Influenza immunisation uptake in ‘sentinel’ carers

Key Findings

1. A significant proportion of unpaid carers are not aware that they are eligible for free influenza immunisation from their general practice.

2. Carers not in another Welsh Assembly Government target group for influenza immunisation, that is: those younger than 65 years without a diagnosed chronic disease, are least likely to be offered immunisation and least likely to be immunised.

3. Identifying people in this group and offering them immunisation provides the greatest opportunity to increase uptake amongst carers.

4. Young carers, that is: those younger than 18 years, appear to be a group currently neglected.

Introduction
Immunisation is the main way of protecting vulnerable people from influenza and minimising its spread. In Wales, as in other countries in the United Kingdom, immunisation is offered free to all those aged sixty-five years and over, those in long-stay residential care and those under sixty-five who have a chronic illness that might put them at risk of serious illness or death from influenza and its complications. This latter group includes those known by their general practitioner to have: chronic heart disease, chronic respiratory disease, chronic renal disease, diabetes mellitus, immunosuppression due to disease or treatment, or chronic liver disease. In 2005
the Welsh Assembly Government added ‘carers’ to the list of target groups that should be offered seasonal influenza immunisation by their doctor. For this purpose, carers were defined as: “those who are the main carer for an elderly or disabled person whose welfare may be at risk if the carer falls ill.” This policy of opportunistic immunisation of carers based on the individual circumstances of the carer and cared for person is supported by GPC Wales.

We surveyed the uptake of ‘flu immunisation in a sample of carers recruited from the community. As there is no register of carers in Wales, and carer status is poorly recorded on general practice clinical management systems, National Public Health Service worked with the national charity Crossroads Caring for Carers, to identify a sample of carers. It is likely that carers receiving support from Crossroads Caring for Carers represent those most in need of influenza immunisation; those within a social setting where the cared-for person’s welfare would be severely compromised should the carer become ill with influenza. These people may not be representative of carers in Wales as a whole but may be regarded as ‘sentinel’ carers, a particularly vulnerable group in which interventions to improve uptake could be monitored.

Methods
A postal questionnaire survey of people registered for care assistance with one of five local Crossroads Caring for Carers schemes, which between them cover six Local Health Board areas in Wales, was carried out. A paper self-completed questionnaire was mailed by the local Crossroads scheme to all carers registered for care assistance with that branch in June 2006, together with a covering letter and a prepaid return envelope. Questions included: whether the carer is in one or more Welsh Assembly Government target group for influenza immunization, awareness of influenza immunisation immunisation policy, and immunisation history. The questionnaires were collated by the local Crossroads scheme and forwarded to NPHS for analysis.

Percentage immunisation uptake was calculated and variation in the levels of awareness and levels of uptake in subgroups of carers was quantified. Risk ratios were calculated to assess the association between receiving an offer of immunisation and being immunised using Stata 9.

In order to improve response all completed questionnaires were entered into a prize draw. Ethical approval was not required for this study.

Results
Of the 762 people registered for care assistance with one of five local Crossroads Caring for Carers schemes in June 2006, 386 returned a completed questionnaire (51%).
Seventy three percent of carers who responded to the survey were female. Male and female carers were most frequently in the 45 to 64 years age band (Figure 1). Eight percent of the sample was under 18 years. Only two percent of those responding were from a non-white ethnic group.

Over half of respondents (58%) reported not knowing that influenza immunisation was offered free to carers during winter 2005/2006. Of those that were aware that they were eligible for immunisation, most had been made aware through their own general practice, although smaller numbers (n<20) reported being made aware through carers organisations, by word of mouth from friends and relatives or from television, radio or the internet.

Forty-eight percent of the carers in this sample reported having been specifically offered immunisation against influenza by their GP that winter, although this may have been for reasons other than their carer status. There was a marked variation in the offer rate by age group (Figure 2), with the rate less than 10% in carers aged under 18 years, under 30% in 18-64 year olds, 78% in 65 to 74 year olds and 94% in those 75 years and over (Table 1). Participants were asked to provide details of how they were offered immunisation. Methods of being offered immunisation included: through direct mailing of patients, telephone calls from the practice, opportunistic verbal offers from doctors, district nurses or receptionists during a visit to the practice or by doctors or district nurses during a home visit. Pamphlets and posters at the practice and notices on prescriptions were also reported as methods of receiving an offer for immunisation. Some carers (<10) reported receiving an offer during a visit to a chronic disease clinic at the practice (eg. Asthma or diabetes clinic). A small number of respondents (<20) specifically reported receiving an offer of influenza immunisation because of their carer status.

Forty-six percent of the sample reported having been immunised against influenza by their GP that winter. Uptake varied by age, with uptake above 80% in those 65 years and over but below 30% in younger age groups (Figure 3). None of the 31 carers in the survey who were under 18 years old reported receiving influenza immunisation (Table 1).

For carers aged 65 years and over who did not receive influenza immunisation, immunisation was most frequently not accepted because of concerns about side-effects (real or perceived) following a previous influenza vaccination, usually reported as an episode of flu-like symptoms following immunisation. Four carers aged 65 years and over reported being denied immunisation because of lack of supply at the practice. Carers aged under 65 years who did not receive influenza immunisation generally reported lack of awareness of eligibility as the main reason for not having the immunisation. A smaller number reported lack of time to attend for immunisation, perceived or real side effects or supply problems as reasons.

Perhaps not surprisingly, carers who were offered immunisation were more likely to report being immunised (risk ratio: 6.5, 95% confidence intervals: 4.5-9.5). This association was most marked for carers under 65 years old (risk ratio: 8.3, 95% CI:
4.9-14.1 for carers younger than 65 years compared to risk ratio: 1.7, 95%CI 1.1-2.6 for carers 65 years or over). (Figure 4).

Twenty four of the 233 carers aged under 65 years (10%) reported having a chronic disease that would entitle them to free influenza immunisation irrespective of their carer status. This was most frequently chronic respiratory disease (62%), although diabetes mellitus, chronic heart disease and immunosuppression were also reported. This group was more likely to get offered an immunisation and were more likely to be immunised. Half (12/24) of the carers aged under 65 years with a chronic disease reported having been immunised compared to 21% (43/209) of those not in a chronic disease group (p=0.001).

Discussion
Since 2003 NPHS has been responsible for monitoring uptake of influenza immunisation in Wales. For people 65 years and over and for people under 65 years in a chronic disease group uptake is measured in Wales using data held on practice clinical management systems. However, information on whether a registered patient is a carer is not routinely collected within general practice clinical systems and as a consequence no information is currently available on flu immunisation uptake in carers. The 'sentinel' carer approach taken in this survey may be one way of assessing influenza immunisation uptake in carers, and in monitoring the effects of interventions to improve uptake.

Response was disappointing with only just over half of those surveyed responding. Despite this it does appear that respondents were broadly similar in character to the carer population in Wales as identified by the Office of National Statistics. According to the Office of National Statistics, in 2001 almost 340,000 people, around 13 per cent of the household population in Wales, provided unpaid care for family members, friends or neighbours. People aged between 45 and 59 were the group most likely to be providing unpaid care and more than one in five (23 per cent) of this age group were doing so. There were almost 7,000 children (2 per cent) aged 5 to 15 in Wales providing care. More women than men provided care (14 per cent compared with 11 per cent). However, among those aged over 75, men were almost twice as likely as women to provide care. Nearly a third of those providing unpaid care in Wales (29 per cent) reported having a disability themselves. This figure increased with age, as for the general population. Over half of carers aged 65 and over had a disability. The Unitary Authority areas which had the highest rates of caring were those with the highest age standardised rates of disability and health rated as 'not good'.

The Welsh Assembly Government's policy of opportunistic immunisation of carers does not currently appear to provide high levels of coverage in carers under 65 years of age, although uptake is similar to that in clinical risk groups under 65 years of age. Several factors may account for this. These data are for the first year the policy has been in operation. Given that a patient's carer status may not be known by their general practice and, if it is, is not generally recorded on their practice's clinical
management system, it is perhaps not surprising that practices find it difficult to offer influenza immunisation to carers. Carers not in another Welsh Assembly Government target group for influenza immunisation, particularly younger carers are therefore not aware of the benefits of immunisation and are currently unlikely to be immunised. Influenza vaccine supply problems this winter 2006-7 has led to a policy in Wales where immunisation of carers is given lower priority than other target groups.\footnote{5,6} It is therefore unlikely that uptake in carers will improve significantly this winter, indeed it may reduce. Should supply of vaccine improve in future winters, consideration should be given as to how best to promote and deliver influenza immunisation to carers. If there is good evidence that immunisation of carers is a cost effective way of reducing the burden of influenza on the population of Wales, and on the NHS in Wales, more systematic targeting by GPs, of this large but generally neglected population group should be considered.

References

2. \url{http://www.crossroads.org.uk/}
6. CMO (2006) 05: \url{Supplies of seasonal influenza vaccine}

Table 1. Influenza immunisation uptake in people registered with five local Crossroads Caring for Carers schemes in June 2006 for care assistance, by age\(^1\) and self-reported clinical risk group\(^2\)

<table>
<thead>
<tr>
<th>Age group</th>
<th>n</th>
<th>% offered influenza immunisation by their GP</th>
<th>% immunised</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carers aged under 65 years also in a clinical risk group(^2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 18 years</td>
<td>3</td>
<td>67</td>
<td>0</td>
</tr>
<tr>
<td>18-44 years</td>
<td>2</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>45-64 years</td>
<td>19</td>
<td>53</td>
<td>58</td>
</tr>
<tr>
<td>Carers aged under 65 years not in a clinical risk group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 18 years</td>
<td>28</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>18-44 years</td>
<td>43</td>
<td>21</td>
<td>23</td>
</tr>
<tr>
<td>45-64 years</td>
<td>138</td>
<td>27</td>
<td>24</td>
</tr>
<tr>
<td>Carers aged 65 years and over</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-74 years</td>
<td>76</td>
<td>78</td>
<td>80</td>
</tr>
<tr>
<td>75 years and over</td>
<td>69</td>
<td>94</td>
<td>87</td>
</tr>
<tr>
<td>All carers in sample(^1)</td>
<td>386</td>
<td>48</td>
<td>46</td>
</tr>
</tbody>
</table>

\(^1\) Age was not known for 8 carers
\(^2\) Those under sixty-five years who are known by their general practitioner to have: chronic heart disease, chronic respiratory disease, chronic renal disease, diabetes mellitus, immunosuppression due to disease or treatment, or chronic liver disease
Figure 1. Age and sex distribution of carers participating in the survey

Figure 2. Proportion of carers reporting being offered influenza immunization by age group
Figure 3. Proportion of carers reporting receiving influenza immunisation by age group

![Proportion of carers reporting receiving influenza immunisation by age group](image)

Target for over 64 yrs

% uptake

Figure 4. Effect of offering carers influenza immunisation on whether they receive immunisation for carers under and over 65 years old. A risk ratio greater than one represents a positive effect; the greater the value of the risk ratio, the bigger the effect.

![Effect of offering carers influenza immunisation on whether they receive immunisation for carers under and over 65 years old](image)