# Elderly people's beliefs about influenza vaccination

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*SUMMARY*

***Background.*** *Influenza is an important cause of death in the elderly. The uptake of influenza vaccination, despite its effectiveness, is low.*

***Aim.*** *To examine beliefs about influenza vaccination in elderly patients at risk from influenza.*

***Method.*** *A qualitative study using semi-structured interviews with 50 patients aged over 75 years at risk from influenza, equally divided between vaccinated and non-vaccinated groups.*

***Results.*** *Although they acknowledged their medical diseases, the patients regarded themselves as healthy in the sense of being independent and active. Few in either the vaccinated or non-vaccinated groups believed themselves at risk of dying from influenza even though they recognized it could be fatal for particular groups of people. Decisions to have the vaccination were based on other considerations, including whether it was thought likely to reduce (or increase) the number and severity of colds and influenza-like illnesses. Although the group with negative views towards vaccination placed more emphasis on the 'side-effects' from the vaccination (including colds and influenza), this was also common in the group who were more positive towards vaccination; however, the side-effects were interpreted in different ways.*

***Conclusion.*** *Recommendations to vaccinate according to individual risk status are not in keeping with lay beliefs. The policy to include all people aged 75 years and older as a group requiring influenza vaccination is supported by this study. The evidence that vaccination reduces morbidity from influenza and does not cause colds and influenza needs stressing.*

*Keywords: patient beliefs; elderly; influenza; immunization.*

## Introduction

INFLUENZA is an important cause of death in the elderly. There were an estimated 12 000 deaths per year in England and Wales between 1968 and 1977,[1] which rose to 26 080 deaths during the severe epidemic of 1989.[2] Of these deaths, 80–90% occurred in the elderly.[3] Influenza vaccination is currently recommended for: all patients aged 75 years and older; residents of nursing homes; patients with chronic respiratory, cardiac, renal, and endocrine disease; and those with immunosuppression.[4] There is good evidence that influenza vaccination is effective and reduces mortality by 60–75% in at-risk groups.[5,6] Vaccination also reduces morbidity from influenza,[7,8] and may be cost-effective.[9] However, only 20–40% of at-risk populations in Britain are vaccinated;[3,10] therefore, understanding the reasons why the elderly are vaccinated or not is particularly important in developing appropriate strategies to increase uptake.

Several studies have compared vaccinated and non-vaccinated patients using elements from the Health Belief Model.[11] These have identified health service 'triggers' (reminders from doctors) as a factor in increasing uptake,[12] but they also encourage dependency on a subsequent reminder.[13] Patients' beliefs in their susceptibility to influenza has been identified as an influence on uptake, as is a belief that vaccination 'works'.[14] Conversely, poor uptake is more likely in those stressing the 'costs' of vaccination: whether it was difficulty in attending a medical centre,[15] or worries about side-effects.[14-16]

Although contributing to our knowledge, these studies are based on selected variables thought important by the researchers, and may overlook other beliefs and attitudes of significance for lay people. It is also plausible that there are differences in lay and medical meanings of variables and that lay explanations are more complex than suggested by the Health Belief Model. For example, it has been shown that lay views of the causes of disease are complex and rational in their own terms although often differing from medical explanations.[17] Similarly, lay conceptions of health include not only the absence of disease but also refer to notions of functioning, the ability to maintain and develop relationships, and maintaining and increasing reserves of strength and energy.[18-21] A more complete understanding of people's uptake or non-uptake of vaccination therefore requires the elicitation of lay meanings and explanations of their behaviours. A complementary approach using qualitative methods was therefore used to explore the beliefs held by elderly people about influenza vaccination, basing the study on views about health and health maintenance.

## Method

Qualitative methods were used, with data collected through semi-structured interviews conducted in patients' homes.

### *Responders*

Fifty patients aged 75 years and over, and who were defined as being at risk of influenza, were interviewed. This group was divided equally between patients who had been vaccinated for influenza in the previous year and patients who had not been vaccinated in the previous year (though they may have been vaccinated in other years). Patients aged 75 years and over were chosen because they were likely to be at greater risk from influenza than the 'young' elderly, and the advantages of vaccination may therefore be greater. The responders were selected from three practices in the centre of Middlesbrough. These practices serve fairly deprived areas, but all extend into more middle-class suburban areas. Ten vaccinated and 10 non-vaccinated responders were recruited from the first two practices, and five vaccinated and five non-vaccinated responders were recruited from the third practice. Responders were selected using random numbers from computer-generated lists of the vaccinated and non-vaccinated patients in each practice.

The medical records were read to determine whether each patient qualified for vaccination — qualification being evidence

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**Table 1.** Characteristics of patients by vaccination status.

| | Responders | | Non-responders | |
|---|---|---|---|---|
| | Vaccinated (n = 25) | Non-vaccinated (n = 25) | Vaccinated (n = 4) | Non-vaccinated (n = 11) |
| Female | 17 (68%) | 18 (72%) | 3 (75%) | 7 (64%) |
| Mean age (years) | 82 | 81 | 84 | 81 |

of chronic respiratory disease, heart disease, renal failure, endocrine disease, or immunosuppresion from disease or treatment. Patients noted from the records as having dementia, or who appeared to have hearing difficulties, or who had speech problems that would make interviewing difficult, were excluded. The general practitioners (GPs) confirmed that patients were suitable to be interviewed and also excluded those known by them to have dementia or to have communication problems. Potential responders from both groups were sent a letter signed by one GP explaining the study and were then contacted by telephone, if possible, or by letter. Those agreeing to participate in the study were interviewed. Further responders were identified in the same way from the computer-generated lists using random numbers until the required totals had been interviewed. We intended interviews to take place outside the time period for vaccination and influenza epidemics, in case an unusually severe influenza epidemic biased the results in some way. They were therefore conducted between April and July 1996.

### *Interviews*

Interviews were based on a schedule of open questions that was developed from previous literature[14-21] and through focused interviews with four elderly people (two vaccinated and two non-vaccinated) from a non-study practice. The final interview guide covered what health meant to the patients, their perceptions of their own health, ideas about how to keep healthy, and ideas about the benefits or otherwise of influenza vaccinations. The interviews were carried out by the senior author (CC), a GP from a different practice. Interviews lasted between three-quarters of an hour and one-and-a-half-hours and were tape recorded and fully transcribed.

### *Analysis*

Data were analysed using the computer software package QSR NUD*IST. Analysis was based on a constant comparative approach[22] that involved initial categorizing of ideas, building the ideas into main themes, and then reassigning ideas to more appropriate categories as a result of further analysis of the data.

Approval was given by the local ethical committee.

## Results

### *Characteristics of the study group*

There were 1602 patients aged over 75 years on the lists of the practices, of whom 643 (40%) had received a vaccination the previous year. From the vaccinated group, 78 patients were chosen at random. There were indications from the medical records to vaccinate 48 patients. Eleven of these patients were excluded because of dementia, two because of speech problems, and one because of deafness. Carers excluded two people thought too unwell to participate. Of the remaining 32, four refused to take part or did not respond to the invitation letter, 25 were interviewed, and three were not asked to participate as the required number had been interviewed. The response rate was therefore 25 out of a possible 29 (86%).

From the non-vaccinated group, 78 patients were chosen at random. There were indications to vaccinate 47 patients; however, eight patients were excluded because of dementia, one because of deafness, one had died, and the wife of another was seriously ill. From the remainder, 25 agreed to participate: a response rate of 69%. Of the 25, 10 had never received a vaccination.

Most subjects lived in their own homes, three lived in sheltered accommodation, and one lived in a nursing home.

The vaccination status of the previous year did not always reflect current attitudes towards vaccination; for instance, non-vaccinated patients had occasionally missed the vaccination the previous year, and a few vaccinated patients had decided they would not be vaccinated the following year. The accounts were therefore analysed according to whether the patients currently held positive or negative views about influenza vaccination.

### *Influenza: serious for others, but not oneself*

The subjects were asked whether they regarded influenza as serious. A few from both groups felt it was never dangerous for anyone but was merely an inconvenience. Others thought it serious only if neglected; for instance, by not keeping oneself warm, or not consulting a doctor early enough. However most (40/50) felt

> ‘I don’t rate it as a serious ailment somehow ... if you’ve got really run down it could develop probably into pneumonia or something like that you see, but if you’re good and healthy it shouldn’t really worry you, you should shake it off especially if you’re younger, these things they just shake them off and that’s it ... to me, ‘flu is just a minor thing, well it was for me, as you get older of course it could be more serious.’

**Box 1.** Influenza serious for others, but not oneself.

> Independence
> ‘I like to keep my independence as long as I’m able. I mean, I do my garden, I do my housework and all that myself so that to me is my job, it keeps me healthy.’
>
> Active engagement
> ‘I do three-and-a-half hours in the centre, three days a week ... you see I’m among people and you’re talking and you know, where if I wasn’t going there I wouldn’t have enough here to keep me occupied and I’d most likely go low.’
>
> Positive comparisons
> ‘Otherwise I should be thankful and count my blessings I suppose because there’s many a one worse isn’t there?’

**Box 2.** Views about health.

> ‘Well I don’t get as many colds, well I don’t get hardly any and when they do come they’re only on for a day or two.’
>
> ‘Now I had a ’flu injection the year before last and I said right I’m not having any more, because I got a couple of colds.’

**Box 3.** The vaccination reducing or causing colds and influenza.

influenza could be serious for people in special categories, such as the old, the very young, the frail, those who did not look after themselves properly, those with bad hearts or bad chests, and those who were run down and whose resistance was therefore low. Only a few (5/50) thought it might be dangerous for themselves, even though the responders had been selected to ensure they had medical conditions that made influenza potentially life-threatening and for which the vaccination would reduce the risk.

### *Views about health*

When asked what health is and how it can be maintained, the patients regarded independence and 'active engagement' as important. Most subjects (47/50) regarded themselves as healthy in these terms, even though they acknowledged the presence of medical conditions that were separate from this healthy 'self'.

Independence (41/50), shown by the ability to do activities such as housework, gardening, and shopping, was important as a sign of health, a way of preventing becoming a burden on others (usually family), and a means of keeping healthy. Active engagement (44/50) was both a sign of health and a means of maintaining it, either through physical activity, or by keeping one's mind active. Active involvement with other things and other people (including family) included hobbies, interests, and social activities such as dancing.

Viewed objectively, many of the patients were less independent and less able to actively engage with others compared with their younger selves. However, provided they felt independent and able to actively engage with others in aspects that mattered, they still regarded themselves as being, at core, 'healthy'. Positive comparisons (comparing themselves with others considered less healthy) helped maintain this 'illusion' for many (29/50).

In keeping with this positive view of themselves as being healthy, few in either group believed themselves personally at risk from the serious complications of influenza, and the vaccination was therefore not usually taken to reduce that risk in either group.

### *Vaccination causing or reducing colds and influenza*

Patients were asked what they considered to be the benefits and disadvantages of the vaccination. The group with positive views towards vaccination believed the frequency or severity of colds was reduced. In contrast, the group with negative views about vaccination stressed 'side-effects' following vaccination, either experienced personally in previous years or in others known to them. 'Side-effects' from the vaccination included painful arms, feeling generally unwell, having severe influenza, or having more frequent colds after the injection. The time period after the injection during which side-effects could occur was long — in the case of frequent colds, several months was implied.

Although over half of the group with positive views about vaccination had also experienced side-effects, they interpreted them in different ways. Some had experienced side-effects following vaccination in a particular year, but this was counterbalanced by experiencing no side-effects in other years. Some thought the side-effects were a possible coincidence and were willing to suspend judgement and continue with the vaccinations. Others were happy to continue after taking professional advice. Some thought there were different strains of vaccine with good and bad years for side-effects.

## Discussion

The elderly do not think of themselves as being old.[23] Similarly, the responders did not think of themselves as being unhealthy. They acknowledged their medical disorders, but these were separate from the image they had of themselves as being independent and able to be actively involved with surrounding social life. This may explain why the patients did not feel personally vulnerable to the serious life-threatening effects of influenza and why vaccination was not taken to reduce this risk. Other work supports the finding that medical and lay views about 'vulnerability' differ.[24] Many responders in the study compared their health status more positively with others than would seem justified, and likewise, other work shows that even people with serious disease compare themselves positively with others.[25]

There was no evidence that barriers, such as difficulties getting to the surgery or problems obtaining the vaccine, prevented uptake of vaccination although occasionally responders had to wait until the vaccine was available. Decisions to take the vaccination or not were therefore usually based on other considerations. A few non-vaccinated patients felt they never had colds or influenza and therefore vaccination was irrelevant for them personally. However, decisions to take the vaccination were more usually based on beliefs about whether it would prevent morbidity from colds or influenza or, conversely, whether it would cause morbidity from colds and influenza.

However, these beliefs do not fully explain vaccination uptake, as this depends on the interpretation and evaluation of beliefs, which is influenced by the patients' biographies and experiences (including the experiences of people known to them). A simple assessment of beliefs did not therefore necessarily predict actions. Although side-effects were more likely to be stressed in non-vaccinated responders in this study than in other studies,[14-16] there was a difference in how they were interpreted. Many vaccinated subjects also experienced side-effects and knew of others who had suffered them, but they were apparently willing to tolerate them, believing there were different strains of vaccine with more or fewer side-effects with good or bad years, and were willing to obtain professional advice about the desirability of repeating a vaccination.

The subjects were all over 75 years old and all had been selected to ensure they were medically at serious risk from influenza. Since they did not feel personally at danger from influenza, it would appear extremely unlikely that either younger patients or those with less serious diseases would regard influenza as being more dangerous to them personally. Although the interviewer was a GP, the subjects' views about health and their health status do not correspond to conventional medical ideas and are very unlikely to have been influenced by the background of the interviewer.

One major implication of this study is that attempts to increase vaccination uptake by appealing to an individual's 'at-risk' status are misplaced. The new recommendations[4] to include all patients aged 75 years and over in vaccination programmes regardless of

**Keypoints**

- Most patients do not perceive themselves at severe risk of influenza (even though they are at medical risk).
- Health, as well as the absence of medical diseases, represents the ability to be independent and actively engage with things and other people. Defined in these terms, most patients regarded themselves as healthy.
- The decision to take up vaccination was based mainly on whether it was understood to prevent or cause morbidity from colds/influenza, although patients positive towards vaccination also interpreted 'side-effects' differently.
- Strategies to include all patients over a certain age rather than stress individual 'at-risk' status may be more successful in increasing uptake.

individual risk status are therefore in keeping with lay beliefs. Similarly, a more fruitful strategy may be to invite all people over the age of 65 years, regardless of their 'at-risk' category, in keeping with current suggestions.[26,27] This would also simplify call and recall systems, although such an approach would have resource implications for primary care teams and the National Health Service (NHS). In addition, a more productive approach in terms of information and doctor–patient communication might be to stress the benefit of vaccination on influenza symptoms[7,8] and the good evidence that vaccination does not cause colds and influenza.[28,29]

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