Framework

"Competency is defined as a combination of knowledge, skills and abilities that a professional must demonstrate and that are critical to perform work effectively."
### Nordic countries - Demography

<table>
<thead>
<tr>
<th></th>
<th>Denmark</th>
<th>Sweden</th>
<th>Norway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (mill)</td>
<td>5.4</td>
<td>9.5</td>
<td>4.8</td>
</tr>
<tr>
<td>Counties</td>
<td>15 (5 Health regions)</td>
<td>20</td>
<td>19 (5 Health regions)</td>
</tr>
<tr>
<td>Municipalities</td>
<td>98</td>
<td>290</td>
<td>450</td>
</tr>
<tr>
<td>Hospitals</td>
<td>70</td>
<td>60</td>
<td>52</td>
</tr>
<tr>
<td>Hospital beds</td>
<td>20.000</td>
<td>21.300</td>
<td>15.500</td>
</tr>
<tr>
<td>ICN/1.000 beds</td>
<td>3</td>
<td>5.2</td>
<td>5.8</td>
</tr>
<tr>
<td>ICD/1.000 Beds</td>
<td>1</td>
<td>2.1</td>
<td>2.6</td>
</tr>
</tbody>
</table>

Infection control personnel in hospitals have the responsibility to assist municipalities in matters concerning infection prevention and control.
<table>
<thead>
<tr>
<th>Infection control nurses</th>
<th>Denmark</th>
<th>Sweden</th>
<th>Norway</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year training program</td>
<td>1 year training program</td>
<td>1 year training program</td>
<td></td>
</tr>
<tr>
<td>Diploma level</td>
<td>Diploma level, both medical doctors and nurses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory + clinical practice</td>
<td>Theory only</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diploma level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition (per student)</td>
<td>DK 70,000/year</td>
<td>SEK 50,000/year</td>
<td>No, Fully financed by government</td>
</tr>
<tr>
<td>Responsibility for training program</td>
<td>Statens Serum Institute</td>
<td>SMI and Karolinska Institute</td>
<td>Norwegian Institute of Public Health</td>
</tr>
<tr>
<td>Infection control doctors</td>
<td>No</td>
<td>Yes, together with nurses</td>
<td>No</td>
</tr>
</tbody>
</table>

*Finland*: No formalized training, courses organised by professional bodies

*Iceland*: no formalized training
Background – Norway (1)

• Working party established by Board of Health (BoH) in 1975
  – Objective: to consider organization and training in infection control (IC) – need for professional training of nurses

• Norwegian Society for Infection Control – letter to BoH in 1985 recommending need for infection control training for nurses

• Norwegian Institute of Public Health (NIPH) given the responsibility to establish training program for nurses in 1986
§ Regulations - Sweden

- Communicable Disease Act 2004, a general act describing infection prevention and control of communicable diseases
- Act of health-care 1982
- Regulations:
  Basic hygiene 2007
- The responsibility for prevention of HCAI is formally placed in the county
§ Regulations - Denmark

- Public Health Act 2008, a general act describing health care organization and structure, including infection prevention and control
- Regulations for prevention of MRSA 2006
- Danish Standards DS 2450 og DS 2451
  - Prevention and control of HCAI’s
- National guidelines: Decontamination, Ventilator equipment, Flexible endoscopes, Environmental measures in healthcare, Construction of Healthcare facilities
Common features (1)

- Organisation, structure, finance system in healthcare
- Education of healthcare personnel (nurses and doctors)
  - Same academic prerequisites of formal education before entering specialty training
  - Same requirements to become ICP – only MD’s and nurses can hold positions
  - Same professional profile
- Exchange/fluctuation of healthcare personnel between the countries
Common features (2)

• A need to educate more infection control professionals
• The countries have similar approach to AB use →
• Low levels of resistant microorganisms
• Same approach for handling patients with resistant microorganisms
Objective for a common Nordic training program

• **Resource utilisation** (economy, speakers/teachers, the organisation, guidelines/policies)
• Common framework of IC/common platform of competencies
• Improved Nordic collaboration in general but in specific in infection prevention and on preparedness
• Increased focus on the role of ICPs
• Possibilities for improved research in IC
Infection Control Training – the Scandinavian experience

Kerstin Mannerquist
Swedish Institute for Infectious disease Control
Nordic School of Public Health (NHV)

www.nhv.se

- Offer research, teaching and commissioned education within public health to all Scandinavian countries
- Contribute to improved public health knowledge among health care professionals
- The Board of NHV is appointed by Nordic Council of Ministers and consists of appointed members from the Ministry of Health in each country
- NHV is fully financed by Nordic Ministry.
Nordic School of Public Health

- Diploma in Public Health (60 ECTS)
- MPH (120 ECTS)
- PhD (240 ECTS)
- Any student can apply for separate courses

- Campus courses + web courses (distance learning)
- Scandinavian language (English)
- Each course is completed with an exam
- Free of charge
- Inexpensive campus housing
- Scholarships for travel based on distance from campus
Diploma in infection prevention- and control

• First initiative taken in 2005
• Working party established 2007 consisting of one MD and one nurse from each of the National Public Health Institutes in the Scandinavian countries
• Working party members also work as teachers
• Next step to have responsible person at NHV
Target group

• **Primary**
  – Medical doctors and nurses holding positions or being responsible for infection control activities in their respective healthcare facility

• **Secondary**
  – Healthcare personnel having an interest in infection control

• **Each course is open for all**
  – Priority for Diploma students
Admission requirements

- Students are admitted based on:
  - Academic background – minimum Bachelor level (3 years full time studies) (10 points)
  - Professional background (10 points)
  - Experience in IC

- The number of admitted students from each country depends on:
  - Each country’s economic contribution
  - Number of last years students from that country
<table>
<thead>
<tr>
<th>Public Health (PH) Courses</th>
<th>ECTS</th>
<th>Infection Control Courses</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to PH</td>
<td>7</td>
<td>Introduction to infection control</td>
<td>2</td>
</tr>
<tr>
<td>Introduction to scientific methodology</td>
<td>5</td>
<td>Microbiology</td>
<td>2</td>
</tr>
<tr>
<td>Quantitative methodology</td>
<td>5</td>
<td>Infection control (4+4)</td>
<td>8</td>
</tr>
<tr>
<td>Basic epidemiology</td>
<td>5</td>
<td>Infectious disease epidemiology</td>
<td>6</td>
</tr>
<tr>
<td>Optional courses (at least two):</td>
<td></td>
<td>Immunology/antibiotic resistance/vaccinology</td>
<td>6</td>
</tr>
<tr>
<td>Implementation and evaluation of change in healthcare</td>
<td>5</td>
<td>Scientific writing and project work</td>
<td>4</td>
</tr>
<tr>
<td>Global health</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health promotion</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intersectoral collaboration</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualitative methodology</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td></td>
<td>28</td>
</tr>
</tbody>
</table>
Status (1)
January 2007 – January 2010

• 115 students admitted to the Diploma program
  – Sweden 53
  – Norway 43
  – Denmark 20
  – Iceland 1
• 20% Medical doctors
• 62% Nurses
• 18% other professionals
• 180 students completed the Introduction course
Status (2)

- Total 117 students
- Diploma exame 35
- MPH students from Diploma 12
European training

- TRICE- Training in Infection Control in Europe
- Project built upon Improving Patient Safety in Europe (EU-project)
- Develop and harmonize training in Europe
- 27 countries participated
- IPSE- survey 2006 used as basis to define core competencies
- The data in the report stresses the need for update in Europe
- NHV the only model in TRICE
Conclusions

• Many challenges for infection control
• Antibiotic resistance is a big threat
• I C staff must be well trained
• Traine the trainers
• Collaboration is essential
• Idea´s must be spread- no secrets
• Very important- leadership and simple rules
Read more

- www.socialstyrelsen.se
- www.smittskyddsinstitutet.se
- www.skl.se
- www.ecdc.europa.eu
Introduction to Infection Control (2 ECTS)

- Infection control in a historic perspective, challenges in the past, new challenges
- Introduction to the different courses of the program
- Organisation, structure and regulations in healthcare in a broader perspective
- Organisation, structure, regulations of infection control in specific

- Exam: Group work
- One week on campus
Microbiology (2 ECTS)

• Mainly for nurses. MDs can apply for exemption
• Introduction to microbiology
• Main focus on virology and bacteriology
• Sampling
• Diagnostics

• Exam: At the end of course
• One week on campus
Infectious disease epidemiology (6 ECST)

- General principles of infectious disease epidemiology
- Designing a surveillance system, including implementation, follow-up and evaluation of surveillance systems
- Identifying, investigating and managing outbreaks
- Preparedness

- Prerequisite to have taken basic epidemiology
- Exam: Homework equivalent to two weeks
- Two weeks on campus
Infection control (8ECTS)

- Elaborating and advocating and Infection Control Program
- Managing and ICP work plan and projects
- Contributing to quality and risk management
- Training healthcare personnel in ICP
- Elaborating on infection control interventions
- Implementing infection control guidelines
- Decontamination of medical devices
- Controlling for environmental sources of infections

- Exam: during the course + homework
- Two+Two weeks on campus
Immunology/AB resistance/vaccinology (6 ECTS)

- Microbiology
- Antibiotic resistance, driving factors
- Antibiotic use
- Immunology, vaccinology
- Factors contributing to reducing antibiotic resistance

- Exam after finishing course
- Two weeks on campus
Scientific writing and project work (4 ECTS)

• Thesis (10-15 pages) on a relevant infection control topic
• Ability to synthesize knowledge from all other courses and present it according to a scientific level
• All other courses in the program has to be completed