tibility of respiratory pathogens than the choice of fluoroquinolone.

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Potential conflict of interest. Since publication of our article, L.E.N. has become a member of the advisory board for Cerexa. T.M.H. and S.E.G.: no conflicts.

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References

1. Bush LM, Kaye D. Catheter-associated urinary tract infection IDSA guidelines: why the levofloxacin? Clin Infect Dis **2010**; 51(4):479–480 (in this issue).
2. Hooton TM, Bradley SF, Cardenas DD, et al. Diagnosis, prevention, and treatment of catheter-associated urinary tract infection in adults: 2009 International Clinical Practice Guidelines from the Infectious Diseases Society of America. Clin Infect Dis **2010**; 50:625–663.
3. Peterson J, Kaul S, Khashab M, et al. A double-blind, randomized comparison of levofloxacin 750 mg once daily for five days with ciprofloxacin 400/500 mg twice-daily for 10 days for the treatment of complicated urinary tract infections and acute pyelonephritis. Urology **2008**; 71:17–22.

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Recurrent Outbreak of Pandemic (H1N1) 2009 Virus Infection in a Pediatric Long-Term Care Facility and the Adjacent School

To the Editor—We report a recurrent outbreak of pandemic (H1N1) 2009 virus infection in a neurologically impaired population in a long-term care facility (LTCF) and the adjacent school. On 26 July 2009, the Tel Aviv District Health Office (Tel Aviv, Israel) was notified of an ongoing outbreak of influenza-like illness (ILI) in the LTCF and adjacent school. On 17 December 2009, another outbreak of ILI was reported at the same place. ILI was defined as the presence of fever with cough or sore throat.

Table 1. Characteristics of Patients in the Summer and Winter Pandemic (H1N1) 2009 Outbreaks

Variable	Summer outbreak (n = 162)	Winter outbreak (n = 144)
Cohort	162 (100)	144 (100)
Inpatients	91 (56.2)	84 (58.3)
Outpatients	71 (43.8)	60 (41.7)
ILI		
Overall	79 (48.8)	24 (16.7)
Hospitalized	12[a] (15.2)	4 (16.7)
Age[b], median years (IQR)		
Overall	13.4 (9.2–18.5)	13.4 (9.1–17.8)
ILI	12.2 (7.4–15.6)	10.1 (5.6–15.3)
Male sex		
Overall	78 (48.1)	69 (47.9)
ILI	36 (46.2)	13 (18.8)
RT-PCR samples		
Overall	13 (100)	14 (100)
Positive	11 (84.6)	8 (57.1)
Registered staff		
Overall	191 (100)	≈190 (100)
ILI	8 (4.2)	NR (-)

NOTE. Data are no. (%) of patients, unless otherwise indicated. ILI, influenza-like illness; IQR, interquartile range; NR, none reported; RT-PCR, real-time reverse transcriptase polymerase chain reaction.

[a] One patient died.

[b] Age at the outbreak onset.

At the time of the summer investigation, there were 162 inpatients and outpatients with a background of intermediate-to-severe cerebral palsy or chromosomal and genetic syndromes. The median age of the patients was 13.4 years (interquartile range, 9.2–18.5 years) (Table 1). The dormitory and the school are located in the same 5-floor building.

The attack rates were 48.8% (79 of 162 patients) and 16.7% (24 of 144 patients) for the summer and winter outbreaks, respectively. Real-time reverse transcriptase polymerase chain reaction assays demonstrated that 84.6% (11 of 13) and 57.1% (8 of 14) samples that were obtained from case patients during the summer and winter outbreaks, respectively, were positive for the pandemic (H1N1) 2009 virus. The hospitalization rate for case patients was 15.2% (12 of 79) patients and 16.7% (4 of 24 patients) for the summer and winter outbreaks, respectively. Seventy case patients had ILI once, either in the summer or the winter outbreak (mean age, 13.3 years; 95% confidence interval, 11.8– 14.7 years) and 16 case patients had ILI at both outbreaks (mean age, 10.2 years; 95% confidence interval, 5.6– 14.8 years). Case patients who were sick twice were younger, on average, than were those who were sick once (P = .09; not significant).

A 5-day treatment course of neuraminidase inhibitor (oseltamivir) was administered to case patients for both the summer and winter outbreaks. No prophylaxis for the rest of the inpatients or outpatients was given at these times. Notably, only 30 (20.1%) of the inpatients and outpatients were vaccinated against pandemic (H1N1) 2009 virus before the winter outbreak began.

For a sample of 27 case inpatients from the summer outbreak, the median weight was calculated (29.2 kg; interquartile range, 24.5–33.6 kg). Weight-for-age percentiles were calculated for 24 case inpatients of this sample: 16 inpatients

(66.7%) were below the 5th percentile, 3 (12.5%) were at the 5th percentile, 3 (12.5%) were at the 10th percentile, and the other 2 (8.3%) were above the 50th percentile. In addition, 142 (44.4%) case inpatients of this sample were fed by percutaneous endoscopic gastrostomy (PEG).

In summary, we describe a recurrent outbreak of pandemic (H1N1) 2009 for the first time, to our knowledge. In light of this finding, the susceptible described population may need to be regarded as immunocompromised. This susceptibility may be a result of an undernutrition state attributable to the low dietary intake in the neurologically-impaired, which may be caused by swallowing problems or PEG dependency, for example. Other conditions that may increase the susceptibility of this population are the accompanying movement disorders leading to prolonged lack of movement and the recurrent aspiration pneumonias.

The addition of micronutrient supplements to the diet could be beneficial, but more population-targeted trials are required [1]. Remarkably, prophylaxis trials in the setting of influenza outbreaks among unhealthy, chronically dependant adult and pediatric populations of LTCFs are lacking [2, 3].

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References

1. Stephen AI, Avenell A. A systematic review of multivitamin and multimineral supplementation for infection. J Hum Nutr Diet **2006**; 19: 179–190.
2. Shun-Shin M, Thompson M, Heneghan C, et al. Neuraminidase inhibitors for treatment and prophylaxis of influenza in children: systematic review and meta-analysis of randomised controlled trials. BMJ **2009**; 339:b3172.
3. Khazeni N, Bravata DM, Holty JC, et al. Systematic review: safety and efficacy of extended-duration antiviral chemoprophylaxis against pandemic and seasonal influenza. Ann Intern Med **2009**; 151:464–W159.

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