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**REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN  
PARLIAMENT**

**Operation of the Early Warning and Response System (EWRS) of the Community  
Network for the epidemiological surveillance and control of communicable diseases  
during 2006 and 2007 (Decision 2000/57/EC)**

(Text with EEA relevance)

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## **1. INTRODUCTION**

This report is intended to inform the Council and Parliament about the events due to communicable diseases of Community relevance notified during 2006 and 2007 through the Early Warning and Response System (EWRS) under Decision 2119/98/EC<sup>1</sup> of the Council and Parliament and Commission Decision 2000/57/EC.

## **2. EVENTS NOTIFIED IN 2006**

During 2006 a total of 138 messages were posted (2.6 messages/week), with 223 comments. Of the 138 messages, 37 were information messages, 47 activation level 1 messages, 22 activation level 2, and two activation level 3 messages. Of the 30 messages posted in response to specific events, 16 were about the adoption of measures, nine coordination of measures, and five intended or planned measures. The breakdown of messages by country or area of occurrence was: Germany (10 events notified), France (8), Italy, Spain, Sweden and Denmark (7 each), the United Kingdom and Austria (6), Belgium and Slovenia (5), Latvia and Israel (4), Poland, Lithuania and Turkey (3), Portugal, Estonia, Greece, the Netherlands, Norway and Sierra Leone (2), and Hungary, the Czech Republic, Slovakia, Romania, the Faroe Islands (Denmark), La Réunion (France DOM-TOM), Saint Helena (United Kingdom), Croatia, the Russian Federation, Mauritania, Egypt, Tunisia, Iraq, India and Thailand (one each). Seven events involved more than one country of the EU, and two involved more than one country outside the EU. Four events have not been identified by geographical origin. 48 messages, relating to 16 events were posted through the selective exchange channel.

43 events were related to influenza; 18 to acute diarrhoea; eight to diarrhoea and salmonellosis; seven to measles; six to legionellosis; five to tuberculosis; two to cholera, death of unexplained origin, fever, food poisoning, haemorrhagic fever, hepatitis, haemolytic uremic syndrome, mumps or vCJD; and one each to campylobacteriosis, leptospirosis, listeriosis, septicaemia, shigellosis, soft tissue infection, sexually transmitted infection, and typhoid fever. Eight messages were classified as 'not applicable' and five as 'unlisted'.

## **3. RESPONSE AND FOLLOW-UP TO THE MAIN EVENTS NOTIFIED IN 2006**

### **3.1. Chikungunya in La Réunion**

In February 2006, France notified a major outbreak of Chikungunya virus in the overseas department of La Réunion. It quickly spread to other islands in the Indian Ocean and reached India. The risk of Chikungunya virus appearing in the EU was assessed by the ECDC to give Member States options for a higher state of preparedness. Risk assessment information for travellers in and from affected areas was prepared and circulated to the Member States. The risk from blood donors returning from affected areas was also addressed, and public health authorities responsible for blood safety issues were alerted to give them the chance to apply a deferral policy for blood donors.

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<sup>1</sup> OJ L 268, 3.10.1998, p. 1.

### **3.2. Measles**

In March 2006, Germany notified a number of regional outbreaks of measles in the south and west of the country. Outbreaks involving 58 cases in the greater Stuttgart area and 149 cases in the *Land* of North Rhine-Westphalia were reported. Additional investigation revealed 1 018 cases notified to the health authorities between 1 January and 3 May 2006 in North Rhine-Westphalia, older children and adolescents being predominantly affected. These events triggered specific public health measures in response to the event (information to all local health authorities, increased vaccination coverage, information campaign for schools, nurseries, parents and general practitioners).

### **3.3. Lassa fever**

On 21 July 2006, Germany notified the case of a Lassa fever patient who travelled from Freetown (Sierra Leone) via Abidjan (Ivory Coast) and Brussels to Frankfurt. The patient was sick during the flights and was carrying a dysfunctional urinary tract catheter, which leaked urine to the airplane seat, blankets and the patient's clothes. While the risk to other passengers was judged by the ECDC to be low, contact tracing procedures for persons considered to be at higher risk were agreed, and a coordination mechanism including the European Commission, the ECDC, the Robert Koch Institute, the Belgian public health authorities, Sabena Airlines and the WHO was put in place. A kit of tools and documents was rapidly made available. 92 people were sought, of whom 43 were from EU Member States (Belgium, Germany, Italy, Poland, the UK, France and Spain). Each of these countries received a list of persons to be traced via the selective exchange of information tool available in the EWRS. A press release was agreed to give Member States a consistent message should they have felt the need to inform the public. Although no secondary case was identified, the event clearly demonstrated the value of the coordination mechanism and revealed additional needs for dealing with similar events in the future.

### **3.4. *Clostridium difficile* 027**

On 28 April 2006, France notified the first cluster of toxinotype III, PCR-ribotype 027 *Clostridium difficile* associated disease in a hospital in the north of the country. The information pointed out the similarity of the cluster with the epidemic strains already isolated from severe *Clostridium difficile* associated disease outbreaks in other countries. Detected in Canada and the US since 2003, PCR-ribotype 027 *Clostridium difficile* was involved in hospital outbreaks in the United Kingdom in 2004 and in Belgium and the Netherlands in 2005. Control measures were implemented in France on 21 March 2006 by the infection control unit and no further case has occurred since 11 April 2006. Experience and lessons learned at national level by France were passed on to the other Member States, and appropriate response options were discussed. Since 2006, *Clostridium difficile* 027 has also been isolated in Poland, Luxembourg and Denmark.

### **3.5. Avian influenza in humans**

In Turkey transmission of the H5N1 influenza virus to humans triggered significant message traffic. The epidemiological situation was updated on a regular basis in case of possible spread to other geographical areas. Although there were more messages about avian influenza events than for any other events (43 messages, or 31.1%), most of the information was about cases in birds in the EU and about measures taken at national level to inform travellers about affected areas.

#### **4. EVENTS NOTIFIED IN 2007**

During 2007 a total of 85 messages were posted (1.6 messages/week), with a total of 300 comments. Of the 85 messages, 26 were information messages, 32 activation level 1 messages, three activation level 2 messages, and one was an activation level 3 message. 23 messages concerned measures taken in response to specific situations (12 messages on adopted measures, eight on coordination of measures, and three on intended measures). The geographical origin of the incidents was: Italy (9); the United Kingdom (8); India (6); Spain, Germany, Ireland and Hungary (4 each); France, Sweden, Portugal, Poland, Estonia, Vietnam, the Czech Republic, Canada, Malta and Bulgaria (2); Denmark, Belgium, Lithuania, Turkey, Latvia, Norway, Egypt, Finland, Thailand, Romania, the Dominican Republic, Nigeria, Luxembourg, China and Uganda (one each). Four events involved more than one country of the EU, and one event more than one non-EU European country. One event has not been identified by geographical origin. 159 messages, related to 14 events were posted through the selective exchange channel.

Ten events were related to tuberculosis and influenza; seven to legionellosis; five to diarrhoea and salmonellosis; four to cholera and measles; three to acute diarrhoea; two to fever, food poisoning, haemorrhagic fever and multi-drug resistant tuberculosis; and one each to cryptosporidiosis, laryngitis, melioidosis, meningitis, mumps, pneumonia, rabies, septicaemia, shigellosis, syphilis, trichinosis and vCJD. Sixteen messages were quoted as 'not applicable' and one was 'unlisted'.

#### **5. RESPONSE AND FOLLOW-UP TO THE MAIN EVENTS NOTIFIED IN 2007**

##### **5.1. Tuberculosis**

Ten events related to tuberculosis were notified in 2007. Four were related to flights of more than 8 hours (France, Italy (2) and Germany). One event involved a person working in a nursery hosting children from several EU countries (Luxembourg). One incident concerned a patient who was attending a summer course at an international college (Italy). Two events related to cases of multi-drug resistant tuberculosis (MDR-TB) travelling by bus (Sweden and France). Two incidents involved short air journeys: one with MDR-TB (Malta), and one with extensively drug-resistant tuberculosis (XDR-TB) (Iceland).

Among the reported events was a case of XDR-TB in an American citizen travelling in Europe, notified on 25 May by the Italian health authorities. The patient had travelled on a long-haul flight from Atlanta (United States) to Paris (France). He returned to Canada on a Czech Airlines flight from Prague to Montreal and re-entered the United States by car. The patient had been diagnosed with TB in March, and was informed, while travelling in Europe, that his tuberculosis was extensively drug-resistant. The ECDC issued a threat assessment, concluding that the infectiousness of the patient was very low and that there was no evidence of XDR-TB being more transmissible than drug-sensitive TB. However, given the seriousness of XDR-TB, the ECDC recommended, as a precautionary measure, applying the WHO guidelines on 'Tuberculosis and Air Travel' for the two transatlantic flights (> 8 hour flights). The Commission chaired a number of coordination meetings with the Member States concerned, the ECDC, the WHO, the United States, Canada and the Commission's Delegations in the United States and Canada, and coordinated measures on contact tracing were implemented. Considering the very high media attention, a press statement was agreed. The event highlighted the need to strengthen

the existing mechanism for contact tracing and to take a common line with the media in case of need.

Assessment of the other events drew attention to such issues as: (i) data protection questions; (ii) the potential for creating EU ‘no fly’ lists; (iii) the responsibility of airlines and travel companies to collect, provide and store travellers' personal data for such public health measures as contact tracing; (iv) the transmission of passenger information to national health authorities in line with WHO guidelines; and (v) contact tracing only for MDR/XDR-TB cases.

## **5.2. Chikungunya in Italy**

The Italian public health authority identified an outbreak caused by Chikungunya virus in the Ravenna area and reported the event on 30 August 2007. By the time of notification the number of cases was 131 and the epidemic curve trend was decreasing. This is the first ever report of indigenous transmission of Chikungunya virus in Italy and Europe. The outbreak was linked to a traveller returning from India. Local transmission was possible because of the presence of the *Aedes albopictus* mosquito in the area. The rapid response of the Italian health authority quickly brought the outbreak to an end. Information was shared swiftly through the EWRS, and the Commission — with the ECDC — helped Member States to boost their preparedness, enhance their early warning and surveillance arrangements, extend their Chikungunya diagnostic capacity, implement targeted blood-safety measures, and intensify their checks on imported goods such as lucky bamboos and used tyres (likely vehicles for vector importation).

## **5.3. Measles in Belgium**

Belgium notified on 30 October 2007 an outbreak of 22 measles cases among an orthodox Jewish community in Antwerp. The index case was a 17 year-old American student, studying in London and visiting relatives in Antwerp. Previous measles outbreaks in ultra-orthodox Jewish communities had been reported in the United Kingdom and in Israel (imported from the United Kingdom). The low coverage of measles vaccination in the ultra-orthodox Jewish community was apparently at the root of the outbreak. The information was circulated rapidly by Belgium and widely shared. Close collaboration with the European Jewish Council was an important asset in reaching the vulnerable group in those communities in the European Union, who usually have low awareness of the risk linked to low vaccination coverage.

## **5.4. Legionellosis**

In January, the EWRS contact points in Sweden, Finland and Norway notified four cases of Legionnaires' disease diagnosed in guests who stayed at the same hotel in Phuket (Thailand). All cases were reported to the European Working Group for Legionella Infections (EWGLI). A press statement was released regarding measures adopted by Finland. The Nordic institutes worked closely with EWGLI and the tour operators, who informed the authority responsible at local level in order to identify and treat the source of infection so as to prevent further cases. A contact tracing procedure was rapidly put in place: 284 European tourists from 11 EU Member States were identified and contacted, where possible. The persons contacted were informed about the possible exposure and advised to seek medical care should they develop symptoms suggestive of legionellosis. Similar steps were taken after a cluster of Legionnaires' disease in a Bulgarian hotel in July 2007.

## 6. ASSESSMENT OF EVENTS REPORTED VERSUS NOTIFICATION CRITERIA

ECDC was asked by the Commission to carry out an assessment of whether the events reported under Decision 2119/98/EC matched the criteria specified in Annex I to Decision 2000/57/EC. The purpose was to provide the Commission and the Member States with scientific evidence to strengthen reporting arrangements under the current EU legislation on communicable diseases and to provide a basis for using the IT tools more efficiently. The full report on the assessment was presented by the ECDC and discussed with Member States and is available on request. The main figures are summarised below.

A total of 195 events (activation levels 1, 2, and 3) notified through the EWRS between May 2004 and December 2007 were reviewed independently by three ECDC experts. Each incident was assessed to see whether it matched the four criteria in Annex I<sup>2</sup> to Decision 2000/57/EC.

Of the 195 messages circulated, 163 (83.6%) matched at least one of the four criteria in Annex I. Thirty-two (16.4%) did not match any of the criteria. Most of the events (104 – 53.3%) matched only one criterion. The breakdown of posted messages by number of matched criteria is given in the following table.

Message type	No of messages matching Annex I criteria				Total
	0	1	2	3	
EWRS activation level 1	22	85	30	4	141
EWRS activation level 2	10	17	21		48
EWRS activation level 3		2	4		6
Total	32	104	55	4	195

Of the 195 messages posted, criterion 1 was matched in 11 messages (5.6%), criterion 2 in 87 messages (44.6%), criterion 3 in 36 messages (18.5%) and criterion 4 in 92 messages (47.1%).

The top four reporting reasons were: 66 messages (33.8%) were posted because of factors indicating potential for international propagation; 35 messages (17.9%) to enquire whether epidemiologically linked cases of the same disease had been

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An event is to be reported to the EWRS if one or more of the following criteria are met:

1. Outbreaks of communicable diseases extending to more than one Member State of the Community.
2. Spatial or temporal clustering of cases of disease of a similar type, if pathogenic agents are a possible cause and there is a risk of propagation between Member States within the Community.
3. Spatial or temporal clustering of cases of a similar type outside the Community, if pathogenic agents are a possible cause and there is a risk of propagation to the Community.
4. The appearance or resurgence of a communicable disease or an infectious agent which may require timely coordinated Community action to contain it.



detected or reported recently in another country; 26 (13.3%) to find out whether the source of an outbreak was suspected to be a food product or any other goods that had been imported from or exported to other countries; and 23 (11.8%) because the event attracted or was likely to attract a high degree of international media or political attention.

Compliance with the notification criteria in Decision 2000/57/EC appears to be good, although there is significant room for improvement. The assessment revealed some difficulties in evaluating whether the reported events matched the EWRS criteria on the exclusive basis of the information provided in the core message. The two main criteria associated with the reporting process are the spatial or temporal clustering of cases of disease with a risk of propagation between Member States within the Community (criterion 2) and the occurrence of a disease that might require coordinated and timely Community action to contain it (criterion 4). It is interesting to note that one of the main reasons for reporting is the political or media attention that the event can generate. Additional work to analyse the trend over time of the reported incident (and not simply the messages) will be needed to get more detail on progress in implementing the notification process and to give the Commission and the Member States options for improving it. Further assessment of the events not reported through the EWRS will be of pivotal importance for gaining a full picture and for assessing compliance with Council and Parliament Decision 2119/98/EC and Commission Decision 2000/57/EC.

## **7. THE NEW INTERNATIONAL HEALTH REGULATIONS (IHR)**

The new International Health Regulations (IHR) were adopted by the World Health Assembly on 22 May 2005 and entered into force on 15 June 2007. To adapt the current EU legislation on communicable diseases to the new IHR, the Annexes to Decisions 2119/98/EC, 2000/96/EC and 2000/57/EC have been amended. In particular the obligation to report, through the EWRS, all events due to communicable diseases notified to the WHO under the IHR was introduced (Decision of 28 April 2008 amending Decision 2000/57/EC). In the interests of consistency between the notifications to the Community Network and from the Member States to the WHO under the new IHR, an IT function has been developed in the EWRS to inform the WHO about events notified under Decision 2119/98/EC.

To meet the need expressed by Member States to create a discussion forum for coordinating the practical aspects of IHR implementation, the Commission established, beside the EWRS contact points, a group of National IHR Focal Points in the European Union, who met for the first time in Stockholm on 31 May 2007. Most of the Member States (23 out of 27), Norway and Iceland have appointed as National IHR Focal Points the same institutions designated as EWRS contact points. The Commission chairs this group twice a year; the WHO participates in the meetings, which also offer an opportunity to review the events notified through the EWRS and discuss their implications for notification through the IHR. The Commission envisages offering additional solutions to strengthen IHR notifications, which will be closely associated with the existing EU electronic notification systems and fully recognised by the WHO.

## 8. TRANSFER OF THE EWRS TO THE ECDC

Under its founding Regulations the ECDC has since 17 November 2007 been operating the EWRS application. As in the past the Commission remains responsible for the other aspects, including the 'user's management authorisation'. EWRS contact points in Member States are still formally appointed by addressing designations and requests for access to the Commission via Permanent Representations.

The current application is no different from the previous EWRS application, so there is no difference in using the system except for passwords and logins, as a new password policy has been introduced to strengthen security (the new application is now accessible via the internet). Since 17 November 2007 the new application has been accessible at: <https://ewrs.ecdc.europa.eu>.

## 9. CONCLUSIONS

Figures for the EWRS in 2006 and 2007 confirm previous years' trends. The number and typology of messages notified were comparable to 2004 and 2005. 'Information level' messages accounted for most of the EWRS messages. The total number of messages circulated in 2007 was fewer than in 2006. This most probably results from the higher number of messages related to avian influenza events notified in 2006 rather than from a change in the notification process. Additional analysis of the messages notified since the EWRS IT tool was launched (1999) is planned and should generate further evidence on the trend of EWRS use over time and will be instrumental in streamlining the use of the system, focusing more on management issues than on assessment.

As in previous years, only a limited number of the events reported in 2006 and 2007 required Community-wide coordination. The present report has focused on the events which triggered such responses at different levels and which have spotlighted a number of specific areas calling for closer attention.

The Chikungunya outbreak in Italy highlighted the potential role of climate change in modifying vector-borne disease epidemiology in the EU and the need for a regional approach to monitoring and responding to these diseases (e.g. West Nile virus). In particular, it demonstrated that a disease that has never been reported in the EU can always challenge the capacities to respond and coordinate at Community level.

The upsurge of measles cases reported by a number of Member States highlights the importance of having a coordinated approach to achieving and maintaining a high level of vaccination coverage throughout Europe, with a view to the elimination of measles targeted for 2010.

Contact tracing procedures were implemented on several occasions. The results revealed that, although coordination procedures were swiftly put in place, mechanisms should be strengthened so as to trace rapidly the persons concerned and at the same time comply with current legislation on the protection of personal data. The major difficulties in obtaining data from airlines still persist.

A number of events required agreement on media messages addressed to large audiences. Coordination meetings of the EWRS authorities in Member States proved particularly useful for sharing common lines to be taken with the media; however, it

was clear that further work is still needed to develop a more structured form of response.

The Commission and the Member States, assisted by the ECDC, adapted swiftly to the challenge of the new IHR. Existing legislation on communicable diseases has already been adapted and will be followed in 2010 by a proposal for a package of legal instruments covering health threats from non-communicable diseases. In the short term, specific instruments to strengthen contact tracing for public health purposes will be proposed. Mechanisms to address the global dimension of events reported outside the EU but with possible impact at Community level were activated, when needed, in order to facilitate and strengthen the management of those events taking stock of the available resources like the European Programme for Intervention Epidemiology Training (EPIET), that is now coordinated by the ECDC with close collaboration of the WHO.

A substantial upgrade of the EWRS IT application is planned in order to achieve consistency with the new communication platforms which the Commission and the ECDC are developing. In particular, the link with the ECDC EPIS platform<sup>3</sup> will provide solid ground for exchanging epidemiological information on specific events. The Commission's tools for helping Member States to share data and information during crisis situations will help the EWRS to work smoothly whenever a large number of messages are posted through the system.

Finally, some minor modifications to the 'simple search' application (closure of events, message content, syndrome/disease, pathogen, reporting reason, and country of occurrence) are necessary and will be introduced soon. The need for these 'minor' modifications was identified in the previous report too, but the EWRS transfer phase prevented this kind of upgrading.

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