



An iterative methodology for developing national recommendations for nursing informatics curricula

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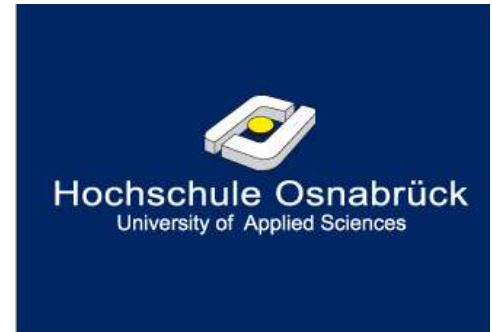
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Introduction



- Increasing adoption of health IT
- Advanced IT competencies in nursing gain more and more importance (e.g. for utilising electronic tools for documentation, telemedicine) (Schüler et al. 2013)
- Nursing education in health IT skills varies from country to country (Hübner 2011)



International recommendations for core competencies

- are often very generic
- do not always fit the specific needs in a particular country or region

Aim of the study: proposing a methodology for developing national recommendations and implementing this methodology for developing recommendations in nursing informatics for Austria, Germany and Switzerland



Methods

Triple iterative approach



Step 1:
Identification of relevant competencies
in national resources (Austria, Germany, Switzerland)



Competency based approach for the education of
physicians (R. Röhrig et al. 2013) + internal papers for
continuing education in medicine



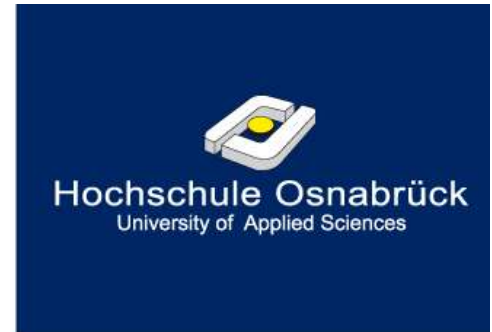
Annotation by fourteen nursing informatics experts
(members of the nursing informatics working group of the German
Association for Medical Informatics, Biometry and Epidemiology GMDS)



- D0: Informatics core competencies
for nurses**
1. Principles of nursing informatics
 2. Applied computer sciences
 3. Data protection and security
 4. Nursing documentation
 5. ICT systems relevant to nursing
 6. Telematics and eHealth
 7. Information management in research
 8. Information management in teaching
 9. Decision support
 10. Image and bio-signal processing
 11. Quality assurance and management
 12. Biostatistics
 13. *Project and process management*
 14. *Resource planning and logistics*
 15. *Information and knowledge management in patient care*

Methods

Triple iterative approach



Step 2: Comparison and enrichment based on international literature



- Global Health Workforce Council (GHWC), Global Academic Curricula Competencies for Health Information Professionals, Draft for Public Comment, The AHIMA Foundation, Chicago, 2015.
- Australian Health Informatics Education Council (AHIEC), Health Informatics Scope, Careers and Competencies Version 1.9, Australian Health Informatics Education Council, 2011.
- C.A. Kulikowski, et al., AMIA Board white paper: definition of biomedical informatics and specification of core competencies for graduate education discipline, *J Am Med Inform Assoc* **19(6)** (2012), 931-938.
- J. Mantas, et al., Recommendations of the International Medical Informatics Association (IMIA) on Education in Biomedical and Health Informatics, *Methods Inf Med* **49(2)** (2010), 105-120.
- Canada's Health Informatics Association (COACH), Health Informatics Professional Core Competencies v3.0, Canada's Health Informatics Association, National Office, Toronto, 2012.
- TIGER Initiative, Informatics Competencies for Every Practicing Nurse: Recommendations from the TIGER Collaborative, Chicago: Healthcare Information and Management Systems Society (HIMSS), Chicago, 2015.

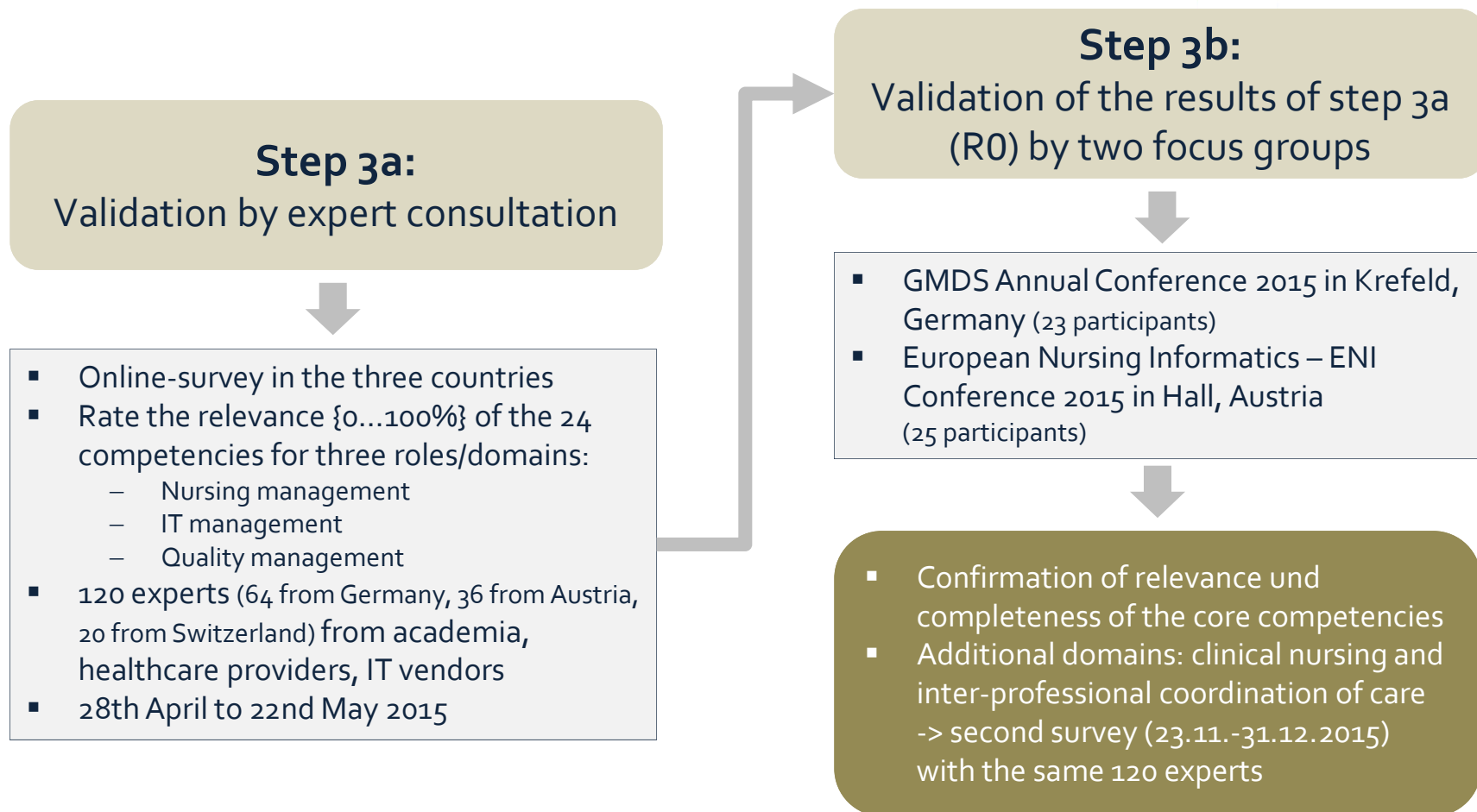


D1: Informatics core competencies for nurses

1. Principles of nursing informatics
2. Applied computer sciences
3. Project management
4. Data protection and security
5. Nursing documentation
6. Information and communication systems for nursing
7. eHealth, telematics, telehealth
8. Information management in research
9. Information management in education and continuing education
10. Decision support
11. Image and bio-signal processing
12. Quality assurance and management
13. Biostatistics
14. Resource planning and logistics
15. Assisting technologies
16. Ethics and IT
17. Principles of management
18. Strategic management and leadership
19. Change and stakeholder management
20. IT risk management
21. Financial management in nursing informatics
22. Human resource management in nursing informatics
23. Process management
24. Information and knowledge management in patient care

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Results



Return rate: 87 respectively 81 from 120 experts



Top 6 core competencies sorted by average in all three countries: R1

Role/domain	Top 1	Top 2	Top 3	Top 4	Top 5	Top 6
Nursing management [n=87]	Nursing documentation	Process management	Human resource management	Principles of management	Project management	Quality management
IT management [n=87]	Principles of nursing informatics	Data protection and security	Information and communication systems	Project management	Applied computer science	eHealth, telematics, telehealth
Quality management [n=87]	Quality management	Process management	Project management	Data protection and security	Nursing documentation	Information and knowledge mgmt. in patient care
Clinical nursing [n=87]	Nursing documentation	Data protection and security	Information and knowledge mgmt. in patient care	Ethics and IT	Quality management	Information and communication systems
Inter-professional coordination of care [n=81]	Nursing documentation	Data protection and security	Process management	Information and knowledge mgmt. in patient care	Quality management	Project management

Discussion



- This approach enhanced the validity of its results by
 - applying both quantitative and qualitative methods
 - iterating single steps
- Recommendations are tailored to the country specific needs, they are validated and therefore promise good adoption
- The results did not distinguish between the three countries
- The results were included into the TIGER international competency synthesis project (Hübner et al. 2016)

Conclusion



- Feasibility of the proposed methodology for developing informatics core competencies, which are literature based and empirically valid, could be proved
- Findings allow educators to shape nursing informatics curricula and courses
 - that aim at a broad application of the competencies
 - with a focus on a particular role or domain



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Photos

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