

European Gonococcal Antimicrobial Susceptibility Programme - Euro-GASP

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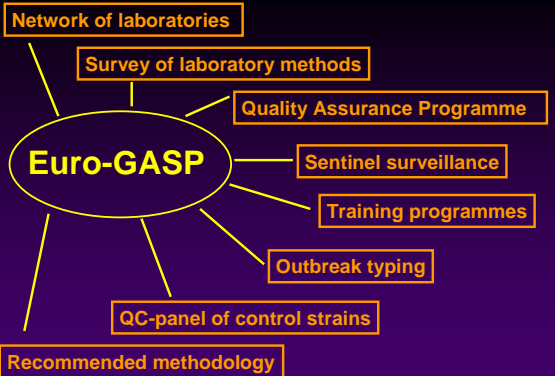
ESSTI & Euro-GASP

- European surveillance of sexually transmitted infections - ESSTI
 - Network of European expertise in STI surveillance
 - Epidemiology
 - Microbiology
 - European Gonococcal Antimicrobial Susceptibility Programme - Euro-GASP



ESSTI Project - Aims

“To develop and coordinate epidemiological and laboratory surveillance of STIs in the European region in order to better inform STI prevention, care and control”



The ESSTI Network
★
Participating Countries (25)



Type of reference function



Latvia – Expert
Malta – National
Iceland – National
Slovenia – Other (local)
Estonia – Other (local)



QA programme

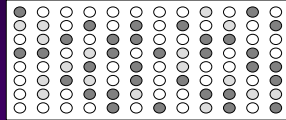
- Identify reproducibility problems and offer a comparison between laboratories
- Examine the effect of the different methods on concordance of results, with the aim of clarifying best practice

QA – Methods used

- Routine methodology used
- Panel of 30 isolates distributed
- 10 isolates in triplicate

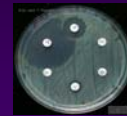
Agar dilution

2004 - 5/14; 2007 - 5/19



Etest

2004 - 6/14
2007 - 9/19



Disc

2004 - 3/14
2007 - 3/19

Disc & Etest
2007 - 2/19

QA – Methods used

- Guidelines used
 - 10/19 CLSI (Clinical Laboratory Standards Institute)
 - 5/19 Not given (4/6 used CLSI breakpoints)
 - 1/19 GRASP method (England & Wales)
 - 1/19 CACFM (France)
 - 1/19 CLSI/CRG (Holland)
 - 1/19 SRGA (Sweden)
- Media used
 - 13/19 GC base
 - 4/19 Chocolate
 - 1/19 DST
 - 1/19 Not given
- 15/19 use 0.5 McFarland

QA - Results

- Intra laboratory concordance (category of resistance)

| | 2004 | 2007 |
|---------------|------|--------|
| Penicillin | 93% | 89% ↓ |
| Ciprofloxacin | 93% | 98% ↑ |
| Ceftriaxone | 92% | 100% ↑ |
| Tetracycline | 80% | 86% ↑ |

QA - Results

- Intra laboratory concordance (category of resistance)

| 2007 | All | Etest | Agar | Disc |
|---------------|------|-------|------|------|
| Ceftriaxone | 100% | 100% | 100% | 100% |
| Ciprofloxacin | 98% | 99% | 98% | 97% |
| Penicillin | 89% | 90% | 94% | 90% |
| Tetracycline | 86% | 91% | 96% | 83% |

QA - Overall Concordance

| | 2004 | 2007 |
|---------------|------|--------|
| Ceftriaxone | 93% | 100% ↑ |
| Penicillin | 87% | 84% ↓ |
| Ciprofloxacin | 79% | 93% ↑ |
| Tetracycline | 72% | 81% ↑ |

QA - Overall Concordance

| 2007 | All | Etest | Agar | Disc |
|---------------|------|-------|------|------|
| Ceftriaxone | 100% | 100% | 100% | 100% |
| Ciprofloxacin | 93% | 91% | 93% | 96% |
| Penicillin | 84% | 84% | 89% | 89% |
| Tetracycline | 81% | 96% | 81% | 72% |

2004 – MIC (Agar dilution or Etest) > Disc diffusion

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QA - Overall concordance

- Etest and Agar dilution = same consensus by category of resistance
- Disc diffusion = 3 penicillin / 2 tetracycline results with a different consensus by category of resistance
- Greatest agreement for fully sensitive or resistant isolates
- Intermediate resistant strains most variable
- Need to look at the actual MICs (modal)

QA programme will be repeated in 2008 and 2009

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EURO-GASP sentinel surveillance, 2004

- ★ 12 participating countries (12)
- Max 100 routine consecutive isolates from each country
- Basic demographics
- Bayer funded

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Surveillance – 2004 Conclusions

- First ever combined European surveillance data
- High levels of resistance
 - ciprofloxacin
 - penicillin
 - azithromycin
- Multi resistant isolates widespread
- Implications for treatment guidelines

2007 = 19 countries collecting strains now!!!
2008 = Collection starts June 2008

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Publications - Microbiology

Journal of Antimicrobial Chemotherapy (2006) 58, 303–306
doi:10.1093/aic/58.3.303
Advance Access publication 27 June 2006

Comparability of laboratory diagnosis and antimicrobial susceptibility testing of *Neisseria gonorrhoeae* from reference laboratories in Western Europe

C. A. Ison¹*, I. M. C. Martin¹, C. M. Lowndes² and K. A. Fenlon² on behalf of the European Surveillance of Sexually Transmitted Infections (ESSTI) Network

Journal of Antimicrobial Chemotherapy (2006) 58, 347–351
doi:10.1093/aic/58.3.347
Advance Access publication 1 July 2006

European Surveillance of Sexually Transmitted Infections (ESSTI): the first combined antimicrobial susceptibility data for *Neisseria gonorrhoeae* in Western Europe

I. M. C. Martin¹*, S. Hoffmann² and C. A. Ison¹ on behalf of the European Surveillance of Sexually Transmitted Infections (ESSTI) Network

ESSTI

ESSTI Laboratory Training

ESSTI Laboratory Training Course on Bacterial Sexually Transmitted Infections Diagnostics

- To build knowledge capacity and help standardise laboratory methods across Europe
- Special emphasis on *Neisseria gonorrhoeae* laboratory diagnosis and antimicrobial susceptibility testing

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ESSTI Laboratory Course

- Aimed at those who;
 - work in a laboratory that performs bacterial STI diagnoses
 - are at the start of their diagnostic career
 - Wide range of participants (13 different countries);
 - Laboratory technicians
 - Biomedical scientists
 - Laboratory heads ← Gained the most
 - Doctors ← Gained the most
- Everyone learned lots, including us!!!**



STI Laboratory Training Course

HPA - London

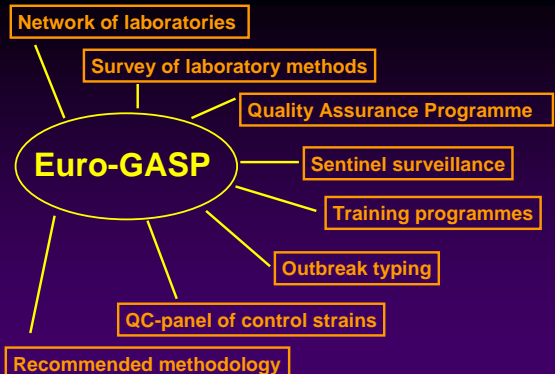


Next course – March 2008



STI Laboratory Training Course 16th – 20th April 2007

| Monday 16th April | Tuesday 17th April | Wednesday 18th April | Thursday 19th April | Friday 20th April |
|--|---|--|--|---|
| 9:30-10:00 Introductions | 9:00-9:45 Antimicrobial resistance in gonorrhoea - C. Ison | 9:00-12:00 Laboratory session 4 - Identification of <i>N. gonorrhoeae</i> | 9:00-10:00 Diagnosis of syphilis - H. Young | 9:30-10:30 Use of MAATS for GC testing - C. Ison |
| 10:00-11:00 Past, present and future of ESSTI - M. Cole | 9:45-10:15 Coffee break (Galbraith) | 12:00-13:00 Lunch time seminar - STI Surveillance - K. Lowndes | 10:00-10:15 Coffee break (Galbraith) | 10:30-11:00 Coffee break (Galbraith) |
| 11:00-11:30 Photos and coffee break (Galbraith) | 10:15-11:00 Surveillance of gonococcal antimicrobial resistance - C. Ison | 13:00-14:00 Diagnosis of chlamydia and LGV - S. Alexander | 10:15-13:00 Laboratory session 7 - Syphilis serology | 11:00-12:30 Laboratory session 8 - Preparation of agar dilution plates |
| 11:30-12:30 Isolation and identification of <i>N. gonorrhoeae</i> - C. Ison | 11:00-12:30 Examining growth, oxidase and Gram staining | 14:00-15:00 Laboratory session 5 - Chlamydia fluorescence microscopy | 13:00-13:45 Lunch | 12:30-13:30 Lunch |
| 12:30-13:30 Lunch | 12:30-13:30 Lunch | 15:00-15:30 Coffee break | 14:00-17:00 St Mary's visit (Dpm) Fleming museum (4pm) | 13:30-14:30 Laboratory session 9 - Bringing all the results together |
| 13:30-15:00 Laboratory session 1 - Retrieving and saving E. coli | 13:30-15:00 Laboratory session 3 - Susceptibility testing of <i>N. gonorrhoeae</i> | 15:00-15:30 Coffee break | 15:00-17:00 Laboratory session 6 - Reading and interpreting susceptibility plates | 14:30-15:00 Coffee break |
| 15:00-15:30 Coffee break | 15:30-16:00 Coffee break | 16:00-17:00 Laboratory quality assurance - I. Sharp | 16:00-17:00 Round-up of the week | 15:30-16:00 Round-up of the week |
| 16:30-17:00 Introduction to statistics of diagnostic testing - G. Hughes | | | | |
| Lectures | | | | |
| Laboratory sessions | | | | |
| Other | | | | |



Acknowledgements

Everyone involved with the ESSTI network; past, present and future

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www.essti.org

