for access to laboratory reports of influenza. AMcM now works at the National Centre for Epidemiology and Population Health, Australian National University, Canberra.

Contributors: BGA was involved in study design, statistical analysis, and preparation of the manuscript. PM was involved in collection of data on vaccination and influenza and preparation of the manuscript. AF was involved in study design and was principal investigator for this study and the parent study. SK was involved in collection of data on vaccination, influenza, and weather. AMcM and PW were involved in study design. SP was involved in statistical analysis. All contributors commented on manuscript drafts and participated in study progress meetings. BGA is the guarantor of the paper. He accepts full responsibility for the conduct of the study, had access to the data and controlled the decision to publish in consultation with the other authors.

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Implications of the incidence of influenza-like illness in nursing homes for influenza chemoprophylaxis: descriptive study

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Influenza causes substantial morbidity and mortality among nursing home residents. In September 2003, the National Institute for Clinical Excellence (NICE) issued guidelines for the use of neuraminidase inhibitors for flu prophylaxis.[1] These state that oseltamivir should be given to all residents in nursing and residential homes each time a single case of influenza-like illness (ILI) is recognised in a resident or staff member and when flu is known to be circulating in the community. Oseltamivir is effective for flu prophylaxis in young healthy people, but there is little evidence of its effectiveness in elderly nursing home residents.[2] Estimates of its cost effectiveness vary widely. Last winter, from 3 November 2003 to 25 January 2004, we conducted surveillance for ILI in a chain of nursing homes across England. The data allow an analysis of the implications of implementing the NICE guidelines.

Participants, methods, and results

Nurses in 48 nursing homes recorded data daily about ILI in residents on a standard proforma. The case definition for ILI was "fever ≥37.8°C measured orally or an acute deterioration in physical or mental ability, plus either new onset of one or more respiratory symptoms or an acute worsening of a chronic condition involving respiratory symptoms." The nurses had been trained how to do the surveillance.

The table shows the results. Most residents were aged over 65 years; 70% were women; 34% were classified as "high dependency"; and 75% had received flu vaccination. The weekly incidence of ILI varied from 15.2 to 30.0 cases per 1000 residents.

Comment

Giving oseltamivir prophylaxis according to the NICE guidelines would require substantial resources. Almost three quarters (35) of the homes (a total of 2004 residents) had at least one new case of ILI at some point during the four weeks in which flu activity in the community was at "normal seasonal" levels (defined in

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Results of surveillance for flu-like illness—overall (12 weeks) and during period when community weekly consultation rate for flu-like illness exceeded 50 per 100 000 population.[3] Values are ranges (mean; SD)

	Overall	When community rate exceeded 50 per 100 000 population[3]
Nursing homes providing data each week	46-48	46-48
Residents under surveillance each week	2675-2816 (2738; 53)	2683-2816 (2755; 68)
New cases of flu-like illness each week	41-84 (53; 12)	43-56 (50; 5)
Homes with ≥1 new case of flu-like illness a week	13-24 (20; 3)	21-24 (21; 2)
Residents in homes with ≥1 new case of flu-like illness a week	874-1428 (1220; 173)	1116-1386 (1270; 115)
GP consultations needed for cases of flu-like illness each week	29-59 (44; 11)	40-59 (47; 9)
Hospital admissions with flu-like illness each week	0-6 (3; 2)	1-6 (4; 2)
Deaths with flu-like illness each week	0-6 (3; 2)	0-4 (3; 2)

England as a weekly consultation rate for ILI of 50-200 per 100 000 population reported by the Royal College of General Practitioners' sentinel surveillance scheme[3]). All these residents would have been eligible for at least one course of oseltamivir during this period and might have been eligible for extended prophylaxis when ILI cases were observed in more than one week in their home.

Our weekly incidence of ILI was far higher than that reported by the sentinel scheme. This is likely to reflect the active surveillance; however, if our case definition was less specific than that used in the sentinel scheme, this also might account for the higher rate. Case definitions for flu are notoriously inaccurate, particularly in elderly people, in whom infection may present atypically.[4] However, as 6% of our cases required admission to hospital and 6% died, not only mild illnesses were being recorded.

If our results applied to all 500 000 residents of nursing and residential homes in England,[5] then at least 360 000 courses of oseltamivir should have been offered last winter. To be effective, oseltamivir must be given within 48 hours of exposure to infection, which requires prompt recognition of cases and rapid prescription of the drug to other residents. The drug costs £12.73 ($23.24; €19.30) for a seven day course—more if extended prophylaxis is required.

The NICE guidelines highlight the potential usefulness of oseltamivir in nursing homes. The use of a single case of ILI as the threshold for prophylaxis, however, may be impractical and costly. It might be sensible to reserve the drug for control of outbreaks when flu is microbiologically confirmed or strongly suspected on the basis of epidemiological features or local surveillance data. Further studies are needed to determine the best strategy for flu chemoprophylaxis in nursing homes.

What is already known on this topic

National Institute for Clinical Excellence (NICE) guidelines state that oseltamivir should be given to all residents of nursing and residential homes each time a single case of influenza-like illness (ILI) is recognised in a resident or staff member and when flu is known to be circulating in the community

What this study adds

As two fifths of all nursing homes have a case of ILI every week in winter, complying with the NICE guidelines would require substantial resources

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