAN 2020-2020
	iQuestMed - Smartphone Application for Pre- and Postoperative Care of Patients with Liposuction	MMR 2021-2022
	NDU SSB - Scientific Support for the Implementation of the Nursing and Care Research Department at Sozialstiftung Bamberg	REV 2019-2024
	pabee - Patient Companion for Endoprosthetic Procedures	QUAN 2017-2020
	PainApp - Mobile Pain Monitoring	QUAN 2013-2015
	PainApp+ - Mobile Pain Monitoring Plus	MMR 2016-2018
	PiloTT-A - Pilot Testing of the Virtual Telecare Technology "Addison"	MMR 2020-2022
SensiCare - Sensor-Based Fall and Pressure Ulcer Prevention to Optimize Nursing Care	MMR 2023-2026	

Fig. 3: Overview of all active and finished projects of the institute



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