GBS diagnostic code from the statewide hospital discharge database representing acute GBS was only 30%. Of the 103 confirmed cases, 26 (25%) would have been missed if only the state hospital discharge database was used to identify potential cases.

Of 103 cases, all were identified with ICD-9-CM diagnosis code 357.0; in 91 (88%) cases, this was the primary diagnosis. Other combinations of codes did not identify additional cases. Of cases of acute GBS identified, 32 (30%) met only clinical criteria (Brighton Level 1), 40 (39%) had either laboratory or electrophysiologic evidence (Brighton Level 2), and 32 (31%) had both (Brighton Level 3).

Because the 2 surveillance systems we compared both relied on medical record discharge diagnoses, they were not independent, and we could not perform a capture/recapture analysis. Because GBS is a diagnosis for which the great majority of patients are hospitalized, and our overall incidence rate is within the range identified in other studies, it is likely that the combination of these methods is reasonably sensitive. The administrative hospital discharge database could not be relied on to confirm that all coded GBS cases were acute. Even if the 114 nonacute cases could easily have been identified and excluded from the initial list of 344 records, only 103 (45%) of the remaining 230 reports were identified as confirmed acute cases.

Although the use of large hospital discharge databases may be useful as an adjunct for identification of GBS cases as part of public health surveillance, they lack sufficient sensitivity or specificity to be relied upon exclusively. The poor specificity of the system is particularly problematic for public health surveillance. A large investment of time and resources was necessary to perform manual chart reviews to confirm possible cases, two-thirds of which were ultimately found not to be cases at all. Statewide administrative hospital discharge diagnosis databases should not be solely relied on for GBS surveillance. Additional methods of reliable and efficient ascertainment and verification of cases are crucial to ensure valid data. Obtaining reliable methods is particularly important for urgent situations such as current surveillance for adverse events after pandemic (H1N1) 2009 virus vaccination, in which the detection of problems will have immediate public health effects.

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## Contact Lens Solution–associated *Acanthamoeba* and *Fusarium* Keratitis

**To the Editor:** Verani et al. (*1*) detailed the 2004–2007 outbreak of *Acanthamoeba* keratitis (AK) in persons wearing soft contact lenses who used Complete MoisturePlus (CMP) multipurpose contact lens solution (Advanced Medical Optics, Santa Ana, CA, USA). They noted similarities between the AK outbreak and the *Fusarium* keratitis (FK) outbreak of 2004–2006, including the concomitant time frame and association with a particular solution, ReNu with MoistureLoc (Bausch & Lomb, Rochester, NY, USA). Both solutions were new products introduced within 1 year before the respective outbreaks.

In neither outbreak was the solution contaminated; in both outbreaks,

implicated bottles were from multiple lots, suggesting that each outbreak resulted from insufficient antimicrobial activity. However, in the FK outbreak, all reported cases involved bottles produced at 1 (Greenville, SC, USA) of 4 multinational Bausch & Lomb manufacturing plants (*2*). After a Food and Drug Administration inspection of the Greenville facility, Bausch & Lomb was cited for inadequacies in temperature control during production, storage, and transport of its products in and beyond the plant (*3*).

We experimentally demonstrated that, when exposed to prolonged temperature elevation, ReNu with MoistureLoc loses more in vitro fungistatic activity than do other contact lens solutions. We concluded that improper temperature control of ReNu with MoistureLoc may have contributed to the FK outbreak (*4*). We are aware of no other theory that adequately explains why only ReNu with MoistureLoc from only 1 plant was implicated.

CMP was manufactured and used internationally; AK has a much higher incidence in Europe and Hong Kong than in the United States (*5*), and CMP–associated AK has been reported internationally (*6*). Therefore, it would seem critical to know, and we would like the authors to comment on, whether the geographic pattern of the AK coincided with distribution of CMP solution from ≥1 Advanced Medical Optics manufacturing plants and, if so, the relevance of that information.

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**In Response:** We thank Bullock and Warwar for offering their theory of potential consequences of manufacturing inadequacies in temperature control during production of ReNu with MoistureLoc (Bausch & Lomb, Rochester, NY, USA) associated with the *Fusarium* keratitis (FK) outbreak during 2004–2006 (*1*). They note the substantial similarities between the FK outbreak and the *Ancanthamoeba* keratitis (AK) outbreak that we reported (*2*). They inquire whether the geographic pattern of AK outbreak–associated cases coincides with distribution of ≥1 manufacturing plants for the associated product, Complete MoisturePlus (CMP) multipurpose contact lens solution (Advanced Medical Optics [AMO], Santa Ana, CA, USA).

We obtained lot numbers for 22 bottles of CMP that AK case-patients used before symptom onset. Because no lot number was repeated, intrinsic contamination was unlikely as the source of the AK outbreak; the geographic and temporal distribution of cases further argued against a point-source outbreak. All 17 lot numbers for which AMO plant of origin was determined were manufactured in Spain (Food and Drug Administration, pers. comm.). According to a press release from AMO in November 2006, the "vast majority of AMO's contact lens solution products distributed in the U.S." were manufactured in the company's production facility in Spain, 1 of its 2 international manufacturing plants (*3*).

CMP was produced and used internationally at the time of the US multistate outbreak (*4*). Por and colleagues (*5*) reported an increase in the number of AK cases among contact lens users in Singapore that temporally coincided with the US outbreak. However, their retrospective case series did not include a control group; therefore, measuring associations between particular contact lens products and AK was not possible for those case-

patients. The authors reported that a case–control study was underway, and we look forward to seeing the results of that investigation to better understand the magnitude of AK cases associated with CMP use.

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## New Infectious Diseases and Industrial Food Animal Production

**To the Editor**: Cutler et al. bring welcome attention to the importance of new and reemerging zoonotic diseases in the industrialized world (*1*). However, they make no mention of industrialized systems of food animal production, major sources of antimicrobial drug–resistant bacterial pathogens (*2*) that are among the most globally prevalent and emerging infectious diseases (*3*). These systems have practices characterized by crowded and unsanitary confinement of animals and routine use of antimicrobial agents in animal feeds (*2*). For example, in the same issue, Dutil et al. (*3*) reported on increases in ceftiofur resistance in *Salmonella enterica* isolates from food, which they associate with use of this drug in broiler poultry production.

Recognition of the role of industrial food animal production in driving vancomycin resistance in enterococci prompted restrictions on agricultural antimicrobial drug use in the European Union; unfortunately, few measures have been implemented in the rest of the world (including the United States) (*4*). Industrialized food animal production is now assumed to contribute to the emergence of new strains of community-associated methicillin-resistant *Staphylococcus aureus* with varying potential for infecting humans (*5*). Because the industrial model of food animal production is rapidly expanding globally (*2*), this source must be included in surveillance, research, and tracking programs for effective prevention of emerging zoonotic disease.

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