ing an adoptee from China. Virus isolated from a single case imported from the Philippines was determined to belong to genotype D3.

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CDC Editorial Note: The 37 confirmed cases in 2004 represent a record low number of reported measles cases since measles became a nationally reportable disease in 1912. The epidemiology of measles in 2004 confirms the previous finding that endemic transmission of measles virus has been eliminated in the United States. Thirty-three (89%) cases were import-associated (i.e., imported or import-linked), and 14 imported cases occurred among U.S. residents who contracted measles while traveling abroad. Sixty-four percent of the imported cases among U.S. residents could have been prevented if long-standing ACIP recommendations concerning measles vaccination of foreign travelers had been followed.

Of the 27 persons with imported cases in 2004, 13 (48%) traveled on aircraft while infectious. Measles virus is a highly infectious pathogen, and intercontinental flights create the potential for prolonged exposure. However, on the basis of available data, the risk for in-flight measles transmission among passengers appears to be low. Of the hundreds of persons on the same flights as the 13 persons who traveled while infectious in 2004, only one case of secondary transmission was identified, in a person seated immediately next to an infectious passenger. For the 8-year period (1996-2004) for which such transmission data have been recorded, 117 passengers with imported measles cases were considered infectious while traveling by aircraft (carrying an estimated 10,000 passengers), but only four secondary-spread cases were identified from three index patients (CDC, unpublished data, 1996-2004). Seating location was recorded for two of the three index patients, both of whom were seated immediately adjacent to the secondary-spread patients. The low in-flight attack rate might be related to high vaccination/immunity levels among persons traveling by air (most of whom are adults) and to vertical airflow patterns within airplanes, which might decrease in-flight exposure to measles.

As long as measles is endemic in most countries worldwide, sustaining measles elimination in the United States will require maintenance of high levels of vaccination coverage (i.e., >90%), vigilance in detecting and containing imported cases, and enhanced surveillance to detect and characterize cases and identify sources and viral genotypes.

Acknowledgments
This report is based, in part, on data contributed by state and local health departments.

REFERENCES
8 available
*Imported cases are those in persons infected outside the United States.
†Indigenous cases are those in persons infected in the United States. Indigenous cases are classified into three groups: import-linked (i.e., epidemiologically linked to an imported case); imported virus (i.e., cases that cannot be linked epidemiologically to an imported case but for which imported virus has been isolated from the patient or from an epidemiologically linked patient); and unknown source (i.e., all other cases acquired in the United States for which no epidemiologic link or virologic evidence indicates importation).

Late Relapse of Plasmodium ovale Malaria—Philadelphia, Pennsylvania, November 2004

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Approximately 1,300 cases of malaria are reported each year in the United States; nearly all of these cases occur in travelers, many of whom fail to receive or adhere to prescribed chemoprophylaxis or do not follow recommendations for prevention of mosquito bites. Malaria can persist if not treated or if treated incorrectly (e.g., with an ineffective drug or an incorrect dosage of an effective drug). Early treatment is required to avoid severe illness or death. Although malaria typically becomes clinically apparent within 1 month of infection, cases can occur years after the last presumed exposure. In November 2004, CDC received a report of a late relapse of malaria in a Nigerian man aged 23 years in Philadelphia, Pennsylvania. His malaria was determined to have been caused by Plasmodium ovale, one of the four species of Plasmodium parasite that are transmitted by mosquitoes and cause malaria. The patient had been treated for malaria in Nigeria on multiple occasions, most recently 6 years before onset of his illness in the United States. This report describes the Philadelphia case, which underscores the importance of taking a detailed travel and immigration history when evaluating unexplained fever and considering malaria in the differential diagnosis.

Case Report
The man sought care at a hospital emergency department after 10 days of nocturnal fevers, chills, and night sweats, occurring every 48-72 hours. He had a history of identical symptoms that had been treated empirically as presumed malaria, a common practice with patients with unexplained fever in malaria-endemic areas with limited diagnostic capabilities; no laboratory tests had been performed in Nigeria to confirm this diagnosis, the most recent of which was made 6 years earlier. The patient did not recall which medications he had received. The patient said he had no unexplained episodes of fever during the 4 years since immigrating to the United States and no recent travel to Nigeria or any other area where malaria is endemic; moreover, the patient said he had not traveled outside of the Philadelphia area since immigrating.

The patient was afebrile in the emergency department. Physical examination was normal; the liver and spleen were not palpable. Laboratory work was notable only for hemoglobin of 12.8 g/dL (normal range: 14-18 g/dL) and
Malaria caused by *P. ovale* is the least common malaria reported in the United States, accounting for only 2.6% of cases in 2003. However, in Nigeria, malaria caused by *P. ovale* is second only to *P. falciparum* in frequency. In one clinical study of U.S. cases of *P. ovale*, relapses occurred 17-255 days after the primary attack. Other reports describe a relapse occurring 45 months after the primary attack of *P. ovale*, and transmission of *P. ovale* from a blood donor exposed 7 years before donation.

The case described in this report highlights the importance of taking a complete travel and immigration history from persons with unexplained febrile illnesses. The history should include all foreign travel, immigration details, and any history of malaria, including whether or not the malaria was laboratory confirmed. Primaquine, the only available drug that kills hypnozoites, is used to clear the liver of *P. ovale* and *P. vivax* hypnozoites and thereby prevent malaria relapses. When primaquine is administered presumptively in conjunction with a blood-stage prophylactic agent to prevent a possible *P. vivax* or *P. ovale* relapse, this therapy is called terminal prophylaxis or presumptive antirelapse therapy (PART). Primaquine used in conjunction with an effective drug for killing blood-stage parasites (i.e., schizonts) in a patient with *P. vivax* or *P. ovale* malaria is called radical cure. PART and radical cure are the current strategies for preventing *P. vivax* and *P. ovale* relapses.

CDC recommends a primaquine phosphate dose of 30 mg (base) by mouth daily for 14 days. Primaquine must not be used during pregnancy because it can cross the placenta and cause hemolysis in a G6PD-deficient fetus. Because of the risk for hemolysis from primaquine, patients must be screened for G6PD deficiency before starting treatment. For persons with G6PD deficiency, radical cure options should be reviewed with a specialist in infectious disease or tropical medicine. Primaquine is not recommended for PART in persons with G6PD deficiency.

Health-care practitioners should consider malaria in their differential diagnoses of patients who have unexplained fever and (1) have a history of malaria, (2) have lived in a malaria-endemic country, or (3) have traveled to a malaria-endemic country. A malaria blood film should be performed and appropriate treatment administered. Current guidelines for the diagnosis and treatment of malaria are available at http://www.cdc.gov/malaria.

### REFERENCES

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**Brief Report:** Conclusions and Recommendations of the Advisory Committee on Poliomyelitis Eradication—Geneva, Switzerland, October 2005

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The second meeting of the Advisory Committee on Poliomyelitis Eradication (ACPE) was convened in Geneva, Switzerland, on October 11-12, 2005, to provide the World Health Organization (WHO) and the Global Polio Eradication Initiative with advice on program policies for (1) interrupting wild poliovirus (WPV) transmission worldwide, (2) limiting the international spread of circulating polioviruses, and (3) refining the program of work for eventual cessation of immunization with oral poliovirus vaccine (OPV). This report summarizes the results of that meeting.

**Interrupting WPV Transmission**

As of October 25, 2005, paralytic polio cases attributed to WPV had been