

# Le métier d'infectiologue en Europe

Bruno Hoen

Université de Franche-Comté – CHU de Besançon

EGI – 14 janvier 2011

- Une définition européenne de l'infectiologie ?
- Les infectiologues en Europe ?
  - Pas dans tous les pays !
  - Combien dans chaque pays ?
  - Quel champ d'activité ?
- La formation des infectiologues en Europe

# La reconnaissance de l'infectiologie comme spécialité médicale en Europe

- By the mid 1990s, there were sufficient member countries whose national authorities recognised infectious diseases for an application for recognition by the UEMS to be made
- 1996: approval for Section for Infectious Diseases
- 1997: Section for Infectious Diseases established as a Section within General Internal Medicine
- 1998: Board for Infectious Diseases established
- 1999: European training programme approved by the Section at the annual meeting in Geneva
- 1999: logbook on web-site
- 2002: updated training programme
- 2004: Section for Infectious Diseases established its own website (<http://www.uems-id.org>)

# Recognition of ID as speciality in Europe (enquête UEMS 2004)

- Recognised by national government as an independent speciality
  - Italy, Croatia, Slovenia, Greece, Turkey, Switzerland, Hungary, Poland, Portugal, Netherlands, Denmark, Sweden, Norway, UK, Ireland, Iceland, France (hospitals only)
- Not recognised or recognised as subspecialty or specialty to be recognised
  - Belgium, Spain, Austria, Germany (except in 2/15 länder), Luxembourg

# Combien d'infectiologues dans les pays européens ?

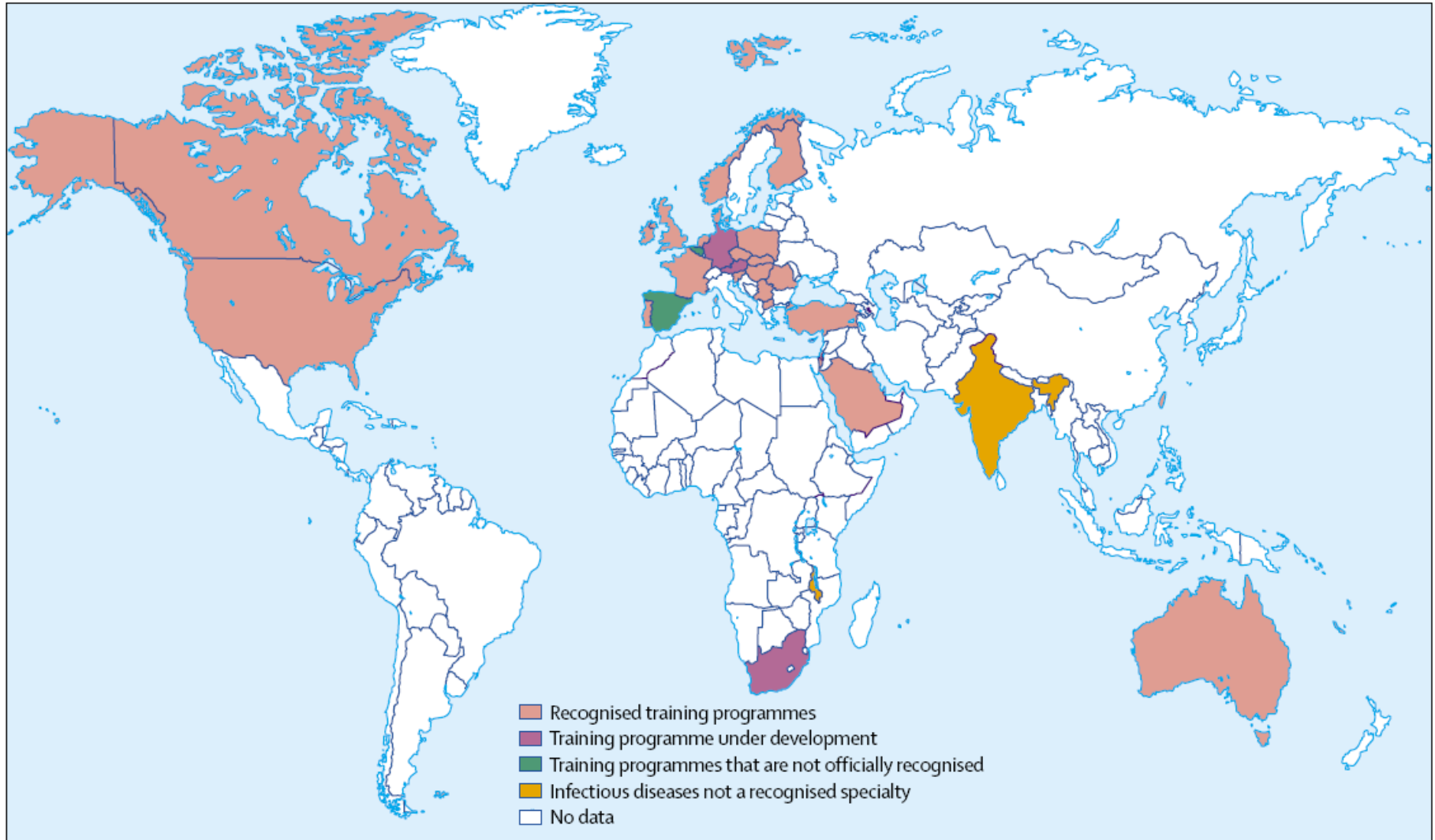
## Infectiologues "au sens strict"

Country	Approximate population (million)	Infectious disease specialists per million population
England, Wales and Northern Ireland	53.6	< 5
Belgium	10	< 5
Greece	10.3	< 5
Germany	82	< 5
Republic of Ireland	3.6	< 5
Scotland	5.1	< 5
<b>France</b>	<b>60</b>	<b>6</b>
Denmark	5.3	5–10
Portugal	10	5–10
Finland	5.2	10–20
Norway	4.5	10–20
Slovakia	5.4	10–20
Slovenia	2	10–20
Switzerland	7.3	10–20
Iceland	0.3	20–40
Croatia	4.8	20–40
Sweden	8.8	20–40
Turkey	68	20–40
Italy	58	40–60

## Infectiologues "au sens large"

Country	Approximate population (million)	'Infection' specialists (infectious diseases + microbiology) per million population
England, Wales and Northern Ireland	53.6	5–10
Greece	10.3	5–10
Republic of Ireland	3.6	5–10
Belgium	10	10–20
Germany	82	10–20
The Netherlands	15.8	10–20
Scotland	5.1	10–20
Denmark	5.3	10–20
Portugal	10	10–20
Finland	5.2	20–40
Turkey	68	20–40
Slovakia	5.4	20–40
Iceland	0.3	40–60
Norway	4.5	40–60
Croatia	4.8	40–60
Sweden	8.8	40–60
Italy	58	40–60
Switzerland	7.3	No data
Slovenia	2	No data

# Programmes de formation en infectiologie dans le monde



# Postgraduate training in infectious diseases: investigating the current status in the international community

Region	Number of countries contacted	Countries contacted	Number of responders
Europe	29	Austria, Belgium, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Luxembourg, Macedonia, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, UK, Ukraine	23
North and Central America	4	USA, Canada, Mexico, Cuba	2
South America	4	Brazil, Argentina, Chile, Peru	0
Asia	8	India, Hong Kong, Taiwan, Japan, China, Singapore, Malaysia, Saudi Arabia	5
Africa	4	South Africa, Malawi, Kenya, Ghana	2
Australasia	1	Australia	1
Total	50		33

**Table 1:** contacted and responding countries

# Postgraduate training in infectious diseases: investigating the current status in the international community

## *Panel 2: Semi-structured questionnaire*

- 1 Is infectious diseases a recognised specialty?
- 2 Does it require specialist post-graduate training?
- 3 If so, which governing body is responsible?
- 4 What is the length of a typical training scheme?
- 5 How does supervision of the trainee take place?
- 6 What are the entry requirements?
- 7 Is there is a syllabus?
- 8 Is there a formal examination or mode of assessment?
- 9 Which specialties/areas are covered in the training programme—eg, public health, HIV?
- 10 How many infectious diseases specialists/consultants are there in your country?



Country	Training duration (years)	Entry requirements	Supervision process	Exit examination	Authority for approval of course
Czech Republic	3	Postgraduate training in internal or paediatric medicine	By the Institute of Postgraduate Education	Yes	The Ministry of Health
Denmark	5	2.5 years training post graduation (at least 1.5 years internal medicine).	By a senior specialist	No	The National Board of Health
Finland	6	MD degree, although in practice many candidates have been trained in general internal medicine or have done scientific research	By a senior lecturer	Yes	The medical faculty of the university (total of five medical faculties in Finland)
France	1-2 ans CCA	4-5 ans Interne	Pratique et théorique + mémoire	DESC (Diplôme de Spécialité en Infectiologie et Tropicalité)	SFILF (Société Française d'Infectiologie)
Hungary	5	State medical licence examination	By a senior consultant	Yes	Dean of medical faculty
Ireland	4-6	At least 2 years postgraduate training in general medicine and MRCP or equivalent	By a senior consultant	Not for infectious diseases. Microbiology/virology trainees must pass MRCPPath examination	Irish Committee on Higher Medical Training
Israel	2	Training in internal medicine, paediatrics, or family medicine	By the head of department and hospital board nominated by the Israeli Medical Association	Yes	The Israeli Medical Association and the Infectious Diseases Society of Israel
Macedonia	4	State medical licence examination	By a senior consultant	Yes	The university department of infectious diseases and medical faculty
Netherlands	2	Licence in internal medicine, or in final 2 years of internal medicine specialty training	By infectious diseases senior staff	No	Licence must be approved by the head of the training programme
Norway	2	Medical qualification	No formal supervision, but the department must qualify as a training department	No (but there is an examination in tropical diseases)	The Norwegian Medical Association
Poland	5	Medical residency and entrance exam held at recognised training centre	By an appointed senior specialist	Yes	Special accreditation committee
Portugal	5	2 years postgraduate training and entrance examination	By a senior consultant	Yes	State hospitals
Romania	5	Entrance examination	By the head of department	Yes	The Institute for the Training of Medical Doctors and Pharmacists
Slovakia	3	Board certified in internal medicine or paediatrics	By a senior infectious diseases specialist	Yes	Slovak Medical University [Au: is there only one?]
Slovenia	6	Entrance examination	By a local specialist	Yes	Medical Chamber of Slovenia
Sweden	5	Medical qualification, plus internship in internal medicine, surgery, psychiatry, and general practice	By a senior specialist at a certified training centre	No (examination under development)	The state
Switzerland	3	3 years training in internal medicine or paediatrics	By a senior specialist	Yes	The Swiss Association of Physicians
UK	5 years for joint infectious diseases and general internal medicine; 6 years if tropical medicine included; 6 years training for combined infectious diseases, microbiology, or virology	Minimum 2 years training in general medicine or paediatrics post registration. Passed MRCP examination	By nominees of postgraduate deans	Assessment in penultimate year highlights deficiencies needing attention during the final training period. Microbiology/virology trainees must pass the MRCPPath examination	Joint Committee for Higher Medical Training, through the Royal College of Physicians

# Comparaison UEMS-ID des formations en Europe (2006 – 2007)

Country	Recognised [Sub]Speciality	Duration General Internal Medicine (or Pediatrics) before ID	General Internal Medicine Board Certification As Well As ID	Duration Higher Medical Training	Written Training Programme	Annual Assessments of Trainee	Logbook For Trainees	Training Centre Inspected (nationally)	Curriculum Contents												
									HIV/AIDS	TB	Viral Hepatitis	Immunocompromised Patient	Travel Medicine/Tropical Diseases	Critical Care/Intensive Care Medicine	Microbiology Laboratory	Infection Control	Epidemiology/Public Health	Bioterrorism	STD	Antimicrobial Chemotherapy	
Austria	Y [s] <sup>+</sup>	5	Y	>5	Y																
Bosnia/Herzegovina	Y	0	N	4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Croatia	Y	2	N	5	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Cyprus	Y [s] <sup>+</sup>	>2	Y	>4																	
Czech Republic	Y	2	Y	3	Y	Y	Y	N	Y	Y	Y	Y	Y	G <sup>+</sup>	Y	Y	O <sup>+</sup>	Y	N	Y	
Denmark	Y	2	N	4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	O <sup>+</sup>	Y	N	Y	Y
Finland	Y	3	N	3	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	O <sup>+</sup>	O <sup>+</sup>	Y	N	Y
France	Y [s] <sup>+</sup>	>2	Y	>5	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	O <sup>+</sup>	O <sup>+</sup>	Y	Y	Y	Y
Germany	Y [s] <sup>+</sup>	5	Y	>5	Y	N	N	N	Y	Y	Y	Y	Y	G <sup>+</sup>	O <sup>+</sup>	N	N	N	N	Y	Y
Greece	Y [s] <sup>+</sup>	2	Y	>5	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	?	Y	Y	Y	Y
Hungary	Y	>2	Y	5	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y
Iceland	Y	>2	Y	3 5 4	Y	Y	Y	Y	Y	Y	O <sup>+</sup>	Y	Y	Y	Y	Y	O <sup>+</sup>	Y	Y	Y	Y
Ireland	Y	2	Y	5	Y	Y	Y	Y	Y	Y	Y	Y	Y	O <sup>+</sup>	Y	Y	Y	N	Y	Y	Y
Italy	Y	0	N	5	Y	Y	Y	N	Y	Y	Y	Y	Y	N	N	Y	N	N	Y	Y	Y
Lithuania	Y	2	N	4	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y
Macedonia	Y	2	N	5	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y
Netherlands	Y [s] <sup>+</sup>	4	Y	>5	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y
Norway	Y	2	Y	>5	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y
Poland	Y	1,5	Y	5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Portugal	Y	2	N	5	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y
Romania	Y	2	N	5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y
Slovakia	Y	2	Y	3	Y	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y
Slovenia	Y	2	N	4	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Sweden	Y	2	N	5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y
Switzerland	Y	3	N	>5	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	N	N	Y	Y
Turkey	Y	0	N	5	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y
United Kingdom	Y	>2	Y	5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

\*[s]=subspecialty, G=with general medicine, O=optional

# Training in ID in Europe – UEMS 2006

- Usually joint training with GIM
  - some exceptions eg Italy, Portugal
- Joint training with microbiology
  - eg Turkey, UK
- Written training programme
  - most European countries have official training programmes
  - other countries may but data not available (2005)
- Logbook
  - some do not have log book

# Log book préconisé par l'UEMS

## UEMS LOGBOOK FOR INFECTIOUS DISEASES #9;

CATEGORY	KEY POINTS	YEAR	YEAR	YEAR	YEAR	YEAR
		1	2	3	4	5
Community acquired infection <i>(Please refer to curriculum)</i>	Approx number of inpatients per month					
	Approx number of outpatients per month					
Tropical infectious disease	Approx number of returning travellers per year					
Travel medicine	Approx number of travel clinics per year					
HIV / AIDS	Approx number of HIV inpatients seen per month					
	Approx number of HIV outpatient seen per month					
Compromised patients (including transplant)	Approx number of compromised patients (excluding transplant/HIV) per month Approx number of transplant per month					
Hospital acquired infection	Approx number of hospital acquired infections per month (c. diff., pneumonia, UTI etc)					

Surgical infection consults	Approx number of consults (month)					
Intensive care	Time spent in general & infection management of patients on ITU (weeks)					
Medical microbiology/ clinical virology	Approx time spent in laboratory aspects of infection including antimicrobial chemotherapy (weeks)					
Genito urinary medicine	Approx time spent in this areas (weeks)					
Epidemiology, Public Health	Approx time spent in this areas (weeks)					
Other (specify)						

# UEMS ID survey 2006/7 (Updated 2010)

[Responses from 27 UEMS members or observers]

- Infectious Diseases
- Recognised in all countries
  - 21/27 independent speciality
  - 6/27 subspecialty of GIM
- General Internal Medicine as ‘common trunk’
  - 25/27 include training in GIM prior to ID
  - 14/27 training leads to certification in GIM as well as ID

# **UEMS ID survey 2006/7 (Updated 2010)**

[Responses from 27 UEMS members or observers]

- Duration of speciality training
  - guidelines state 4 years
- 24/27 - duration of higher medical training in ID >4 years

# Summary

- Infectious diseases in Europe is thriving with an active and committed membership of UEMS
- Skills of ID Physician are built around the clinical skills of General Internal Medicine Physician
  - most ID training in Europe combined with GIM
- National curricula are mainly in accordance with UEMS curriculum
- The tree of infection is growing and providing new challenges for infection doctors
  - Infection specialists: joint training in CM and ID ?

# Recommandations européennes (UEMS/EBID) sur le contenu du curriculum

- Community-acquired and hospital-acquired infections
- HIV/AIDS
- Cross-specialty infections (TB, Viral hepatitis)
- Infection in the compromised host
- Diseases of travel
- Intensive care
- Medical microbiology
- Infection control
- Epidemiology and public health medicine
- Tropical infectious diseases
- Bioterrorism
- Sexually transmitted diseases
- Antimicrobial chemotherapy
- Research



# Recommandations européennes (UEMS/EBID) sur les aptitudes pratiques

- Appropriate management of an emergency admission suffering from severe infection
- Competence in acute assessment of patients suffering from infections and the day-to-day care of patients suffering from severe infections
- Management of patients with imported infections - e.g. malaria.
- Care of compromised patients - including neutropenic and HIV patients). The trainee must develop effectively use and monitor combination antiviral drugs.
- Management of nosocomial infections, with knowledge of infection control, and appropriate liaison with laboratory services.
- Practical knowledge of common clinical diagnostic procedures

# Recommandations européennes (UEMS/EBID) sur les aptitudes pratiques (suite)

- The trainee must also be:
  - regularly involved in under-graduate and post-graduate teaching
  - involved in audit and quality control relating to the specialty
  - conversant with clinical pharmacological aspects of and appropriate use of antimicrobial chemotherapy (where possible with involvement with the Antibiotic Sub-Committee).
  - Conversant with aspects of infection control (where possible by being co-opted onto the Infection Control Committee).
  - Aware of resource management implications related to practice in the specialty.
  - Able to lead a multidisciplinary team in the clinical setting

# La vision anglaise de l'infection

- UK Academy of Medical Sciences recommendation
  - a small number of “centres of excellence in microbiology and infection”, with multidisciplinary teams comprising
  - basic research and clinical bacteriology working with cell biologists, immunologists, epidemiologists, and infectious diseases clinicians.
- Une formation unique "maladies infectieuses/microbiologie"
  - proposée depuis plus de 10 ans mais non adoptée par toutes les universités
- Promotion des "infection centres"
  - Mise en commun des compétences
  - Collaboration – interaction "quotidienne"
    - Infectiologues cliniciens
    - Microbiologistes (médicaux)
    - Hygiénistes
- "It is vital to ensure that breaking down the barriers between the individual groups does not result in dilution of the specific skills associated with each area" (Nick Beeching)

# Les Anglais ont tiré les premiers : <http://www.trainingininfection.org.uk/>

## Training In Infection (TII)

Hosted by the National electronic Library of Infection

[Home](#) [Societies](#) [Journals](#) [Funding](#) [Conferences](#) [Courses](#) [Textbooks](#) [Other Resources](#) [Search](#)

Thursday 13th January 2011

Welcome to the National Resource for Infection Control (NRIC). This site has been developed by the City eHealth Research Centre (CeRC) as an online version of the Training In Infection manual originally developed at Imperial College.

**NeLI/NRIC hosted  
Seasonal Influenza National Knowledge Week  
29<sup>th</sup> Oct - 2<sup>nd</sup> Nov**

As well as the information hosted directly on TII, you may wish to visit some of the other sites within the [National electronic Library of Infection \(NeLI\)](#) family:



[National electronic Library of Infection](#)



[e-Bug](#)



[Bugs & Drugs on the Web](#)



[National Resource for Infection Control](#)

If you have any comments or suggestions regarding this site, please feel free to fill in the contact form [here](#). Your feedback is always appreciated.

To sign up for our newsletter and receive regular monthly updates, click [here](#).

**NeLI hosted a Tuberculosis National Knowledge Week from 26<sup>th</sup> – 30<sup>th</sup> March 2007**

### News

12/01/2011 - [Urgent action essential to protect malaria therapies says WHO](#)

11/01/2011 - [Godstone Farm admits E. coli outbreak liability](#)

11/01/2011 - [Swine flu offers 'extraordinary super immunity'](#)

[more...](#)

### Search the Site

[Advanced Search](#)

### Conferences / Meetings

[The TB battle: Are we winning or losing? \(London\) 23/3/2011](#)

[The Annual Scientific Meeting of SHEA, Dallas Texas \(April 1- 4 2011\) 1/4/2011](#)

[more...](#)

### Sign up for the Newsletter!

Sign up for the monthly newsletter, click [here](#).

[Contact](#)

[About TII](#)



# National electronic Library of Infection

[Home](#) [Browse](#) [Clinical Presentation](#) [Organisms](#) [Diseases](#) [Systems](#) [Useful Resources](#) [Search](#)

Thursday 13th January 2011

Welcome to the National electronic Library of Infection (NeLI). NeLI is a digital library bringing together the best available on-line evidence-based, quality-tagged resources on the investigation, treatment, prevention and control of infectious disease.



## Latest Influenza updates

As well as the information hosted directly on NeLI, you may wish to visit some of the other sites within the NeLI family:



[National Resource for Infection Control](#)



[IFH Home Hygiene & Health](#)



[e-Bug](#)



[Training In Infection](#)



[Medicines Support Unit for Optometrists](#)



[Bugs & Drugs on the Web](#)

### News

12/01/2011 - [Urgent action essential to protect malaria therapies says WHO](#)

11/01/2011 - [Godstone Farm admits E. coli outbreak liability](#)

11/01/2011 - [Swine flu offers 'extraordinary super immunity'](#)

[more...](#)

### Search the Site

Search

[Advanced Search](#)

### Conferences / Meetings

[The TB battle: Are we winning or losing? \(London\) 23/3/2011](#)

[The Annual Scientific Meeting of SHEA, Dallas Texas \(April 1- 4 2011\) 1/4/2011](#)

[more...](#)

### Sign up for the Newsletter!

Sign up for the monthly newsletter, click [here](#).





## Welcome to e-Bug

a place to play games and learn about microbes

**Junior  
student**

**Senior  
student**

**teachers**





e-Bug

## e-BUG Senior

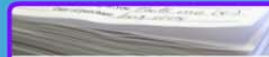
### Fact of the Week

The inside of your purse may be cluttered, but it's the bottom that's crawling with tens of thousands of germs, such as E. coli and salmonella. Women innocently place their purses on germ-infested public floors and surfaces, only to have these bacteria attach themselves to the bottom of their "it" bag.



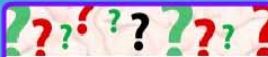
### Disease Fact Files

Click Here to find out how Deadly and Disgusting Microbes can be!



### Revision Guide

Need to ace those exams? This is the section for you!



### Quiz

Ready to Test what you Really Know about Microbes?



### Games

Go on, play our games and have some fun!



### Downloads

Browse our gallery for images you can download.



### Hall of Fame

Find out about Legendary Scientists and their Discoveries



### Home Science

Investigate Microbes with some experiments at home.

### Picture of the Week



### MRSA

These clever bacteria have learned how to fight the antibiotic meticillin and many other antibiotics – good news for them, bad news for us as they can make us very ill.

◀ BACK



# Perspectives : 2 visions

- L'interniste spécialisé en maladies infectieuses
  - Conception majoritaire en Europe
  - Héritière de l'histoire
- Le spécialiste de l'infection
  - Formation/compétence en microbiologie élargies
  - Intégration microbiologie – infectiologie
  - Dimension "basic research" plus développée
  - Dimension santé publique renforcée



# EU Professional Qualifications Directive

- Adopted October 2005
  - Implemented 2007
- Specialist titles recognized across EU
  - Free moving across EU countries
- To be revised in 2012
  - Consultation of professional organizations for that purpose
  - UEMS will take part and suggest actions to Commission

# Remerciements : UEMS-ID

- Mario Mondelli
- Nick Beeching
- Adriana Vince
- Haakon Sjursen
- Mike McKendrick