

## Rapid communications

# CLUSTER OF HEPATITIS A CASES AMONG TRAVELLERS RETURNING FROM EGYPT, GERMANY, SEPTEMBER THROUGH NOVEMBER 2008

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From September to November 2008, 34 cases of hepatitis A imported from Egypt were reported to the German public health authorities. Investigations point to a continuing common source of infection, most likely linked to Nile river cruises. The patients affected had not been vaccinated, which emphasises the need for more effective travel advice before trips to hepatitis A endemic countries.

### Introduction

On 15 October 2008, the French Institute for Public Health Surveillance (Institut de veille sanitaire, InVS) issued a warning to the European Union member states via the Early Warning and Response System (EWRS) about a detected increase of hepatitis A cases with date of onset from 8 September onwards, and a history of travel to Egypt in August 2008. All cases had been on Nile river cruises, more than half on the same cruise ship. An association of hepatitis A infection with a Nile river cruise was therefore suspected. In following weeks, Ireland, Belgium and Poland also reported single cases or clusters of hepatitis A infections with history of Nile river cruises but on other ships than the majority of the French cases.

Hepatitis A (typical symptoms plus laboratory confirmation of acute infection) is mandatorily notifiable in Germany. At the time the warning was issued, a total of 10 cases of hepatitis A with date of onset from 1 September 2008 had been notified to German health authorities after travelling to Egypt. And further cases kept coming in. This compared to a mean of three cases (range 2-4) during the same time period in the previous three years.

### Methods

The observed increase in case numbers prompted an investigation of all hepatitis A cases with date of onset from 1 September 2008 and travel to Egypt 15-50 days prior to symptom onset (case definition). In an email we asked local and state health authorities to obtain information on travel itineraries from the patients, including names of hotels and Nile cruise ships and dates of stay(s). This information was to be reported to the Robert Koch Institute, the German national public health institute.

### Results

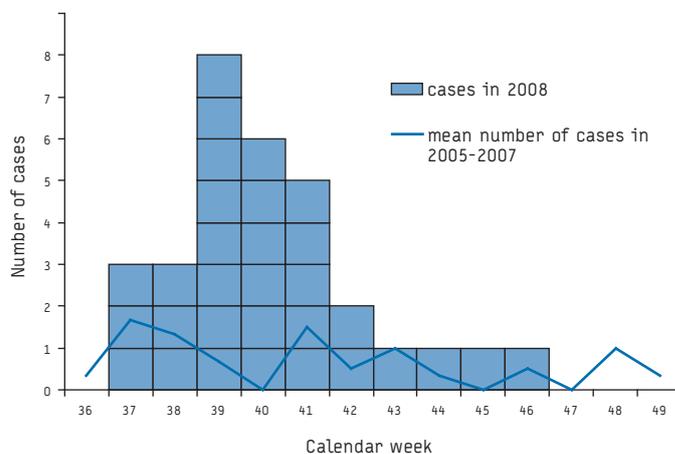
By 2 December, 2008, a total of 34 laboratory-confirmed symptomatic infections meeting the case definition were notified to

the German public health authorities (Figure 1). For three cases the exact date of onset was unknown but was later than 1 September. They are therefore not shown in figure 1. Weekly case numbers exceeded the mean case numbers notified in the three preceding years.

The mean age of cases was 40.1 years (range 11-69), and 20 (59%) were female. No case had been vaccinated against hepatitis A, 20 (59%) required hospitalisation, nobody died. Cases were from all across Germany.

Of the 34 cases, only four (14%) had not gone on a Nile cruise. For the others, the following information is indicated in Figure 2, if available: cruise ships, hotels, dates of travel and of symptom onset. Periods of stay on individual ships appear grouped in time. None had been on the ships implicated by French cases or by cases from other member states. In addition to cruise ships, many cases had also stayed in hotels in Hurgada, but named hotels varied much more than cruise ships.

**FIGURE 1**  
Hepatitis A cases imported from Egypt to Germany, week 36-49 of 2008 (n=31)



Data as of 2 December 2008

## Discussion

In summary, from September to November 2008 there was an increase in hepatitis A cases imported from Egypt to Germany. Whereas cases stayed in a plethora of hotels, some Nile cruise ships were named repeatedly, and cases' travel on them appeared to cluster in time.

To explain the excess of cases in Germany and elsewhere, a group of ships must have facilitated hepatitis A infections in tourists. The epidemic curve suggests a continuing common source rather than a point common source. Possible sources of infection might be contaminated food consumed onboard obtained from a common food catering company, contaminated tap water supplies for the ships' bunkers, or a common exposure on shore (e.g. a restaurant where tourist groups from various ships are being taken during day trips). As all of these ships continuously travel up and down a short stretch of the river (Aswan to Luxor and back) with standard must-see stops along the way, the cases possibly shared an exposure on land, which only intense additional study could reveal.

Both the long incubation period of hepatitis A (15-50 days) and long delays in collecting information on the individual cases precluded any rapid intervention on location.

International travel medicine guidelines and the German standing committee on vaccinations (STIKO) recommend hepatitis A vaccination for persons travelling to countries in which hepatitis A is endemic such as Egypt. Some health insurance companies reimburse the cost of the vaccination. In 2004 a large outbreak of hepatitis A among European tourists centred on a hotel in Hurghada [1], demonstrated that also package tourists ought to follow vaccination advice. Since then travel companies in Germany have become more active in recommending hepatitis A vaccinations to travellers to Egypt. Despite this, all cases described here were unvaccinated, emphasising the need for more effective travel advice before trips to hepatitis A endemic countries.

## Acknowledgements

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## References

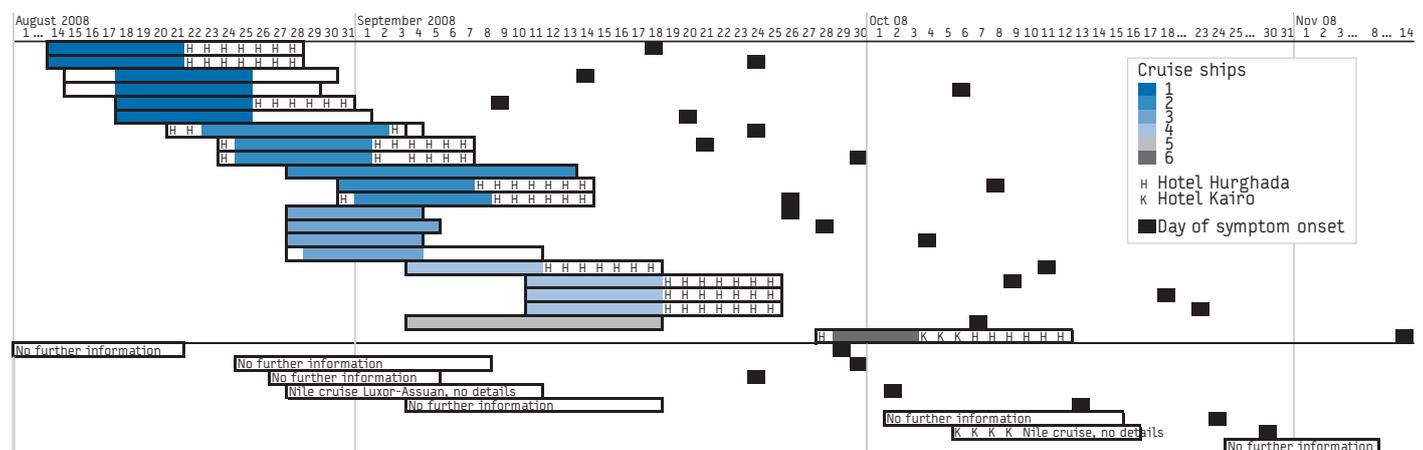
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## FIGURE 2

### Hepatitis A cases post travel to Egypt, Germany, September-November 2008 (n=30 cases with known date of travel)



Data as of 2 December 2008  
 Each line represents one case  
 Coloured boxes represent stays on Nile cruise ships and in hotels