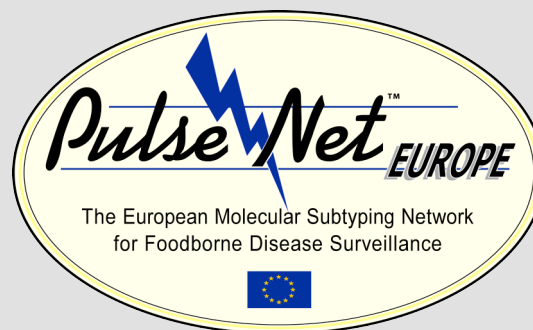




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PulseNet Europe



Mia Torpdahl

Statens Serum Institut

Denmark



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A network of Food, Public health and Veterinary laboratories

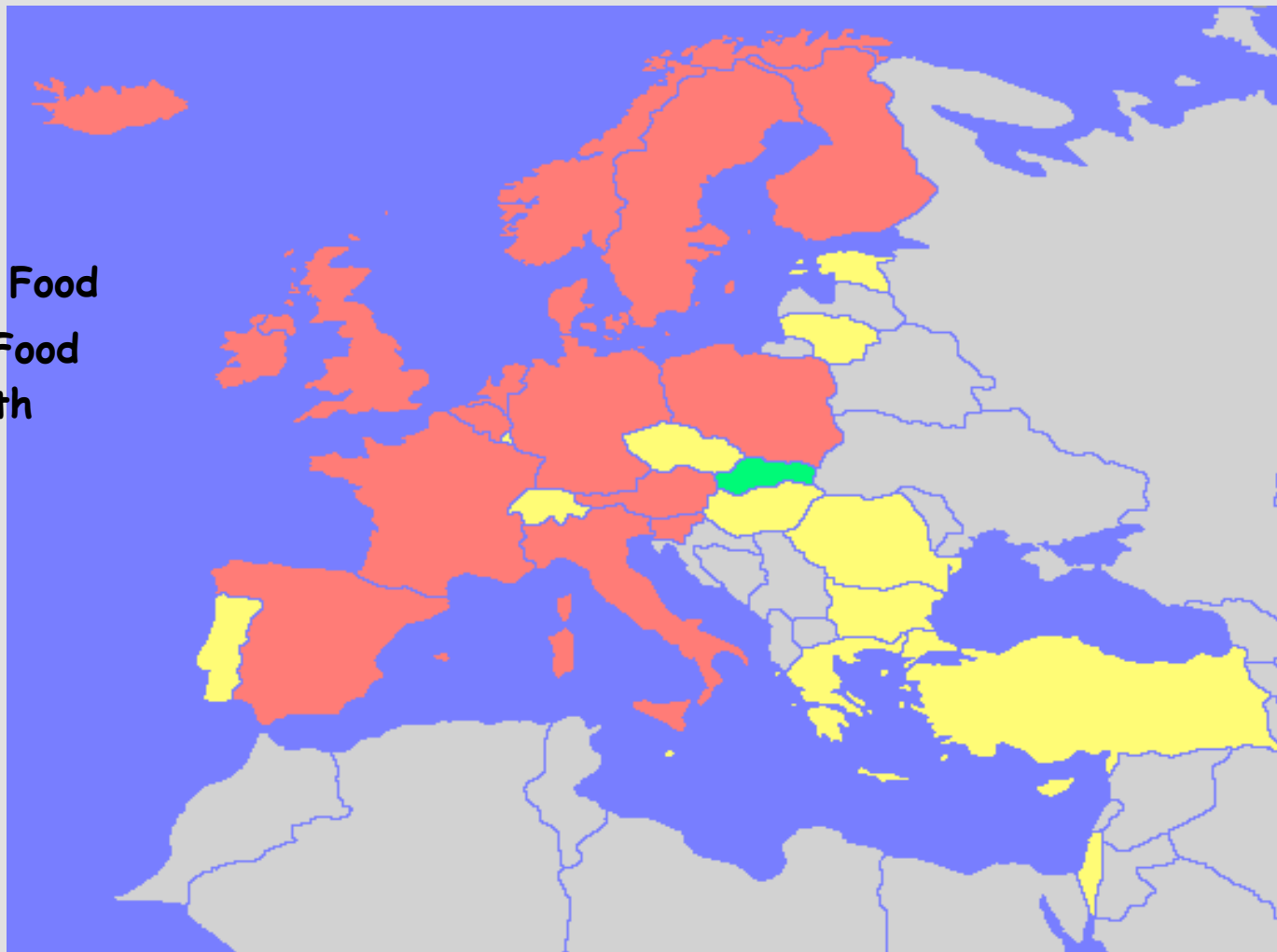
Dedicated to molecular surveillance
of food-borne infections





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- Public Health
- Veterinary or Food
- Veterinary / Food
/ Public Health

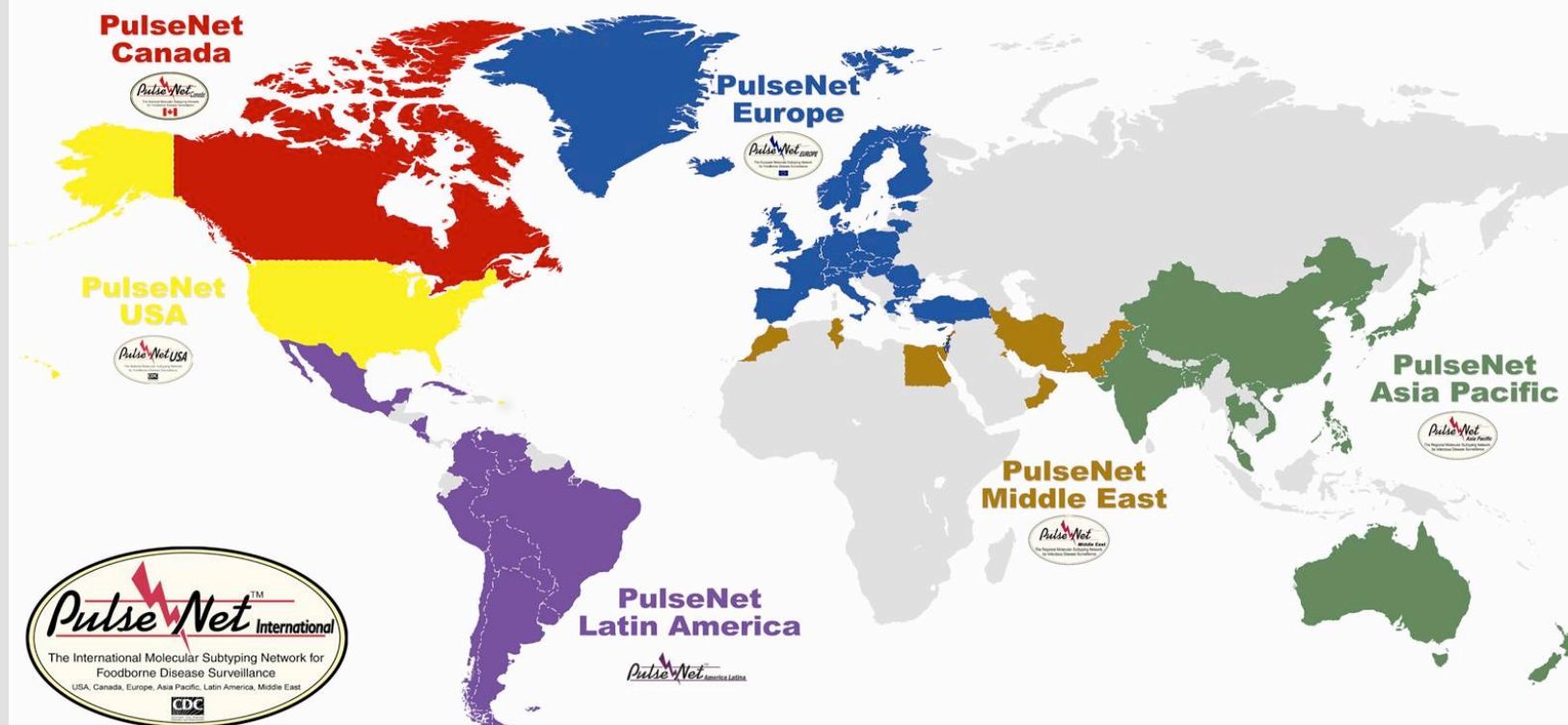




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PULSENET INTERNATIONAL

2007

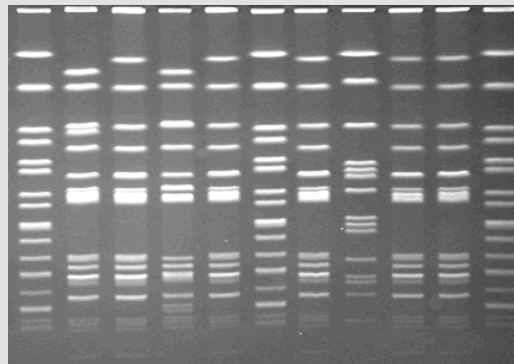




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Methods

Salmonella
Listeria
VTEC



76 extra PulseNet Europe scripts

Pulse-field gel
electrophoresis
(PFGE)

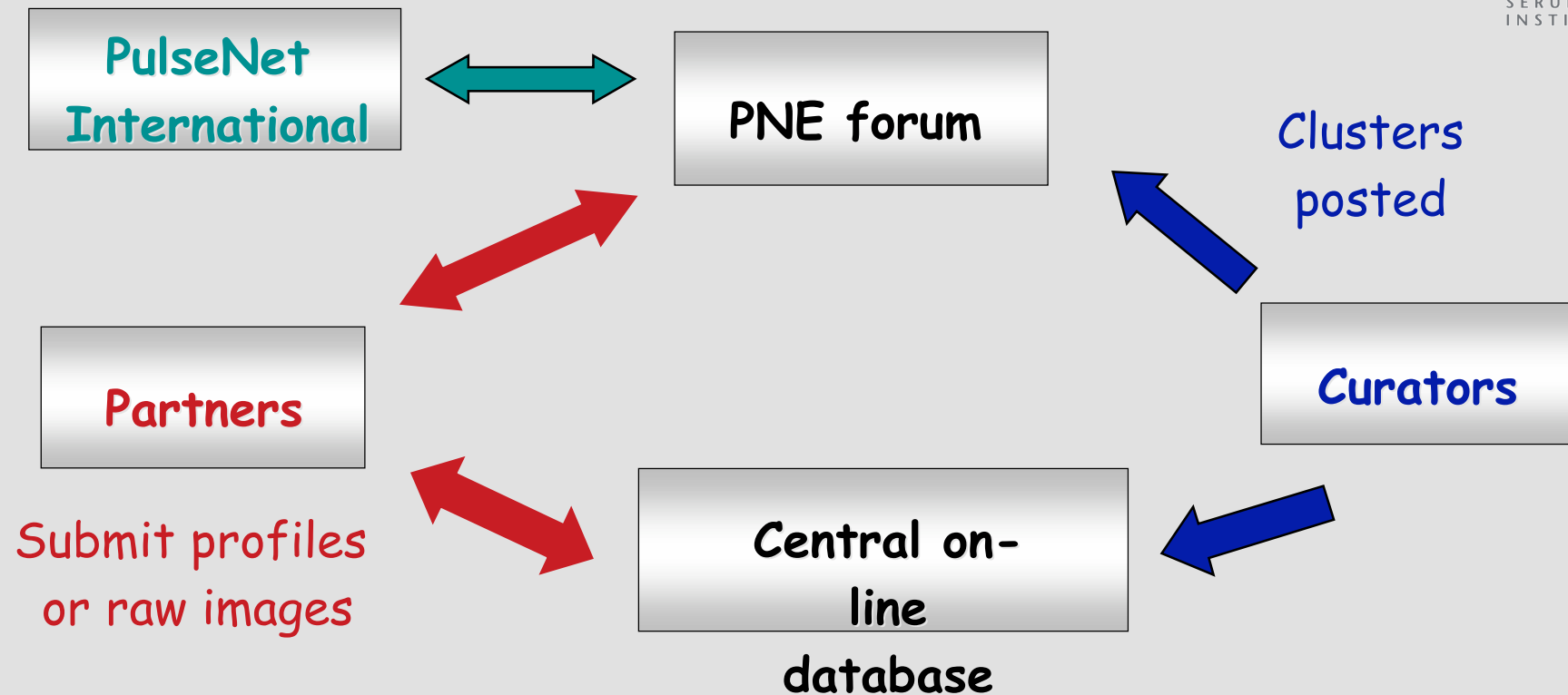
Key	PNEId
0002_K@PNEQE.coli@200000001	KTL-PNE QC-E-1
0002_K@PNEQE.coli@200000002	KTL-PNE QC-E-2
0002_K@PNEQE.coli@200000003	KTL-PNE QC-E-3
0005_Lux0005EC1	PNE QC-E-1
0005_Lux0005EC2	PNE QC-E-2
0005_Lux0005EC3	PNE QC-E-3
0009_PNE_QC-E1	0009_PNE_QC-E1
0009_PNE_QC-E2	0009_PNE_QC-E2
0009_PNE_QC-E3	0009_PNE_QC-E3
0010_G@Ecoli@PNEQGC-0E01@002	PNE QC-E-1
0010_G@Ecoli@PNEQGC-0E01@003	PNE QC-E-2
0010_G@Ecoli@PNEQGC-0E01@004	PNE QC-E-3
0015_K@PulseNet@000000001	QC-E1
0015_K@PulseNet@000000002	QC-E2
0015_K@PulseNet@000000003	QC-E3
0017_0017 PNEQC-E-1	Elav
0017_0017 PNEQC-E-2	Elav
0017_0017 PNEQC-E-3	Elav
0018 PNE QC-E-1	PZH
0018 PNE QC-E-2	PZH
0018 PNE QC-E-3	PZH
0018_0018 PNE QC-E-1	PZH
0018_0018 PNE QC-E-2	PZH
0018_0018 PNE QC-E-3	PZH
0021_PNE QC-E-1	DFVF
0021_PNE QC-E-2	DFVF
0021_PNE QC-E-3	DFVF
0022_PNE QC-E-1	PNE QC-E-1
0022_PNE QC-E-2	PNE QC-E-2
0022_PNE QC-E-3	PNE QC-E-3



BioNumerics software



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1. Direct on-line access to the database
2. Compare own data to database in real-time
3. Get names for new profiles

1. Name and confirm new profiles
2. Perform cluster analysis





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Quality Assurance System

Quality of PFGE gel images and correct band assignment are critical

- Patners will be certified based on the ability to produce images which can be directly submitted to the database
- First round started February 2006
 - 48 participants
- 40 requested *Salmonella*, 32 VTEC and 28 *Listeria* EQAS strains

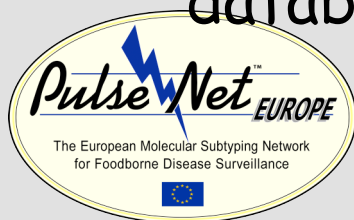




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EQAS PulseNet Europe

- Ensures comparability of data uploaded from different partners
- Managed by curators for each pathogen
- Based on certification to:
 - Perform PFGE
 - Analyse and submit PFGE results to PNE EQAS database





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Strains and PFGE protocols

- 3 VTEC strains
- Standardised PulseNet US protocol
 - <http://www.cdc.gov/pulsenet/protocols.htm>
- Patterns analysed using BioNumerics software
 - V4.1, Applied Maths, Kortrijk, Belgium





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Criteria for evaluation

- Gel quality
- Correct visual pattern
- Correct normalisation using the *S. Braenderup* standard
- Running and tiff file uploading according to guidelines
- Band marking compared to the PulseNet



analysis guidelines



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Results

- 29 partners submitted their *Xba*I PFGE results
 - After BioNumerics analysis (12 laboratories)
 - Raw tiff files (17 laboratories)
- Tiff files were evaluated by curators and comparison to the standard gel were recorded in worksheet
 - PulseNet certification file submission and analysis worksheet
 - Eye match

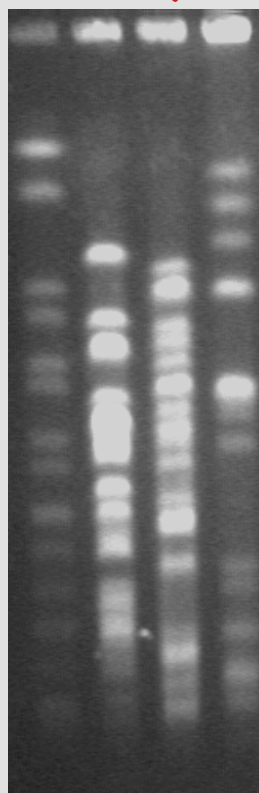




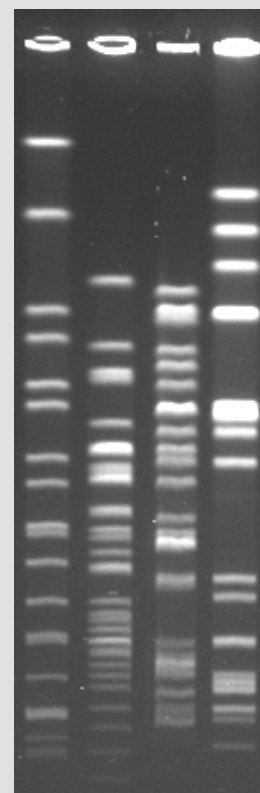
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PFGE gels

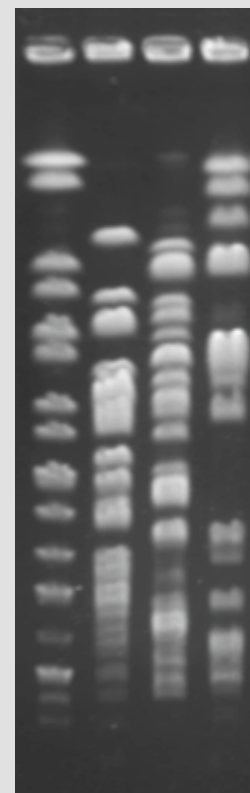
M: H9812 International PulseNet Standard; 1: PNE QC/C1; 2: PNE QC/C2; 3: PNE QC/C3



M 1 2 3
Bad
quality



M 1 2 3
Good
quality



M 1 2 3
Incomplete
restriction





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Certification in three levels

- **12 partners** successfully completed the certification exercise for both gel preparation and data analysis
 - Certified to submit all information to the PNE central database using the customised scripts
 - **13 partners** successfully completed the certification exercise for gel preparation only
 - Certified to submit tiff -files to the PNE central database via the curators that will analyse the gel
 - **4 partners** failed the certification exercise
 - Curators provide constructive feedback for improving quality
- Results can be repeated and re-submitted





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Certificate

This is to certify that

*Statens Serum Institut; Department of Bacteriology ,
Mycology & Parasitology ; Bacterial Typing*

has successfully completed and passed the **PulseNet Europe EQAS certification set for**

***Listeria* – for Both Pulse -field Gel Electrophoresis Gels**

and BioNumerics Analysis

Curator
Dr. Anne BRISABOIS
AFSSA Lerqap
Maisons -Alfort, France

Europe , October 2006

Curator
Dr. Anna ëlle KEROUANTON
AFSSA Lerqap
Maisons -Alfort, France



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Conclusion- EQAS

- PFGE protocol for VTEC caused problems for few partners
- Reproducibility of PFGE patterns was acceptable within the certified laboratories
- After certification process;
 - Proficiency test
 - Ensure good quality gels





Benefit – National level

- Direct on-line access to database from all countries
 - Data is analysed and ready to be compared
- Compare own data to database in real-time
- Standardised methods and training
- Certification
- Troubleshooting help



Server login

Server computer: 193.129.245.237
Server login: pnetest-XHPA-1

Configuration Identification Other

Identification against a list

PFGE-Xbal

Dice (Opt:0.75%) (Tot 1.0%-1.0%) (H=0.9%) (L=0.0%) (S=0.0%) (M=0.0%)

Rank	Score	Key	LabReferenceNumber	ReceivedDate	Serotype	SourceCountry	SourceRegion	SourceType	LabID
1	100.0	XHPA_000002	PNE_0001	2006-02-08	Typhimurium	United Kingdom	West Yorkshire	Unknown	P536184
2	62.5	XHPA_000305	PNE_0004	2001-07-12	Virchow	France			P547407
3	57.1	XHPA_007794	PNE_0008	2006-02-08	Saintpaul	Spain			2003067
4	50.0	XHPA_000378	PNE_0005	2002-05-05	Agona	Ireland			P544770
5	50.0	XHPA_000242	PNE_0003	2005-11-01	Hadar	Italy			P546654
6	48.3	XHPA_005066	PNE_0007	2004-04-04	Senftenberg	Scotland		library	
7	45.2	XHPA_003853	PNE_0006	2002-08-12	Intantis	Denmark			0208M7
8	42.9	XHPA_000064	PNE_0002	2006-02-07	Enteritidis	Belgium			P551118
9	---	PNETest1@00000001							

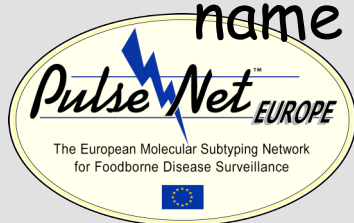


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Benefit - General

- Link between food, public health and veterinary laboratories
- Forum for development and standardisation of new molecular sub-typing methods
- International names for profiles
 - Same profile from different countries have same

name

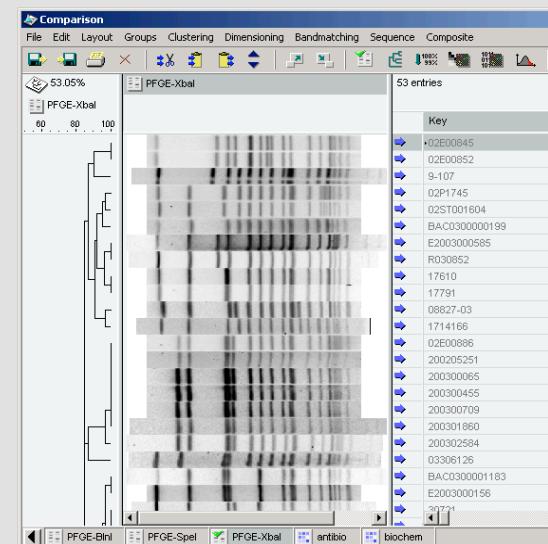




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Benefit – EU level

- High discriminatory molecular surveillance
- Real-time detection of international clusters
- Link sporadic cases from different countries in case of international outbreak
- Global surveillance through PulseNet International





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Benefit – EU level

- Facilitates the identification of outbreak sources and linking outbreaks to already known sources
- Standardised methods → results are comparable
- EQAS system for PFGE
- Information on trends





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Benefit – EU level

- Accentuate problem areas in the European food production,
 - Areas with urgent need for research
- Fast alert and communication system

PulseNet Europe PNE Forum

FAQ Search Memberlist Usergroups
Profile You have no new messages Log out [Susanna Lukinmaa]

ALERT - Salmonella Java

new topic postreply PulseNet Europe PNE Forum Forum Index -> Salmonella

Author	Message								
Eva M. Nielsen Site Admin Joined: 23 Aug 2005 Posts: 3 Location: Statens Serum Institut, Denmark	<p>Posted: Thu Nov 02, 2006 5:29 am Post subject: ...</p> <p>We have seen a small cluster of a specific Salmonella S. Java, and the specific profile is seen in lane 12.</p> <p>We will also try to submit the gel to the PNE central database.</p> <table border="1"><tr><td>Description:</td><td>S. Java gel 1</td></tr><tr><td>Filename:</td><td>TCFPGS1271.tif</td></tr><tr><td>Filesize:</td><td>387.26 KB</td></tr><tr><td>Downloaded:</td><td>28 Time(s)</td></tr></table>	Description:	S. Java gel 1	Filename:	TCFPGS1271.tif	Filesize:	387.26 KB	Downloaded:	28 Time(s)
Description:	S. Java gel 1								
Filename:	TCFPGS1271.tif								
Filesize:	387.26 KB								
Downloaded:	28 Time(s)								

PulseNet Europe PNE Forum

FAQ Search Memberlist Usergroups
Profile You have no new messages Log out [Susanna Lukinmaa]

ALERT - Salmonella Newport in Finland

new topic postreply PulseNet Europe PNE Forum Forum Index -> Salmonella

Author	Message															
Susanna Lukinmaa Coordinator Joined: 23 Aug 2005 Posts: 31 Location: National Public Health Institute (NTL), Finland	<p>Posted: Tue Feb 06, 2007 1:04 pm Post subject: ALERT - Salmonella Newport in Finland</p> <p>Dear all,</p> <p>We have seen a small cluster of a specific Salmonella Newport profile in Finland in December 2006 and January 2007 (6 patients). The specific profile is seen in lane 5. The S. Braenderup marker is in lane 1 and 6. The profile has also been submitted to the PNE central database with name "cluster Dec06-Jan07" on outbreak field.</p> <p>We are very interested in knowing if you have ever seen this pattern and also any sources associated with it.</p> <p>Thank you in advance! Kind regards, Susanna</p> <table border="1"><tr><td colspan="2">Newport profile.TIF</td><td>Download</td></tr><tr><td>Description:</td><td>Newport profile.TIF</td><td></td></tr><tr><td>Filename:</td><td>476_24.tif</td><td></td></tr><tr><td>Filesize:</td><td>476.24 KB</td><td></td></tr><tr><td>Downloaded:</td><td>28 Time(s)</td><td></td></tr></table>	Newport profile.TIF		Download	Description:	Newport profile.TIF		Filename:	476_24.tif		Filesize:	476.24 KB		Downloaded:	28 Time(s)	
Newport profile.TIF		Download														
Description:	Newport profile.TIF															
Filename:	476_24.tif															
Filesize:	476.24 KB															
Downloaded:	28 Time(s)															





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PNE now

Med-Vet-Net funding ended in November 2006





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At present;

- Administration work has been minimised
- Full IT-help not possible
- Databases are not fully utilised

- PNE forum are used for ALERTs and exchange of PFGE profiles






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Agreement

The Steering committee agrees to and strongly supports the transfer of PNE to ECDC, including all databases, protocols and know-how.

In addition, the Steering committee will - to the best of its abilities - support the transfer of ongoing PNE activities and future activities of PNE under the auspices of ECDC.




March 20, 2007

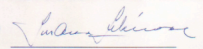


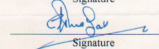
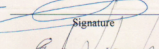
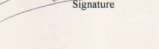
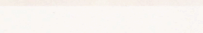
Andrea Ammon
Head of Unit for Surveillance and Communication
European Centre for Disease Prevention and Control (ECDC)
17183 Stockholm
Sweden

Re: PulseNet Europe

On its meeting on November 16, 2006, the Steering Committee for PulseNet Europe (PNE) discussed the offer from ECDC to take over the responsibilities for PNE, including all ongoing activities.

The Steering committee agrees to and strongly supports the transfer of PNE to ECDC, including all databases, protocols and know-how. In addition, the Steering Committee will - to the best of its abilities - support the transfer of ongoing PNE activities and future activities of PNE under the auspices of ECDC.

Signed:

Susanna Lukinmaa	27 APRIL 2007	
Name	Date	Signature
Eva Møller Nielsen	25 April 2007	
Name	Date	Signature
Anne Brisabois	27 March 2007	
Name	Date	Signature
Frank Aarestrup	24 APRIL 2007	
Name	Date	Signature
John Threlfall	10 th April 2007	
Name	Date	Signature
Alban le Monnier	29 March 2007	
Name	Date	Signature
Ernesto Liebana	4 th April 2007	
Name	Date	Signature