



European Centre for Disease Prevention and Control

Training activities for prevention and control of healthcare-associated infections

Pete Kinross, Expert in Healthcare-Associated Infections
Surveillance and Response Support Section, ECDC
EUNITIPS Winter Meeting, Amsterdam; 7 December 2016

ECDC training activities relevant to EUNITIPs



1. ECDC training-of-trainers

2. HAI-Net HALT

- Point Prevalence Surveys (PPSs) of healthcare-associated infections (HAIs) and antimicrobial use in long-term care facilities (LTCFs)

3. ECDC directory of online resources

4. Infection control and hospital hygiene (ICHH) Wiki

5. Repository of training material

6. Courses

7. Extranet

8. Exchange of senior professionals

ECDC training-of-trainers

ECDC training-of-trainers for HAI-Net surveillance



ECDC mandate: interact with National contacts in 31 EU/EEA Member States.
Official national contacts designate attendees.

Train-the-trainer workshops present and discuss protocol updates.

Surveillance activity	Date	Attendees / country	Trained by trainers
Hospital PPS (2011–2012)	28-31 Mar 2011	2	>2 800
LTCF PPS (HALT-2; 2013)	25-26 Feb 2013	1	>1 000
Hospital PPS (2016–2017)	20-21 Oct 2015	2	Ongoing
LTCF PPS (HALT-3; 2016-2017)	1-2 Dec 2015	1	Ongoing
Hospital CDI surveillance	14 Sept 2016	1	Ongoing
Hospital PPS (2016–2017)	20-21 Nov 2016	<1	Ongoing
CDI lab diagnostics/typing	11-12 May 2017	1	NA
ICU surveillance	May 2017	1	NA
SSI surveillance	2018	1	NA

Train-the-trainer for the ECDC PPS in European acute care hospitals, 2011–2012



Train-the-trainer activities:

- 28-31 March 2011; 2 attendees/country.

Follow-up questionnaire:

- 30/31 countries replied.

Training by trainers (mean):

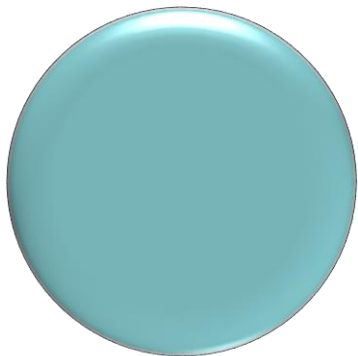
- 4 courses/country; 9.2 hours/course
- 104 participants/country (range: 5–436)
- 40 hospitals/country (range: 1–177)
- **Total:** >2 800 people in 31 EU/EEA countries

Point prevalence surveys of healthcare-associated infections and antimicrobial use in long-term care facilities (HAI-Net HALT)

Estimated annual burden of HAIs, EU/EEA Member States, 2011–2013

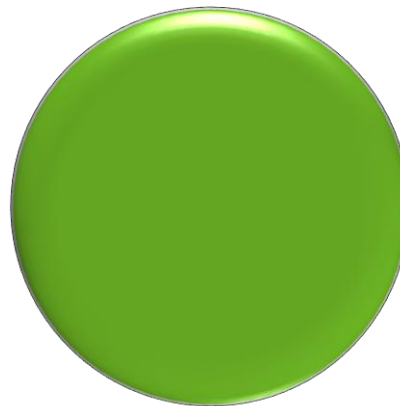
Acute care hospitals:

3.5 million
patients with ≥ 1 HAI



LTCFs:

4.2 million
*HAIs in LTCF
residents*



Ireland:

4.6 million
people



ECDC
EUROPEAN CENTRE FOR
DISEASE PREVENTION
AND CONTROL

[illegible]

EN

HALT Projects: history



2005–2008 IPSE (EC) – Feasibility study of surveillance of HAIs in European nursing homes.

2008 Surveillance of HAIs in Europe transferred to ECDC, which created the Healthcare-Associated Infections Surveillance Network (HAI-Net).

2008–2010 Protocol for PPSs in LTCFs developed, integrating IPSE study and variables from the European Surveillance of Antimicrobial Consumption in Nursing Homes (ESAC-NH)

May–Sept 2010 Data collection for the HALT Project

Apr–May 2013 Data collection for the HALT-2 Project

Apr 2016–Nov 2017 Data collection for the HALT-3 Project

General objectives

- Provide EU/EEA MS and LTCFs with standardised tool to follow trends in HAIs and antimicrobial use
- Identify national/local intervention priorities; evaluate implementation
- Estimate and monitor burden at national and European level.

Specific objectives (HALT, HALT-2, HALT-3)

- Estimate prevalence of HAIs and antimicrobial use in European LTCFs
- Measure structure and process indicators (SPIs) of IPC in LTCFs.

Validation study objectives (HALT-2 and HALT-3)

- Calculate European-level sensitivity and specificity of detection of HAIs and antimicrobial use, thus enabling the adjustment of European estimates
- Assess quality of selected SPIs of IPC, contributing to interpretation.

Point prevalence surveys of healthcare-associated infections and antimicrobial use in long-term care facilities (HAI-Net HALT)
HALT (2010); HALT-2 (2013)

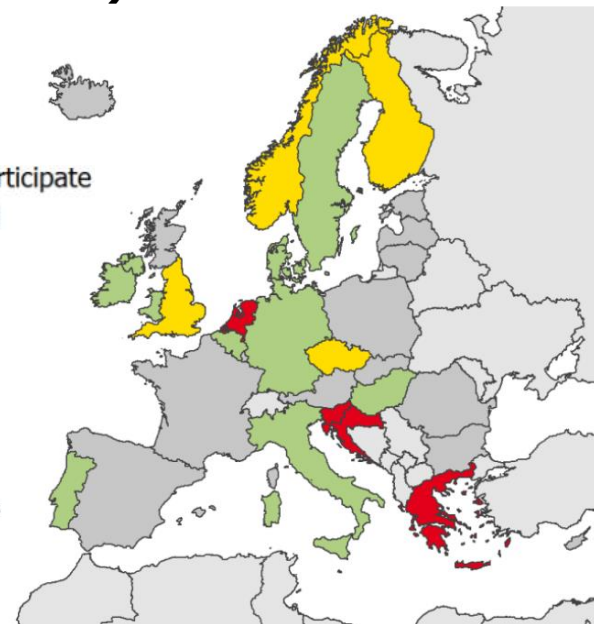
HALT and HALT-2 projects overview & key results and data representativeness in HALT-2, 2010–2013

Characteristic	HALT May-Sept 2010	HALT-2 Apr-May 2013
Participating EU/EEA countries	28	17
LTCFs recruited	720	1 181
Residents recruited	61 932	77 264
Residents with ≥ 1 HAI (country range*)	2.4% (0.0–7.4%)	3.4% (0.4–7.1%)
Residents receiving ≥ 1 antimicrobial agent (country range*)	4.3% (0.8–12.7%)	4.4% (1.0–12.1%)

Representativeness of national LTCF sample **HALT-2 (2013)**

- Very poor
- Poor
- Good
- Optimal
- Did not participate
- Not invited

Non-visible countries
■ Liechtenstein
■ Luxembourg
■ Malta

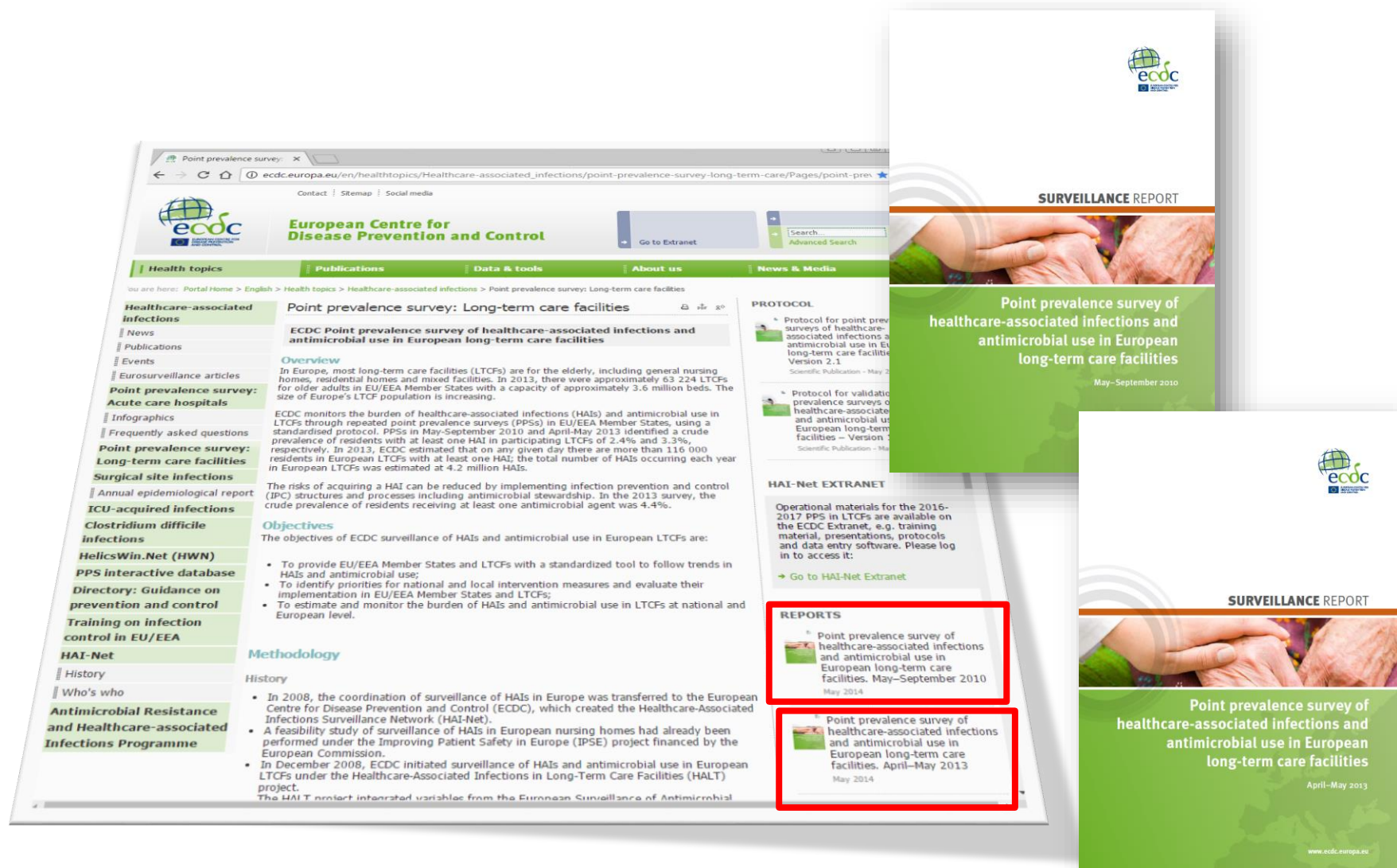


HALT (2010) participation:

Range: 2-111 LTCFs/country
 Median: 8.5 LTCFs/country

Results from HALT and HALT-2 Projects

- Reports on ECDC website



Point prevalence survey: Long-term care facilities

ECDC Point prevalence survey of healthcare-associated infections and antimicrobial use in European long-term care facilities

Overview

In Europe, most long-term care facilities (LTCFs) are for the elderly, including general nursing homes, residential homes and mixed facilities. In 2013, there were approximately 63 224 LTCFs for older adults in EU/EEA Member States with a capacity of approximately 3.6 million beds. The size of Europe's LTCF population is increasing.

ECDC monitors the burden of healthcare-associated infections (HAIs) and antimicrobial use in LTCFs through repeated point prevalence surveys (PPSs) in EU/EEA Member States, using a standardised protocol. PPSs in May-September 2010 and April-May 2013 identified a crude prevalence of residents with at least one HAI in participating LTCFs of 2.4% and 3.3%, respectively. In 2013, ECDC estimated that on any given day there are more than 116 000 residents in European LTCFs with at least one HAI; the total number of HAIs occurring each year in European LTCFs was estimated at 4.2 million HAIs.

The risks of acquiring a HAI can be reduced by implementing infection prevention and control (IPC) structures and processes including antimicrobial stewardship. In the 2013 survey, the crude prevalence of residents receiving at least one antimicrobial agent was 4.4%.

Objectives

The objectives of ECDC surveillance of HAIs and antimicrobial use in European LTCFs are:

- To provide EU/EEA Member States and LTCFs with a standardized tool to follow trends in HAIs and antimicrobial use;
- To identify priorities for national and local intervention measures and evaluate their implementation in EU/EEA Member States and LTCFs;
- To estimate and monitor the burden of HAIs and antimicrobial use in LTCFs at national and European level.

Methodology

History

- In 2008, the coordination of surveillance of HAIs in Europe was transferred to the European Centre for Disease Prevention and Control (ECDC), which created the Healthcare-Associated Infections Surveillance Network (HAI-Net).
- A feasibility study of surveillance of HAIs in European nursing homes had already been performed under the Improving Patient Safety in Europe (IPSE) project financed by the European Commission.
- In December 2008, ECDC initiated surveillance of HAIs and antimicrobial use in European LTCFs under the Healthcare-Associated Infections in Long-Term Care Facilities (HALT) project.

The HAI-Net project transferred variables from the European Surveillance of Antimicrobial

REPORTS

- Point prevalence survey of healthcare-associated infections and antimicrobial use in European long-term care facilities. May–September 2010
May 2014
- Point prevalence survey of healthcare-associated infections and antimicrobial use in European long-term care facilities. April–May 2013
May 2014

SURVEILLANCE REPORT

Point prevalence survey of healthcare-associated infections and antimicrobial use in European long-term care facilities

May–September 2010

SURVEILLANCE REPORT

Point prevalence survey of healthcare-associated infections and antimicrobial use in European long-term care facilities

April–May 2013

www.ecdc.europa.eu

Results from HALT and HALT-2 Projects

- ECDC interactive database

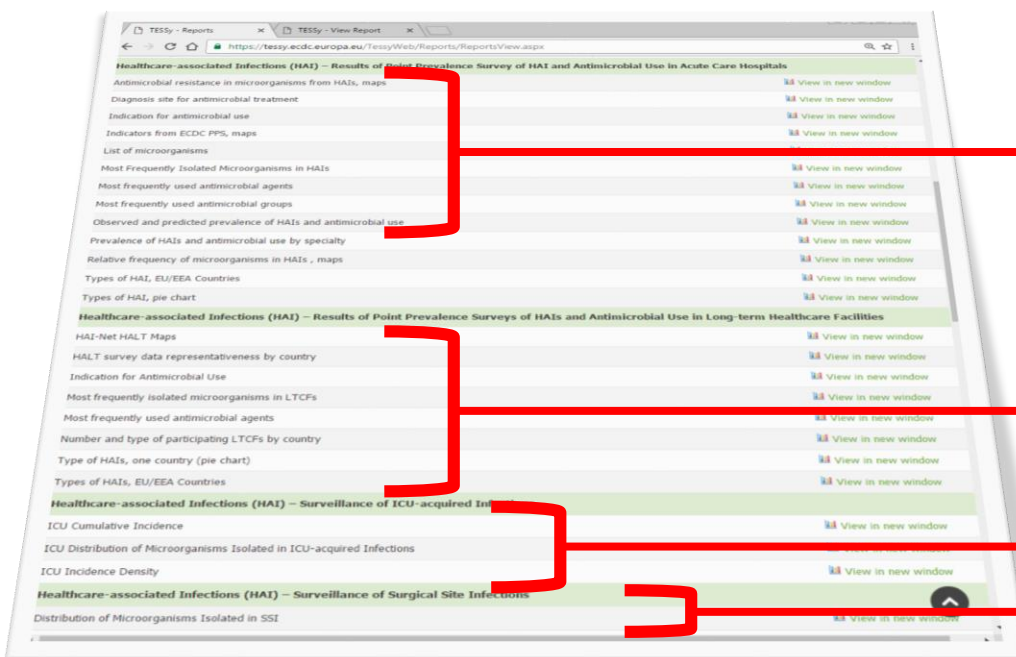
Hospital PPS

LTCF PPS

ICUs

SSIs

Etc.....

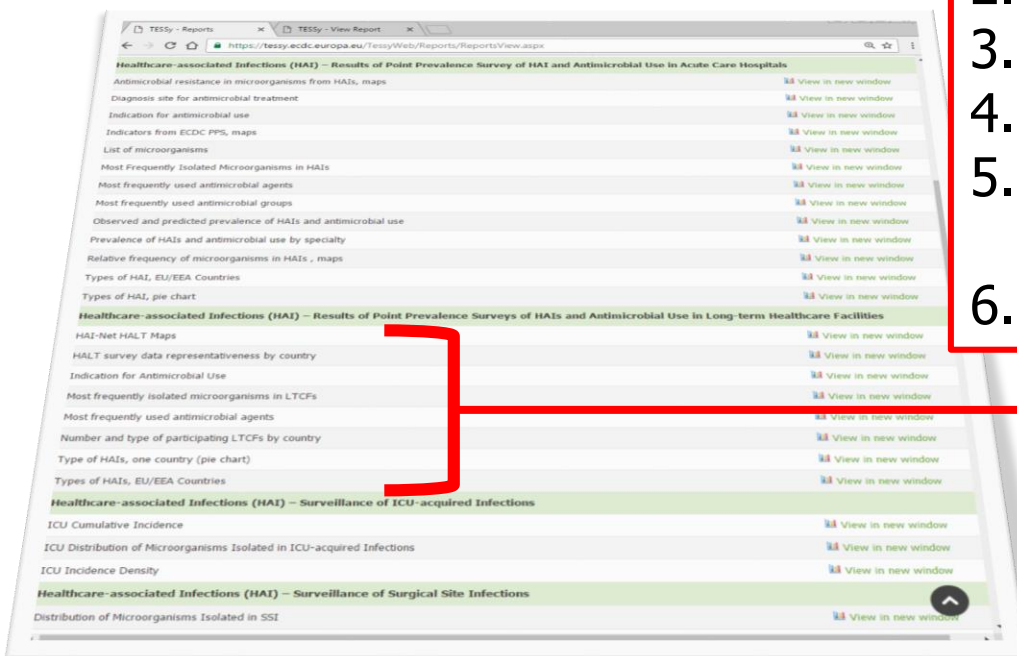


Results from HALT and HALT-2 Projects

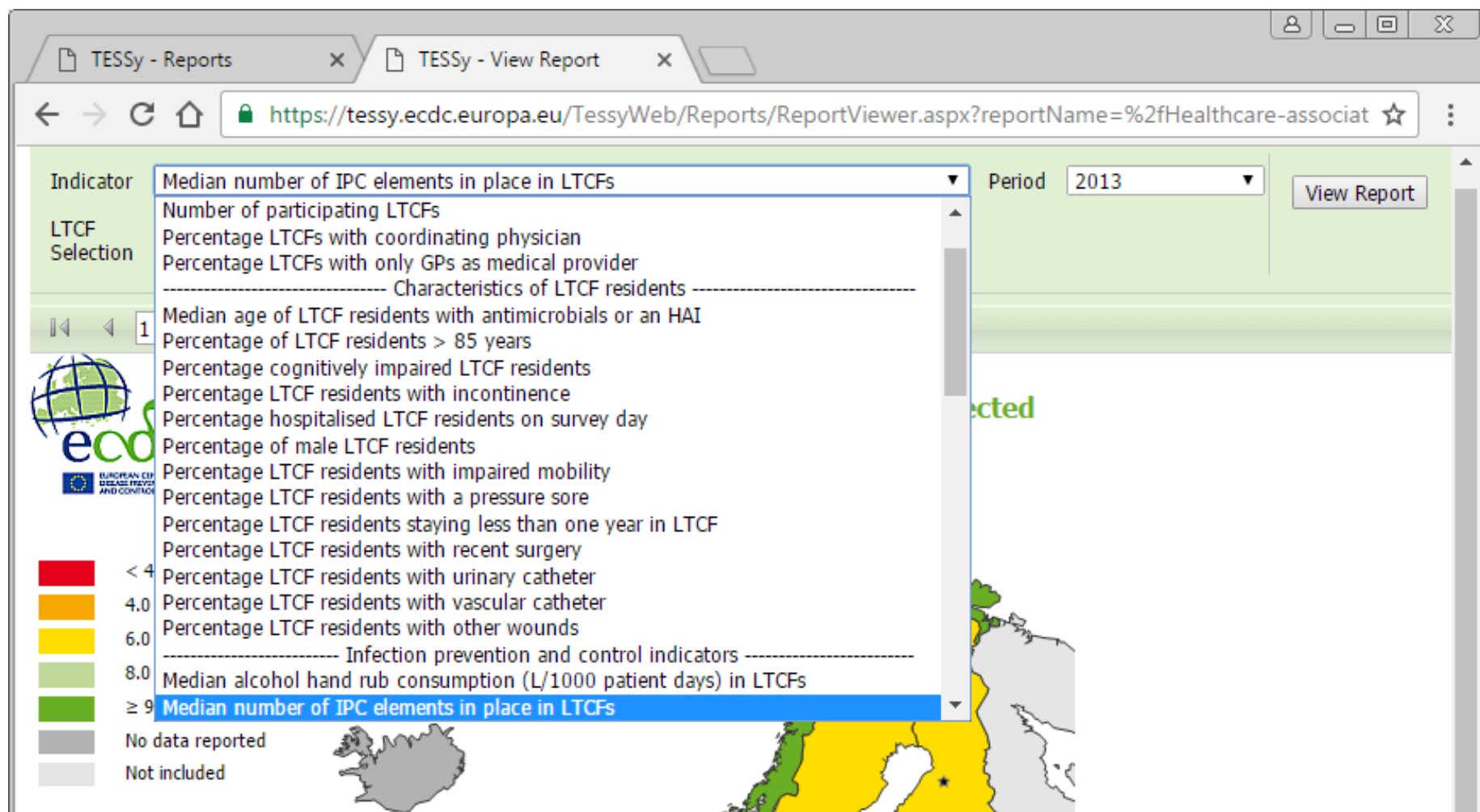
- ECDC interactive database

Categories of available reports

1. LTCF characteristics
2. Characteristics of LTCF residents
3. IPC indicators
4. HAI indicators
5. Antimicrobial stewardship indicators
6. Antimicrobial use indicators



Interactive reports from HALT projects



The screenshot displays the TESSy Reports interface. The browser address bar shows the URL: <https://tessy.ecdc.europa.eu/TessyWeb/Reports/ReportViewer.aspx?reportName=%2fHealthcare-associat>. The interface includes a sidebar with a list of indicators and a map of Europe.

Indicator Selection:

- Median number of IPC elements in place in LTCFs
- Number of participating LTCFs
- Percentage LTCFs with coordinating physician
- Percentage LTCFs with only GPs as medical provider
- Characteristics of LTCF residents -----
- Median age of LTCF residents with antimicrobials or an HAI
- Percentage of LTCF residents > 85 years
- Percentage cognitively impaired LTCF residents
- Percentage LTCF residents with incontinence
- Percentage hospitalised LTCF residents on survey day
- Percentage of male LTCF residents
- Percentage LTCF residents with impaired mobility
- Percentage LTCF residents with a pressure sore
- Percentage LTCF residents staying less than one year in LTCF
- Percentage LTCF residents with recent surgery
- Percentage LTCF residents with urinary catheter
- Percentage LTCF residents with vascular catheter
- Percentage LTCF residents with other wounds
- Infection prevention and control indicators -----
- Median alcohol hand rub consumption (L/1000 patient days) in LTCFs
- Median number of IPC elements in place in LTCFs

Period: 2013

View Report

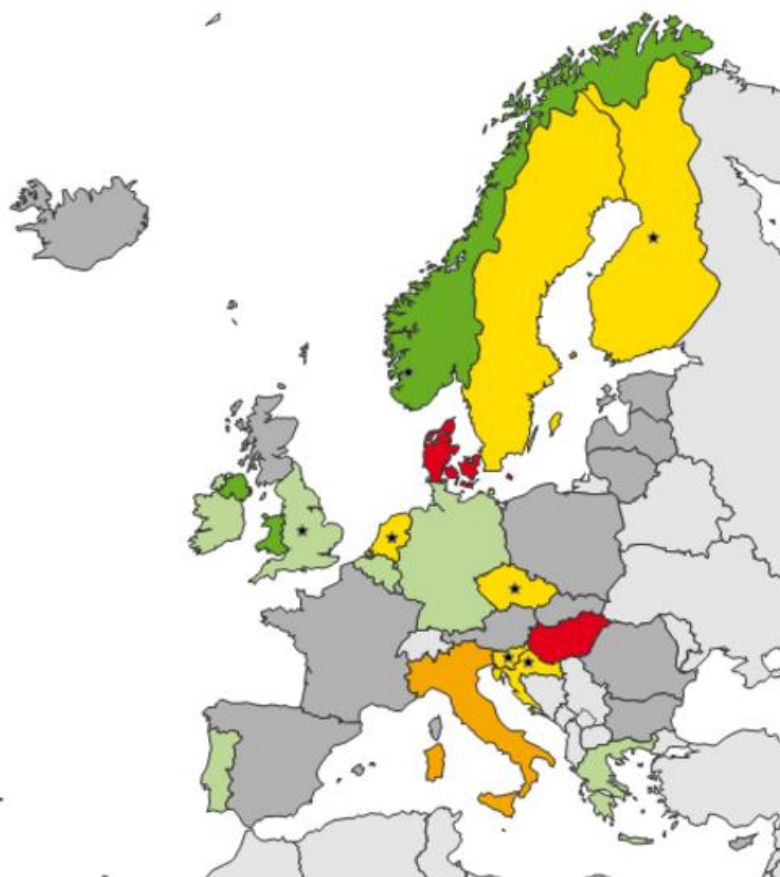
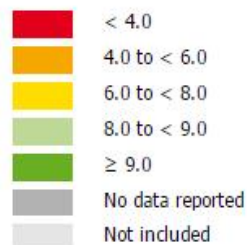
Legend:

- < 4
- 4.0
- 6.0
- 8.0
- ≥ 9
- No data reported
- Not included

Interactive reports from HALT projects



Median number of IPC elements in place in LTCFs , selected LTCF types, HALT point prevalence survey, 2013

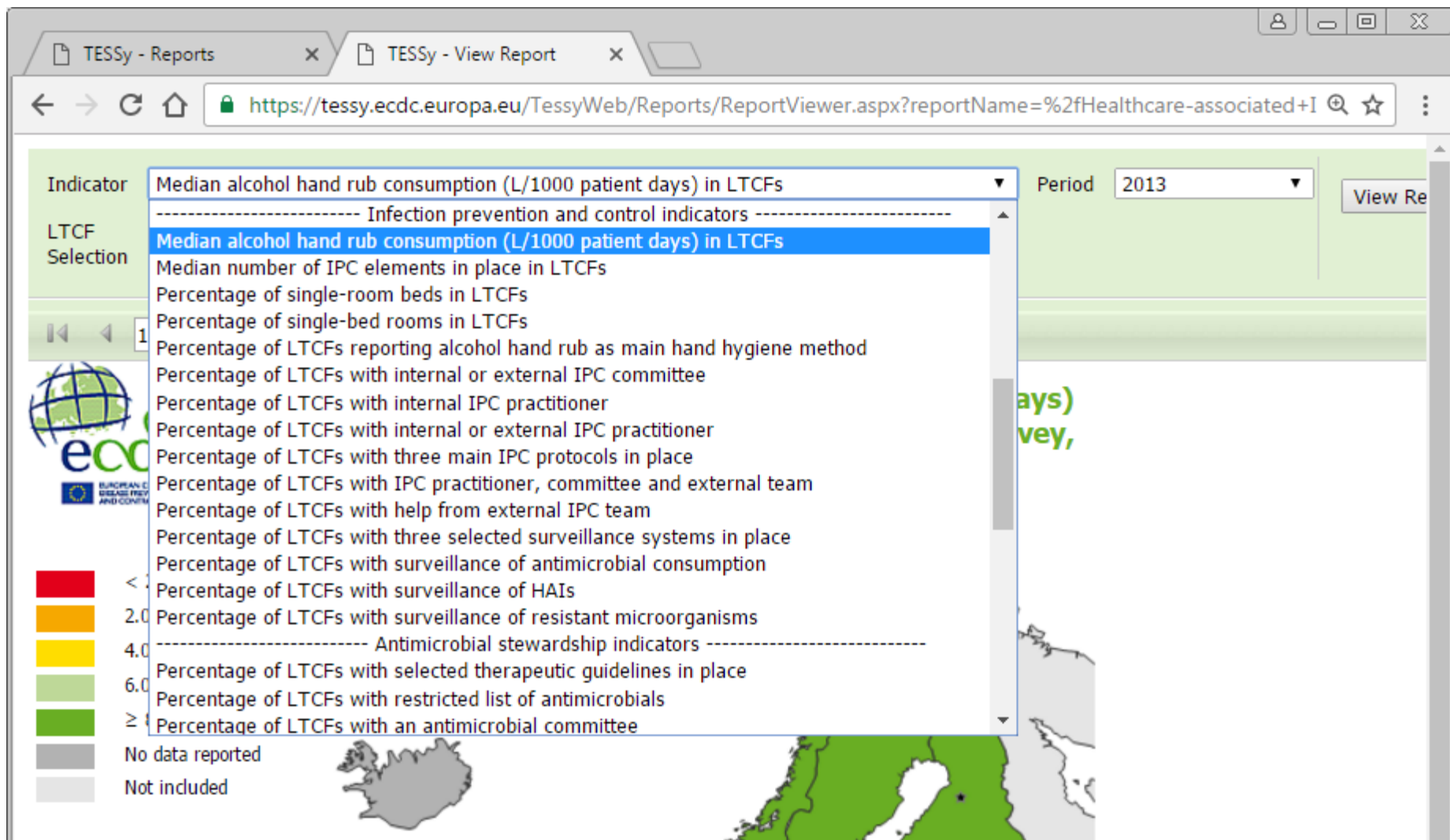


- ✓ IPC training of nursing/paramedical
- ✓ IPC training of GPs/medical staff
- ✓ Development of care protocols
- ✓ Registration of MDRO+ve residents
- ✓ Designated lead for Outbreak management
- ✓ Feedback of surveillance data to clinical staff
- ✓ Supervised device desterilisation/sterilization
- ✓ Precautions for MDRO+ve residents
- ✓ Annual flu vaccination
- ✓ Appropriate hand hygiene audits
- ✓ Regular review of IPC policy/procedures

Selected LTCF types: Only general nursing homes, residential homes and mixed LTCFs.

* Poor or very poor national representativeness of LTCF sample

Interactive reports from HALT projects



TESSy - Reports x TESSy - View Report x

← → ↻ 🏠 🔒 https://tessy.ecdc.europa.eu/TessyWeb/Reports/ReportViewer.aspx?reportName=%2fHealthcare-associated+I 🔍 ☆ ⋮

Indicator Median alcohol hand rub consumption (L/1000 patient days) in LTCFs
----- Infection prevention and control indicators -----
Median alcohol hand rub consumption (L/1000 patient days) in LTCFs
Median number of IPC elements in place in LTCFs
Percentage of single-room beds in LTCFs
Percentage of single-bed rooms in LTCFs
Percentage of LTCFs reporting alcohol hand rub as main hand hygiene method
Percentage of LTCFs with internal or external IPC committee
Percentage of LTCFs with internal IPC practitioner
Percentage of LTCFs with internal or external IPC practitioner
Percentage of LTCFs with three main IPC protocols in place
Percentage of LTCFs with IPC practitioner, committee and external team
Percentage of LTCFs with help from external IPC team
Percentage of LTCFs with three selected surveillance systems in place
Percentage of LTCFs with surveillance of antimicrobial consumption
Percentage of LTCFs with surveillance of HAIs
Percentage of LTCFs with surveillance of resistant microorganisms
----- Antimicrobial stewardship indicators -----
Percentage of LTCFs with selected therapeutic guidelines in place
Percentage of LTCFs with restricted list of antimicrobials
Percentage of LTCFs with an antimicrobial committee

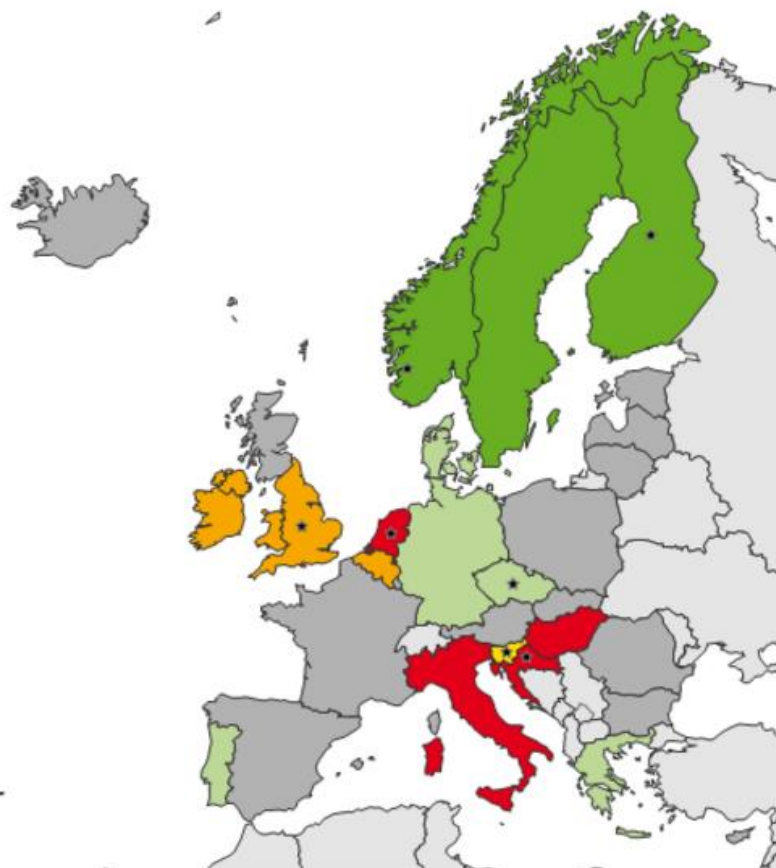
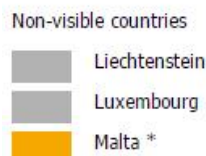
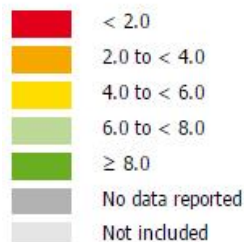
Period 2013 View Report

Legend:
Red: < 2.0
Orange: 2.0 - 4.0
Yellow: 4.0 - 6.0
Green: ≥ 6.0
Grey: No data reported
Light Grey: Not included

Interactive reports from HALT projects



Median alcohol hand rub consumption (L/1000 patient days)
in LTCFs, selected LTCF types, HALT point prevalence survey,
2013



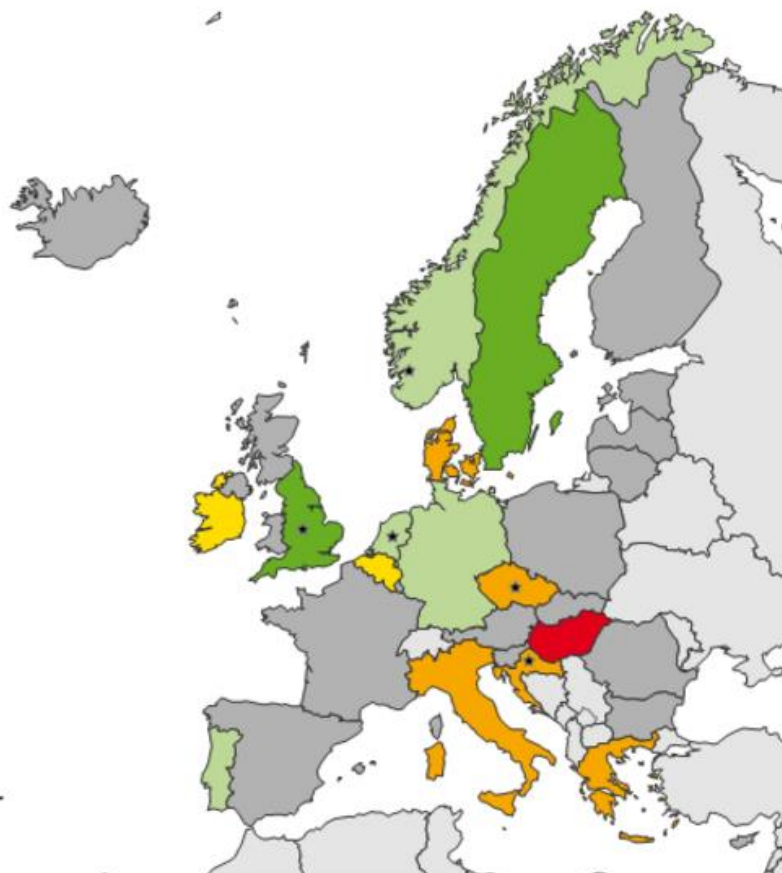
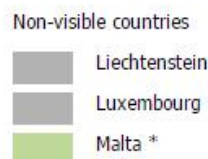
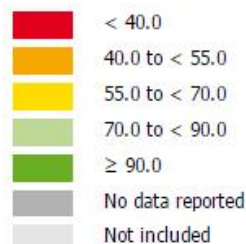
Selected LTCF types: Only general nursing homes, residential homes and mixed LTCFs.

* Poor or very poor national representativeness of LTCF sample

Interactive reports from HALT projects



Percentage of LTCFs with internal or external IPC practitioner, selected LTCF types, HALT point prevalence survey, 2013



Selected LTCF types: Only general nursing homes, residential homes and mixed LTCFs.

* Poor or very poor national representativeness of LTCF sample

Point prevalence surveys of healthcare-associated infections and antimicrobial use in long-term care facilities (HAI-Net HALT)

HALT-3 (2016–2017)

Promoting HALT-3 participation: Protocols

1. Main protocol:

- Participation in up to 4 waves of surveillance

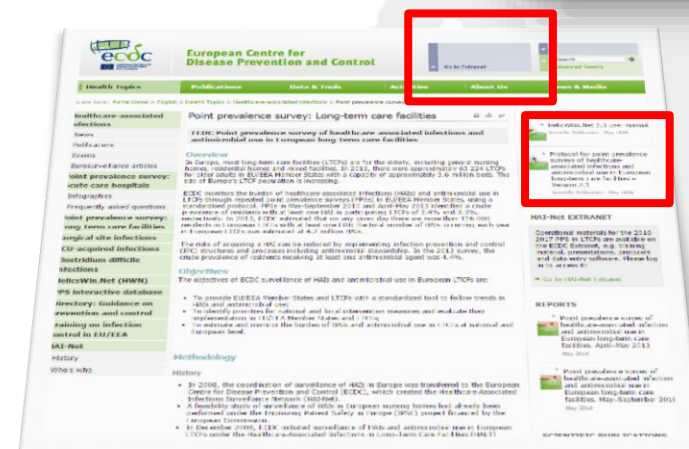
- ✓ Apr–June 2016
- ✓ Sept–Nov 2016
- ✓ Apr–June 2017
- ✓ Sept–Nov 2017

2. Validation protocol:

- Fewer questions in HALT-3 vs HALT-2
- Purposive sampling of wards permitted
- Focussed on HAIs and SPIs of IPC, e.g. FTEs, AHR

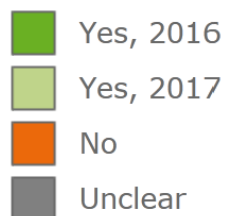
3. External validation protocol:

- Assist national validation study; qualitatively verify inter-country validity
- Survey national IPC needs/challenges and usefulness of HALT
- Obtain denominators

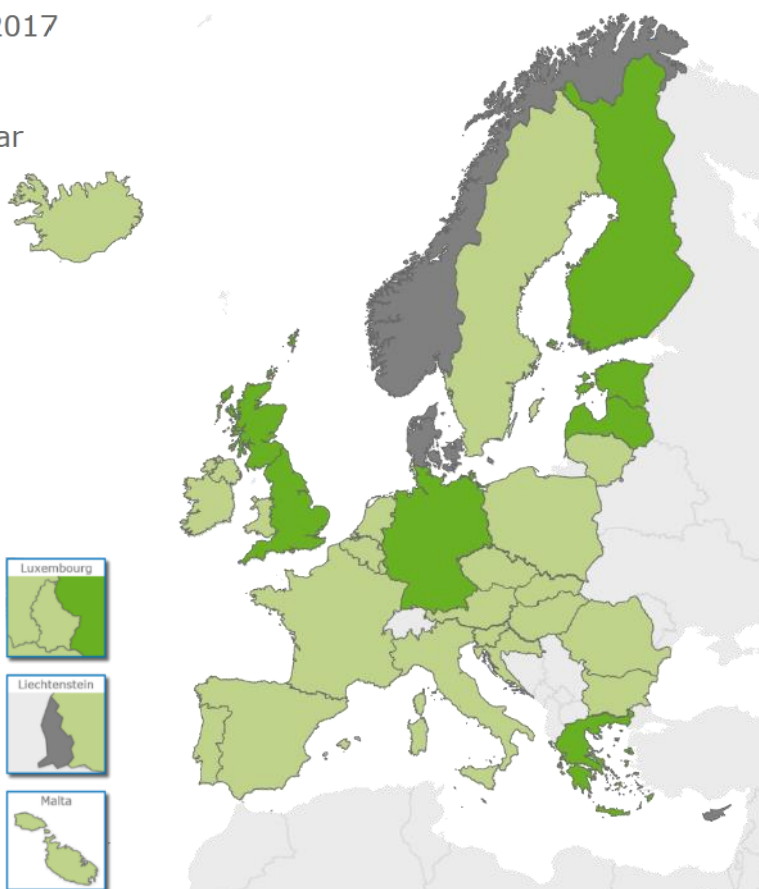


Intention of EU/EEA Member States regarding participation in PPSs of HAIs and antimicrobial use, 2016-2017 (as of 4 May 2016)

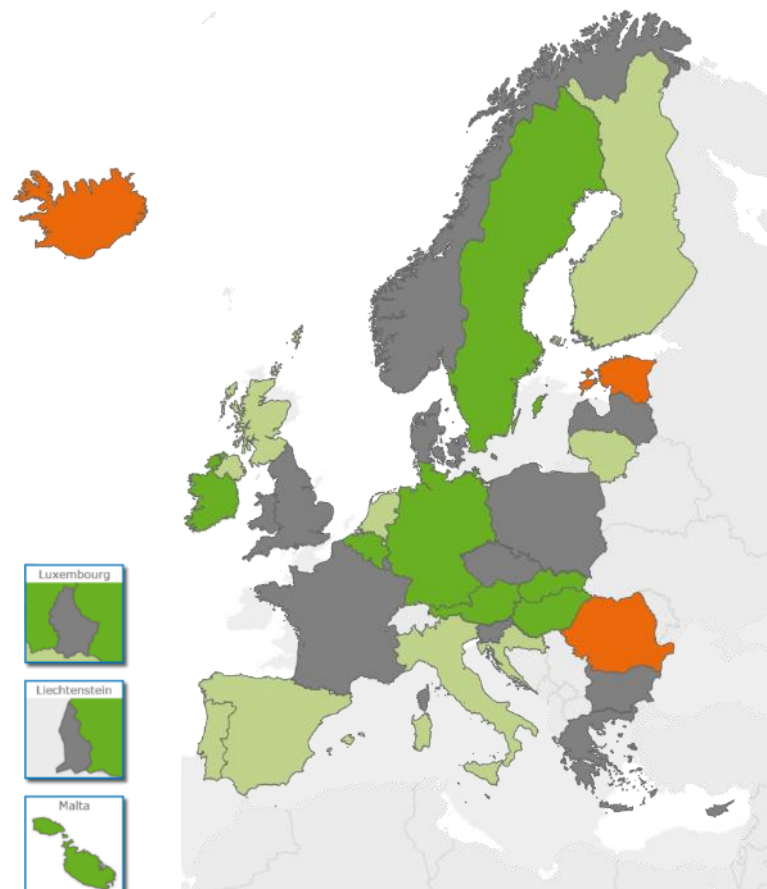
Participation



Acute care hospitals



Long-term care facilities



Promoting HALT-3 participation: Tools

HAI-Net Extranet

- Q&A section
- all protocols and training materials
- data entry software

Training materials

- 1–1.5 day training curriculum and TTT presentations

Email helpdesk (HALT@wiv-isp.be)

ICHH Wiki (femwiki.com): protocols, training materials

Advocacy

- ECDC Advisory Forum presentation (May 2016)
- 'National Survey Coordinators' urged to promote HALT-3
e.g. national/international meetings/conferences

Online refresher training

Promoting HALT-3 participation: Tools

HAI-Net

Training materials

Email alerts

ICH

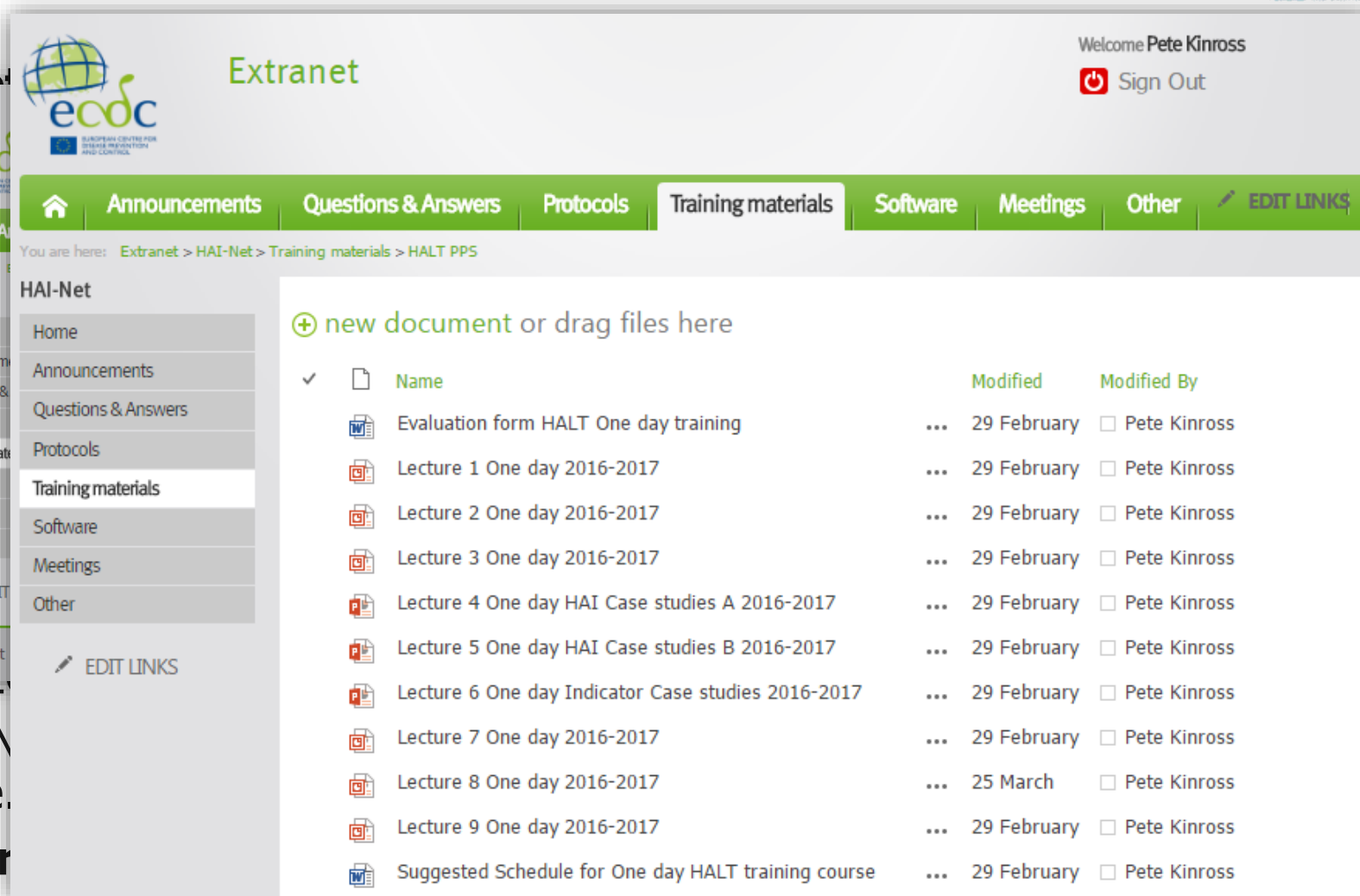
Adv

Online

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Online



The screenshot shows the HALT-3 Extranet interface. At the top, the ECDC logo is on the left, and the text 'Extranet' is in the center. On the right, it says 'Welcome Pete Kinross' and 'Sign Out'. Below this is a green navigation bar with tabs: Home, Announcements, Questions & Answers, Protocols, Training materials (selected), Software, Meetings, Other, and EDIT LINKS. A breadcrumb trail reads: 'You are here: Extranet > HAI-Net > Training materials > HALT PPS'. On the left side, there is a sidebar menu for 'HAI-Net' with options: Home, Announcements, Questions & Answers, Protocols, Training materials (selected), Software, Meetings, Other, and EDIT LINKS. The main content area has a heading '+ new document or drag files here' and a table of documents.

✓	Name	Modified	Modified By
	Evaluation form HALT One day training	... 29 February	☐ Pete Kinross
	Lecture 1 One day 2016-2017	... 29 February	☐ Pete Kinross
	Lecture 2 One day 2016-2017	... 29 February	☐ Pete Kinross
	Lecture 3 One day 2016-2017	... 29 February	☐ Pete Kinross
	Lecture 4 One day HAI Case studies A 2016-2017	... 29 February	☐ Pete Kinross
	Lecture 5 One day HAI Case studies B 2016-2017	... 29 February	☐ Pete Kinross
	Lecture 6 One day Indicator Case studies 2016-2017	... 29 February	☐ Pete Kinross
	Lecture 7 One day 2016-2017	... 29 February	☐ Pete Kinross
	Lecture 8 One day 2016-2017	... 25 March	☐ Pete Kinross
	Lecture 9 One day 2016-2017	... 29 February	☐ Pete Kinross
	Suggested Schedule for One day HALT training course	... 29 February	☐ Pete Kinross



HALT training 2016

Lecture 1 – HALT 2016 powerpoint for local use [Powerpoint presentation]

File Size: (3.3MB)

Lecture 1 – HALT 2016 Introduction

File Size: (555kB)

Lecture 2 – HALT 2016 Questionnaires Part 1

File Size: (605kB)

Lecture 3 – HALT 2016 Questionnaires Part 2

File Size: (1.2MB)

HALT 2016 Case Studies

File Size: (541kB)

Lecture 4 – HALT 2016 Case Studies 1 to 5 Student Version

File Size: (397kB)

Lecture 5 – HALT 2016 Case Studies 6 to 9 Student Version

File Size: (285kB)

Lecture 6 – Preparing for HALT 2016

File Size: (188kB)

Lecture 7 – HALT 2016 Software & Data Entry

File Size: (686kB)

Lecture 8 – Actions after HALT 2016

File Size: (463kB)

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News

- Measles outbreak investigation in Kerry and West Limerick
25 May 2016
- HSE investigating case of measles
13 May 2016
- Measles outbreak in London - April 2016
29 April 2016
- Zika virus disease epidemic: potential association with microcephaly and Guillain-Barré syndrome – Updated risk assessment and travel advice
02 February 2016

Publications

- Report on the Epidemiology of TB in Ireland, 2013 & 2014
27 May 2016
- Enhanced EARS-Net Data Entry MS Excel Tool
27 May 2016
- Laboratory Protocol for Enhanced Surveillance of Bloodstream Infections Reported to EARS-Net in Ireland
27 May 2016
- Case Definitions for Notifiable Diseases, Version 1.5
27 May 2016



Exchange of senior professionals

Exchange of senior professionals

Part of ECDC Continuous Professional Development Programme (CPDP)



Scope: Multilateral exchange of senior public health experts within EU/EEA, appointed by official National Focal Points for Training.

Objectives:

1. Create opportunity for public health experts to familiarise themselves with working methods of other EU countries;
2. Promote sharing of good practices; foster mutual learning, networking and trust.
3. Improve MSs national, regional or local capacity and competence in the specific area targeted by the training.
4. Support the European dimension in public health cooperation and training.

Profiles of target group: officially-appointed public health experts, e.g. epidemiologists, microbiologists, infection control professionals

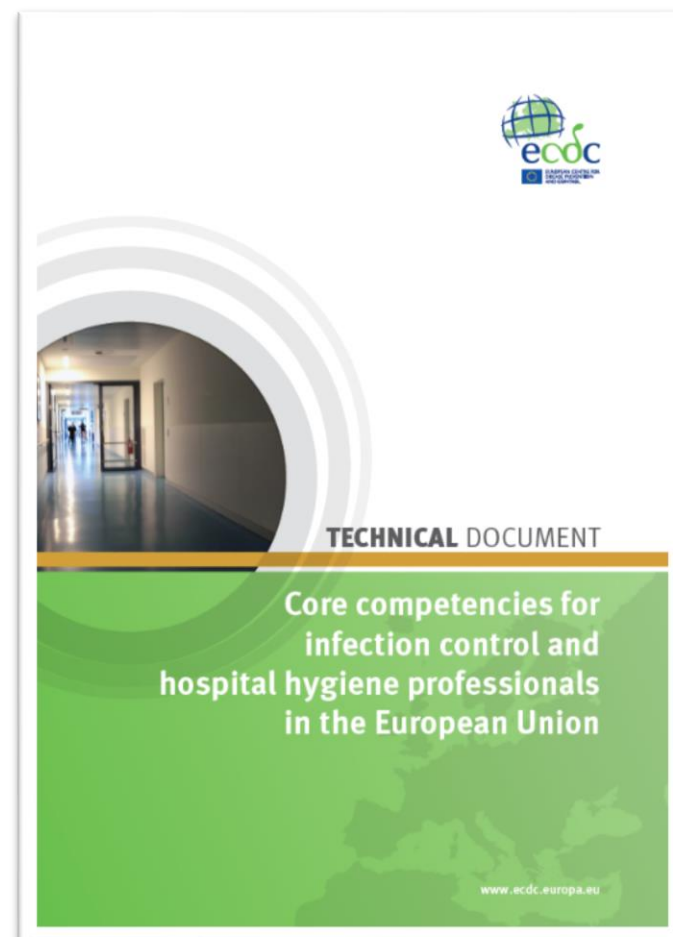
Planned activity: **Pilot exchange in 2017 (parameters TBA)**

Training needs assessment in infection control **TRICE and TRICE-IS Projects**

Training Needs Assessment in Infection Control in Europe (TRICE)

Meeting of National Representatives in Infection Control Training (Udine, Italy, 2010)

- **Surveys on Infection Control (IC) capacity, training resources and needs in Europe**
Based on 2006 ISPE survey
Administered in 2010 & 2014
- **Inventory of IC courses, training programme and training materials** for nurses and medical doctors – evaluated against CC in IC/HH
- **Development of core competencies** for IC/HH professionals in the EU (Mar 2013)
 - Nurses and medical doctors
 - Expert and junior levels
- Development of **IC/HH Wiki**



Training needs assessment in infection control - Implementation Strategy (TRICE-IS; 2014)

Survey Content



Development: Venice, 2013. **Survey pilot:** Aug 2014 in 5x countries

Data collection: Sept – Dec 2014; 30x National experts → regional experts.

Response rate: 100% countries (EU/EEA)

Same respondent in 2010 & 2014: 36.7%... (low)

Curriculum: Section 1 - Human resources for infection control

- Chapter 1. National context
- Chapter 2-3. ICHH Doctors & Nurses
- Chapter 4-5. Status of IC/HH Doctors & Nurses

Section 2 – Training in infection control

- Chapter 1. National curriculum or programme
- Chapter 2. IC/HH training programmes
- Chapter 3. Evaluation of competencies
- Chapter 4. Basic training of HCWs and Link professionals

Section 3 – The Future

- Chapter 1. National plans
- Chapter 2. EU-level training

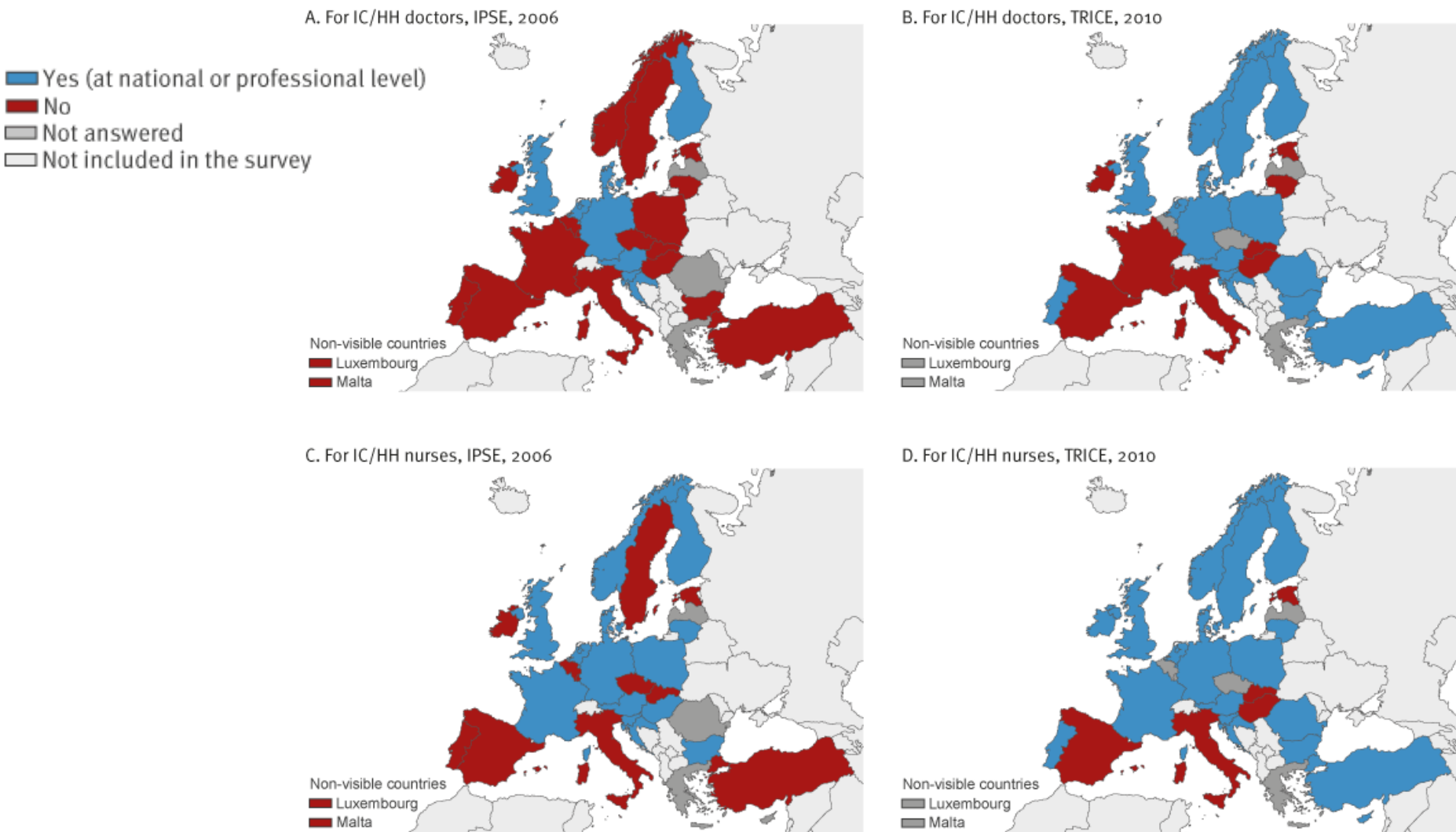
Research articles

TRAINING INFECTION CONTROL AND HOSPITAL HYGIENE PROFESSIONALS IN EUROPE, 2010: AGREED CORE COMPETENCIES AMONG 33 EUROPEAN COUNTRIES

S Brusaferro¹, B Cookson², S Kalenic³, T Cooper⁴, J Fabry⁵, R Gallagher⁶, P Hartemann⁷, K Mannerquist⁸, W Popp⁹, G Privitera¹⁰, C Ruef¹¹, P Viale¹², F Coiz¹, E Fabbro (elisa.fabbro@uniud.it)¹, C Suetens¹³, C Varela Santos¹⁴, National representatives of the Training in Infection Control in Europe (TRICE) project¹⁵

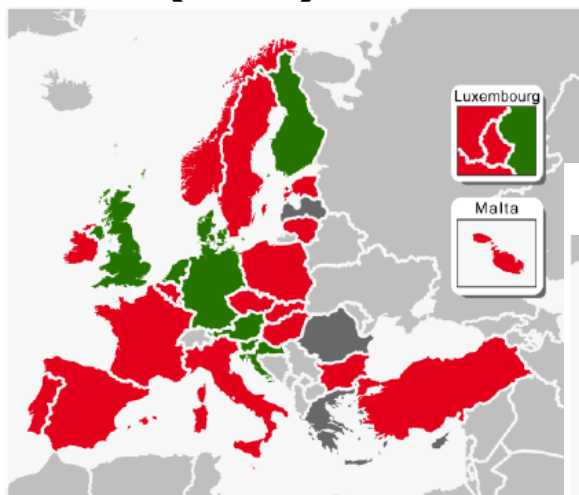
FIGURE 1

Presence of a national curriculum or programme for training of infection control and hospital hygiene doctors and nurses in European countries, 2006 (IPSE; 31 countries) and 2010 (TRICE; 33 countries)

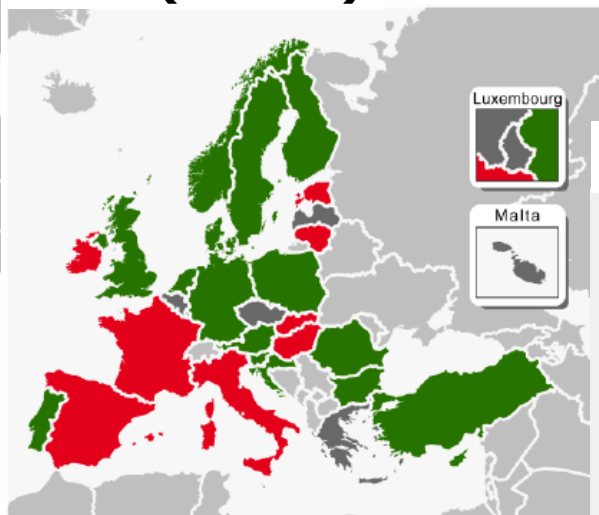


Presence of national curriculum or programme for training of doctors in Europe

2006 (IPSE)

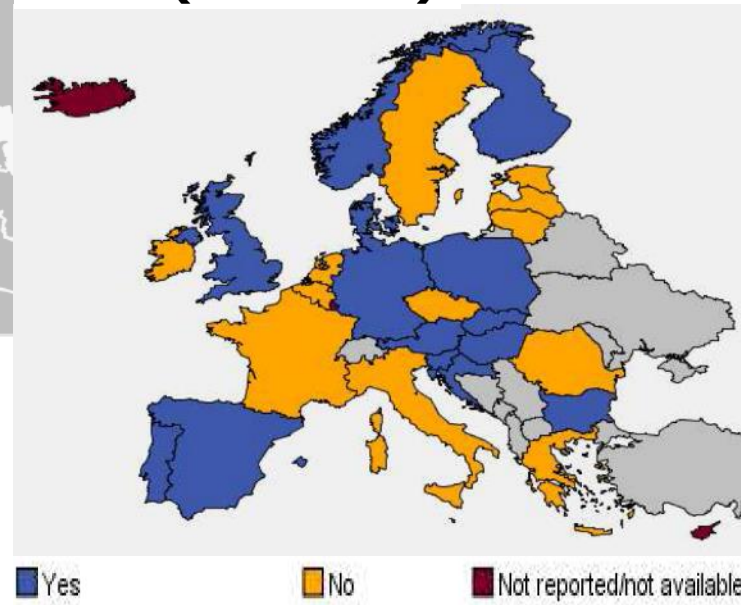


2010 (TRICE)



■ Yes (at national or professional level) ■ No ■ Not answered ■ Not included in the survey

2014 (TRICE-IS)



■ Yes ■ No ■ Not reported/not available

Infection control & hospital hygiene Wiki

URL: wiki.europa.eu



Field Epidemiology Manual

A set of training materials for professionals working in intervention epidemiology, public health microbiology and infection control and hospital hygiene.

[Articles](#) [Curricula](#) [Guidance](#) [Core Competencies](#) [Communities](#) [Help](#)

FEM WIKI TAXONOMY

The FEM Wiki content is divided into a number of chapters. Pages in each of the chapters have a latest community version (corresponding to the version of the page that was most recently edited by a member of the FEM), and an expert reviewed version (the last version that was reviewed by a domain expert).

Taxonomy Browser

[expand all](#) / [collapse all](#)

- ✚ [Assessing the burden of disease and risk assessment](#) ✓
- ✚ [General Communication](#)
- ✚ [Infection control and hospital hygiene](#)
- ✚ [Introduction to Public Health and basic concepts](#) ✓
- ✚ [Statistical Concepts](#)
- ✚ [Uncategorised](#)

FEM CONTRIBUTE

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Do you work in Public Health? Do you have experience in applying field epidemiology to guide disease prevent & control actions? Help us improve FEM Wiki!

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Field Epidemiology Manual

A set of training materials for professionals working in intervention epidemiology, public health microbiology and infection control and hospital hygiene.

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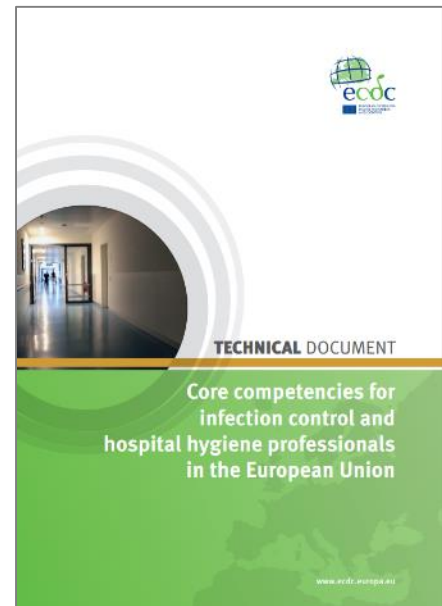
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e.g. ICHH 2013 (ECDC TRICE project)

Incorporated:

- IPSE-ESCMID (2008)
- Consultation rounds with National teams

Also available on the ECDC website



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AND CONTROL

TECHNICAL DOCUMENT

Core competencies for
infection control and
hospital hygiene professionals
in the European Union

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Wiki articles

- publicly viewable
- registered users can edit
- Editorial board & Admin approve changes

Taxonomy and content:

- implemented by TRICE-IS team

Key:

- blue: some content
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Infection Control & Hospital Hygiene (ICHH) Wiki



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FEM Wiki

Manual
...ing in intervention epidemiology, public health microbiology

Articles

Requirements:

- any email address

Acquire extra rights:

- Editing
- Post discussion points

Articles

- Publicly viewable
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Requirements:

- any email address

Acquire extra rights:

- Editing
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Manual

ing in intervention epidemiology, public health microbiology

Articles Communities **Help**

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Less relevant for ICHH than other public health competencies, e.g. Legionnaires, risk assessments for air travel...

Relevant content:

- ECDC HAI-Net surveillance protocols,
- all also available on the ECDC website, i.e. PPS acute care hospitals, PPS LTCFs (HALT), CDI, SSI, ICU

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FEM CONTRIBUTE

Functionality:

- Forum for restricted group discussions, to facilitate development of content in small team
- To apply, click on this link

Very low utilisation by ICHH community

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Publicly accessible HAI-Net Training material

Current content:

- MDRO course (5-day course)
- PPS acute care hospitals 'one-day course' (2011–2012)

Planned for Q1 2017 :

- PPS acute care hospitals (2016–2017)
- PPS LTCFs (HALT-3; 2016–2017)

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Applying field knowledge to improve FEM

ECDC MDRO course

Multidrug-resistant organisms

Attribution



This presentation is a derivative of the training materials for the course on the 'Control of multi-drug resistant micro-organisms in health care settings' commissioned by the European Centre for Disease Prevention and Control (ECDC) in 2011 to a consortium of institutions comprising:



It has been used under the Creative Commons Attribution-Share Alike 4.0 International License [CC BY-SA 4.0]. Special acknowledgements to Professor Peter Davey, Dr Anne Eastaway, Mrs Julie Hughes, Miss Michelle Rivett, Dr Deborah Robertson.

The revised 2015 version is also licensed CC BY-SA 4.0 and is attributed to Dr Senia Rosales Klintz.

The revised 2016 version is also licensed CC BY-SA 4.0 and is attributed to Professor Vera Vlahovic-Palcevski, Dr. Michael Borg, Dr. Diamantis Plachouras.

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Objectives: Capacity build, share knowledge and best practice, strengthen network for **MDRO prevention, surveillance, control, outbreak management in healthcare settings**

When? 19–21 Jan 2016; 20–22 Sept 2016; **19–21 Sept 2017**

Curriculum: 1. Central role of laboratory

2. Antibiotic stewardship.

- ❖ Policies, formularies and guidelines.
- ❖ Measures to promote improvement.

3. Surveillance of antimicrobial resistance & prescribing

4. Evidence based interventions

5. Understanding behavioural drivers and modifiers

6. Application of interventions

- ❖ control of MDROs; control of antibiotic prescribing
- ❖ outbreak control and responses

“What is your professional profile”

Director Regional Public Health Office; Clinical specialist; Epidemiologist at NIPH, surveillance; Consultant in internal medicine; Microbiologist, Consultant in antibiotic therapy; Hospital epidemiologist, Infectologist; Director, public health services; Internist, IC committee; ATB consultant; Researcher.

“What do I have to offer?”

Experience in microbiology lab; Knowledge of surveillance systems and genetics; Experience in behaviour changes in organisations; Field experience in outbreak investigations; Outbreak support team experiences; Knowledge and experience; National point of view; Use of IT in IC.

→ → → Participatory teaching methods:

interactive lectures, group discussions, case scenarios.

ECDC 5-day course in hospital epidemiology

Epidemiological methods in healthcare-associated infection with a focus on point prevalence surveys

5 days / 35hrs (CPD points); available @ICHH wiki



Objectives:

Strengthen skills of EU/EEA Member State workforce in HAI epidemiology.

Design: lectures/group work, paper/computer practicals.

Audience:

Experienced infection control professionals with responsibility for surveillance in healthcare settings.

Learning objectives:

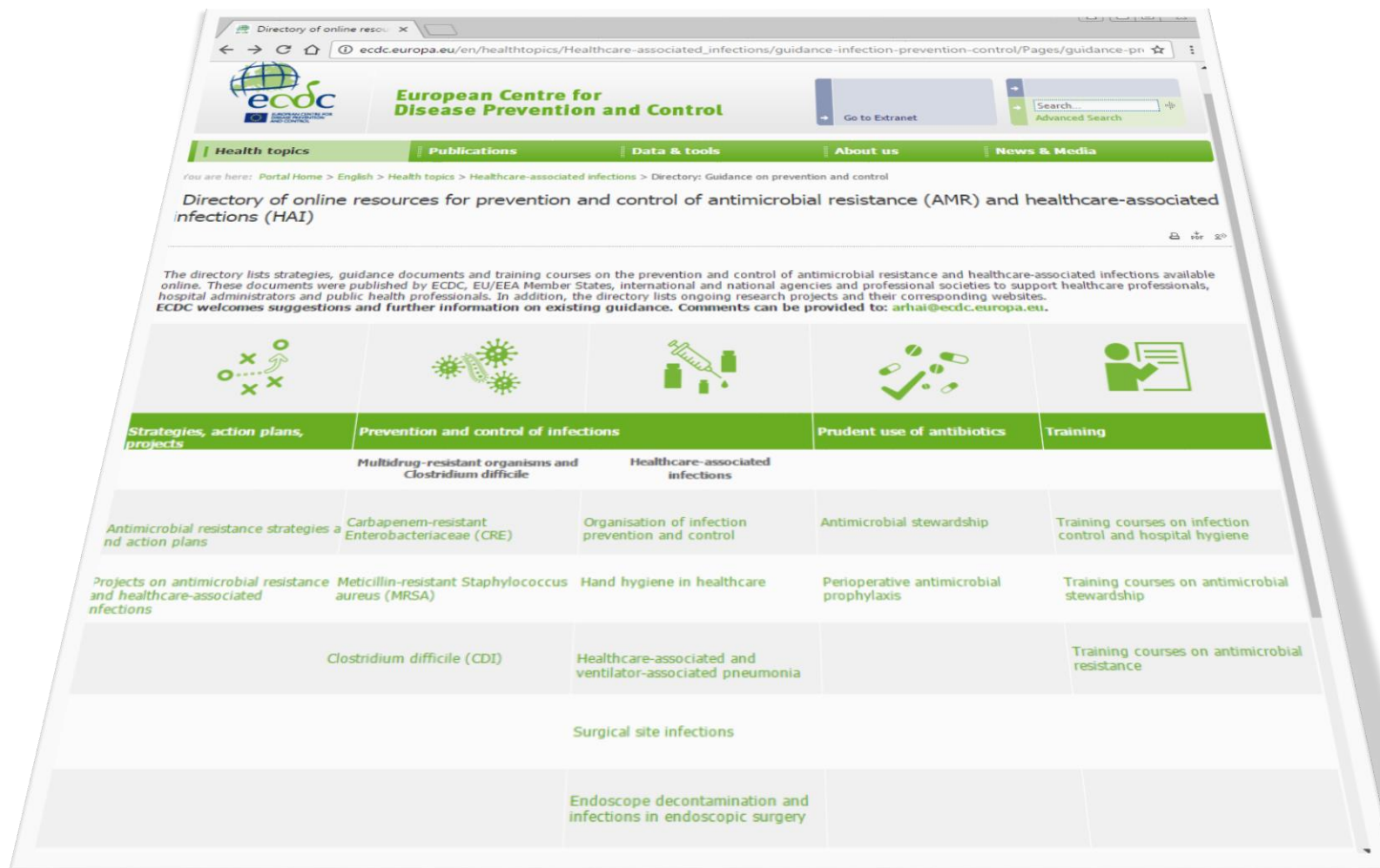
1. Choose, design, perform and analyse epidemiological studies,
2. PPS aims, methodology and limitations
3. Questionnaire design and analysis – use of EpiData.
4. Bias and confounding: understand and counter
5. Sampling strategies and hypothesis testing
6. Interpreting and communicating study results (ORION and STROBE).

ECDC directory of online resources

URL:

http://ecdc.europa.eu/en/healthtopics/Healthcare-associated_infections/guidance-infection-prevention-control/Pages/guidance-prevention-control-infections-caused-by-multidrug-resistant-bacteria-and-healthcare-associated-infections.aspx

ECDC Directory of Online Resources



The screenshot shows the ECDC website interface. At the top, there's a navigation bar with the ECDC logo, the text "European Centre for Disease Prevention and Control", and a search bar. Below this is a green navigation menu with links: "Health topics", "Publications", "Data & tools", "About us", and "News & Media". The main content area has a breadcrumb trail: "You are here: Portal Home > English > Health topics > Healthcare-associated infections > Directory: Guidance on prevention and control". The title of the page is "Directory of online resources for prevention and control of antimicrobial resistance (AMR) and healthcare-associated infections (HAI)". A paragraph explains that the directory lists strategies, guidance documents, and training courses available online, published by ECDC, EU/EEA Member States, international and national agencies, and professional societies. It also mentions that ECDC welcomes suggestions and further information on existing guidance, with a contact email: arhai@ecdc.europa.eu.

Strategies, action plans, projects	Prevention and control of infections	Prudent use of antibiotics	Training
	Multidrug-resistant organisms and <i>Clostridium difficile</i>	Healthcare-associated infections	
Antimicrobial resistance strategies and action plans	Carbapenem-resistant Enterobacteriaceae (CRE)	Organisation of infection prevention and control	Antimicrobial stewardship
Projects on antimicrobial resistance and healthcare-associated infections	Meticillin-resistant <i>Staphylococcus aureus</i> (MRSA)	Hand hygiene in healthcare	Perioperative antimicrobial prophylaxis
	<i>Clostridium difficile</i> (CDI)	Healthcare-associated and ventilator-associated pneumonia	Training courses on infection control and hospital hygiene
	Surgical site infections		Training courses on antimicrobial stewardship
	Endoscope decontamination and infections in endoscopic surgery		Training courses on antimicrobial resistance

ECDC Directory of Online Resources

***Added 2016**



Strategies, action plans, projects	Prevention and control of infections		Prudent use of antibiotics
	Multidrug-resistant organisms and Clostridium difficile	Healthcare-associated infections	
Antimicrobial resistance strategies and action plans	Carbapenem-resistant Enterobacteriaceae (CRE)	Organisation of infection prevention and control	Antimicrobial stewardship
Projects on antimicrobial resistance and healthcare-associated infections	Meticillin-resistant Staphylococcus aureus (MRSA)	Hand hygiene in healthcare	Training courses on infection control and hospital hygiene
	Clostridium difficile (CDI)	Perioperative antimicrobial prophylaxis	Training courses on antimicrobial stewardship
			* Training courses on antimicrobial resistance
		* Surgical site infections	
		* Endoscope decontamination and infections in endoscopic surgery	

ECDC Directory of Online Resources

Review



Hospital organisation, management, and structure for prevention of health-care-associated infection: review and expert consensus

Walter Zingg, Alison Holmes, Markus Dettenkofer, Tim Goetting, Federica Secci, Lauren Clancy, Didier Pittet, for the systematic review and evidence-based guidance on organization of hospital infection prevention and control

Lancet Infect Dis 2015; 15: 212-24

Published Online
November 11, 2014

[http://dx.doi.org/10.1016/S1473-3099\(14\)70854-0](http://dx.doi.org/10.1016/S1473-3099(14)70854-0)

This online publication
has been corrected.

The corrected version first
appeared at thelancet.com/infection on Feb 23, 2015

*Further contributors are listed
in the Acknowledgments section
Infection Control Programme,
University of Geneva Hospitals
and Faculty of Medicine

Despite control efforts, the burden of health-care-associated infection remains high, with an estimated 37 000 deaths each year. We did a systematic review to identify crucial components of infection-prevention programmes in hospitals and key components for implementation at the hospital level; bed occupancy, staffing, workload, and employment of personnel; access to materials and equipment and optimum ergonomics; appropriate cleaning and disinfection; auditing; surveillance and feedback; multimodal and multidisciplinary approaches; behavioural change; engagement of champions; and positive organisational culture. We identified manageable and widely applicable ways to reduce health-care-associated infection.

Introduction

Health-care-associated infections (HAIs) affect millions of patients worldwide every year.^{1,2} In the European Union (EU), alone, the estimated number of HAIs is 454 410.

arrange-
ment, pro-
grammes,
profession
committee

Guidance

AGENCIES

EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL (ECDC)

→ Hospital organisation, management, and structure for prevention of health-care-associated infection: expert consensus

→ Core competencies for infection control and hospital hygiene professionals in the European Union

WORLD HEALTH ORGANIZATION (WHO)

→ Guidelines on infection control programmes and practices (2016)

PROFESSIONAL SOCIETIES

SOCIETY FOR HEALTHCARE EPIDEMIOLOGY OF AMERICA (SHEA)

→ Guidance for Infection Prevention and Healthcare Epidemiology Programs: Healthcare Epidemiologist Skills and Competencies (2015)

INTERNATIONAL FEDERATION OF INFECTION CONTROL (IFIC)

→ IFIC Basic concepts of infection control (2011)



TECHNICAL DOCUMENT

Core competencies for
infection control and
hospital hygiene professionals
in the European Union

Please tell us what is missing: ARHAI@ecdc.europa.eu

ECDC Directory of Online Resources



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Strategies, action plans, projects	Prevention and control of infections	Prudent use of antibiotics	Training
	Multidrug-resistant organisms and Clostridium difficile	Healthcare-associated infections	
Antimicrobial resistance strategies and action plans	Carb		Training courses on infection control and hospital hygiene
Projects on antimicrobial resistance and healthcare-associated infections	Meti		Training courses on antimicrobial stewardship
	Clos		Training courses on antimicrobial resistance

Accredited training courses (n=22)

1 course: Austria, Croatia, Czech Republic, Finland, Germany, Hungary, Malta, the Netherlands, Poland, Slovenia, the United Kingdom

2 courses: France, Lithuania

7 courses: Ireland

ECDC Directory of Online Resources



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Strategies, action plans, projects	Prevention and control of infections	Prudent use of antibiotics	Training	
	Multidrug-resistant organisms and Clostridium difficile	Healthcare-associated infections		
Antimicrobial resistance strategies and action plans	Carbapenem-resistant Enterobacteriaceae (CRE)	Organisation of infection prevention and control	Antimicrobial stewardship	Training courses on infection control and hospital hygiene
Projects on antimicrobial resistance and healthcare-associated infections	Meticillin-resistant ureus (MRSA)	Accredited training courses (n=5) 1 course: Belgium, Germany, Ireland 2 courses: the United Kingdom		Training courses on antimicrobial stewardship
	Clostridium difficile			Training courses on antimicrobial resistance
		Surgical site infections		

Please tell us what is missing: ARHAI@ecdc.europa.eu

ECDC welcomes suggestions and further information on existing guidance. Comments can be provided to: arhai@ecdc.europa.eu.

Planned updates:

Current (deadline 16 Jan)

- Guidance on antimicrobial stewardship in long-term care facilities

Planned for 2017

- Strategies and action plans on HAIs
- Guidance on prevention of catheter-associated urinary tract infections (CAUTIs)
- Guidance on prevention of central line-associated bloodstream infections (CLABSIs)

Acknowledgements



ECDC

- HAI-Net (Coordinator: **Carl Suetens**)
- Training (Head of Section: **Carmen Varela-Santos**)
- FEMWiki (Team lead: **Vladimir Prikazsky**)
- ARHAI Disease Programme (Head: **Dominique L. Monnet**)

Members of TRICE and TRICE-IS (Consortium Lead: **Silvio Brusaferro**, Univ. Udine)

HALT-2 and -3 Management Team (Consortium Lead: **Bea Jans**; WIV-ISP, Belgium)

HALT-3 Advisory Committee members

HAI-Net PPS Expert Group

National Focal Points for Training

National Focal Points for Healthcare-Associated Infections

HAI-Net Disease Network Coordination Committee (Chair: Jacqui Reilly; NHS Scotland)