PneuVUE®

Adult **Pneu**monia **V**accination **U**nderstanding in **E**urope

65 years and over

Adult pneumonia vaccination understanding in Europe:

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Contents

Introduction

It is expected that every year across Europe alone, there are around three million cases of community-acquired pneumonia, for which approximately one million people are hospitalised.[1‡] Community-acquired pneumonia is also one of Europe's most frequent causes of death due to infection.[1]

There are many forms of pneumonia which can be caused by bacteria, viruses and, more rarely, fungi.[2] When a causative agent is identified, most cases result from the bacterium *Streptococcus pneumoniae*.[3] Despite some forms of pneumonia being potentially preventable through vaccination, surveys suggest that **only between 20 - 30% of adults aged 65 years and over**,[4] an at-risk population for pneumonia[5] in Europe, **are currently vaccinated**.

In 2016, the results of the PneuVUE® (Adult Pneumonia* Vaccination† Understanding in Europe) survey,[6] one of the largest pneumonia* awareness consumer surveys ever conducted in Europe, was launched worldwide. The survey results were used to develop a report which called for the urgent prioritisation of pneumococcal vaccination across the continent among governments, public health bodies, healthcare professionals, older adults and other at-risk populations.[6]

* All references to pneumonia are to all-cause pneumonia, not pneumococcal pneumonia specifically. Only a proportion of pneumonia cases are caused by Streptococcus pneumoniae

† The PneuVUE® survey questioned respondents regarding pneumonia as a whole. Pneumococcal vaccination can only protect against pneumonia caused by the pneumococcal serotypes contained in the vaccine

‡ The number of cases refers to calculation of expected annual total based on reported incidence of community-acquired pneumonia (CAP) between range of 1.7–11.6 per 1000 people per year in persons aged 15 years and over in the European Union in 2012

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Pfizer Vaccines

Ipsos MORI

Survey methodology

Questionnaire design

Between November 2015 and February 2016, Ipsos MORI's healthcare team carried out market research‡ on behalf of Pfizer International Operations** to explore perceptions of pneumonia* and pneumonia* prevention amongst adults aged 50 years and over in nine European countries.§

Interviews were conducted in the local language. Translations were carried out by a professional medical market research translation agency and approved by Pfizer local country offices.

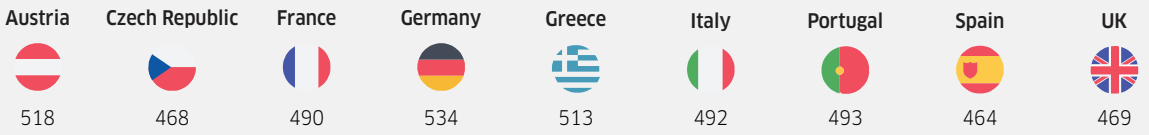
Interviewing

The survey lasted 20 minutes and was conducted by telephone. All fieldwork was conducted by Kudos Research on behalf of Ipsos MORI. Screening was limited to the above quotas and focused on people aged 50 years and over. Interviews were carried out between 23rd November 2015 and 15th February 2016. Participants were not paid for taking part in the survey. Additional considerations and survey limitations are detailed at the end of this report.

Sample

The research focused on the general population aged 50 years and over in each of the nine countries. Quotas†† were imposed to ensure national representation based on region, age, gender, and employment status. Information was collected on health conditions, as well as age, and this was used to define pneumonia risk status. No quotas were applied for medical conditions or health status. Corrective weights were applied to bring the sample in line with the population profile per country and population size in each of the nine countries. The sample size for the respondents aged 65 years and over can be seen in Figure 1.

Figure 1: Sample size for respondents aged 65 years and over



This report looks specifically at respondents of the PneuVUE® survey aged 65 years and over (4,441 respondents), as a group at increased risk of pneumonia.*[5] Their awareness of, and attitudes towards, pneumonia* and pneumonia vaccination† are considered within the context of the ageing population and the changing face of this age-group, relative to attitudes and behaviour around health, lifestyle and work.

* All references to pneumonia are to all-cause pneumonia, not pneumococcal pneumonia specifically. Only a proportion of pneumonia cases are caused by Streptococcus pneumoniae

† The PneuVUE® survey questioned respondents regarding pneumonia as a whole. Pneumococcal vaccination can only protect against pneumonia caused by the pneumococcal serotypes contained in the vaccine

‡ The PneuVUE® survey was a market research not a clinical research initiative

§ Austria, Czech Republic, France, Germany, Greece, Italy, Portugal, Spain, UK

†† Quotas are based on 2011 Eurostat census data

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The importance of healthy ageing

In 2010, an estimated 524 million people worldwide were aged 65 years or older.[7] By 2050, this number is expected to nearly triple to approximately 1.5 billion – representing over one in 10 people worldwide.[7]

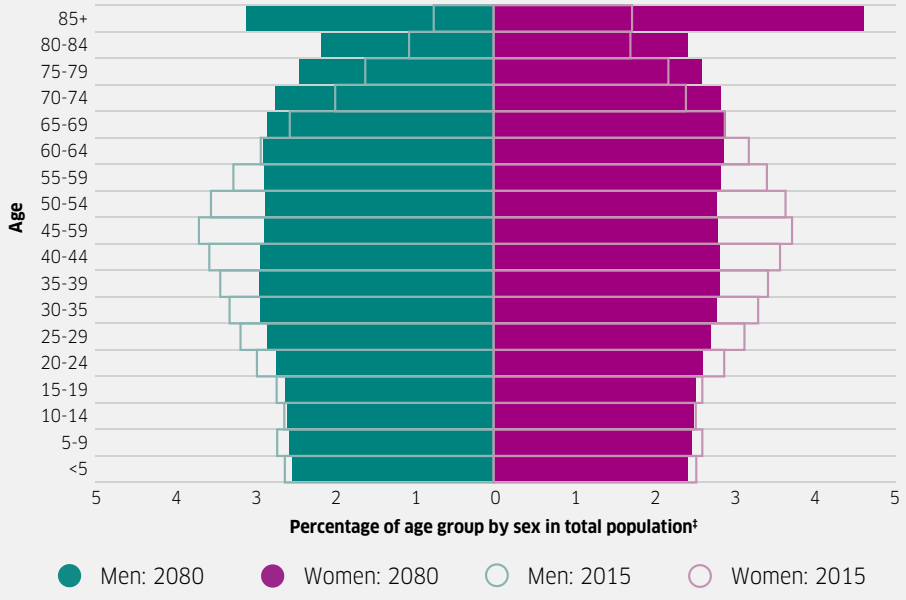
Figure 2: Our globally ageing population – 65 years and older

As the global population ages, the concept of healthy ageing becomes more relevant and health strategies are moving increasingly towards prevention rather than treatment. To support this within the context of pneumonia, there is a need to better understand what is known about the disease and how perceptions may be negatively impacting the uptake of pneumococcal vaccination, particularly amongst older people.

Healthy ageing is the process of developing and maintaining the functional ability that enables well-being in older age.[8]

Population ageing is a long-term trend, which began several decades ago in Europe. This trend is visible in the transformations of the age structure of the population and is reflected in an increasing share of older people, coupled with a declining share of working-age people in the total population.[9]

Figure 3: Population pyramid European Union, 2015 and 2080[9]



‡ Each bar corresponds to the share of the given sex and age group in the total population (men and women combined)

‘At-risk’: the 65 years and over age group

As we age, our immune system generally declines in reliability and efficiency, resulting in an increased susceptibility to infectious diseases.[10] As such, the 65 years and over age group is also at increased risk for pneumococcal disease.[5]

Aside from being more predisposed to acquiring infectious diseases, including pneumonia, this age group is also more likely (compared with younger age groups) to suffer from one or more chronic conditions, such as heart disease and diabetes.[11] Such chronic conditions increase the risk for acquiring pneumococcal disease.[5]

Key facts:

- Pneumococcal pneumonia is more fatal than influenza[12]
- When a causative agent is identified, *Streptococcus pneumoniae* is the most common cause of pneumonia in Europe[3]
- Patients with pneumonia caused by *Streptococcus pneumoniae* are up to three times more likely to die than patients with other causes of pneumonia[3]
- Up to 40% of *Streptococcus pneumoniae* isolates are non-susceptible or resistant to commonly used antibiotics[13]

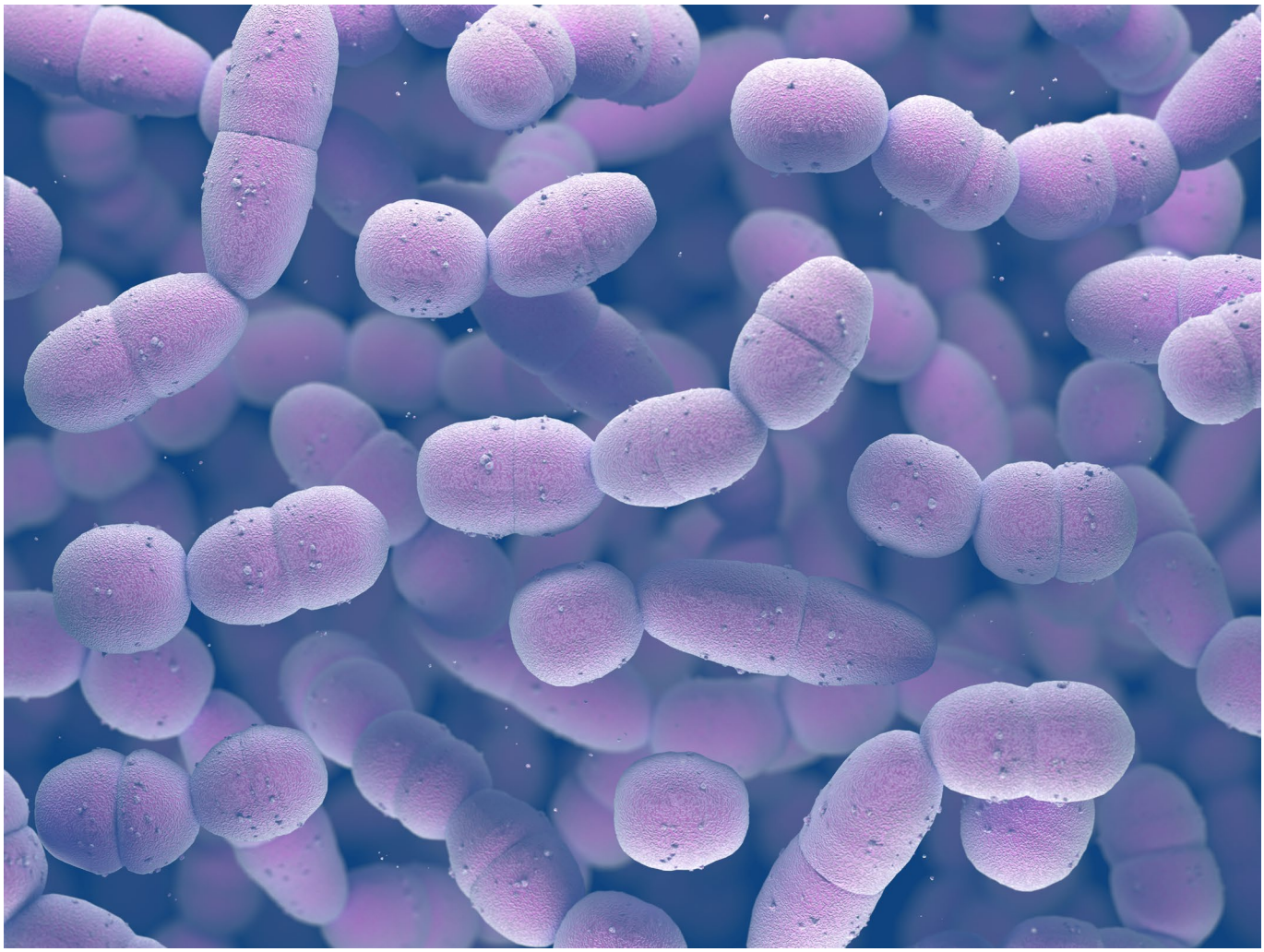


Image Description: Streptococcus pneumoniae: bacteria responsible for many types of pneumococcal infection
Source: Shutterstock

PneuVUE® 65 years and over: Survey results[14]

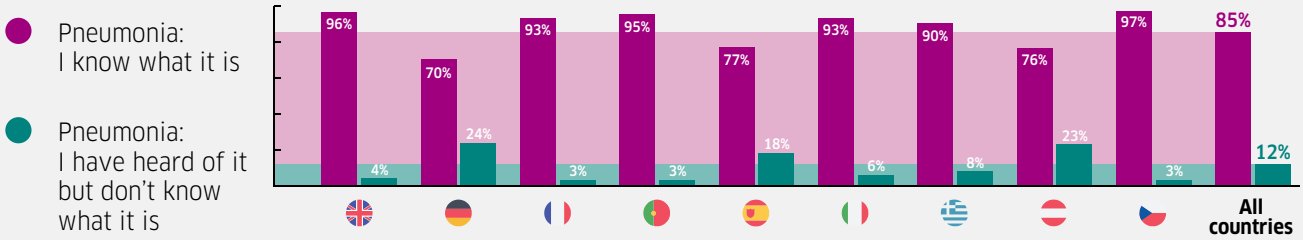
The PneuVUE® (Adult Pneumonia* Vaccination† Understanding in Europe) survey[6] was conducted amongst 9,000 adults aged 50 years and over. This section of the report focuses on the sub-analysis of the results of the 4,441 survey respondents who were aged 65 years and over at the time of fieldwork.

Awareness around pneumonia* and pneumonia vaccination†

The survey results showed that whilst the **majority (85%) of adults 65 years and over claim to know what pneumonia* is, only a third (35%) know that there is pneumonia vaccination.†** Despite people aged 65 years and over being at increased risk of pneumonia[5] compared to those under 65, the older age group have a lesser understanding of pneumonia.* A smaller proportion of those aged 65 years and over state that they know what pneumonia* is (85% compared with 90% of under 65s) or correctly identify it as a lung infection (77% compared with 84% of those under 65).‡§

Figure 4: Awareness of pneumonia* in different countries

Survey question: *Which of the options I am about to read out to you, best describes your awareness of the following illnesses and viruses:†† "I have never heard of it", "I have heard of it but don't know what it is", "I know what it is"?*



* All references to pneumonia are to all-cause pneumonia, not pneumococcal pneumonia specifically. Only a proportion of pneumonia cases are caused by Streptococcus pneumoniae

† The PneuVUE® survey questioned respondents regarding pneumonia as a whole. Pneumococcal vaccination can only protect against pneumonia caused by the pneumococcal serotypes contained in the vaccine

‡ Statistical significance of differences between those aged 65 years and older and those aged under 65 were tested using an independent t-test for scale data and a proportional test for categorical data

§ All comparisons are statistically significant at a 95% confidence interval unless otherwise stated

†† Survey respondents were asked about the following illnesses and viruses: pneumonia, influenza, meningitis, hepatitis B, shingles, tick borne encephalitis (TBE) and HIV.

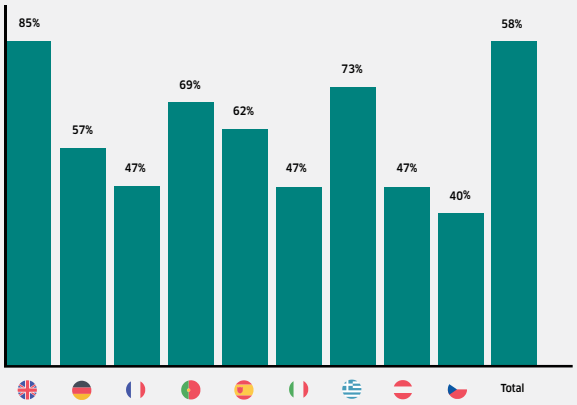
Figure 5: Misconceptions around the effectiveness of protection against pneumonia*

Misconceptions also exist around the effectiveness of pneumonia vaccination† with only 58% of the 65 years and over age group identifying vaccination as 'very effective or slightly effective' at protecting against pneumonia*. 42% of the 65 years and over who had not received a pneumonia vaccination† believe there are better ways to protect against it.

The following graphic depicts the results of the following survey questions:

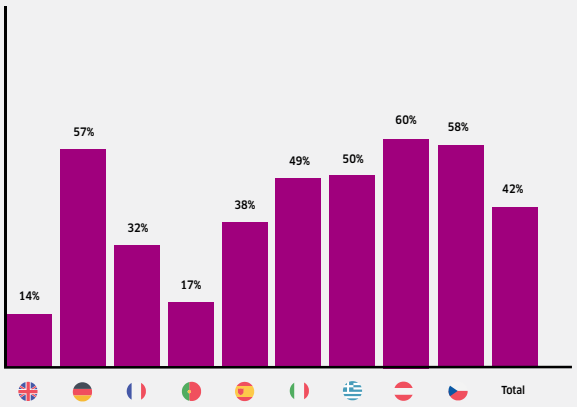
In your opinion, how effective or ineffective are the following at protecting against pneumonia? ‡

- Vaccination against pneumonia is very effective or slightly effective



Which of the following describes why you have not had the pneumonia vaccine? §

- There are better ways to protect against pneumonia than vaccination



> **"Pneumococcal vaccination is the most effective way to protect the 65 years and over age group from pneumococcal disease."**
>
> Dr Jane Barratt, *Secretary General of the International Federation on Ageing (IFA)*

* All references to pneumonia are to all-cause pneumonia, not pneumococcal pneumonia specifically. Only a proportion of pneumonia cases are caused by Streptococcus pneumoniae

‡ Survey respondents were given the following options: keeping fit and healthy, being vaccinated against pneumonia, wearing warm clothes, avoiding long periods in air conditioned rooms, not smoking and avoiding contact with sick children

§ Survey respondents were given the following options: my doctor has never offered it to me, I am concerned that it would make me ill, I am worried about having a bad reaction, I don't think it is meant for people like me, I am too sick to have a vaccination, I don't believe that I am at risk of catching the disease, I am too busy, I am concerned about the potential price, I don't like needles, I don't believe in vaccination, I don't think it works very well Pneumonia is not very common, there are better ways to protect against pneumonia, Pneumonia is not very serious, I do not know why I did not have the vaccine

Taking steps to stay healthy

When asked about steps personally taken to stay healthy, 93% of adults 65 years and over said that they "eat a healthy diet", 84% said they "seek regular check-ups with their doctor" and 77% said they "exercise regularly", a smaller percentage of the 65 years and over age group said that they were "having all recommended vaccinations" (70%).

With regards to vaccination, **only 18% of the 65 years and over group reported having received pneumonia vaccination† compared to 48% reporting regularly‡ having had an influenza (flu) vaccination.** This survey showed therefore that pneumococcal vaccination rates are substantially lower compared to influenza, despite pneumonia causing more deaths among this age group in Europe.[15]

Figure 6:
Self-reported – pneumonia vaccination† levels

Survey question: *Have you been vaccinated against any of the following?§*

Figure 7:
Self-reported – flu vaccination levels

Survey question: *How many times in the past 5 years have you had an annual flu vaccination?*

From awareness to vaccination

In summary, whilst awareness of pneumonia* is high, awareness of pneumonia vaccination† is low and there is poor realisation from vaccine awareness to being vaccinated.

Figure 8: From awareness to vaccination††

* All references to pneumonia are to all-cause pneumonia, not pneumococcal pneumonia specifically. Only a proportion of pneumonia cases are caused by Streptococcus pneumoniae

† The PneuVUE® survey questioned respondents regarding pneumonia as a whole. Pneumococcal vaccination can only protect against pneumonia caused by the pneumococcal serotypes contained in the vaccine

‡ Regularly vaccinated is defined as at least four times in the past five years

§ Survey respondents were asked about the following illnesses and viruses: pneumonia, influenza, meningitis, hepatitis B, shingles and tick borne encephalitis (TBE)

†† Percentages are a proportion of total number of survey respondents aged 65 years and over: 4,441

Reasons for not getting a pneumonia vaccination†

By far the most common driver for pneumonia vaccination† is a prompt from a healthcare professional (67% stating GP or family doctor, 9% stating specialist doctor and 9% stating nurse). Of the respondents 65 years and over who were aware of a pneumonia vaccination† but had not received it, the main reason given for not getting vaccinated was not being offered the vaccination by their doctor (54%). This highlights the importance of healthcare professionals discussing with patients 65 years and over, the benefits of pneumococcal vaccination in their capacity as a trusted source of information and advice.

Reasons for recommending getting a pneumonia vaccination†

Of those who had received the pneumonia vaccination† and would recommend it to others, 90% cited 'protecting society' as a reason for their recommendation. 90% also cited 'caring about friends and family and wanting them to be protected' as a reason.

Figure 9: Reasons for not getting a pneumonia vaccination†

Survey question:
Which of the following describes why you have not had the pneumonia vaccine?

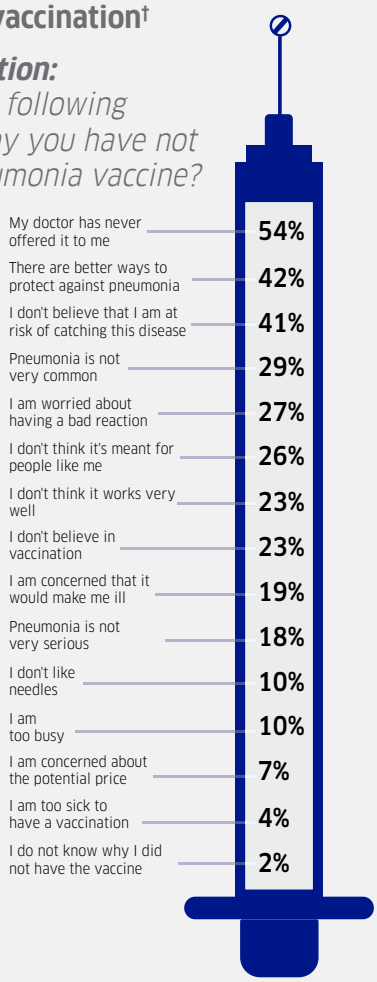
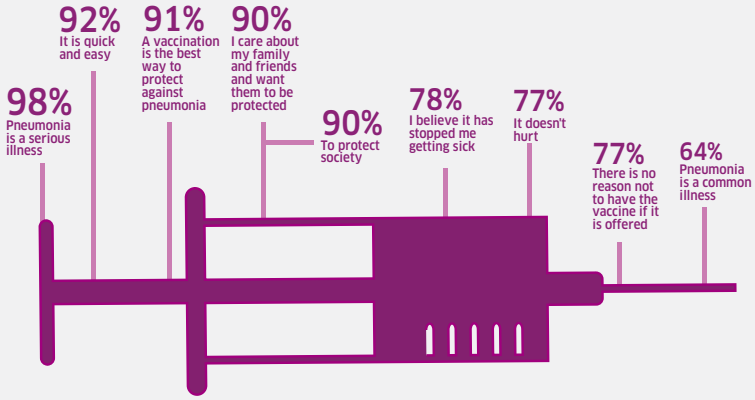


Figure 10: Reasons for recommending pneumonia vaccination †

Survey question:

Why would you recommend the pneumonia vaccine?



> **"Prevention of pneumonia and its consequences is a critical element of healthy ageing whereby older people contribute socially and economically to their community and society."**
>
> Professor Antoni Torres, Professor of Medicine, University of Barcelona

† The PneuVUE® survey questioned respondents regarding pneumonia as a whole. Pneumococcal vaccination can only protect against pneumonia caused by the pneumococcal serotypes contained in the vaccine

The changing face of the 65 years and over

It is important to recognise that our ageing population is not a linear story – the attitudes and behaviours of our older population are also changing.

The 65 years and over are increasingly active

There is evidence to suggest that health and fitness is of increasing importance to the 65 years and over age group. A survey conducted by a UK healthcare provider[16] showed that those 65 years and over are the UK's most frequent gym users. More specifically, the age of those using gyms most frequently was 72 years old, at eight visits per month, up from age 68 in 2013.[16] In a separate global study, 30% of 60 years and over reported currently (or previously) tracking their health or fitness via an app, fitness band, clip or smartwatch.[17]

If contracted, pneumonia can permanently damage the lungs, affecting the ability to breathe. It can also take a long time to recover. Pneumococcal vaccination can help protect against pneumococcal pneumonia.[18]

Contribution to society

The 65 years and over age group is increasingly important with regards to its contribution to society, both in terms of paid and non-paid contributions. The 2015 World Health Organization (WHO) World Report on Ageing and Health points out that, 'many older people may no longer be in the workforce but may be independently financially secure through the assets they have accumulated during their lives or contributions made to their pension funds.' [8]

This corresponds with analyses which show that, in many countries, within families, contrary to the expectation of 'dependency', cash flows run from older family members to younger members until people are well into their eighties. Furthermore, older people make strong economic contributions to society through consumption.[19]

According to 2014 figures from the European Union (EU), 11% of people throughout the EU aged 65-69 years continue to work, regardless of their pension status.[20] There is also a group who continue work after they start receiving their old-age pension – almost 16% of people across the EU.[20] On average, 62.8% of people receiving an old-age pension who continue working do so mainly for financial reasons, while 37.2% do so for non-financial reasons.[20]

The older population's contribution to society extends beyond the traditional job market. Around 50% of grandparents in Europe provide some type of childcare[21] and nearly six in ten (57%) grandparents report they look after their grandchildren without their parents being there at least once a month, providing an average of 8 hours' care a week.[22] If people can stay healthy for longer, they will be more likely to remain engaged members of, and contributors to, society.

Conclusion

According to the WHO, a longer life brings with it opportunities - for older people, their families and for society as a whole. Older people contribute in many ways to their families and communities, yet the extent of these opportunities and contributions depends heavily on one factor: health.[24]

Adult vaccination is currently an underused public health strategy despite recommendations from institutions such as the European Council[25] and the World Coalition on Adult Vaccination.[26] Pneumococcal vaccination is a simple way to help reduce the risk of pneumococcal pneumonia among at-risk groups, including the 65 years and over. Yet surveys have estimated that only between 20-30% of adults aged 65 and over in Europe are currently vaccinated.[4]

Pneumonia is a serious infection and can sometimes be life threatening.[27] Community-acquired pneumonia (CAP) has considerable long-term effects on quality of life, and long-term prognosis is worse in patients with pneumococcal pneumonia as opposed to other forms of pneumonia.[3] People should consider a pneumococcal vaccination, as a way of helping to protect against pneumococcal pneumonia,[18] alongside eating a healthy diet, having regular check-ups with their doctor, and exercising regularly.

The PneuVUE® survey shows that amongst the 65 years and over age group, awareness of pneumonia* is high but awareness of a pneumonia vaccination† is low. There is a clear need to drive awareness and understanding amongst the 65 years and over about the benefits of pneumococcal vaccination.

As a trusted source of information and advice, healthcare professionals have a key role to play in discussing the importance and value of pneumococcal vaccination with their older patients. This report suggests that people aged 65 years and over, healthcare professionals, public health bodies and governments should act now to help protect our ageing population against pneumococcal pneumonia.

> **Pneumonia is a life-threatening respiratory infection that is one of the leading causes of death among the older people throughout the world. As our population ages, it is paramount that older people remain fit, well and functional for as long as possible into old age – for their own benefit, but also in recognition of the vital contribution they can continue to make to society. This is where a life-course approach to immunisation comes to the fore. Adult pneumococcal vaccination is a vital 'healthy ageing' tool and one that all stakeholders from government to individuals must seek to utilise."**
>
> " Dr Jane Barratt, *Secretary General of the International Federation on Ageing (IFA)*

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Considerations and limitations

Considerations

Pneumonia awareness campaigns sponsored by Pfizer were running in seven out of the nine countries either during the interviewing period or in the three months prior to it.

A question was included asking whether respondents had seen any material promoting or raising awareness of pneumonia* or a pneumonia vaccination† in the past three months. In total 8% answered 'yes' to this question.

No distinction was made between the Pfizer sponsored campaign, and those run by other companies, local public health authorities or healthcare providers.

Limitations

The conclusions in this analysis are based on the beliefs of the patients surveyed as indicated by their responses only.

The survey was directed at members of the general public, therefore language used in the questionnaire was adapted to avoid confusion resulting from 'medical' / 'overly scientific' terminology. For example, the term 'pneumonia' has been used instead of 'pneumococcal pneumonia' as a simplified descriptor most people would be familiar with. This was done to assertain what consumers (non-medical subjects) know about the disease, their risk for acquiring pneumonia, the morbidity and consequences of pneumonia and how to protect through vaccination.

It is important to note that pneumonia is caused by a number of pathogens, including bacteria and viruses and vaccines are only available against pneumonia caused by pneumococci or influenza virus. All references to pneumonia are to all-cause pneumonia and not pneumococcal pneumonia specifically. The PneuVUE® survey market research was not validated.

* All references to pneumonia are to all-cause pneumonia, not pneumococcal pneumonia specifically. Only a proportion of pneumonia cases are caused by Streptococcus pneumoniae

† The PneuVUE® survey questioned respondents regarding pneumonia as a whole. Pneumococcal vaccination can only protect against pneumonia caused by the pneumococcal serotypes contained in the vaccine

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