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Eurosurveillance – fifteen years of serving Europe

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The first edition of Eurosurveillance was published, in print and online, in September 1995 under the editorship of Jean-Baptiste Brunet of the Centre European pour la Surveillance Epidemiologique du CIDA in Paris. This pilot was funded by the European Commission and already had an editorial board with members from all countries in the European Union (EU). That single edition was used to test the feasibility of producing a European communicable disease journal and was part of a wider initiative under the informal EU Charter Group [1]. Distributed to 12,000 potential readers accompanied by a questionnaire, the 1995 experiment was greeted enthusiastically by the European infectious disease control community. This justified the launch of two linked projects that took off under a unified editorial board. A monthly journal edited by Brunet was started in Paris from mid-1996 in what became the Institute de Veille Sanitaire (InVS) in 1998, and in May 1997, a weekly journal edited by Noel Gill and Stuart Handysides started at the then Public Health Laboratory Service Communicable Disease Surveillance Centre (PHLS-CDSC) in London (Table).

Through a series of project grants from the European Commission and the enduring commitment of INVS and the PHLS-CDSC (later the Health Protection Agency) the monthly and weekly projects continued as separate outputs even after they became funded as a single EU project in 2000. The editorial board that grew as the numbers of countries in the EU and European Economic Area (EEA) increased. The next important step was taken in 2007 when, following the creation of the European Centre for Disease Prevention and Control (ECDC) in May 2005, a permanent home for the journal was established at ECDC in Stockholm. A smooth transfer was made possible by the out-posting of original Eurosurveillance staff from London. A crucial point was commitment to the journal's editorial independence granted by ECDC director Zsuzsanna Jakab and her successor in 2010, Marc Sprenger [2].

So what has changed over the decade and a half? In some ways not a lot, as the infectious diseases have remained the same. The first issue of *Eurosurveillance* in September 1995, the first *Eurosurveillance* monthly in 1996 and the first Eurosurveillance weekly 1997 featured topics such as cholera in Albania, a microbiological surveillance network for salmonellosis and shigellosis in Portugal, E. coli and haemolytic uraemic syndrome in Sweden and the Canary Islands, tuberculosis in Europe and blood-borne infections. Those remain threats in 2011, and articles on those topics have been published in *Eurosurveillance* this year. Not only diseases remain the same some some discussions related to public health never seem to go away: The 1995 edition comments on a lack of standardisation in immunisation schedules in Europe. New threats have appeared, and articles on antimicrobial infections and healthcare-associated infections have become more common, as have reports of emerging and re-emerging infections. However, the most notable change in the period since 2007 has been an extraordinary increase in the number and range of articles submitted and an expansion in the number and geographical distribution of readers and contributors in and outside Europe [3]. In the last three years (2009-2011) ca 600 articles have been published from 29 countries in the EU/EEA grouping and 148 from countries in the rest of the world*.

Four words define what is special about *Eurosurveillance*. Quality both scientific and editorial, speed and flexibility, and its network of people. Peer review is conducted rigorously to maintain the high scientific quality but the editorial staff also improve the article, especially helpful for the majority of authors for whom English is not the first language. However it is the speed and flexibility that make Eurosurveillance unique among peer-reviewed journals. Important events and can and have appeared as a scientifically reviewed and edited article a few days after they happen [4], and the editorial team and its network of highly motivated peerreviewers and authors are ready to accommodate the needs of very different situations. Frequent topical compilations of articles provide additional value, for example in 2011 on the outbreak of haemolytic uraemic syndrome in Germany and the relevance of Chagas disease in Europe.

Being hosted at ECDC, the journal benefits from the epidemic intelligence activities and discussions with

the experts in house. During the 2009 influenza pandemic, the journal published a large number of timely articles on the topic. This was not just an editorial coup but a remarkable contribution to public health and to ECDC's regular pandemic risk assessments for Europe. Influenza pandemics are variable and the response and countermeasures have to be tailored if they are not to be counterproductive [5]. They are also notorious for changing and evolving over time and as they progress geographically. Rapid peer-reviewed

TABLE

Milestones of *Eurosurveillance*

	First issue of <i>Eurosurveillance</i> (online and print, the single issue published in 1995) – a pilot issue to assess the feasibility of producing a European communicable diseases bulletin					
1995	Set up and jointly funded by the European Commission, the Réseau national de santé publique (later, Institut de Veille Sanitaire (InVS)) in Paris, France, and the Public Heath Laboratory Service (later, Health Protection Agency (HPA)) in London, United Kingdom					
	Editor-in-chief: Jean-Baptiste Brunet					
1996 – 2007	Two complementary projects, <i>Eurosurveillance monthly</i> and <i>Eurosurveillance weekly</i> , with a shared board of national editorial advisors from the European Union countries					
1996	First issue of Eurosurveillance monthly					
	Project leader and managing editor : Jean-Baptise Brunet, Centre Européen pour la Surveillance Epidémiologique du Sida (CESES), France					
	 Peer-reviewed outbreak and surveillance reports, Euroroundups, dispatch reports, short reports Bilingual (French–English) print edition (6,000 copies distributed throughout Europe) and online multilingual bulletin (English, Spanish, French, Italian, Portuguese) available on the CESES website 					
1997	First issue of Eurosurveillance weekly					
	Project leader: Noël Gill, Public Health Laboratory Service (PHLS), United Kingdom					
	 Short, timely and fast-tracked peer-reviewed articles (rapid communications) Available in English on the PHLS website 					
1999	Enlargement of the <i>Eurosurveillance</i> editorial board with Norway					
	Enlargement of the <i>Eurosurveillance</i> editorial board with Estonia					
2000	Official recognition of <i>Eurosurveillance monthly</i> as a scientific peer-reviewed journal: indexation in Medline and Scopus Eurosurveillance becomes a single project combining timely and in-depth peer-reviewed reports on one website (<u>www.eurosurveillance.org</u>) and with two editorial offices in Paris and London that publish the monthly and weekly edition, respectively					
	Appointment of new Managing Editor: Jacques Drucker					
2002	Appointment of new Managing Editor: Gilles Brücker					
2004	New quarterly print compilation, including a selection of weekly articles (English only); end of the print issue of the monthly release					
	Enlargement of the <i>Eurosurveillance</i> editorial board, following the European Union enlargement, to include representatives from Bulgaria, Cyprus, Czech Republic, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia					
2005	Formal agreement with the newly established European Centre for Disease Prevention and Control (ECDC) – which was mandated to publish a weekly epidemiological bulletin – on a special working relationship: a member of the editorial team in London seconded to the ECDC offices in Stockholm, Sweden, and an ECDC Associate editor appointed (Karl Ekdahl) The monthly edition continues to be produced by the team at InVS in Paris					
2006	Establishment of the editorial office at ECDC in Stockholm					
2007	Officially transferred to and published by ECDC The publisher grants editorial independence to the editorial team					
2007	Appointment of new Editor-in-chief: Karl Ekdahl Appointment of new Managing Editor: Ines Steffens					
2008	Merging the two editions (weekly and monthly) into one weekly edition that includes both rapid communications (formerly in the weekly edition) and regular articles (formerly in the monthly edition) Beginning of the collaboration with EpiNorth and signing of the first Memorandum of Understanding					
2009	The journal was selected for coverage by Thomson Reuters and is indexed and abstracted in the Science Citation Index Expanded (also known as SciSearch) and in the Journal Citation Reports/Science Edition, beginning with Volume 14(1) 2009 Major role played by <i>Eurosurveillance</i> during the influenza pandemic in disseminating scientific information rapidly, so as to enable public health action where needed					
2010	<i>Eurosurveillance</i> was accredited by the Health on the Net (HON) Foundation as adhering to the HON code of conduct The quarterly print compilations are replaced by printed special issues and topical compilations of selected material from the online issues					
	Indexed in Embase					
2011	A trademark for <i>Eurosurveillance</i> was recorded in the register of the Community Trade Marks by the Office for Harmonization in the Internal Market					
	Appointment of new Editor-in-chief: Ines Steffens					
2011	Seminar to mark 15 years of <i>Eurosurveillance</i> to be held during the 2011 ESCAIDE conference					
2012	The journal's first impact factor, for 2011, is expected to be allocated					

publication of analyses was thus of paramount importance. The rapid turnover became known globally and by 10 August 2010, the official end of pandemic, over 120 papers had been published, mostly rapid communications peer-reviewed by two experts. However influenza is but one infection, and in 2010 and 2011 the focus moved on, especially in this year to *E. coli* 0104 and emerging resistance to antimicrobial drugs as well as re-emerging diseases in Europe such as West Nile virus infections and malaria.

So what would *Eurosurveillance* and its readers and authors deserve for a 15th birthday present, and what should happen next? An impact factor would be nice. The good news is that there will be one in 2012 [5]. This should help the journal to it attract the best articles within its scope, increase the readership further, have an impact on public health and thus become the leading European journal of infectious disease epidemiology, prevention and control.

* On 13 December 2011 the sentence 'In the last three years (2009–2011) ca 600 articles have been published from 32 countries in the EU/EEA grouping and 148 countries in the rest of the world.' was corrected to read '[...] from 29 countries in the EU/EEA grouping and 148 from countries in the rest of the world'.

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The *Eurosurveillance* reader survey – what's next?

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Eurosurveillance has just celebrated its 15th anniversary. Since 1996, various editorial teams have kept the journal thriving - improving it while maintaining its strengths. Ad hoc personal feedback and discussions with our board members constituted the basis for most changes to the journal until 2010, when we felt that it was time for a more systematic approach. We wanted to know more about our readers' profiles, how satisfied they were with the journal and if it fulfilled their needs and those of the contributors (authors and reviewers). In addition, we wished to assess the relevance and usefulness of the journal for our audience and receive feedback on how we can improve. As a consequence, we conducted a reader satisfaction survey. It contained two parts: a questionnaire with 27 questions (26 closed, one open) was available on our website between 24 November and 23 December 2010 and was complemented by standardised in-depth interviews with 25 selected contributors.

A total of 459 readers responded to our questionnaire: 391 (85%) were subscribers. Together with the interviewees, they provided us with positive feedback, valuable comments and food for thought, leading us to conclude that our readers and contributors are satisfied overall with the journal.

A clearer profile of Eurosurveillance readers emerged from the responses: the majority were middle aged (age group 30-60 years: 80%; age group 40-60 years: 44%), worked in high managerial or executive positions (67%) and in epidemiology/public heath of infectious diseases (50%). The second-largest professional group were microbiologists (20%). Respondents mainly came from the countries in Europe represented in our editorial board, while 22% were from North America, Australia, South America, Africa and Asia. Even if the self-selection of survey respondents could have led to bias, the profile is in line with that of our over 13,000 subscribers in terms of area of work and geographical origin. We thus think we now have a reliable image of those who subscribe to the journal in currently 110 countries. While the number of subscribers has increased overall, we noticed a slight shift towards Europe. In 1998, around 30% of the 2,177 subscribers to Eurosurveillance weekly came from other regions in

the world. The age distribution of our readers shows, that we can do better in younger age groups.

Once subscribed, our readers stay with the journal. Some 62% of respondents had been subscribed for over three years. More than half of the respondents read the journal at least once a week and used it often and for a variety of purposes in their work. The main reason for reading *Eurosurveillance* was its usefulness for daily work (81%). Personal education (80%) and using the information for research (42%), issuing recommendations (36%), teaching (33%) and clinical practice (14%) were also frequently mentioned.

An important finding from the survey was that surveillance and outbreak reports, along with the rapid communications, are considered to be the most valuable categories of our articles and cover what readers wish to see. We will certainly bear this in mind when commissioning, screening and selecting papers in the future.

Some improvements were suggested in the interviews: the need for better guidance for authors and reviewers, the functionality of the search engine, printer-friendly html texts, user-friendly layout, and the need for a submission system. We have taken these on board and have already implemented several changes in the past 12 months and others are in the pipeline. We have updated our editorial policy, provided more and clearer guidance for authors and reviewers and we are preparing a better search engine. Greater transparency will be introduced in the course of 2012 through an online submission system. This is part of our preparation for the time after we receive our first impact factor, in mid-2012. We are planning for an improved website with new functionalities, to be fully implemented after 2013.

Editorial independence from the publisher, the European Centre for Disease Prevention and Control (ECDC), was flagged up as an issue in both parts of the survey. We would like to point out that ECDC's director, Marc Sprenger, as well as his predecessor, Zsuzsanna Jakab, granted full editorial freedom to the journal from the start [1,2]. The evaluation of papers authored by ECDC employees is coordinated by our associate

editors and board members who do not have a direct connection with ECDC. This process is stated more explicitly in our editorial policy.

A minority of survey respondents and some interviewees commented on the varying level of quality of the articles we publish. Disparity in the geographical origin of the articles was also noted, and in the interviews, a clear message was voiced that *Eurosurveillance* should continue to provide capacity building and act as a platform for applied public health rather than focus on science only. These comments highlight our main challenge in the future. While we include (applied) science and ensure that all papers are of high quality, we also seek to support public health experts and scientists in countries with fewer resources, to enable them to share information with the wider community about relevant events and outbreaks. In fact, a geographical disparity is evident in the numbers of papers published in *Eurosurveillance*: countries from northern and western Europe dominate over time, although some countries from southern Europe have made a more prominent appearance recently.

Presenting timely information about ongoing outbreaks and relevant information on trends in infectious diseases from all European countries is one of our main goals and we work together with our supporters to achieve it. The fact that many of our readers are in senior positions, across the world, and use the journal in their everyday work highlights the opportunity for such information to be picked up and translated into public heath action.

We thank all those who follow and take an interest in the journal and those who participated in the survey. Together with our contributors and supporters, we hope to improve the journal further and to be able to make a difference in public health.

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Increase of cases of legionellosis in Latvia, 2011

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An increased number of legionellosis cases in 2011 has been reported in Latvia, compared to the ten previous years. A total of 30 legionellosis cases (1.35 per 100,000 inhabitants), including 19 females, have been confirmed until the end of September 2011. The majority of cases (n=23) were inhabitants of the capital city Riga. The reason for the increase in legionellosis is unclear. Twenty-six of the 30 cases are not travel-related.

In 2011, increased numbers of legionellosis case notifications have been noted in Latvia, compared with previous years. From 2001 to 2010, a total of 22 cases were notified to the State Agency "Infectology Center of Latvia" (LIC). In 2011, there were at least two cases per month from March onwards, contributing to a total of 26 autochthonous cases until September 2011.

Legionellosis or Legionnaires' disease is a mild to severe pneumonia caused by bacteria of the genus *Legionella*. *Legionella* bacteria are found in environmental fresh waters, and have a potential to proliferate in great quantities in badly maintained human-made water systems, such as spas, baths, cooling towers, hot and cold water systems. Legionellosis can occur when *Legionella*-contaminated water aerosols created by for example showers and taps are inhaled [1-3]. In most cases, legionellosis is caused by the *Legionella pneumophila* serogroup 1 [4-6].

Notification of legionellosis in Latvia

In Latvia, legionellosis was included in the list of mandatorily notifiable diseases in 1999. Healthcare practitioners are legally responsible for notifying infectious diseases and each legionellosis case or professionally well-founded suspicion of legionellosis have to be notified to the regional epidemiologists within 24 hours by phone, and by sending a special urgent notification form. Notification is required for suspected *Legionella* cases and then additional notifications are required if a diagnosis is changed or discarded, as well as for the final diagnosis and outcome of disease and laboratory confirmation of the diagnosis. Since 2009, cases of legionellosis have to be notified by microbiological laboratories as well. The case classification as probable or confirmed is based on the European Union (EU) case definition [7].

Regional epidemiologists of the LIC State Agency after receipt of the information from healthcare practitioners or laboratories collect, store and analyse the epidemiological data. They can also perform an investigation of the cases, and take environmental samples for laboratory testing, including water from suspected *Legionella*-contaminated water systems. The LIC is also responsible for organising and advising on preventive and control measures.

Legionellosis in Latvia from 2001 to 2011

The first autochtonous legionellosis cases in Latvia were registered in 2001 and 2002. Subsequently no cases were reported during the three following years. The average number of cases per year in the period from 2001 to 2009 was 2.2 (range: 1–5), which corresponds to a mean incidence of 0.09 per 100,000 inhabitants (Figure 1).

The number of cases reached six (0.27 per 100,000 inhabitants) in 2010. Among cases, two were likely to have been infected abroad, while for the rest, the source of infection remains unconfirmed. None of the water samples taken at the patients' dwellings revealed *Legionella* prevalence.







Epidemiological situation in 2011

In 2011, a total of 30 legionellosis cases (1.35 per 100,000 inhabitants) were registered until the end of September (Figure 2) and an epidemiological investigation of all cases was performed. Of the 30 registered cases, 17 were confirmed serologically by demonstration of a specific antibody response to Legionella pneumophila by single high titre, while 11 were confirmed by detection of specific Legionella antigen in urine, and two were confirmed by both of the mentioned methods.

Of the legionellosis cases, 17 were treated in the only specially designated hospital for infectious diseases in the country, which is at the LIC in Riga. The rest were admitted to six other different hospitals/rehabilitation centres. Two of the cases in the age group 45-55 years were fatal and consisted of a woman and a man, who was a heavy smoker. Neither fatal case had any documented underlying diseases.

A standard questionnaire was used during the epidemiological investigation in order to interview patients with legionellosis. The questionnaire included travel history and other possible risk factors/exposures. There were only four cases likely to have been infected abroad in 2011, either in Germany, Czech Republic, India or Mexico, where they had travelled/worked during their incubation period (two of them mentioned that they could have been infected during a stay in a hotel). The 26 remaining patients reported no travel abroad. Among them, 23 were inhabitants of the capital city Riga, with their residences scattered at either side of the Daugava river which divides the city (Figure 3). The other three were from other cities in the western and central part of the country.

In 2011, 19 legionellosis patients were females while only 11 were male. For female patients, the highest incidence occurred in the 18–29 and older than 60 year age groups, while most male patients were between 40 and 59 years old (Figure 4).

Environmental investigation

During the epidemiological investigation of cases, a total of 52 households were visited and 114 water samples were collected and tested for the prevalence of *Legionella* spp. (Table 1).

For 12 legionellosis cases, *Legionella* spp. were found in the water-supply system of the patients' households, including the heating units of the apartment house. In the majority of samples, bacteria were found in the hot water (55% in the house heating units, and 24% in the

FIGURE 3

Distribution of cases of legionellosis in Riga, Latvia, 1 January–30 September 2011 (n=23)



Only 22 locations are indicated on the map for the 23 cases, because two cases occurred from the same location.



FIGURE 2



FIGURE 4

Legionellosis incidence rate by age group and sex, Latvia, 2011 (n=30)



flats), while in cold water samples - only 15% and 8% accordingly. *Legionella pneumophila* serogroup 1 was found in seven of 26 positive samples (27±8.87%), while other serogroups (2-14) were found in 19 samples (73±8.87%).

Control measures

As soon as an increase of legionellosis cases in Latvia was detected, the LIC prepared and provided information for practitioners and clinicians of all hospitals, including case definitions and diagnostic methods. As a response to the emerging situation, a notable information campaign was undertaken, to involve and educate institutions responsible for water system maintenance, such as city councils, house management offices, city heating suppliers, city water suppliers, as well other competent bodies such as the Ministry of Health, Health Inspection, Association of the Family doctors, hospitals and society via mass media.

Discussion

The reasons for the increased legionellosis case numbers in Latvia in 2011 are unclear. Apart from the four cases who travelled abroad, no common risk factor or exposure could be identified. There were, moreover, no changes in the availability of diagnostic tests in Riga, compared with previous years, which could have accounted for differences in the number of confirmed cases in 2011. Among possible factors that could have contributed to the increase, the enhanced awareness of healthcare practitioners could have played a role, as it would have resulted in a reduction of underdiagnosed cases of pneumonia. It has been reported that the main reason for not diagnosing legionellosis in patients is a lack of clinical awareness [5]. Another explanation for the increase of legionellosis cases could be the unfavourable economical situation, which compels the population to spare water and energy. In this case, inhabitants request heating regulators to decrease the temperature of hot water systems leading an increased contamination of these systems. Legionella can multiply between 25°C and 42°C, and the optimal proliferation temperature of the bacteria is 35°C [5]. Also, it cannot be excluded that two exceptionally hot summers in 2011 influenced the drinking water contamination load with Legionella.

In our study, the male/female ratio of cases was also inverse to the usual trend, where males dominate [6,8].

This could be due to chance and the small numbers did not really allow reliable statistical analysis, but could be also partially explained by the male/female ratio in the Latvian population which is 0.86 (1,029,391 males/1,200,250 females) [9]. Some unstated activities at households, more specific to women could influence the situation as well. .

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TABLE 1

Investigation of environmental samples for Legionella spp. prevalence, Latvia, 1 January-30 September 2011 (n=114)

Sample collection site	Sample type	Number of samples tested	<i>Legionella</i> positive n (% ± Standard deviation)
Apartment house	Hot water	20	11 (55±11)
(heating units)	Cold water	13	2 (15±10)
Flats	Hot water	42	10 (23±7)
(taps or showers)	Cold water	39	3 (15±10)

RAPID COMMUNICATIONS

Two cases of infection with *Bacillus anthracis*, Romania, October 2011

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A cluster of two confirmed cases of anthrax were reported in October 2011 from a small village with a population of 3,400 people, in south-eastern Romania. One was a fatal case of cutaneous and anthrax meningoencephalitis, while the other had cutaneous anthrax. Both cases had been exposed to one *Bacillus anthracis*-infected cow via consumption of its meat or being involved in its slaughter.

Two cases of anthrax were reported to the National Centre for Communicable Diseases Surveillance and Control on 7 and 8 October 2011 respectively by a local public health authority in south-eastern Romania.

Case description

Case 1

On 7 October 2011, a person in their 20s was admitted to a local hospital with fever (40 °C), chills, malaise, pustular lesions on both forearms (symptom onset on 6 October), blood pressure 65/40 mmHg and respiratory arrest (symptom onset on 7 October); After that, the patient developed meningitis symptoms and died on 9 October. During the hospital stay, the patient was mechanically ventilated and received dopamine, penicillin and ciprofloxacin intravenously. The cause of death was reported as cardiovascular and respiratory failure and septic shock due to disseminated infection with *B. anthracis*, confirmed by presence of the bacterium on the skin and in the bloody cerebrospinal fluid (CSF).

Case 2

Following the identification of Case 1, during the epidemiological investigations conducted by the local public health department, a second person in their 20s was identified from the same village and subsequently confirmed as a case of cutaneous anthrax. The onset of symptoms in this case was 3 October and they included pustules on the left-hand index finger. The case was hospitalised on 7 October and received penicillin and ciprofloxacin intravenously. The patient responded well to the treatment: the general condition is now good and the patient was discharged from hospital.

Background information

Anthrax is included in the early warning and rapid response system in Romania [1]. It is a notifiable disease, based on the European Union (EU) case definition [2]. The alert threshold is one clinically suspected case of anthrax. Any such case detected by a healthcare provider must be immediately reported by telephone to the local public health authorities. Within five days of the initial report, the healthcare provider has to complete and send a standardised reporting form to the local public health authority. All data are centralised in one electronic register for communicable diseases by the National Centre for Communicable Diseases Surveillance and Control [3,4].

Laboratory-confirmed anthrax cases are notified through the European Union Early Warning and Response System and to the World Health Organization in compliance with the International Health Regulations (2005) [5].

According to data published by the European Centre for Disease Prevention and Control, the number of notified cases of anthrax continue to be sporadic in Romania, as well as in other EU countries and are mainly related to occupational exposure. Between 2006 and 2008, 13 confirmed cases of anthrax were reported from five EU countries: Romania (n=3), Spain (n=3), Bulgaria (n=3), Greece (n=2), United Kingdom (n=2). Between 2008 and 2010, no confirmed cases of anthrax were reported in Romania [6-8]. None of the three cases identified in Romania between 2006 and 2008 were in the district where the cases described in this report occurred. In some cases, the source of infection was sick animals and in others, the disease was contracted due to possible contamination of pre-existing skin lesions with *B. anthracis* spores from the ground [9].

In the past five years, there were two cases of infection with *B. anthracis* in animals (pigs) in this district in 2009, 62 miles from the district where the cases described here were located (data not shown).

Laboratory investigation

On 10 October, biological samples (smears from pustules from both patients and CSF from Case 1 who presented with meningitis symptoms) were sent for diagnostic tests to the National Reference Laboratory for Zoonotic Infections 'Cantacuzino'. Microscopic examination of the smears from both cases and the CSF from Case 1 showed the presence of Gram-positive rods, typical of *B. anthracis*.

Bacterial cultures from the pustules, grown for 24 hrs on 5% blood agar, produced grey-white colonies (diameter 2–4 mm) that were non-haemolytic. When examined microscopically, smears of these colonies showed large Gram-positive rods, in short and long chains, seldom sporulated, with ellipsoidal spores but without a swollen sporangium, suggestive of *B. anthracis*.

The sample from CSF from Case ${\tt 1}$ did not grow in culture.

To further confirm these findings, a pathogenicity test was performed on two mice, by subcutaneous inoculation of 0.2-0.3 ml opalescent suspension of the bacterial strain isolated from the pustules (suspension prepared in saline isotonic solution and corresponding to McFarland standard number 0.5). It was positive after 20-24 hrs, Gram-positive encapsulated bacilli, arranged in short paired chains, were observed on the liver, spleen and heart imprints. The presence of the bacterial capsule was demonstrated in vitro, after cultivating the isolated strains for six hours in defibrinated sheep blood.

The laboratory results were received on 13 October and confirmed the presence of *B. anthracis* in both cases.

Epidemiological investigation

In the epidemiological investigation, a *B. anthracis*infected cow from the village where the cases lived, slaughtered on 28 September in a private backyard, was identified as the source of infection. According to the local veterinarian, the cow had been vaccinated against anthrax in April 2011, but on 11 October the district Veterinary Department confirmed *B. anthracis* in the meat of the slaughtered cow. No other suspected human anthrax cases or anthrax-suspected deaths in animals were reported in the village previously or since this cluster.

Nine people were exposed to the infected animal through consumption of its meat that was not thoroughly cooked and four of them took part in the slaughtering of the cow, including Case 1 described above. Even though the second case declared only having consumed the meat and not having participated in the slaughtering, he was diagnosed with cutaneous anthrax. He probably contracted the infection while handling the raw or insufficiently cooked meat.

Control measures

All persons at risk and all household contacts of the cases are being carefully monitored during the maximum incubation period (until 12 November) by the local general practitioner. So far none of them have presented symptoms of anthrax. The residents of the village were informed about the health measures to be followed in order to avoid infection. These include washing hands, wearing gloves when in contact with infected animals or avoiding contact with infected animals. If a person has contact with an infected animal, they should disinfect or dispose of any objects used or clothes worn. The residents were also advised to seek medical attention if they develop any symptoms compatible with anthrax (for cutaneous anthrax: macula, pustule development, necrosis and oedema; for inhalational anthrax: fever, dyspnoea and hypotension; and for gastrointestinal anthrax: vomiting, abdominal pain and severe diarrhoea).

Veterinary control measures included disinfection and decontamination of the household where the cow had been slaughtered. All the remaining meat of the slaughtered cow and its organs were collected and incinerated.

The Veterinary Department vaccinated all animals (cattle, sheep, goats and horses) in the village against anthrax and banned the movement of animals in or out of the village, until immunity is installed.

Conclusions

In this cluster, due to the rapid implementation of measures by the local health authorities, after the suspected diagnosis in the index case, the second case was detected in a timely manner and treated appropriately, thus preventing further spread of the disease. At present it is thought that the public health impact of this outbreak is only local. The infected cow was raised in the village and there was no notification of the animal's movement to other localities. The meat had not been sold commercially and the village is not usually visited by tourists.

The two anthrax cases described could have been prevented if the national legislation that requires examining the animal carcasses in authorised slaughtering units by the official veterinarian or by a person nominated by the authority had been taken into account [10].

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New research on pandemic influenza at the World Congress of Epidemiology, Edinburgh, 7-11 August 2011

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This brief report outlines selected highlights of new research on pandemic influenza that was presented at the 2011 World Congress of Epidemiology. This event was held in Edinburgh, United Kingdom between 7 and 11 August. The conference had over 1,400 attendees from an estimated 65 countries. The theme was *Changing populations, changing diseases: epidemiology for tomorrow's world* and was facilitated by the International Epidemiological Association. Abstracts of the conference posters and slide presentations have been published [1].

While the content of the conference was dominated by non-communicable diseases, we focus here on pandemic influenza given the large amount of new research generated by the 2009 pandemic. Additionally, we review research investigating other areas related to the field of influenza.

Epidemiology

Various studies explored the impact that age can play during an influenza pandemic. Azambuja's study (P1-7), investigated the possible long-term effect of influenza exposure on the risk of developing chronic disease (such as coronary heart disease later in life) in agespecific cohorts exposed to various influenza A subtypes. A more comprehensive study by this author [2] suggests that residual influenza A(H1N1) antibodies in cohorts aged 60 years and older helped to protect against the severe effects of the 2009 H1N1 influenza pandemic. Two further studies explored the impact of age, but focused on its role in mortality risk during an influenza pandemic: Lee et al. (P1-213) found that influenza A(H1N1)2009-related mortality amongst children in Malaysia was highest in the under two year-olds. In contrast, age-specific mortality risks during the H1N1 1918 influenza pandemic in Iceland and New Zealand were notably increased amongst young adults (P1-524). Whilst neither of these findings is particularly surprising given previous research, they do reiterate the role that host factors play in mortality risk during an influenza pandemic.

Analysis of influenza epidemiology in different populations was another area of research: One study explored the incidence of influenza A(H1N1)2009 amongst pregnant women in a region of Scotland, using questionnaires, blood samples and clinical outcomes (P2-428). The provisional results reported few cases of infection with no evidence for a relationship between pregnancy and increased rates of hospital admission, and no relationship between rates of admission and several potential risk factors. The former finding contrasts with the conclusion of a systematic review which did find that pregnancy was a risk factor for hospital admission and death from pandemic influenza [3]. Another study (P2-429) investigated the incidence of seropositivity for influenza A(H1N1)2009 both before and during the winter peak in Scotland amongst selected healthcare workers (HCWs). Seropositivity was found to be only 10.3% in the middle of the pandemic; therefore the majority of the sample was still susceptible to infection after the peak. The provisional results found no difference in seropositivity between frontline and non-frontline HCWs. Ethnicity was found to be an important factor in determining mortality risk from pandemic influenza in New Zealand (P2-489). The study suggests that Pacific peoples and indigenous Māori in New Zealand suffered disproportionate levels of mortality during two influenza pandemics of the 20th century as well as the H1N1 2009 pandemic, although the size of the disparities appears to have declined with progressive pandemics.

Transmission routes and control measures

The relationship between weather variability and transmission routes for influenza infection was considered by Hu et al. (P2-418). Using national data collections for a city in Australia, they found that the number of weekly influenza cases increased (with a lag of one week) as temperature decreased and/or rainfall increased. Two studies explored influenza transmission in confined spaces: Ishola et al. (P1-180) investigated the effect of mass gatherings on influenza transmission by reviewing previous research using a restricted search strategy. It was concluded that some restrictions on mass gatherings in particular situations

may result in reduced transmission, but more research is needed to feed into policy frameworks as the association is not consistent. The second study explored transmission amongst passengers on a long-haul flight who were exposed to symptomatic cases of influenza A(H1N1)2009 infection (P1-388). It concluded that close proximity to symptomatic cases resulted in a small, but measurable, risk of infection during such flights. A further study in the airport setting assessed the use of a self-reported symptom questionnaire and temperature measurement of all symptomatic and randomly selected asymptomatic travellers (P1-295). It was concluded that due to the low prevalence of influenza infection and low sensitivity of the screening, border screening in the event of an influenza pandemic may not be effective in identifying all, or even the majority, of infected travellers.

Three studies (SP3-49, P1-323, and P1-363) found evidence for a beneficial effect of interrupting the transmission route of H1N1 2009 pandemic influenza amongst school children in Japan by antiviral drugs and/or school closure (of varying length and timing). However, Uda et al. (P1-363) suggested that the positive effect of herd immunity in the school environment may have been adversely affected by early school closure, with lower cumulative incidence rates in schools that delayed closure until a later date. Using data on the impact of the pandemic on Japanese schools, modelling work suggested that cumulative incidence rates would be likely to vary in the range of 23-44%, depending on the size of the school community (P1-77). The wide range of cumulative incidence rates amongst individual schools was suggested to be the result of the random nature of infectious disease transmission; however other potential variables (environmental and socio-economic factors) are being examined.

Whilst not directed specifically at influenza control, a few studies investigated hygiene practises in developing countries (SP6-60, P2-529 and P1-305). A study by Onyeonoro et al. of the poor hygiene practises of HCWs in a Nigerian hospital highlighted the need for providing better hygiene facilities in developing countries (SP6-60). Although this study did not link to infectious disease outcomes in the hospital, there is little doubt that poor hygiene is associated with a number of detrimental outcomes. For example, a household survey in Pakistan found poor hygiene and sanitation was directly associated with delayed development and/or underweight/stunting in children irrespective of socioeconomic and geographic variables (P2-529).

Prevention

Of the few studies which investigated influenza prevention, most explored seasonal and pandemic vaccine efficacy and uptake in particular subpopulations, e.g. individuals with compromised immune systems:

Evidence was presented for a booster effect of a second dose of the pandemic influenza A(H1N1)2009 monovalent vaccine in haemodialysis patients (P2-485) and haemato-oncology patients (P2-420). Nevertheless, the latter authors did suggest that the use of rituximab (a cancer treatment) within one year of vaccination may counter vaccine efficacy.

A presentation by Jacobsen et al. (P1-183) focused on seasonal influenza vaccine amongst cancer patients. It evaluated the levels of seasonal influenza vaccination in California before and after the diagnosis of prostate cancer and found that vaccination levels increased after diagnosis, suggesting that preventive care for influenza was successfully provided to this more vulnerable group.

Uptake of influenza vaccine in a selected sample of elderly people in Brazil (SP6-5) was found not to be affected by socio-economic variables; however, national target levels of uptake were only achieved amongst people with diabetes.

Surveillance and modelling

The assessment of surveillance methods is an important field of study after the first wave of a new influenza pandemic. When investigating the prevalence of potential influenza A(H1N1)2009 cases through selfreporting via a telephone survey after the end of the pandemic in Brazil, Souza et al. (SP3-92) concluded that telephone surveillance during a pandemic may be beneficial in providing timely information. The estimated prevalence of pandemic influenza cases was found to be greater amongst females, younger adults, and those with higher education. In neighbouring Argentina, Figar et al. (P1-423) suggested that a private healthcare information system in Buenos Aires captured more timely information during the 2009 pandemic than the system in the public health sector. These authors therefore advocated for more integration of data capture. Data from the private healthcare information system indicated significantly higher mortality in 2009 compared with previous years for both influenza-like illness (ILI) and severe acute respiratory infection (SARI). Elsewhere in South America, Horch et al. (SP3-87) studied the sentinel surveillance (implemented in response to the 2009 pandemic) of SARI and ILI in selected hospitals in Paraguay. They found evidence of increased data collection and also improved characterisation of respiratory viruses. Additionally, ILI cases occurred more frequently amongst young adults, whilst SARI cases occurred mainly in children under five years and adults over 60 years. A further study based in Paraguay documented the substantial burden of influenza (P1-105) by evaluating swabs of individuals exhibiting SARI symptoms for influenza subtypes (influenza A(H₃N₂), A(H₁N₁) and B). Of the samples tested, 18% were positive for influenza, suggesting a substantial SARI burden from this infectious agent.

A study of the Spanish public health system during the 2009 pandemic identified the problem of low compliance by health workers with a protocol for limiting diagnostic testing to only those with serious illness (P1-147). Also, modelling of infectious diseases morbidity (including influenza) in Japan was found to be useful in forecasting temporal patterns, therefore potentially contributing to future disease risk management plans (P1-177).

Conclusion

Influenza pandemics tend to occur several times per century and can cause extreme mortality (notably the 1918/19 pandemic). Seasonal influenza also accounts for a substantial burden of illness worldwide. Therefore, new research in the wake of the 2009 influenza pandemic is commendable and should continue to be promoted by health research funders and health service providers themselves. In particular, such research may help countries reflect on the 2009 pandemic experience [4], and then revise their national pandemic plans and upgrade their influenza-related surveillance systems. The high costs associated with developing pandemic vaccines and storing antiviral drugs also highlights the need for new research on the optimal use of these pharmaceuticals - especially given the financial constraints on public health systems around the world.

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Eurosurveillance celebrates its first 15 years

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On 8 November 2011, Eurosurveillance held a seminar to mark its 15-year anniversary. Past and current supporters of the journal – including pioneers from the first days of the journal – joined to listen to three distinguished speakers.

Kevin Fenton (United States Centers for Disease Control and Prevention), gave a thought-provoking talk entitled *30 years of HIV/AIDS prevention in western industrialized settings: what have we learned, where should we be headed?* Christian Drosten (University of Bonn, Germany) highlighted the role played by the journal in his talk on *Emerging diseases – highlights from Eurosurveillance*. In a slightly different vein, Pippa Smart (PSP Consultancy) outlined trends and developments in publishing in *A publishing revolution fuelled by technology*.

Links to the presentations and full details of the seminar, moderated by Angus Nicoll from the European Centre for Disease Prevention and Control, can be found here.

European Centre for Disease Prevention and Control publishes Annual epidemiological report 2011

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Today the European Centre for Disease Prevention and Control (ECDC) released the Annual epidemiological report 2011. The major findings are continuous high numbers of tuberculosis cases, the developing epidemic of measles, antimicrobial resistance, ongoing transmission of human immunodeficiency virus (HIV) and lessons learned from the pandemic of 2009 and 2010, among others. The report illustrates that Europe should always be ready for the emergent diseases that pose a public health risk.

The fifth ECDC Annual epidemiological report presents the analysis of surveillance data reported for 2009 by the 27 Member States of the European Union (EU) and three countries in the European Economic Area (EEA)/ European Free Trade Association (EFTA), and provides an analysis of threats detected in 2010. By collating data from across Europe, the report provides an annual picture of the state of infectious diseases in Europe on which public health policymakers can make informed decisions and prioritise action to improve the health of all Europeans. Relevant data can be used both in crisis situations, e.g. outbreaks, and for long-term planning, e.g. monitoring the effectiveness and efficiency of public health interventions.

The data of 2009 show that tuberculosis remains a common infection, with nearly 80,000 cases still notified annually across the EU. The report sends worrying signals on outbreaks and epidemics of measles in Europe. Data analysed show that countries need to intensify their programmes for infection control and prudent use of antibiotics to prevent and control the spread of multidrug-resistant strains of bacteria in Europe. One of the major public health concerns is HIV with ongoing transmissions in all countries.

However, the epidemiology in population risk groups continues to differ from country to country. A lesson learned from the pandemic of 2009 and 2010 is the need to strengthen routine seasonal influenza surveillance in hospitals and especially intensive care units in many Member States.

The report identifies emergent diseases in Europe that might pose a risk to public health. The indications are that West Nile virus might have established itself in parts of south-eastern Europe. There have even been locally acquired cases of diseases previously only considered to be imported, like malaria, dengue fever and chikungunya fever.

ECDC now has five years of experience in epidemic intelligence and threat assessment and continues to further develop tools and support Member States in their preparedness activities. In 2010, ECDC monitored 93 threats across Europe. Of these, 83 were new, including poliomyelitis in Tajikistan, cholera in Haiti and West Nile virus infection in Europe. Ten threats were still monitored from previous years. Nearly half of the 2010 threats were of environmental and zoonotic origin (47%), followed by vaccine-preventable and invasive bacterial diseases (13%), food- and waterborne diseases (10%) and influenza (8%).

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