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Whirlpool Bath Source of Outbreak of Legionnaires' Disease Aboard Cruise Ship

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As of August 10, 1994, a total of 14 passengers aboard the cruise ship *Horizon* had Legionnaires' disease (LD) confirmed by either sputum culture, detection of antigens of *Legionella pneumophila* serogroup 1 (LP₁) in urine by radioimmunoassay, or fourfold rise in antibody titers between acute- and convalescent-phase serum specimens. Under investigation are 28 other passengers with pneumonia that occurred

within 2 weeks after sailing aboard the cruise ship. Cases have occurred from separate week-long cruises between April 30 and July 9, 1994.

A case-control study revealed a strong association between exposure to whirlpool baths and illness. Cultures taken from a sand filter, used for recirculation of whirlpool water, yielded an isolate of LP₁; this isolate and the clinical isolate had matching monoclonal antibody subtyping patterns. Various interventions were completed, including hyperchlorination of the ship's pota-

ble water supply, removal of the whirlpool filters, and discontinuation of the whirlpool baths.

Additional recommendations to reduce the risk of transmission from whirlpool baths aboard cruise ships will be the subject of a special meeting scheduled to be held this fall. Information about the meeting is available from CDC's National Center for Environmental Health: (404) 488-7093.

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