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Item type	Article
Authors	O'Connor, L; Boland, M; Murphy, H
Citation	Preparedness of elderly long-term care facilities in HSE East for influenza outbreaks. 2015, 108 (1):6-8 Ir Med J
Publisher	Irish Medical Journal
Journal	Irish medical journal
Rights	Archived with thanks to Irish medical journal
Downloaded	7-Nov-2017 05:08:20
Link to item	http://hdl.handle.net/10147/555419

Preparedness of Elderly Long-term Care Facilities in HSE East for Influenza Outbreaks

Abstract:

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Abstract

We assessed preparedness of HSE East elderly long term care facilities for an influenza outbreak, and identified Public Health Department support needs. We surveyed 166 facilities based on the HSE checklist document for influenza outbreaks, with 58% response rate. Client flu vaccination rates were >75%; leading barriers were client anxiety and consent issues. Target flu vaccine uptake of e 40% in staff occurred in 43% of facilities and was associated with staff vaccine administration by a facility-attached GP (p=0.035), having a facility outbreak plan (p=0.013) and being a non-HSE run facility (p=0.013). Leading barriers were staff personal anxiety (94%) and lack of awareness of the protective effect on clients (21%). Eighty-nine percent found Public Health helpful, and requested further educational support and advocacy. Staff vaccine uptake focus, organisational leadership, optimal vaccine provision models, outbreak plans and Public Health support are central to the influenza campaign in elderly long term care facilities.

Introduction

Influenza is a challenging problem in long term care facilities (LTCFs) for the elderly, causing considerable morbidity and mortality amongst this vulnerable population.^{1,2} Illness rates up to 60% have been seen in influenza outbreaks in LTCFs with mortality rates of 5-10% reported.³ The closed environment of LTCFs and limited mobility of clients facilitates transmission of influenza. In addition, influenza may be difficult to detect in the LTCF population due to atypical presentation, with minimal fever and respiratory symptoms. A combination of interventions is required to prevent an outbreak of influenza at a LTCF. These include vaccination of clients and health care workers (HCWs), regular staff education on influenza detection and control, and a designated flu lead to co-ordinate an influenza prevention programme.⁴ A recently developed checklist for LTCFs aids in planning influenza prevention and control programmes for individual LTCFs. There are 166 LTCFs for the elderly in the Health Service Executive (HSE) East area.

Approximately 15% of these are HSE LTCFs; the remainder are privately or voluntary sector run. In 2012/2013 season there were 23 outbreaks of influenza-like illness (ILI) in these LTCFs notified to Public Health, with 242 people notified as ill. In 2013/2014 the HSE leadership team prioritised HCW influenza vaccination in all health care facilities including LTCFs in response to poor vaccination rates of 15% nationally among HCWs for the 2012/2013 influenza season. The HSE leadership team set a target of 40% for HCW influenza vaccination coverage for the 2013/2014 season in all health care facilities and informed relevant stakeholders.⁵ The aim of our study was to assess the preparedness of LTCFs in the HSE East area at the start of the 2013/2014 influenza season for an influenza/ILI, outbreak and to identify how the Department of Public Health could support these facilities.

Methods

We identified all elderly LTCFs in the HSE East using a previously assembled and recently updated excel database. We designed a 39 item questionnaire on preparedness and planning for influenza/ILI outbreaks. The questionnaire was based on the HSE checklist document and used several questions from an earlier survey undertaken in HSE South-East; consequently it was not piloted. The questionnaire was posted to the Director of Nursing or general manager of all facilities and was returned by email or post. We sent a reminder email one month later, and followed up non-responders by telephone and email copy of the questionnaire. Data was manually entered and analysed in SPSS version 21. Descriptive analysis was carried out to describe preparedness of LTCFs for an influenza/ILI outbreak. Associations between variables were tested using chi-square distribution. Significance was set at 5% (p=0.05).

Results

Demographics

In total 97 out of 166 (58%) LTCFs responded; 83% of responders were non-HSE facilities. Ninety-nine percent of responders provided residential care facilities. Additionally, 37% provided respite services, 20% day centre facilities, and 11% provided other facilities such as palliative care. Most (89%) facilities reported over 50% of residents were aged 80 or older.

Influenza vaccination for clients

All (100%) responders recommended influenza vaccination to clients and staff. Vaccination rates of residential clients were uniformly high (range 75-100%). Common barriers to client vaccination were anxiety regarding the vaccine (49.5%) and consent issues (23.7%). Less common barriers included; low awareness of vaccine (5.2%), difficulty accessing vaccine (2.1%) and personal choice (2.1%).

Influenza vaccination for staff

In contrast, healthcare worker (HCWs) vaccination rates varied greatly (range 0-94%). Forty-three percent of responding LTCFs reported a HCW vaccination rate of e 40% (HSE target for 2013/2014). Significantly more non-HSE LTCFs had HCW vaccine uptake rates of e40%, when compared with HSE facilities (p=0.019) (Table 1). The administration of the vaccine by a general practitioner (GP) attached to the LTCF was significantly associated with HCW vaccine uptake rates of e 40% (p=0.035), compared with the administration of the vaccine at a HSE clinic or by the HCWs personal GP. Facilities providing day centre or respite care were significantly less likely to have HCW vaccine uptake of e40%, (p= 0.003). In HSE facilities, lack of access to influenza vaccine (25% of respondents) was a significant barrier to HCW vaccination when compared with non-HSE facilities (5.2%) (p= 0.01). The barriers to HCW vaccination most frequently identified by managers were â anxiety related to the vaccineâ (94%) and lack of awareness of the need to vaccinate to protect themselves and the residents (21%) (Figure 1). Leading anxieties were fear of adverse reaction and needle phobia.

Outbreak detection and management

Most (73%) LTCFs had an influenza outbreak plan specific to their facility. Those with a plan were significantly more likely to have HCW vaccination rates of e 40% (p=0.013). Ninety percent of LTCFs had a process to monitor for influenza-like illness (ILI) in clients, whereas 80% also had a process in place to monitor staff. Most LTCFs believed that they had timely access to viral swabs (81%), masks (93%), vaccine (94%) and antiviral medication (83%) in the event of an outbreak of influenza.

Preparedness for Outbreak

Eighty three percent of LTCFs reported that they were mostly or fully prepared for an outbreak of influenza/ILI; 94% were aware of the HSE Checklist document.⁴ The majority of facilities had an appointed influenza lead (80%) and a lead GP (78%). However, having an influenza lead (p=0.592) or a lead GP (p=0.289) did not have a significant effect on HCW

vaccine rates. Approximately 9% of LTCFs provided training and education in influenza preparedness for staff on commencement of employment, 34% provided it annually at the start of influenza season and almost 24% provided it at both of these times. Education was provided by the staff influenza lead or local infection control nurse in the majority of cases (84%).

Interaction with Public Health

Most (75%) LTCFs reported previous contact with Department of Public Health, while 23% had previous contact specifically with regard to an influenza/ILI outbreak. Eighty nine percent of responders reported that Public Health were helpful or very helpful. Suggestions on how Public Health could support LTCFsâ preparedness for an outbreak of Influenza/ILI included: provision of more education sessions and resources e.g. posters, leaflets, influenza information packs; advocacy for the use of medication protocols to facilitate administration of the vaccine by trained in-house staff, and dissemination of more information to increase public awareness of the seriousness of influenza illness.

Discussion

Preparedness and mitigation of influenza outbreaks within LTCFs requires high levels of vaccination of HCWs and residents, early recognition of illness and timely response. We found that 43% of LTCFs reached the HSE target of 40% HCW vaccine rate, with HSE-run facilities significantly more likely to be under target. Globally, immunisation rates of HCWs against influenza are low, despite it being a recommendation in most countries. Studies of HCWs in Germany and the UK found influenza immunisation rates of 18% and 34% respectively.^{7,8} Our findings of reported barriers for HCWs are consistent with other research.^{9,10} Vaccine related anxiety was an almost universally reported barrier to HCW vaccination in our study (94%). Anxiety can be diminished by improving understanding with further education. Many HCWs perceive themselves to be healthy and therefore either not at risk of influenza or able to successfully fight off the influenza virus. Similar to previous studies, we found that HCWs do not necessarily see that by having influenza vaccine themselves, they are protecting their vulnerable clients.^{9,10} Twenty-one percent of responses were in this category. Additional education and discussion would help HCWs understand their ethical responsibility to protect clients from influenza. Our study highlights the connection between lack of access to vaccine and below target vaccine uptake in HSEâ run facilities. Improved staff access should be facilitated through the delivery of the vaccine at place of work, preferably at unit level, as well as the provision of vaccination clinics outside of usual working hours. These measures have been shown to improve HCW vaccine rates.^{5,11,12} We found that the administration of the vaccine by GPs attached to the LTCF was associated with reaching the uptake target and this model could be considered by all LTCFs. The appointment of a designated âflu leadâ in each LTCF receiving education and training, supported by a medication protocol would facilitate on-site delivery of the vaccine to HCWs. In LTCFs with day/respite and residential services, clients are more vulnerable to the introduction of circulating community influenza strains. A significantly lower level of staff vaccine uptake was identified and this should be a target in future campaigns.

Irish guidelines recommend that residents of LTCFs should receive seasonal influenza vaccine,¹³ with a World Health Assembly target of 75% vaccination rate for this group.¹⁴ While all responders achieved this target, barriers were identified, namely; personal anxiety about the vaccine (52%) and consent issues (25%). For clients unable to give consent, this should be sought from next-of-kin at time of admission to the LTCF. Most LTCFs reported a majority of clients aged 80 or older. Previous studies inform us that in this age-group vaccine effectiveness has been estimated at 30-40%.¹⁵ Even at low effectiveness levels, while not sufficiently protecting elderly residents from influenza, vaccination of residents does protect against hospitalisation and death.¹⁵ Vaccination of staff has been shown to reduce mortality and ILI amongst LTCF residents.¹⁶ Responders had a high awareness of the HSE checklist and those facilities with a written outbreak plan were significantly more likely to reach the HSE HCW vaccine target. Although LTCFs reported easy access to viral swabs, masks, vaccine and anti-virals, an anti-viral supply problem occurred in Ireland this season and it was clear that most LTCFs were relying on the national commercial supply chain. Securing this supply would permit timely response to outbreaks. LTCFs felt that increased public awareness of the seriousness of influenza was warranted; LTCFs repeatedly requested facilitated educational sessions to inform staff about influenza outbreaks and preparedness. While guidance material has been made available to LTCFs, assistance from Public Health departments in meeting with senior staff and providing education sessions to HCWs can be a valuable support.

A strength in our study was that we received responses from both private and HSE-run LTCFs allowing us to identify problems that may be related to a specific type of LTCF. Responses were received from LTCFs of all sizes which gave us an overview of the preparedness across the sector. The response rate of 58%, although suboptimal, was anticipated. It is possible that non-responders may be less prepared than those who responded. However, the ratio of HSE/non-HSE responses reflects the regional situation. The majority of LTCF managers reported a high level of preparedness for an influenza outbreak in the areas of outbreak policies, illness monitoring protocols and influenza leads. However, the low rate of HCW influenza vaccination coverage identified is a major obstacle to optimal preparedness for influenza outbreaks. It is clear that more must be done to increase vaccine uptake rates. The good working relationship identified between Public Health and the LTCFs for the elderly should be capitalised on to develop specific campaigns to increase HCW vaccination rates. Innovative ways to increase access to the vaccine and educational programmes targeting flu myths should be key elements of any targeted campaign.

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Acknowledgements

The long-term care facilities that participated in our study; the assistance of B Clarke and S Dooner, Dept. of Public Health, HSE East; E McGovern, Dept. of Public Health, HSE South-East for sharing her questionnaire, some questions of which we used for our study.

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