Project based approach to increasing uptake of influenza vaccine in an underachieving GP practice

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Abstract

Influenza is a major cause of morbidity and mortality (DH, 2006; Watson et al 2001). In the United Kingdom (UK), the policy of encouraging influenza vaccine uptake in elderly people is a central tenet of managing winter pressures in the National Health Service (NHS) and preventing illness among older people in the community. A project based management approach was used to evaluate the organisational practice within a single-handed general practitioner (GP) practice during the 2005/06 Influenza Immunisation Programme. The project highlighted a number of problems such as a poorly structured programme, insufficient knowledge about the severity of influenza or the efficacy of the vaccine, and insufficient computer technology. A step-wise process and a number of evidence based interventions were implemented with the aim of increasing the uptake of influenza vaccine in the target population. The overall aim of the project was to show a measured increase in the number of older people, defined as 65 years and over, taking up influenza vaccine within one influenza campaign. An increase of 35.71% was achieved. The findings of this project have the potential to inform and enhance the design and implementation of the influenza programmes in other practices that are experiencing difficulties in achieving a good influenza immunisation uptake.

Introduction

Influenza causes an acute respiratory illness, which affects all age groups. Older people and those with chronic disease are most at risk of complications, including increased mortality (DH, 2006; Wiselka, 1994). Influenza immunisation is an effective intervention that reduces severity of disease, hospitalisation for pneumonia, and death, from both respiratory and all other causes among elderly people (Vooroud et al, 2004; Nicholson et al, 1999; Ahmed et al, 1995). The aim of the influenza vaccination programme worldwide and nationally is to reduce morbidity and mortality from influenza, although it is difficult to give an accurate picture of morbidity and mortality outcomes for influenza because many people with influenza do not access medical services, and/or laboratory testing is not always carried out. Influenza may also be under-reported in death certificates, death being attributed to exacerbation of existing chronic conditions. Nguyen-Van-Tam (1998) estimated that there are in excess of 12,000 deaths a year due to influenza in the UK.

The aim of vaccination is eradication, elimination or containment. Influenza cannot be eradicated or eliminated due to the virus’s ability to make a dramatic change (i.e. ‘shift’). Annual vaccination is the best means of prevention, reducing the risk of hospital admission and death. Evidence to support vaccination is provided among others by Plotkin and Orenstein, 2004 and Monto et al, 2001 whose studies showed that the protective efficacy of the vaccine is such that it significantly reduces morbidity and mortality.

The influenza programme in the UK differs in many aspects of scope, complexity and organisation when compared with other immunisation programmes. In the first instance unlike universal policies based on age, the influenza immunisation programme requires general practices and health services to identify and deliver the vaccine only to those patients for whom it is recommended. Secondly, the vaccine has to be administered every year to the same patients because it is reformulated annually to take account of the antigenic changes in the influenza virus strains that circulate each year. Thirdly, rapid assessments of vaccine uptake are required during the winter months, in order to target and promote additional uptake elsewhere (Joseph, 2004).

In May 2000, the Chief Medical Officer (CMO) recommended that all individuals of 65 years and over in the UK should be targeted for influenza vaccination, with a target to meet of 60% in the first year and 70% thereafter (Donaldson, 2000). In line with this recommendation, free vaccinations were provided and national campaigns were conducted to encourage this sector of the community to be vaccinated. The Department of Health (DH) set targets for GP practices to meet in recognition that influenza is an important health problem in the industrialised world and is associated with increased general practice consultation rates, hospital admissions and excess deaths (Fleming, 2000).

The current Influenza Programme (DH/PL/CMO/2007/3) offers selective vaccination to the target population, which comprises all those aged 65 years and over, and adults and children over 6 months of age in ‘high-risk’ groups. There is a new CMO letter every year detailing the recommendations and any changes to the programme. The DH in 2000 set a target of 70% vaccine uptake for people aged 65 years and over and meeting the target was a priority for primary care trusts (PCT) both from a public health aspect in improving quality of life and sense of wellbeing in individuals and because it was a key indicator under the Performance and Planning Framework, resulting in primary care trust ‘star ratings’ (Healthcare Commission, 2004) although these currently no longer exist.

Influenza vaccination uptake among target groups appears to be steadily increasing. Average uptake in previous campaigns has gradually increased: 67.4% in 2001/2, 68.5% in 2002/03 (HPA, 2003), 71.5% in 2004/05, 75.3% in 2005/06, and 73.9% in 2006/07 (Joint Committee on Vaccination and Immunisation, 2007). In spite of this there are still practices that are unable to increase their uptake of vaccine and the project focused on facilitating one such practice to identify what if anything is hindering the practice and whether anything can be done to improve the current uptake rates.

Background Information

The town of Stockport has one PCT and according to the 2001 census has a population of 284,528 people. In 2005 when the project was
undertaken the PCT had 55 GP practices. In the previous year the PCT had 52 practices of which 41 achieved an uptake of 70% or over. Three practices achieved an uptake of over 90% and a further eight practices of over 80%. Four practices were marginally under 70% uptake and one practice was significantly below at 56.53%, hence the reason the practice was identified for the project during the 2005/06 influenza immunisation programme.

Project aim
The project aim was to find if there were any reasons for the low uptake of vaccine in the practice, to facilitate the practice to improve performance and to implement evidence based interventions that have been proven to increase uptake of influenza vaccine. The overall aim was to show a measured increase in the vaccine uptake rate among those aged 65 years and over within a target period, i.e. one influenza campaign. It was thought to be unrealistic to achieve an uptake of 70% in one influenza campaign and with staff morale in mind a measured increase was considered a more realistic aim.

Methodology
The target population was identified as the staff of the practice and the patients aged 65 years and over. The objectives of the project were to gain knowledge and understanding of the current situation, to identify the reason(s) for the low uptake, to raise awareness of the morbidity and mortality of influenza and to help achieve best clinical practice for those who are most susceptible to influenza. Although the project concentrated mainly on those patients who are aged 65 years and over, consideration was given to those patients who were less than 65 years but who were eligible for the vaccine because of chronic health conditions. Attempts were made to assist the practice in increasing both sectors of patients but because of the difficulties encountered in ‘READ’ coding and chronic conditions this work is ongoing. A combined quantitative–qualitative questionnaire was used to evaluate the practice’s influenza service. A multi-choice questionnaire was used to evaluate staff knowledge on influenza and the vaccine.

Initial meeting
An initial meeting with the practice established that staff had a willingness to improve uptake but needed a project leader to assist the process. As a health protection nurse who is heavily involved in the organisation of the town’s influenza campaign I agreed to facilitate. A subsequent meeting took place with all staff to identify key stakeholders and the extent of their power and relationship to the project. The stakeholders could then be invited to any subsequent meetings and non-attendees kept abreast of the issues by sending them minutes of meetings. It was considered important to keep stakeholders informed so that if assistance was needed in the form of resources the stakeholder understood the importance of their response to the project.

As a result of the meetings the factors that contributed to the low uptake of influenza vaccine were a lack of structure to the programme, insufficient, out-of-date computers; and poor documentation of records with a reliance on paper records rather than electronic records – patients with chronic conditions were not ‘READ’ coded (NHS, 2000) leading to difficulties in identifying those who have ‘at risk’ conditions. Training needs for staff were identified, particularly the reception/clerical staff so that they understood the importance of the programme and were fully aware of the severity of influenza as a disease and the safety and efficacy of the vaccine. Information technology training to accurately input data and perform complex searches to identify all those eligible for the vaccine was also identified.

A project based approach and the implementation of an adapted influenza audit devised by a pharmaceutical company into a stepwise process has been used together with evidence based research interventions that have been shown to be useful as a trigger in increasing uptake of influenza vaccination.

Organisational structure
The introduction of the stepwise process gave organisational structure to the programme with a logical process of steps to be taken. This included identification of patients eligible for the vaccine, ordering sufficient vaccine with the aim of immunising 70% of those eligible, sending letters of invitation to attend the surgery, and identifying clinic times available. Staff members were asked to volunteer for designated tasks with a time frame for completion. These tasks were their responsibility, creating ownership of the project, which is important if it is to become embedded into mainstream care.

Training
Training was arranged for all staff and delivered by the project manager as a trainer for immunisation. A number of training sessions were undertaken by the project manager identified that interventions successful in raising the uptake of influenza vaccine included inviting patients by printing reminders on repeat prescriptions, offering walk in clinics, and personalised letters (Furey et al. 2001). Personalised letters were sent to all eligible patients together with an information leaflet because Burns et al (2005) found that this increased uptake. Patients who had never previously attended for influenza vaccine were sent a letter signed by the GP advising them that this was in their best interests as research by Honkanen, Keistinen and Kivela (1996) showed that information from a health professional is likely to occur. The number of people registered with the practice aged 65 years and over in 2004 was 513 compared with 435 in 2005. Some of this can be attributed to people moving from the practice or who have since died, but these ‘ghost’ patients meant that targets were unattainable as these people were no longer contactable.

Literature review
A literature review undertaken by the project manager identified that interventions successful in raising the uptake of influenza vaccine included inviting patients by printing reminders on repeat prescriptions, offering walk in clinics, and personalised letters (Furey et al. 2001). Personalised letters were sent to all eligible patients together with an information leaflet because Burns et al (2005) found that this increased uptake. Patients who had never previously attended for influenza vaccine were sent a letter signed by the GP advising them that this was in their best interests as research by Honkanen, Keistinen and Kivela (1996) showed that information from a health professional does encourage older people to have the vaccine. The biggest predictor of accepting the influenza vaccine was contact with a doctor or nurse (Robinson, 1999; Duclos and Hatcher, 1993) and so opportunistic vaccination was offered at review appointments, health checks and surgery visits. Clinics were arranged with pre-arranged appointments and ‘open’ walk-in clinics. Forbes et al (2002) found that older adults may consider themselves housebound for a number of reasons including physical disabilities, immobility, restricted transport availability and social issues such as crime. The alternative to clinics is to
take the vaccine to the person in the home as research by Dixon-Woods et al (2004) found a small (though still statistically significant) increase in the uptake associated with being offered the vaccine at home as part of a routine health check.

The genuine inability of some older people to attend vaccination clinics poses significant barriers to vaccination uptake rates and to mitigate this arrangement was made with the district nursing service for them to vaccinate any housebound person whom they were visiting and who wanted the vaccine. The practice produced a list of all housebound patients registered and all those who were residents of a residential care home, and following liaison with the district nurse team and the senior nurse manager arrangements were made for the team to vaccinate all those who were agreeable to having the vaccine.

Immunisation and vaccination training is offered on a yearly basis to staff in nursing homes so that they can vaccinate their residents. The practice nurse arranged a supply of vaccine to be delivered to the home and the staff administered the vaccine. The vaccine can only be administered with the consent of the patient or in an incapable patient’s best interests in which case it is the GP who makes the decision.

Patients living in their own home who did not attend in a month of receiving the invitation letter were contacted by phone and reminded of the need for the vaccine. Enquiries were made to see if transport was a problem in which case volunteer drivers from a voluntary scheme were made available and the person was offered an appointment.

Service evaluation
A questionnaire was devised and offered to all patients attending the practice for influenza vaccine in order to gain some insight into patient behaviour such as what had prompted them to attend for the vaccine this year, sources of information, how they would like informing about the vaccine and the preferred method of contact.

Consideration was given to the current threat of an avian influenza pandemic as this was featured prominently in the media and respondents were asked if the threat of avian influenza had influenced their decision to attend.

Results and discussion
The data obtained from the questionnaire were put onto an access database and analysed using access queries. Three hundred and thirty-six patients of 65 years or over had the vaccine; 220 of those attending completed the questionnaire; and 116 declined to complete (Figure 1).

The pie chart in Figure 2 shows where patients got their sources of information about the vaccine. The practice display was where most people got their information (41 male, 46 female) but this could only be seen if people had visited the surgery. This may be a confounding factor as the majority of people completing the questionnaire did so in the practice waiting room where the influenza display was a prominent feature and respondents stated an obvious source. Information printed on repeat prescriptions was the next highest source followed by information leaflets.

Although the numbers shown in the pie chart in Figure 3 are small (18), getting people to attend for the vaccine when they had previously not attended for more than five years but less than ten years is a significant achievement.

The pie chart in Figure 4 shows that 34 males and 10 females attended the surgery because of the invite letter received. Whether these patients would have attended without the invite letter is not known. Twenty-three males and 16 females aged less than 65 years attended because of an invite letter.

The bar chart in Figure 5 shows that similar numbers of people of both sexes and age groups had attended because of the influence or risk of avian influenza but these numbers were less than anticipated given the media interest at the time.

As can be seen from the chart in Figure 6 the preferred method of contact was by letter, followed by reminder on repeat prescriptions and at reviews. The least popular method was by phone call.

The answers to the questionnaire were entered onto an access database and analysed by access queries. The data were entered and analysed by the project manager.

Bias
It was only when entering the data that it was realised that the questionnaire had not been given to housebound patients receiving the vaccine or those in residential care. This was an omission but as these
The aim of the project was to show a measured increase in a low-vaccination rate. Conclusions

The project was successful in increasing the uptake of vaccine from 56.53% in 2004/05 to 77.20% in 2005/06, an overall increase of 30.67%.

The lessons learnt from the project were the importance of allowing sufficient time for the planning of the influenza campaign, having a structured approach to planning, efficient systems of recording, knowledgeable staff, teamwork within the different disciplines of staff, and the implementation of evidence-based intervention 'triggers' to invite patients to attend for vaccination. Knowledge of some of the barriers to and facilitators for vaccination can assist GP practices in achieving the DH vaccination target.

The ability to generalise the results achieved in the project is limited to some extent as the project took place in a town with a small single-handed GP practice where there is only a small ethnic minority population. The practice is easily accessible by public transport, has parking facilities and wheelchair access. Larger practices and those in rural settings may identify different reasons for low uptake such as difficulties in travelling to the surgery due to distance or limited transport available. Practices with large ethnic populations may find that religious festivals or pilgrimages coincide with the timing of the influenza programme.

In this project, the ethnicity of patients accepting the vaccine is not known and it would be useful to conduct some further study into whether there are any barriers or cultural differences that prevent those people from ethnic minorities in the community accepting the vaccine.

However, the project did identify some issues about organisation and planning that other practices could benefit from, for example, practice organisation around patient identification and invitation was related to uptake. Use of READ codes, identification of 'at risk' patients via disease registers and prescribing, early planning, invitation letters, reminders on repeat prescriptions/patient reviews and dedicated clinics were all identified as good organisational practice and related to improvements in vaccine uptake.

Finally, consideration should be given as to how many housebound patients the practice has and what the barriers are that are making it difficult for them to attend for vaccination. It may be that additional resources, such as the district nurse service and the practice nurse doing health checks at home visits, combined with giving the vaccine, are required to encourage uptake in this vulnerable sector of patients.

References


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