

APPENDIX A Explanations of the roles and core competencies

Role	Explanation
Clinical nursing	E.g. care planning, clinical reasoning.
Quality management	E.g. capturing, analyzing and interpreting existing quality indicators, developing new quality indicators, performing statistical analyses, using a data warehouse, introducing new and safe patient care measures based on evidence, developing clinical pathways.
Coordination of inter-professional care	E.g. coordinating different professionals with regard to e.g. treatment and discharge coordination, sharing knowledge, learning about different terminologies and understanding them, organizing and contributing to interdisciplinary case conferences.
Nursing management	E.g. ward/nursing unit management including staff management and scheduling, resource planning and allocation, controlling/governance, statistics and reporting, developing strategies for the organization including IT strategies.
IT management in nursing	E.g. selecting, introducing new IT systems, leveraging the current use of IT systems, customizing IT systems for clinical processes, optimizing clinical processes through the use of IT, training clinical key users, communicating with CIO and Nursing Director.

Core competency	Explanation
Applied computer science/informatics	E.g. programming languages, database systems, modeling and software architectures, telecommunications, wireless technology, virtual reality, multimedia.
Assistive technology for ageing people (ubiquitous technologies)	Ubiquitous technologies (e.g. in the context of assisted living).
Biomedical imaging and signal processing	Biomedical imaging like visualization methods (e.g. wound monitoring).
Biostatistics/statistics	Statistical methods and procedures for analysis and interpretation of data and trends
Change management and stakeholder management	Tasks and measures to bring a comprehensive change (new strategies, structures, processes or practices; taking into account all stakeholders).
Data protection and security	Legal requirements, confidentiality and protection of patient data, as well as identification/authentication.
Decision support by IT	Use, design and limitations of decision support systems for specific problems.
eHealth, telematics and telehealth	eHealth, eHealth applications, interoperability, standards and inter-organizational information exchange.
Ethics and IT	Confidentiality and its importance (physiological, sociological, psychological, emotional, environmental, cultural, spiritual perspectives and its assessment).
Financial management	E.g. preparation, analysis and evaluation of budget plans, accounting practices, cost-benefit analyzes, financial projections.
Human resource management	E.g. management of human resources incl. staff selection, personnel control, laws, staff development.
Information and communication systems	Access, disclosure and exchange of data, application design and planning, human-computer interaction, support, architectures and the identification of advantages and limitations of information technology in health care.
Information management	Construction and use of clinical register.

in research	
Information management in teaching, training and education	Tools and methods (teaching and learning systems) to support education and training.
Information management and knowledge management in patient care	Effective use of data, information and knowledge for scientific research, problem solving and decision making (access to medical knowledge, evaluation, assessment, study design, quantitative and qualitative methods).
IT risk management	Development and maintenance of a risk management system.
Nursing documentation	Objectives, structure and legal basis of medical / nursing documentation, electronic documentation and data management.
Principles of management	E.g. management and organization, purchasing and contract design, structure of health systems, basics of health economics.
Principles of nursing informatics	E.g. data, information, knowledge, semantics, syntax, software, hardware, networks, HIS.
Process management	Process optimization, development of new processes and possibly process modeling.
Project management	Project planning, monitoring, governing, finishing.
Quality management	Quality analyses, organization and transformation of data into reliable and consistent information for different target groups.
Resource planning and logistics	Management of medical supplies, drugs, instruments as well as logistics concepts and their implementation.
Strategic management and leadership	Management of information as a strategic resource and knowledge about modern management styles and methods.