Teachers Working Longer Review: final report

Annex A: The impact of teachers working longer – rapid evidence assessment

ICF Consulting Services

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Glossary of acronyms

ARB Actuarially Reduced Benefits

DfE Department for Education

ETUC European Trade Union Committee

HSE Health and Safety Executive

HSfE Health Survey for England

ICT Information and Communications technologies

IHR Ill health retirement

LFS Labour Force Survey

NASUWT National Association of Schoolmasters and Union of Women Teachers

OHS Occupational Health Services

ONS Office of National Statistics

PISA Programme for International Student Assessment

REA Rapid Evidence Assessment

SPA State Pension Age

SWC School Workforce Census datasets

TALIS Teaching and Learning International Study

THOR-GP The Health and Occupation Research Network in General Practice

TPS Teachers' Pension Scheme

Executive Summary

This is the final report for the Evidence Review on the Impact of Working Longer being undertaken as part of the Teachers Working Longer Review, a tripartite review between the Department for Education (DfE), teaching unions and their employers.

Aims and objectives of the study

This study draws on a Rapid Evidence Assessment (REA) of the international research literature and an analysis of data sets about teachers and their health to identify and examine the evidence base on the following:

- The physical, mental and emotional demands of each role within the teaching profession, and an assessment of the impact of age on each of these roles, including how any particular issues caused by growing older could be addressed;
- The medical conditions which underpin applications for ill health pensions and how these could be addressed;
- The provision, availability and quality of occupational health support and other support and health services (e.g. to assist those with loss of mobility) and how suitable they are to providing appropriate support for teachers who are working longer; and
- The current teachers' ill health pension provisions; how suitable they are for teachers who are working longer and how well the provisions are understood by members and employers.
- The findings will inform the evidence of impact strand of the Teachers Working Longer Review.

Method

Rapid Evidence Assessment

A literature search following the research protocol set out in Annex 1 identified 278 items. A critical review of their relevance identified 103 sources for detailed review, on the basis of meeting the inclusion criteria (as described in Annex 1). This was followed by a detailed review. The sources found to be relevant for this report can be found in Annex 2.

While the REA identified evidence that relates to the physical, mental and emotional demands of teaching and how in some cases this varies with age, it did not identify any evidence that relates specifically to the effect of extending teachers' working lives. A few studies look at the effect of teachers' age/experience on student outcomes.

There is also a relative scarcity of evidence that examines different teaching roles. A few studies have a specific focus on head teachers and university teachers. Aside from that, some studies focus on different types of school so there is some evidence relating to

early years education, primary and secondary teachers but this is generally insufficient to make any comparisons between sectors.

The few studies that examine the impact of the availability of information about pension provisions and rights on the decision to work longer are mainly drawn from the evidence submitted by stakeholders in the call for evidence by the Teachers Working Longer Review. The REA has not been able to identify any studies that examine the impact of information, advice and guidance on pension provision.

One reason for the relative scarcity of relevant evidence may be because many countries have only introduced changes to the minimum and mandatory retirement ages of teachers in the last few years. In most cases these are being only gradually introduced to apply to younger teachers[1]. Another shortcoming with the evidence may also relate to the fact that some teachers choose to leave the workforce early because of health matters so that those teachers who are included in studies of physical, emotional and mental health are not representative of all people who have worked in teaching as a career.

Data set analysis

Three groups of data sets were examined to see if they could provide any analysis which could address the study's aims. These were:

- Official Office of National Statistics (ONS) data sets: Health Survey for England (HSfE), Labour Force Survey (LFS), The Health and Occupation Research Network in General Practice (THOR-GP);
- Other workforce health statistics and surveys: Health and Safety Executive (HSE), Eurofound (European Working Conditions Survey);
- Teacher workforce statistics and surveys: Department for Education (School Workforce Census datasets (SWC)), European Trade Union Committee (ETUC), National Association of Schoolmasters and Union of Women Teachers (NASUWT), Teachers' Pension Scheme (TPS); OECD (data from the Programme for International Student Assessment (PISA) and from the Teaching and Learning International Study (TALIS)); and OH Assist (data matched to the TPS teacher records).

The following were found to add value to the studies included in the REA to:

- Compare teachers health with other occupations where the data is disaggregated by age (LFS, HSE);
- Provide age related data on teachers' sickness absence and explore the relationships between these and retirement and part-time working (SWC, HSfE);

[1] Figure D14 in Eurydice publication Key data on teachers and school leaders in Europe, 2013

- Provide age related data on teachers' views on job satisfaction and motivation to teach (TALIS); and
- Set out the key features and trends in teachers' retirement in England (TPS, OH Assist).

Findings from the REA

Impact of working longer on the ability to continue teaching

The studies on this subject indicate that:

- There is no evidence to suggest that the work ability of teachers deteriorates significantly as they age though it does fall;
- Older teachers are likely to have some physical health symptoms as a result of the ageing process but these have not been found to have a direct impact on their ability to teach nor are they significantly greater health problems affecting their ability to teach than for younger teachers;
- Teachers who are older do not necessarily have higher levels of mental health symptoms than younger teachers; some studies show that older, more experienced teachers have lower levels of mental health symptoms than younger, less experienced teachers;
- There is no evidence to suggest that older teachers have a negative impact on student outcomes.

Relationships between teachers' health and their jobs

The studies on this subject indicate that:

- Older teachers' physical health is not as good as younger teachers'. This relates to an increased degree of musculoskeletal and somatic disorders;
- Work related stress is higher in education, especially for teachers, than in occupational areas, such as business and public services, but lower than health service professionals;
- Stress and emotional exhaustion is self-reported by many teachers who also say it has affected their performance;
- Age is not consistently a significant factor affecting the level of stress;
- Some studies have concluded that older teachers are more stressed than younger teachers while others have concluded the reverse;
- Older teachers have a lower sense of wellbeing than younger teachers.

Relationships between ill health and associated pension provisions

The studies on this subject indicate that:

- Mental health problems and stress related illnesses are the most common reason given for ill health retirement among teachers followed by musculoskeletal disorders;
- Mental health and stress related illnesses may be more common causes for teachers' ill health retirement than other groups, such as health workers, because many teachers are less likely to be undertaking manual activities; and
- When the medical criteria used in determining eligibility for ill health retirement are adjusted, this has an impact on the number of ill health retirements as does changing the retirement options available which indicates that retirement policies affect workers' retirement decisions.

Impact of occupational policy measures

The studies on this subject indicate that:

- Occupational health interventions are not frequently offered to teachers compared to health workers;
- Where they are used in relation to ill health retirement and sickness absence, there is no evidence that they are significant factors in staving off ill health retirement; and
- There is some evidence for other groups of workers to suggest that occupational health interventions can contribute to a return to work and that they are less likely to be offered to older workers.

Other factors that impact on the decision to work longer

The studies on this subject indicate that:

- Working conditions have a significant impact on the motivation of teachers to continue in work;
- Teachers in the higher education sector possibly have working conditions which are more conducive to staying in teaching than school teachers;
- Job satisfaction, feeling valued, having opportunities to adjust responsibilities, and being supported are important motivators in encouraging teachers to work for longer;
- Having a dialogue with older teachers about their career plans can help to maintain their interest in and satisfaction with teaching which can postpone their retirement decision;
- For older workers in other sectors there are similar factors relating to their working conditions which affect when they retire; and
- Activities which encourage older workers to remain in work include job flexibilities, ill health prevention, and continuous professional development.

Findings from the data analysis

The data analysis examined:

- Comparisons between the health of teachers and that of other occupations;
- Age related data on teachers' sickness absence and the relationships between these and retirement and part-time working;
- Age related data on teachers' views on job satisfaction and motivation to teach;
- Key features and trends in teachers' retirement in England (TPS, OH Assist).

This found that:

- The number of teacher retirements has fallen over the last four years after several years of increases in teacher retirements, at the same time as there has been a small increase in the average age of retirement;
- ARB retirements have increased while ill health and premature retirements have decreased. Ill health retirement is predominantly granted to teachers aged over 50 with the highest proportion aged 55-59;
- Teachers' absence through illness from work compares favourably with other professional workers; teachers aged over 55 have shorter absences than other professional workers;
- There is support for some of the findings from the REA often based on small samples of teachers in similar contexts:
- absence through illness is not significantly related to age;
- teachers reporting very good health does not fall greatly from the age of 55;
- school leaders have fewer incidences of sickness absence than classroom teachers;
- the duration of absence is longer for teachers aged over 55 (both for classroom teachers and school leaders); and
- stress related illness is the greatest reason for ill health absence among teachers;
- The OH Assist data on the reasons for ill health retirement in England show a much greater proportion relate to physical illnesses than mental disorders, contradicting the findings from the REA based on samples and, in some cases, self-reporting;
- Older teachers' absence from work through illness is not closely related to taking retirement though it may be a factor in leaving teaching;
- Falling perceptions of being valued and increasing perceptions of regretting teaching as a career may indicate lower motivation, although older teachers are as likely to enjoy the school they work in and feel they are satisfied with their performance as younger teachers; and

- Some of the incentives identified in the REA which keep older workers engaged in their work, such as providing training and maintaining satisfaction with their place of work, may not be in place.

Conclusions

Overview of key findings

The key findings emerging from the analysis are:

- There is indicative evidence that the health of school teachers is more likely to be adversely affected by their job than for head teachers, university teachers and teaching assistants;
- Teachers report stress related illnesses more than other health related problems and these affect teachers of all ages. Although there is some contradictory evidence, older teachers are less likely to report stress related illness than inexperienced teachers;
- Teachers aged over 50 report that they have slightly lower levels of wellbeing and overall health than younger teachers and report physically related illnesses more than younger teachers but these differences are not large;
- Teachers aged 55 and over have similar levels of reported sickness than younger teachers although the duration of their absence is slightly longer;
- Education workers are less frequently absent from work through sickness than comparator groups up to the age of 55, then absent for similar frequencies;
- Older teachers' work ability does not appear to affect their performance in terms of their contribution to schools'/learners' educational outcomes;
- While older teachers are more pessimistic about their job than younger teachers which may affect their motivation, other attitudes are similar to younger teachers;
- Physical related illness accounts for more ill health retirements than mental illnesses;
- Occupational health services are not well known about and it is not clear to what extent they are used as a means to enable teachers to access treatment which helps to extend their careers.

The findings address some of the study aims better than others. In particular it is not possible to consider how suitable rehabilitation, OHS and welfare services are to providing appropriate support for teachers who are working longer and those applying for ill health retirement. Nor is it possible to address how well the provisions in teacher pension schemes are understood by members and employers.

Implications of the review

With teachers faced with working longer than many do at present into their 60s and for some in time continuing to work beyond the age of 65, schools might expect to find that the duration of sickness will rise and that more of these incidences may relate to physical as much as stress related illnesses. Actions to address older teachers' health conditions may have to focus not just on occupational health and welfare but also the work environment since these also make a considerable contribution to teachers' mental health and their motivation to work instead of retiring from teaching.

To address longer working, the employers of teachers should consider:

- Offering services which can help teachers to manage health conditions and maintain their work ability. Where OHS and rehabilitation services are available, these need to be offered; where welfare and advice services are available these may need to be better promoted;
- Adjusting working conditions which give rise to stress related illness and/or roles which can reduce stress (not necessarily reducing hours). The TPS provisions for career average earnings affecting the pension paid should assist in enabling teachers to change to lower paid roles which they may find less stressful/demanding before they retire;
- Providing career support for older teachers through regular review of ambitions and needs;
- Promoting and providing training that is required by teachers aged over 50 so they can better manage their job and feel valued.

Introduction

This is the final report for the Evidence Review on the Impact of Working Longer being undertaken as part of the Teachers Working Longer Review for the Department for Education (DfE). The report presents the results of a Rapid Evidence Assessment (REA) and an analysis of various datasets to address some of the gaps in the evidence from the literature identified.

Background to the Teachers Working Longer Review

The Teachers Working Longer Review is a tripartite review between the Department for Education, teacher unions and their employers into the health and deployment implications of teachers working until a later age as a result of pension reforms. The Teachers Working Longer Review aims to:

- Explore the health and deployment implications of teachers working longer; to consider possible options to mitigate these implications where necessary; and to make recommendations to the Secretary of State; and
- Provide evidence that can be used by stakeholders to contribute to any Government reviews of the state pension age (SPA) and the link between normal pension age and SPA in public sector schemes.

The Teachers Working Longer Review has been established to determine the nature and extent of the impact on teachers, their employers and the pupils they teach of working longer and to address the challenges arising from this. Robust data and evidence are central to the review and to the ability of the group to make appropriate recommendations to the Secretary of State.

The review and its effectiveness are a key part of implementing reform of the Teachers' Pension Scheme (TPS). It will help ensure that changes to normal pension age do not impact detrimentally on the workforce. It will also help to provide a baseline for consideration of any future changes.

Aims and objectives of the study

This study aims to provide a summary of the existing evidence base on the impact of teachers working longer drawing on a REA of the international research literature and an analysis of data sets about teachers and their health. It has been produced alongside another REA which explores the evidence around employment practices (Teachers Working Longer Review, Employment Practices: REA, IES and PPI, 2016).

Together these are seeking to identify and examine the evidence base on the following:

- The physical, mental and emotional demands of each role within the teaching profession, and an assessment of the impact of age on each of these roles,

including how any particular issues caused by growing older could be addressed;
- The medical conditions which underpin applications for ill health pensions and how these could be addressed;
- The provision, availability and quality of occupational health support and other support and health services (e.g. to assist those with loss of mobility) and how suitable they are to providing appropriate support for teachers who are working longer; and
- The current teachers' ill health pension provisions; how suitable they are for teachers who are working longer and how well the provisions are understood by members and employers.

The findings will inform the evidence of impact strand of the Teachers Working Longer Review.

Structure of the report

The report is structured as follows:

- Section 2 describes the method;
- Section 3 provides an overview of the findings from the research literature reviewed;
- Section 4 provides an overview of the results of the data analysis;
- Section 5 presents the conclusions of the study;
- Annex 1 provides the search strategy used to identify literature to be reviewed (Review Protocol);
- Annex 2 provides the bibliography of sources that were used (Literature review used in the REA);
- Annex 3 presents the data extraction template used in the research (Data Extraction Template).

Method

The study consisted of a REA of international literature, an assessment of UK national and DfE data sets to identify any data which could be analysed to add to the REA, and an analysis of the data selected. These components are each described in more detail below.

Rapid Evidence Assessment

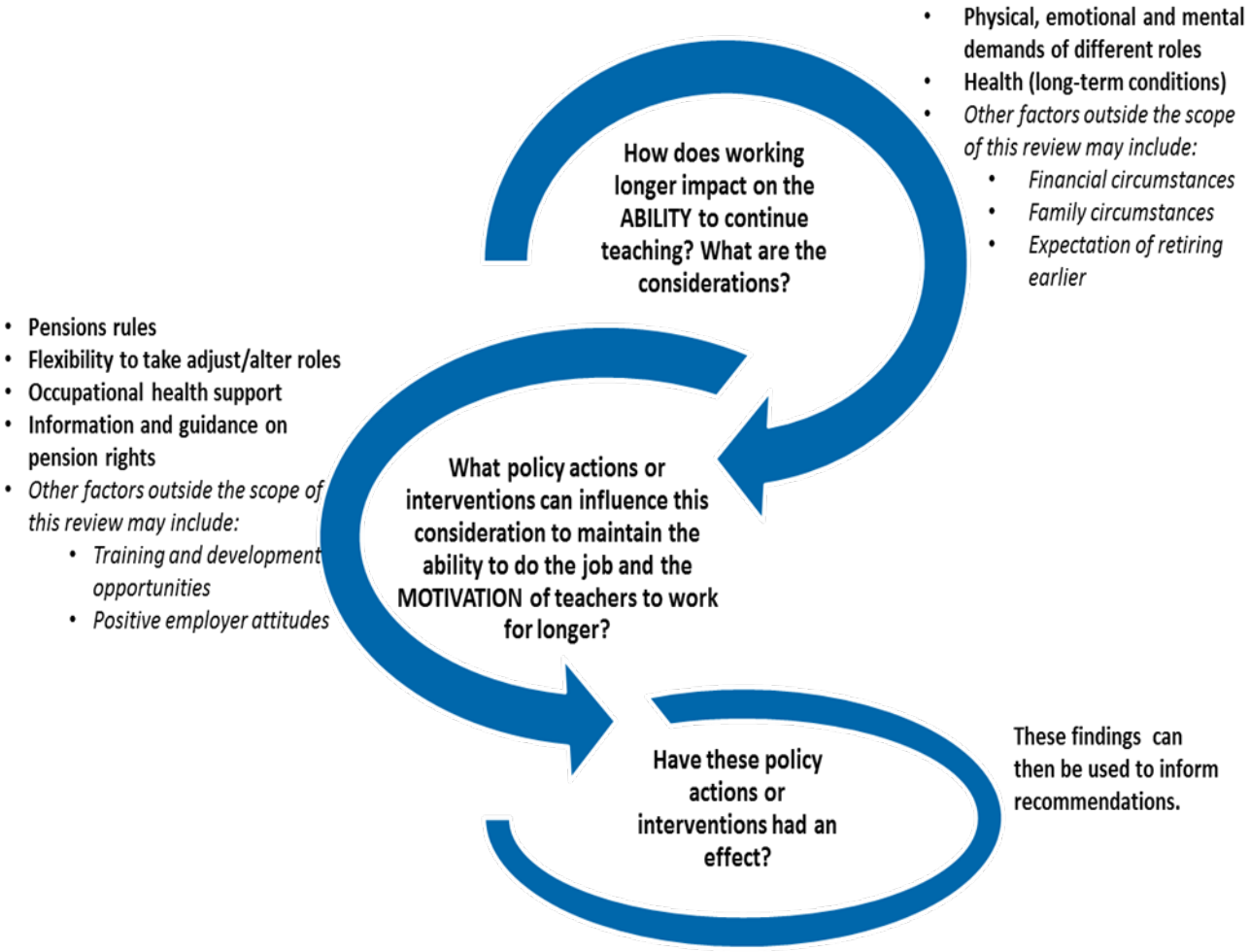
Figure 1 sets out in broad terms the research questions for the REA:

- How does working longer impact on the physical, emotional and mental ability of teachers to continue teaching?
- What policy actions or interventions can offset these physical, emotional and mental effects of ageing to maintain the ability to do the job and the motivation of teachers to work for longer?
- What effect have these policy actions or interventions had?

To address the research aims and guide the REA, a set of specific research questions was developed which are set out in Box 1: Specific research questions for the REA. From these a set of inclusion criteria was agreed with the Evidence of Impact of Working Longer sub-group to identify sources for initial review to address these questions. This research protocol for the REA is presented in Annex 1: Review protocol.

The preliminary search identified 278 items. A critical review of their relevance identified 103 sources for detailed review, on the basis of meeting the inclusion criteria (as described in Annex 1: Review protocol). This was followed by a detailed review, using the data extraction template presented in Annex 3: Data extraction template.

Figure 1 Research questions for the REA



Box 1: Specific research questions for the REA

- How does working longer impact on the capacity to continue teaching? What are the considerations?
- What relationships are there between teachers' health and the job they do?
- What impact does ageing have on the physical, mental and emotional demands of each teaching role (roles include senior management, senior teachers and teachers)
- What occupational health policy actions or interventions (e.g. medical referral and help schemes, health education) can influence this consideration to maintain the ability to do the job and the motivation of teachers to work for longer? Have these policy actions or interventions had an effect?
- What kind of career support can allow teachers to remain motivated for a longer career in teaching?
- How do ill health retirement, and associated other pension provisions, affect teachers' ability and motivation to work longer?
- How does allowing flexibility in working patterns affect teachers' ability and motivation to work for longer?
- How does the provision, availability and quality of occupational health support impact on the ability and motivation of teachers to work longer, either full-time or part-time?
- How does the availability of information, advice and guidance on pension provision affect decisions to work longer?
- Who promotes information, advice and guidance on pension provision and does this impact on teachers' decisions to seek advice and guidance?

Overview of the evidence

Table 1 and Table 2 provide an overview of the sources identified for detailed review in the REA. They show that:

- The material identified is international in nature and includes evidence from countries both inside and outside the European Union, including the United States and Australia;
- The majority of the evidence identified relates to the physical, mental and emotional demands of teaching and how these demands change as teachers

age. Some of these studies differentiate between teaching roles, such as head teachers and classroom teachers;

- Relatively few sources look at the provision, availability and quality of occupational health support and other measures designed to keep teachers in work;
- Some evidence relates to the reasons for ill health retirement among teachers as well as other public sector workers;
- Very few studies focus on the ill health retirement process and the outcomes, or the effect of reforms of retirement rules on ill health retirement.

Table 1 Breakdown of sources according to research objectives

Research objective	Number of sources
The physical, mental and emotional demands of each role within the teaching profession, and an assessment of the impact of the ageing process on each of these roles, including how any particular issues caused by the ageing process could be addressed	55
The provision, availability and quality of occupational health support and other support and health services (e.g. to assist those with loss of mobility) and how suitable it is for providing appropriate support for teachers who are working longer	26
The medical conditions which underpin applications for ill health pensions and how these could be addressed	12
The current teachers' ill health pensions provision; how suitable it is for teachers who are working longer and how well the provisions are understood by members and employers.	10

Table 2 Breakdown of sources according to research questions[2]

Specific research question	Number of sources specific to teachers	Number of sources specific to comparable professions or of general interest
How does working longer impact on the ability to continue teaching? What are the considerations?	8	2
What relationships are there between teachers' health and the job they do?	28	14
What impact does ageing have on the physical, mental and emotional demands of each teaching role (roles include senior management, senior teachers, teachers and teaching support staff)?	8	10
What occupational health policy actions or interventions (e.g. medical referral and help schemes, health education) can influence this consideration to maintain the ability to do the job and the motivation of teachers to work for longer? Have these policy actions or interventions had an effect?	12	11
What kind of career support can allow teachers to remain motivated for a longer career in teaching?	12	8
How does the provision, availability and quality of occupational health support impact on the ability and motivation of teachers to work longer, either full-time or part-time?	2	4
How does allowing flexibility in working patterns affect teachers' ability and motivation to work for longer?	8	2
How do ill health, and associated other pension provisions, affect teachers' ability and motivation to work longer?	13	15
How does the availability of information, advice and guidance on pension provision affect decisions to work longer?	3	1
Who promotes information, advice and guidance on pension provision and does this impact on teachers' decisions to use advice and guidance?	0	0

Assessment of the available evidence

While the REA has identified evidence that relates to the physical, mental and emotional demands of teaching and how in some cases this varies with age, it has not identified

[2] Some studies covered more than one of these questions

any evidence that relates specifically to the effect of extending teachers' working lives. A few studies look at the effect of teachers' age/experience on student outcomes.

There is also a relative scarcity of evidence that examines different teaching roles. A few studies have a specific focus on head teachers and university teachers. Aside from that, some studies focus on different types of school so there is some evidence relating to early years education, primary and secondary teachers but this is generally insufficient to make any comparisons between sectors.

The few studies that examine the impact of the availability of information about pension provisions and rights on the decision to work longer are mainly drawn from the evidence submitted by other stakeholders in the call for evidence. The REA has not been able to identify any studies that examine the impact of information, advice and guidance on pension provision.

One reason for the relative scarcity of relevant evidence may be because many countries have only introduced changes to the minimum and mandatory retirement ages of teachers in the last few years. In most cases these are being only gradually introduced to apply to younger teachers[3]. Another shortcoming with the evidence may also relate to the fact that some teachers choose to leave the workforce early because of health matters so that those teachers who are included in studies of physical, emotional and mental health are not representative of all people who have worked in teaching as a career.

Framing the REA

To guide the analysis and assessment of the material, an approach to reviewing the quality of the evidence in the literature and an assessment framework to help to identify what was relevant evidence in the literature was developed.

Figure 2 presents the assessment framework in the form of a logic model which was used to help to identify where the research literature focuses on the questions of interest (as set out in Box 1 above) and the interrelationships that may be captured by the research literature.

In developing this assessment framework for the evidence review, the following assumptions were made:

- A teacher's personal circumstances are important contributory factors to the decision to work longer, as they relate directly to their ability and motivation to work longer. These personal circumstances include their physical, emotional and mental health, their family circumstances, such as the number of dependents and financial need. It will be important in the REA to distinguish health factors from family circumstances;

[3] Figure D14 in Eurydice publication Key data on teachers and school leaders in Europe, 2013

- The teacher's work environment is important in influencing their motivation to work longer. Their job satisfaction is an important factor as is the extent of the demands placed on them by their particular role. Here, the role of the employer is significant. The relationship that a teacher can have with their employer is also a contributory factor to their decision to work longer;
- There are certain barriers/enablers that affect individual teacher's decisions to retire or step down. TPS rules and regulations can create incentives for teachers to remain working for longer, for example. Similarly, provision of flexible working patterns or less demanding roles for teachers could influence them to stay in work for longer;

The teacher's decision to work longer can lead to a number of positive outcomes for both the teacher and their employer.

Table 3 below sets out the approach to assessing the level of quality of empirical evidence found in the REA. This gives a higher ranking to qualitative studies where a systematic approach has been taken to collecting data (through extensive interviews, focus groups and case studies, for example) than to studies (quantitative and qualitative) where data has not been collected in a systematic fashion which could be biased.

Figure 2 Assessment framework for the REA

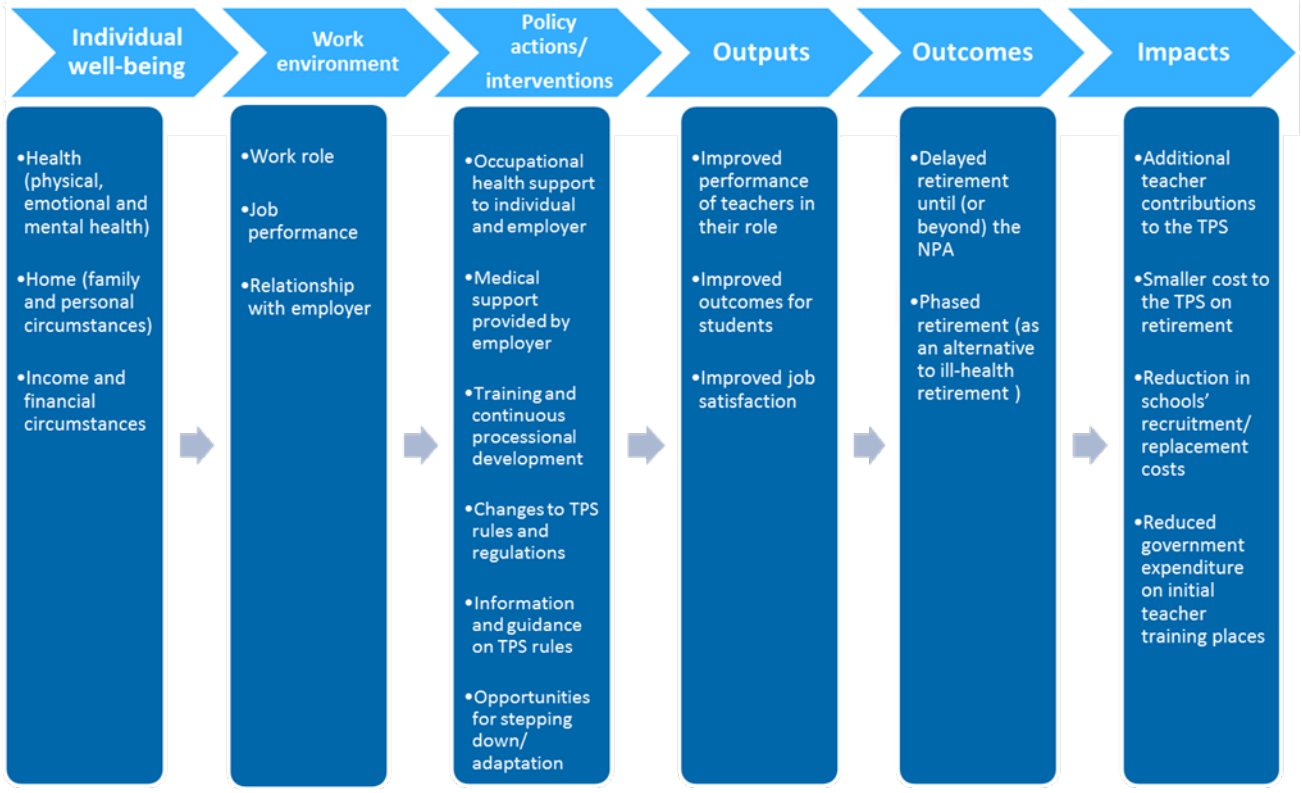


Table 3 Quality of studies

Type of study	Quality of evidence
Research studies which have drawn conclusions from meta-reviews of robust evaluations	+++++++
Evaluation studies with counterfactual quantitative evidence of a significant impact	++++++
Research studies which measure change before and after a policy action, controlling for other factors and which have large samples for robust statistical analysis	+++++
Research studies which measure change through mixed methods (quantitative and qualitative research) which provides corroboration of relationships	++++
Research studies which present descriptive analysis of statistical data, without explicitly identifying or focusing on a causal impact	+++
Research studies on small samples, dependent on qualitative data (interviews, focus groups) collected in a systematic fashion	++
Research studies dependent on qualitative data that has not been collected systematically	+

In framing the ranking, the following assumptions were made:

- Evaluation studies with counterfactual quantitative evidence[4] of a significant causal impact provide more compelling evidence than studies which measure change before and after the policy action. For the evaluation of policy actions, studies which have drawn conclusions from meta-reviews[5] of robust evaluations provide more compelling evidence than single studies (studies classified as 7+(+++++++) and 6+(++++++));
- Research studies which are sufficiently large in scale (for example adopting adequate sample sizes to enable robust statistical analysis, or based on sufficiently in depth case studies to allow full explanation of findings) and studies providing similar results in different contexts using mixed methods (studies classified as 5+ and 4+ (+++++ and ++++) are stronger evidence than small scale studies dependent on qualitative or quantitative data which have not been collected systematically (studies classified as 3+ and 2+ (+++ and ++);

[4] Counterfactual quantitative analysis is a comparison between what actually happened and what would have happened in the absence of the policy action/intervention using quantitative data. Counterfactual studies usually identify a comparative group who have not been affected by the policy action or intervention.

[5] Meta-reviews analyse the results of similar studies to draw out consistent evidence of impact. Studies are selected for inclusion based on the rigour of their research methods and their similarity of focus

- Small-scale qualitative studies can pose a range of quality assessment issues: whether the data can uphold statements about associations and causality, whether findings are evidentially conclusive or rather speculative and hypothesis-generating, and whether case studies can be sufficiently generalised (studies classified as +); and
- Poorer quality studies do not have to be discounted; rather their limitations should be made clear.

In terms of the level of quality of the material in the REA:

- Only a few wide ranging literature reviews were identified which are relevant to some of the research questions underpinning the study. However they vary in terms of how systematic they are in searching for evidence and accounting for the quality of research in their analysis;
- A few studies draw on the statistical analysis of large samples. In general, these are international studies and are focused on teachers specifically or compare teachers with other sectors/groups;
- The majority of studies identified are either descriptive in nature or the causal relationship underpinning the analysis is not strongly evidenced;
- A significant proportion of the evidence is qualitative in nature and/or uses quantitative data (mixed methods) which do not consistently use representative samples or selection methods;
- A few small scale qualitative studies meet the inclusion criteria by adopting a systematic methodology.

Data set analysis

Three groups of data sets were examined to see if they could provide any analysis which could address the research questions. These were:

- Official Office of National Statistics (ONS) data sets: Health Survey for England (HSfE), Labour Force Survey (LFS), The Health and Occupation Research Network in General Practice (THOR-GP);
- Other workforce health statistics and surveys: Health and Safety Executive (HSE), Eurofound (European Working Conditions Survey);
- Teacher workforce statistics and surveys: Department for Education (School Workforce Census datasets (SWC)), European Trade Union Committee (ETUC), National Association of Schoolmasters and Union of Women Teachers (NASUWT), Teachers' Pension Scheme (TPS); OECD (data from the Programme for International Student Assessment (PISA) and from the Teaching and Learning International Study (TALIS)); and OH Assist (data matched to the TPS teacher records).

The following which could be accessed were found to add value to the REA to:

- Compare teachers with other occupations where the data is disaggregated by age (LFS, HSE);
- Provide age related data on teachers' sickness absence and explore the relationships between these and retirement and part-time working (SWC, HSfE);
- Provide age related data on teachers' views on job satisfaction and motivation to teach (TALIS); and
- Set out the key features and trends in teachers' retirement in England (TPS, OH Assist).

Findings from the Rapid Evidence Assessment

This section presents the findings from the REA. As indicated in the Method section above, there is significant variation in the coverage of each of the specific research questions outlined so the findings are structured in the following way:

- The impact of working longer on the ability to continue teaching;
- The relationship between teachers' health and the job they do (and the physical, emotional and mental health effects of ageing);
- The relationships between ill health and associated pension provisions;
- The impact of occupational health and policy measures; and
- Other factors that impact on the ability to work for longer.

Each section begins by providing an overview of the quality of the studies that have been identified and included, a description and consideration of the main findings and then the conclusions that may be drawn from this.

Impact of working longer on the ability to continue teaching

Overview of the evidence

The studies identified do not directly address the extent that older age, (over the age of 60), affects the ability to teach effectively. None assess the impact of having to work longer on the ability to continue teaching. This may be because, there are no countries where increased retirement ages have been introduced which have affected teachers close to retirement. What research studies examine is generally the extent that age (as a proxy for the length of working life) relates to ability to work, physical health and mental health, and not specifically the extra years of working life. In the main these are studies based on teachers' self-reported health and wellbeing obtained from surveys (10 studies). Most differences are only between older and young teachers covering wide age groups not five or 10 year age groups. There is one REA focused on special education teachers and one REA which examines studies of teachers' age and educational outcomes.

Main findings

Age and work ability

While teachers' work ability[6] falls with age, age is not necessarily a key indicator of a teacher's ability to teach. Key work skills for teachers do not deteriorate significantly before the age of 70. Koopman-Boyden (2008) found in a study of higher education

[6] Work ability is a measure of the relationship between the capacity of a worker to perform their work and the work he or she does so it measures their ability to do a job successfully. It takes into account all the factors that might influence that capacity, and make the job more or less do-able.

academics in the United States, that perceptual speed and numeric ability of teachers' decline from their mid-50s, while inductive reasoning remains strong until their late 60s, and verbal ability and memory until their late 70s.

Freude et al (2005) examined the work ability of a sample of 130 teachers in Germany. They found that age was not a significant factor in predicting work ability. There was no statistically significant difference between teachers aged over 45 and those aged under 45 on the basis of their work ability index although a higher proportion of the older teachers had poor to moderate work ability. When they explored the data further, there was no statistically significant difference between older and younger teachers' health or the level of sickness absence taken although older teachers were more affected by illness.

Seibt et al (2007) found that a sample of female German teachers have a younger vital age[7] than female office workers of a comparable age because of their better physical health and the benefits of a challenging job even though they experienced more mental stress in their job than the office workers. As a consequence this resulted in teachers having a lower vital age (compared to calendrical age[8]) than office workers (who had a relatively higher vital age compared to calendrical age). This indicates a slower deterioration in their physical and mental ability to teach as they age. The authors concluded that this means that the age of a teacher cannot be used to predict their work ability.

Age and physical disorders

The physical effects of ageing affect teachers' health. More older teachers are likely to have physical disorders (see also section 2.2) and are less likely to consider their health to be good (Dunlop and McDonald, 2006). It is not evident from such studies that this affects their ability to teach any more than physical disorders affect younger teachers.

Rasku and Kinnunen (2003) found that upper secondary school teachers in Finland aged over 49 years were more likely to report somatic symptoms (e.g. headaches, pains in their heart or chest, trouble breathing) than younger teachers. While this was a statistically significant difference, there was no significant difference between younger and older teachers in their overall wellbeing or any relationship between somatic symptoms and job characteristics.

Rivanen et al (2006) found that age could be a predictor of blood pressure change among a small sample of 45 female teachers in Finland. While younger teachers aged 26-35 had higher heart rates and psychosomatic symptoms during a high stress period than older teachers aged 50-57, the older teachers did not experience the same drop in blood pressure as younger teachers during a low stress period. This indicated that older teachers could be more affected physically by stress than younger teachers. Griffiths

[7] Vital age is an estimate of the physical age of a person based on their health and physical fitness.
[8] Calendrical age is age since birth.

(2012) found that nearly half of the 900 female teachers they surveyed who had experienced the menopause reported that it had affected their work performance.

Age and mental disorders

With the emotional and mental effects of teaching on the ability to continue teaching, the main studies identified examine the impact of stress and emotional exhaustion at different ages on ability to teach. A recent UK survey reported that three in five people working in education say their work performance has suffered as a result of mental health problems (Teacher Support Network Group, Education Staff Health Survey, 2014). The studies which examine the relationship between emotional and mental symptoms and age produce mixed findings.

In an analysis of 150 Dutch infant school workers, Hendriks et al (2000) found that age was not necessarily associated with increased levels of stress and ability to teach. The study found that age had a statistically significant effect on the level of stress experienced by a teacher. But it was older teachers who were less stressed than younger teachers. Darmody and Smyth (2011) found that in a sample of 2,000 primary school teachers in Ireland those aged over 40 were more likely to report higher levels of stress than those aged under 40 but the difference was not great. With head teachers there was no difference with age. Klusmann et al (2006) found that there was an association between the age of secondary school teachers and their level of engagement in the workplace and their level of emotional exhaustion with older teachers being a little less engaged/more exhausted. However, this relationship was weak, and at the individual level, age and gender only accounted for 1% of the between-teacher variance in work engagement and emotional exhaustion. Much more significant causes related to the school environment, such as the support of head teachers. Dunlop et al (2006) also found that levels of reported stress were not related to age.

Brunsting et al's (2014) REA on the impact of burnout[9] among special education teachers found some evidence of age, either not making a significant contribution to burnout for special educational needs teachers (one study) or of age being inversely associated with burnout (five studies). Unterbrink et al's (2007) study of teachers in Freiburg, Germany found no significant difference in burnout between age groups.

Age and effectiveness

There is no evidence which would support a view that the older age of teachers has any significant detrimental effect on student outcomes. Bajorek et al (2014), in a REA of 61 studies examining the relationship between aspects of teachers' health and student outcomes, found that there is very little evidence of any causal relationship between

[9] They define burnout as having three components: emotional exhaustion, depersonalisation/cynicism, and (lack of) personal accomplishment.

teachers' health and wellbeing and their pupils' attainment. They found a few studies which showed a weak positive effect after controlling for other factors.

Brunsting et al (2014) found one study of special education in the US which found that while teachers' burnout can have a significant effect on outcomes for pupils the age of teachers was not a factor.

Conclusions

The studies indicated that:

- There is no evidence to suggest that the work ability of teachers deteriorates significantly as they age though it does fall;
- Older teachers are likely to have some physical health symptoms as a result of the ageing process but these have not been found to have a direct impact on their ability to teach nor are they significantly greater health problems affecting their ability to teach than for younger teachers;
- Teachers who are older do not necessarily have higher levels of mental health symptoms than younger teachers; some studies show that older, more experienced teachers have lower levels of mental health symptoms than younger, less experienced teachers;
- There is no evidence to suggest that older teachers have a negative impact on student outcomes.

Relationships between teachers' health and their jobs

Overview of the evidence

The studies identified show some relationship between teachers' work and their mental and emotional health. All but two of these studies draw on surveys of teachers and education workers (nine studies), which generally use multivariate analyses to examine relationships between teachers' demographic characteristics (age, gender), their working environment, and their reported mental health. These are supported by three REAs.

With physical health, studies generally use teachers' self-reported responses to surveys as well but do not show any relationships with the work environment.

Main findings

Physical health

Bogaert et al (2014) showed that younger teachers in Belgium generally reported better physical health than older teachers as did Dunlop and MacDonald (2006) from their survey of teachers in Scotland.

Studies of teachers' physical health generally show that as they age they tend to have an increase in musculoskeletal and other diseases although they do not identify any relationship with the nature of the work they do. For example, Baskurt et al (2011) found that older teachers in Turkey have an increased prevalence of neck, lower back and lower extremity symptoms than younger teachers.

There was a statistically significant difference between younger and older teachers in relation to the prevalence of upper extremity illnesses. Freude et al (2006) found that 70% of teachers over 45 years of age reported musculoskeletal disorders compared to 60% of teachers under the age of 45. Similar age differences among teachers were found with somatic disorders in Germany (Goethe, 2003) and Finland (Rasku and Kinunnen, 2003). Goethe found no age relationship with other physical disorders.

Andruskiene et al (2011) developed a holistic health measure (the Salutogenic Health Indicator Scale[10]) which they applied to over 300 teachers and other school workers in Lithuania. They found that the scale scores decreased as age increased with the lowest scores for those aged over 55. While it showed that older teachers were less healthy than younger teachers in the sample, the score for those aged over 55 (61) was not much lower than those aged under 40 (69).

Mental and emotional health

Teachers tend to report relatively high levels of illness related to stress. The HSE (2014) in their analysis of Thor-GP data showed that the education sector was one of the sectors with a high prevalence of work-related stress in the UK. Education professionals ranked with social workers, ambulance drivers, the police and prison officers in terms of levels of stress related illness; but were ranked lower than health professionals and higher than professionals in business, media, science, research and public service. Within the education sector it was higher for teaching and education professionals than other school workers. Johnson et al (2005) found that teachers were more likely to report stress than head teachers or teaching assistants.

In the main studies show that the level of mental and emotional ill health and stress arises from environmental factors in school (such as workload, resources and support) not their general health (Chen and Miller, 1997) and occurs among teachers of all ages[11]. Borg and Riding (1991) came to similar conclusions from a study of secondary school teachers in Malta.

The Teacher Support Network's survey (2015) found that most of the education workforce reported having experienced a common mental health condition in the last two years but most attributed their ill health to environmental factors (e.g. workloads, rapid pace of change). The survey found that 88% of the workforce reported that they suffered

[10] This scale takes account of physical and mental health and personal characteristics such as physical activity. A higher standard score means better overall health.
[11] Though they found that gender was a factor with more female than male teachers reporting stress.

from stress in the last two years, 72% from anxiety, and 45% from depression. Most of these (89%) blamed excessive workloads for their ill health while more than half cited the rapid pace of change (54%) and unreasonable demands from managers (53%) as other factors. Bricheno et al (2009) found that support from colleagues, senior staff and headteachers reduced stress and improved teachers' wellbeing.

A few studies have focused on the sources and levels of occupational stress for teachers and how they change with age. They do not have consistent results which does not appear to reflect the methods used (self-reporting, sample sizes) or the target group of teachers. Lath (2012) and Darmody and Smyth (2013) found in India and Ireland respectively that older teachers reported higher levels of stress than younger teachers. But in Ireland teachers aged in their 40s had the highest levels, not those aged in their 50s. Freude et al (2006) found that 71% of teachers over the age of 45 reported that they suffered from exhaustion and tiredness but this was not significantly different from younger teachers under the age of 45 (65%).

Similar studies by Torres et al (2006) in the United States and Hendriks et al (2000) in the Netherlands found that younger teachers were more likely to report stress. Torres et al found that years of experience were the second most common predictor of stress, but that this was a negative association – inexperienced teachers were more likely to be stressed than more experienced teachers. This is supported by an extensive REA published by Chen and Miller (1997) which generally found evidence that stress was more commonly related to younger and more inexperienced teachers.

Verhoeven et al's (2003) study of Dutch secondary school teachers found that older teachers were more likely to be emotionally exhausted than younger teachers and in their sample this was a statistically significant difference. Equally, Aeltermann et al (2007) reported that a sense of wellbeing which they measured among a sample of 2,000 teachers in Belgium decreased with age and was lowest among those aged 55-59. The authors believed that this could relate to deteriorating health. Bricheno et al's (2009) review of the literature for the Teacher Support Network (2009) also concluded that teachers who are older or more experienced have lower levels of overall wellbeing (falling between the ages of 40 and 60).

Conclusions

The studies indicate that:

- Older teachers' physical health is not as good as younger teachers'. This relates to an increased degree of musculoskeletal and somatic disorders;
- Work related stress is higher in education, especially for teachers, than in occupational areas, such as business and public services, but lower than health service professionals;
- Stress and emotional exhaustion is self-reported by many teachers who also say it has affected their performance;

- Age is not consistently a significant factor affecting the level of stress;
- Some studies have concluded that older teachers are more stressed than younger teachers while others have concluded the reverse;
- Older teachers have a lower sense of wellbeing than younger teachers.

Relationships between ill health and associated pension provisions

Overview of the evidence

Nine studies examine the reasons for ill health retirement among teachers and comparable professions and the extent that ill health contributes to decisions about early retirement.

Three studies of ill health retirement draw on employment records which should provide a more objective assessment of health reasons than the other studies which draw on surveys of ill health retirees. Small scale qualitative studies provide some evidence of how ill health contributes to early retirement intentions. In the three studies of the impact of changes to pension provisions, surveys are used in two of them to assess impacts while in the other the cases before and after the changes are compared.

Main findings

Ill health and retirement

Post et al. (2005) found from a study of Dutch workers who had been on long term sickness absence that teachers reported that they had relatively lower rates of return and longer periods before they returned to work from sickness. This was attributed to greater difficulties in offering teachers modifications to their work to enable a return to work. Age was not found in their analysis to be an explanatory factor in whether teachers returned to work or not.

More studies have tried to identify the main causes of ill health retirement among teachers. A few of these have used health records:

- Maguire and O'Connell (2007) found that mental disorders such as depression and anxiety were the most common causes of ill health retirement by primary and secondary school teachers in Ireland, accounting for 46% of the cases examined. Cancer, circulatory disorders and musculoskeletal disorders were also significant, together accounting for 43% of ill health retirement cases. They also found that the extent of ill health retirement increased with age, peaking within the 55-59 age group and that the extent of ill health retirement among secondary teachers was greater than among primary school teachers (3.4 per 1000 compared to 2.3 per 1000);

- Weber et al. (2005) found that psychosomatic and psychiatric disorders, including depression and exhaustion, accounted for 45% of early retirement cases by head teachers in Bavaria, Germany. The relative frequency was higher in women than in men. Depression and exhaustion syndromes were the most common disorders. The other most frequent illnesses were cardiovascular diseases (19%), musculoskeletal diseases (10%) and cancers (9%). They found also that headteachers were more likely than teachers to retire from ill health with cardiovascular conditions.

Others have used ill health retirees' responses to surveys:

- Brown et al. (2006) found that the most common cause of ill health retirement among teachers in Scotland was mental disorders, accounting for 37% of the survey responses as the prime cause. Diseases of the musculoskeletal system and circulatory problems accounted for 18% and 15% of ill health retirement cases respectively;
- Bowers and McIvers (2000) found that psychiatric disorders were the most common condition leading to ill health retirement among teachers in England, accounting for 47% of the survey responses. This was followed by musculoskeletal diseases (23%). Just over half of the respondents believed that their work had contributed to their condition with 60% stating that work had made it worse. Many different aspects of work were given as contributory reasons with workload, paper work, and bullying by managers and/or colleagues the most common (around 10% of the respondents mentioning these).

Broadly, all these studies show that mental and emotional health issues appear to be the greatest cause of ill health retirement among teachers.

When teachers are compared to health workers, both Pattani et al. (2001) and Brown et al. (2005) found that musculoskeletal and cardiovascular disorders were more prevalent in health workers than among teachers as causes of ill health retirement. For example, Pattani et al found that 49% of ill health retirees in England in their sample of 2,000 NHS workers' records had musculoskeletal disorders. They attributed this to the extent of manual work which health workers carried out. Among teachers, it was 33% of ill health retirees.

More qualitative research has examined factors around older teachers' ill health and retirement decisions. Cau-Bareille (2010) found that older early years and childcare teachers in France believed that health problems (such as increasing musculoskeletal diseases and the menopause) combined with work related stress increased work-related fatigue and needing more time to recover from illness. These were considered to be factors behind deciding to take early retirement or reduce their working time. Unterbrink et al. (2007) found that burnout was a key factor leading to ill health retirement by

teachers in Germany because it affected their perceptions of rewards and effort. While teachers aged 45-54 had the highest level of burnout related issues, age was not a significant factor in explaining the differences found.

Poor health was a factor affecting early retirement among day care workers in Denmark. Gortz (2012) found from administrative records that ill health absence as well as working conditions were the most statistically significant factors affecting day care workers' decision to retire early.

Changes to pension provisions

Reforms to pensions can have an effect on whether people continue to work.

Euwals et al. (2012) examined the effect of recent reforms to retirement options for Dutch health workers. These had, from 1999, increased incentives for older workers to continue working and taken away options for early retirement. They found that these had a significant impact on the number of early retirements due to ill health and that:

- The labour force participation rate of older workers increased by 8% from the start of the reforms in 1999 up to 2005, with the proportions of individuals aged 58 and 59 working increasing;
- The use of disability insurance as a pathway to early retirement significantly decreased.

Wilson (2005) found that alterations to the medical criteria for ill health retirement and the introduction of a medical severance payment for temporary incapacity across the UK in 2006 significantly affected the rate and cost of ill health retirement. Following the changes, the annual rate of ill health retirement fell from 8.9 to 2.9 per 1,000 individuals, with the median age of those taking ill health retirement increasing from 50 to 55.

In their analysis of changes to the TPS, Peters et al. (2007) found that the introduction of phased retirement also affected the retirement plans of many teachers (62% of their sample of over 3,800). However, the impact was mixed, with 24% anticipating that they would retire earlier following the reforms, and 25% anticipating that they would retire later. Only 4% indicated that they had changed their plans.

Conclusions

The studies indicate that:

- Mental health problems and stress related illnesses are the most common reason given for ill health retirement among teachers followed by musculoskeletal disorders;
- Mental health and stress related illnesses may be more common causes for teachers' ill health retirement than other groups, such as health workers, because many teachers are less likely to be undertaking manual activities; and

- When the medical criteria used in determining eligibility for ill health retirement are adjusted, this has an impact on the number of ill health retirements as does changing the retirement options available which indicates that retirement policies affect workers' retirement decisions.

Impact of occupational health policy measures

Overview of the evidence

Only five studies address the use and effect of occupational health policy measures for teachers and comparable occupations. Of these only two relate to teachers and neither provide insights to the efficacy of rehabilitation and occupational health therapies to prevent early retirement. A REA of occupational health therapies for health workers and a longitudinal study of a large sample of public sector workers who had longer term sickness absence have more general insights into their efficacy.

Main findings

Teachers are not commonly offered occupational health services. Brown et al. (2005) examined the causes and outcomes of ill health retirement procedures for teachers in Scotland. They found that just over a third (37%) reported they had received rehabilitation treatments and only 11% had attended occupational health services (OHS) before ill health retirement. Of the teachers who attended OHS, most (84%) stated that they found the occupational health intervention helpful. Many had been immediately recommended for early retirement (22%) and given advice and support on ill health retirement applications (11%). Relatively few had experience of being considered for part time work (9%) or alternative work (5%). However, given that all respondents were retirees, it is not possible to assess the effectiveness of any interventions in helping people return to work.

Dunlop et al (2006) assessed the coverage and perceived usefulness of OHS in Scotland. They found that teachers' use of these services was very low and that only just over 3% of those surveyed had accessed a service (32 in total). Most of those who had accessed the service (27) stated that they had found it to be useful and believed that it had contributed to an improvement in their overall health. In local authority areas where teachers had access to welfare/counselling services, 30% of the respondents were aware of them but only 2% had used them.

Health workers are more likely to have used OHS. Brown et al's (2005) study of health staff in the National Health Service who had experienced ill health retirement found that 92% of them had attended OHS before ill health retirement[12]. Slightly higher proportions

[12] This reflects the procedures in NHS Scotland which require occupational physicians to be involved in reviews of long term sickness absence and to provide support for any decision for ill health retirement (NHS Pension Scheme (Scotland) Guide to ill health retirement)

were offered part time work (18%) or alternative work (15%). While attending OHS was not found to be a predictor of those who eventually returned to work, 17% reported returning to work. These were more likely to be younger and able to work in another sector.

Heijbel et al. (2013) investigated the extent to which the implementation of a rehabilitation model for Swedish public sector employees helped to support those with sickness absence of at least 90 days to return to work. The study covered a range of public sector jobs, including teachers, health and care workers but made no comparisons between them. The study found that the median time to return to work of those who received OHS was approximately 12 months. However, the paper has no reliable data on the length of time taken before occupational health interventions were introduced, and so understanding of the impact of the intervention is limited. Nevertheless, the study found that receiving OHS was a significant factor in helping individuals to return to work, particularly for those suffering from mental or stress related illnesses. The authors state that good rehabilitation interventions provide systematic 'follow-ups' during the period of sick leave. Workers below the age of 55 were more likely to receive rehabilitation measures than those aged above 55.

Tullar et al's (2010) REA of the impact of OHS interventions for health care workers with musculoskeletal health disorders found that they can improve workers' health along with measures to reduce the incidence of such disorders occurring (training, changes to procedures and new equipment). Therapies that promote exercise can help to reduce the number of employees suffering from musculoskeletal problems.

Conclusions

The studies indicate that:

- Occupational health interventions are not frequently offered to teachers compared to health workers;
- Where they are used in relation to ill health retirement and sickness absence, there is no evidence that they are significant factors in staving off ill health retirement; and
- There is some evidence for other groups of workers to suggest that occupational health interventions can contribute to a return to work and that they are less likely to be offered to older workers.

Other factors that impact on the decision to work longer

Overview of the evidence

Five REAs have examined factors other than health that impact on older workers' motivation to continue to work for longer. Two of these studies relate to teachers. Surveys and small scale qualitative interviews of teachers and other groups of workers

and employers provide some corroborative evidence of what affects intentions and decisions about working longer.

Main findings

Teachers' working conditions are important in encouraging older employees to remain in work. Chen and Miller's REA (1997) and Goethe's study (2003) found that the health of teachers is affected as much by their working conditions, such as their time constraints, workloads and work environments, as it is by their age. Mulford's (2003) REA also found that teachers' job satisfaction and retention in general is significantly affected by the quality of the working environment and school leadership.

Several studies indicate the importance of how teachers feel valued as a significant factor in encouraging older teachers to remain at work. For instance, Hansez et al. (2006) found a strong relationship between Belgian teachers' perceived depreciation of the job and their early retirement. Micklewright et al. (2014) found that as teachers get older, their belief that their job is valued by society decreases, which could be a contributing factor in some teachers decisions to stay in work or retire.

Indeed, The Good Working Life project in Horsens (Denmark) to motivate older teachers to postpone early retirement achieved this in part through making older teachers feel more valued (GHK Consulting, 2012). Primary and secondary schools in Horsens introduced the following practices:

- A compulsory dialogue with teachers once they had reached the age of 50 about their career plans and how their conditions for working longer could be accommodated;
- A regular dialogue about these plans as part of the annual appraisal process;
- Identification of special responsibilities for older teachers which would better use their experience, such as providing mentoring and support to new teachers and leading projects;
- Offering flexibilities (hours, duties) and training (such as in digital teaching and learning)

The project increased the number of teachers working after the age of 60 by 50% in five years and benefited younger teachers (better inducted, reduced stress) as well as the older teachers (more job satisfaction).

Teachers within higher education appear to be more motivated to remain in work. Koopman-Boydell and Macdonald (2003) found that lecturers over the age of 50 were much more likely to want to continue working, often beyond the age of 65 years, than university administrators because they:

- Rated working as very important in their lives;
- Could meet family needs while working;

- Found satisfaction, challenge or achievement from working;
- Had higher levels of autonomy, flexibility and variety at work; and
- Could help or see others grow and develop.

Dorfman (2000) found that overall, most professors with similar perspectives to lecturers continued to work simply because they enjoyed it. More than three quarters of their interviewees stated that teaching was the most enjoyable aspect of their job and stayed at work because of this and having little institutional pressure to retire or reduce their level of responsibility.

There is more detailed corroborative evidence about the factors that encourage older workers to remain in work from studies which have focused on older workers in general rather than teachers specifically. Weyman et al's REA (2012) found that providing flexible working arrangements was effective in retaining older workers.

They also highlighted the importance of engaging with older employees over decisions to work longer as well as ensuring that approaches to retention are tailored towards individual needs. They went on to state that such policies are far more likely to be effective when older employees are engaged with their work, work in sectors where flexible employment is practical, and where their preference is to continue working for their current employer. Perek-Bialas and Turek (2012) also found in their study of employers in Poland that strategies which gradually prepare older workers for retirement and create working conditions that meet their needs are reported by employers to reduce early retirement.

Based on a survey of over 350 older public sector employees in Queensland, Australia, Shacklock et al's (2006) analysis of their intention to retire concluded that there are several work-related factors which affect the timing. These included the importance of work, flexibility and interests outside of work. Factors that were significant for women included interpersonal relationships, autonomy, and flexibility. For men, the importance of work was more significant.

The literature review completed by Phillipson and Smith (2005) of incentives to encourage older workers aged 50-69 to stay in work identified six approaches which contributed to the objective of extending working life. These were:

- Improving choice and control in the transition from work to retirement including ensuring improved knowledge about pensions;
- Raising awareness of the benefits of, and better access to, training and continuing education for older workers;
- The importance of a preventative approach to health issues, with the need to develop policies able to reduce the risk of older workers leaving the workforce for reasons of poor health;
- Programmes to support women in the workplace, such as maintaining a network of services to assist women caring for parents and relatives in the community and encouraging "family-friendly" employment policies;

- Policies aimed at promoting good quality flexible employment;
- Policies that acknowledge the complexity of transitions from work to retirement, including ensuring that significant numbers of people are not excluded from the benefits of more flexible financial arrangements during the transition from work to retirement.

A REA by the University of Bath and the NHS Staff Council (2014) found that for older health workers there needs to be a good fit between the demands of their job, their working environment, their personal circumstances and their capability if they are to stay in work. A survey of health workers the authors reported on found that 37% of NHS employees aged 50-59 and 46% of those aged 60 and over expressed a wish for shorter working hours, for example.

A qualitative study of health workers aged 55 and over in Australia (Warburton et al, 2014) found that there were both extrinsic and intrinsic factors that would influence their decisions to stay in work or retire early. The main extrinsic factors included feeling valued and supported by the organisation, reduced workload pressures, and feeling valued by clients. The main intrinsic factors included family influences, work enjoyment, financial influences, health, and sense of self. They concluded that effective incentives for retaining older healthcare workers had to cover both financial and non-financial factors.

- Muurinen et al (2014) reached similar conclusions from their survey of Finnish public sector workers' considerations about retirement. They found that features of work, such as workload, the effort-reward balance, job satisfaction, and managerial support could affect intentions to retire early. Where older workers had better perceptions of the quality of management with high levels of trust between management and employees and working conditions, older workers had later retirement intentions.

Conclusions

The studies indicated that[13]:

- Working conditions have a significant impact on the motivation of teachers to continue in work;
- Teachers in the higher education sector possibly have working conditions which are more conducive to staying in teaching than school teachers;
- Job satisfaction, feeling valued, having opportunities to adjust responsibilities, and being supported are important motivators in encouraging teachers to work for longer;

[13] Similar conclusions are reached in the Employment Practices REA, IES and PPI (2016)

- Having a dialogue with older teachers about their career plans can help to maintain their interest in and satisfaction with teaching which can postpone their retirement decision;
- For older workers in other sectors there are similar factors relating to their working conditions which affect when they retire; and
- Activities which encourage older workers to remain in work include job flexibilities, health prevention, and continuous professional development.

Findings from the data analysis

This section presents the results of the data analysis which seeks to fill gaps in the evidence from the REA to consider:

- The extent and nature of older teachers' ill health and absences from work;
- The causes of ill health retirement;
- The levels of job satisfaction and training which could affect motivation and work ability;
- The extent that ill health varies with job characteristics and other occupations.

The section starts with some contextual data on teacher retirement in England over the last 10 years. It is followed by:

- Comparisons between the health of teachers and that of other occupations;
- Age related data on teachers' sickness absence and the relationships between these and retirement and part-time working;
- Age related data on teachers' views on job satisfaction and motivation to teach;
- Key features and trends in teachers' retirement in England (TPS, OH Assist).

In all cases, data have been analysed using three age groups: individuals aged under 35 years; those aged 35 to 54 years and those aged 55 years and above. These age groups were selected to ensure that the sample sizes in each age group were large enough to report the findings as well as to provide consistency.

Context

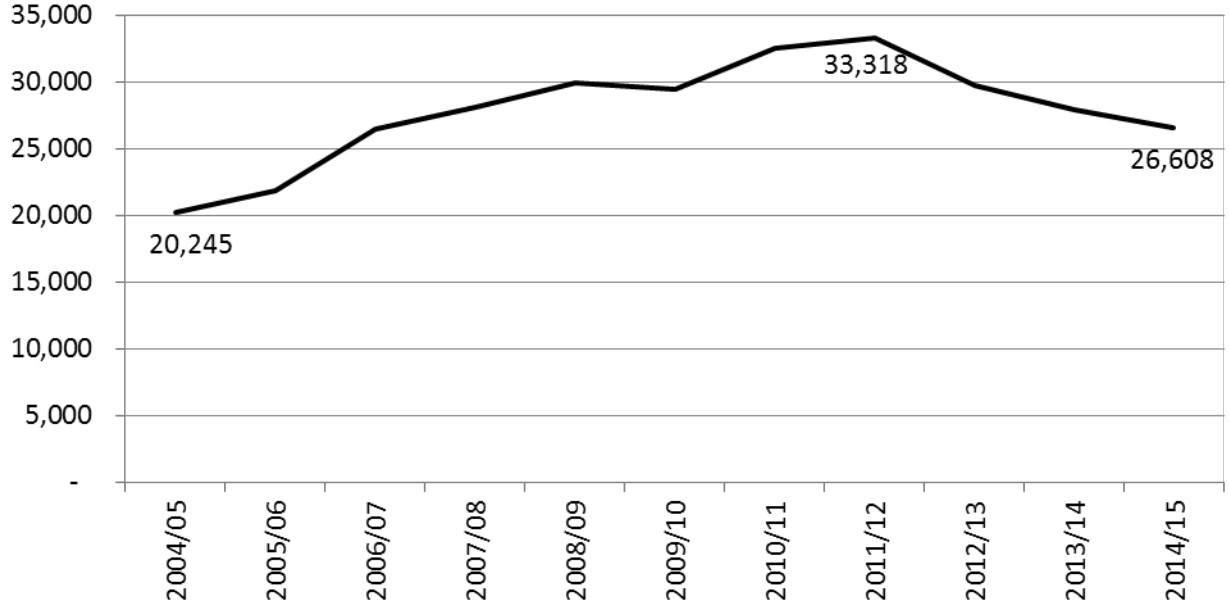
Extent of retirement and pensions taken

The number of teachers retiring increased considerably between 2004/05 and 2011/12[14] (see Figure 3), although this trend has reversed in the last three years (and the number has fallen back to the level in 2006/07. This pattern is the same for male and female teachers, although the peak number of retirements among male teachers was in 2010/11[15].

The higher levels appear to relate to a larger cohort of teachers reaching their mid-fifties and early sixties during this period and leaving the teaching profession (see Figure 4).

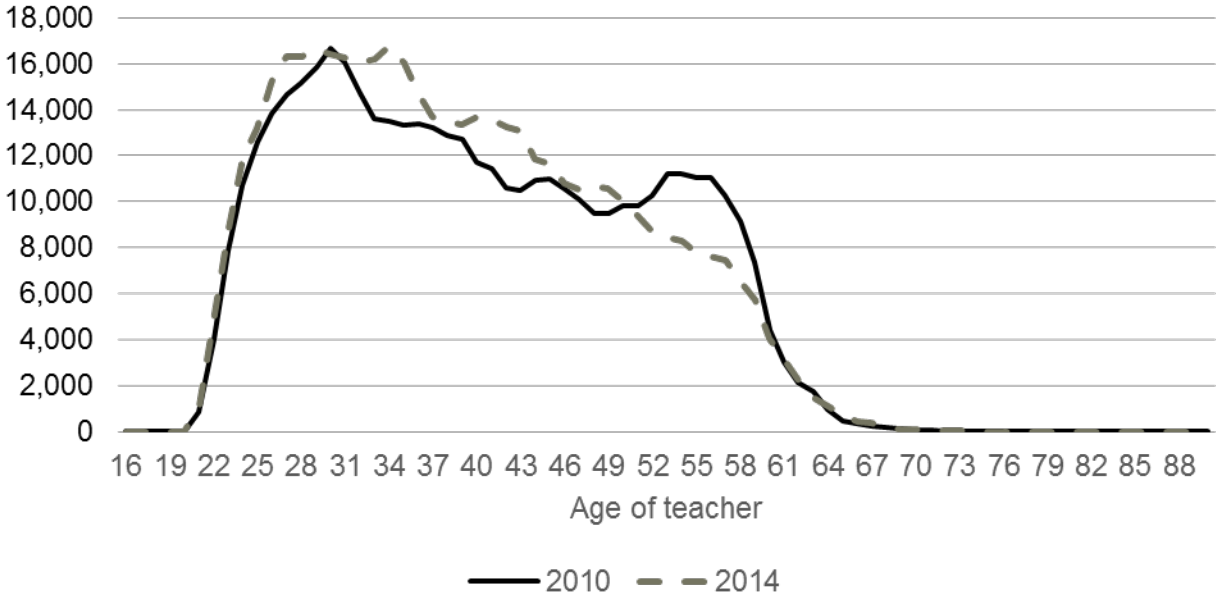
[14] The analysis using the Teachers' Pension Scheme data is based on financial years (April to March).
[15] This includes teacher professionals from maintained schools, academies, independent schools, Further and Higher education institutions and function providers (a company awarded a contract to perform functions on behalf of a local authority).

Figure 3 Number of teacher retirements, 2004/05 to 2014/15



Teachers' Pension Scheme data, 2004/05 to 2014/15

Figure 4 Age profile of teachers, 2010 and 2014



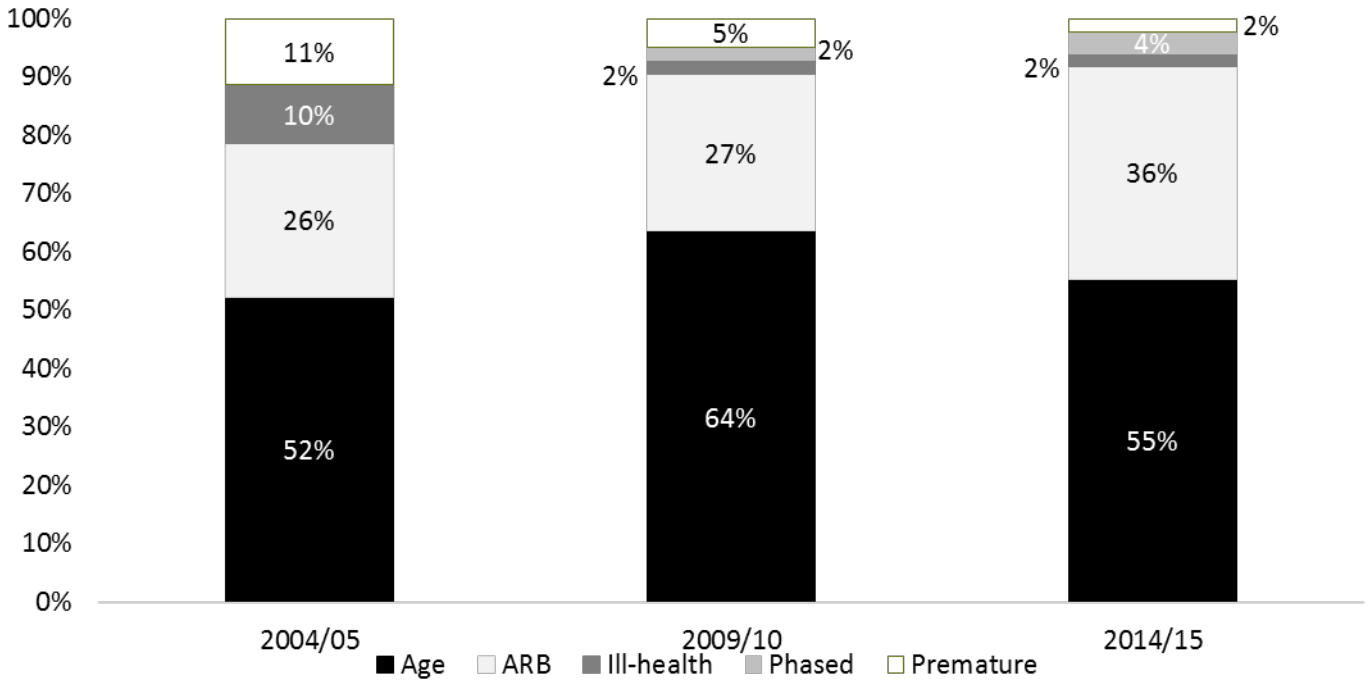
School Workforce Census, 2010 and 2014

There have been changes in the type of pension teachers retire with over the past ten years. The percentage of teachers who retire with an actuarially reduced benefits (ARB)[16] pension (early retirement) has increased from just over a quarter of retirees in 2004/05 to over one third in 2014/15 (see Figure 5)

[16] The actuarially reduced benefits (ARB) pension was introduced in 2000.

There has been an increase in the proportion of retirees taking phased retirement (this did not exist until 2007/08, but has been increasing every year). Ill health retirement and premature retirement have fallen.

Figure 5 Proportion of retirees by type of pension, 2004/05 to 2014/15



Age at retirement

The average age at which teachers take up a pension has not altered considerably over the past ten years but the trend is a rising age. The average age of retirement for age-related pensions and premature retirement has increased slightly. The only type of pension where the average age has decreased has been for ill health pensions.

There is however variation in the average age of retirement by type of retirement (see Table 4). The highest average retirement age is for age-related retirement (61.4 years in 2014/15), followed by phased retirement (60.2 years in 2014/15). The average retirement age for ill health pensions is considerably lower, between 6.5 and 8.5 years lower than for age-related pensions. The average retirement age for males is slightly higher than for females for most types of pension throughout the period.

Table 4 Average age of retirement by type of pension, 2004/05 to 2014/15

Type of pension	04/ 05	05/ 06	06/ 07	07/ 08	08/ 09	09/ 10	10/ 11	11/ 12	12/ 13	13/ 14	14/ 15
Age	60.7	60.8	60.6	60.6	60.7	60.7	60.9	61.1	61.1	61.3	61.4
ARB	57.0	57.2	57.3	57.3	57.4	57.5	57.5	57.5	57.5	57.5	57.4
Ill health	53.3	53.8	54.1	53.8	53.8	53.6	53.7	52.8	53.0	53.0	53.1
Phased	-	-	-	59.7	59.6	60.0	60.0	60.0	59.9	60.1	60.2
Premature	56.3	56.5	56.7	56.5	56.5	56.4	57.4	57.5	57.4	57.4	57.4

Teachers' Pension Scheme data, 2004/05 to 2014/15

The average age of retirement also varies by the type of provider a teacher works in. Teachers in FE and HE institutions have a higher average retirement age than all other institutions for age-related pensions. However, the average retirement age for age-related pensions is between 60 and 62 years for all types of institution over the entire period. For ARB pensions, the average age of retirement for all types of institution is between 57 and 58 years of age. The average age of retirement is slightly lower for primary and secondary school teachers than for nursery teachers and teachers in other establishments for age related pensions.

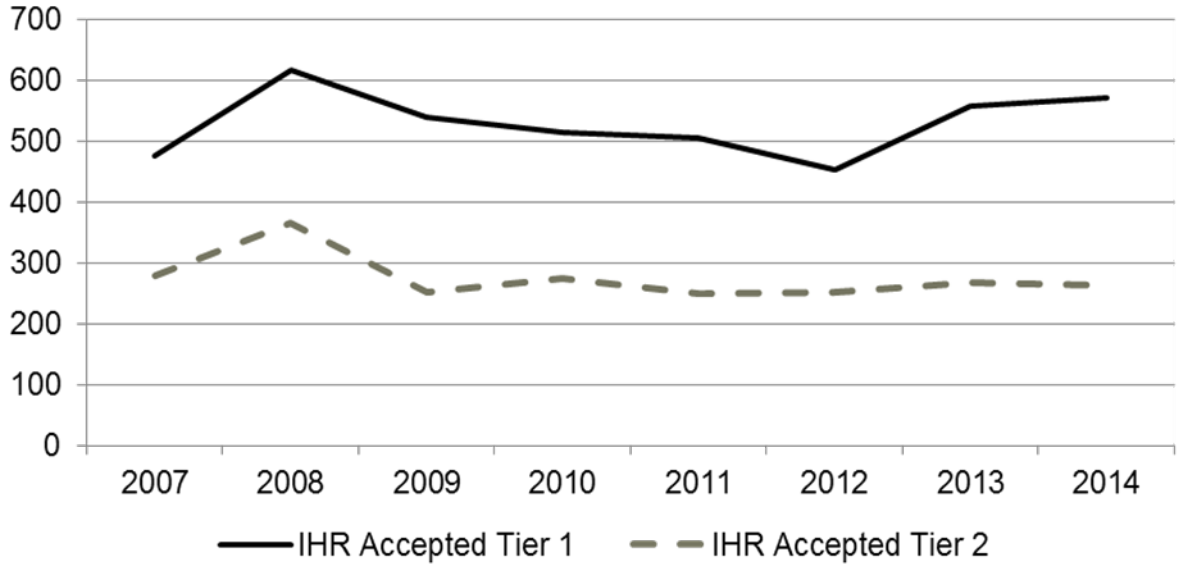
Type of ill health retirement

Teachers who retire and receive an ill health pension can be split into two categories:

- Tier 1 – Total incapacity: teachers cannot continue working; and
- Tier 2 – Incapacity: teachers may be capable of some work in other employment not eligible for the TPS.

The data on the tiers of ill health pensions is available from 2007. This is presented in Figure 6 which shows that more teachers qualify for Tier 1 ill health retirement (IHR) pensions than Tier 2 IHR pensions.

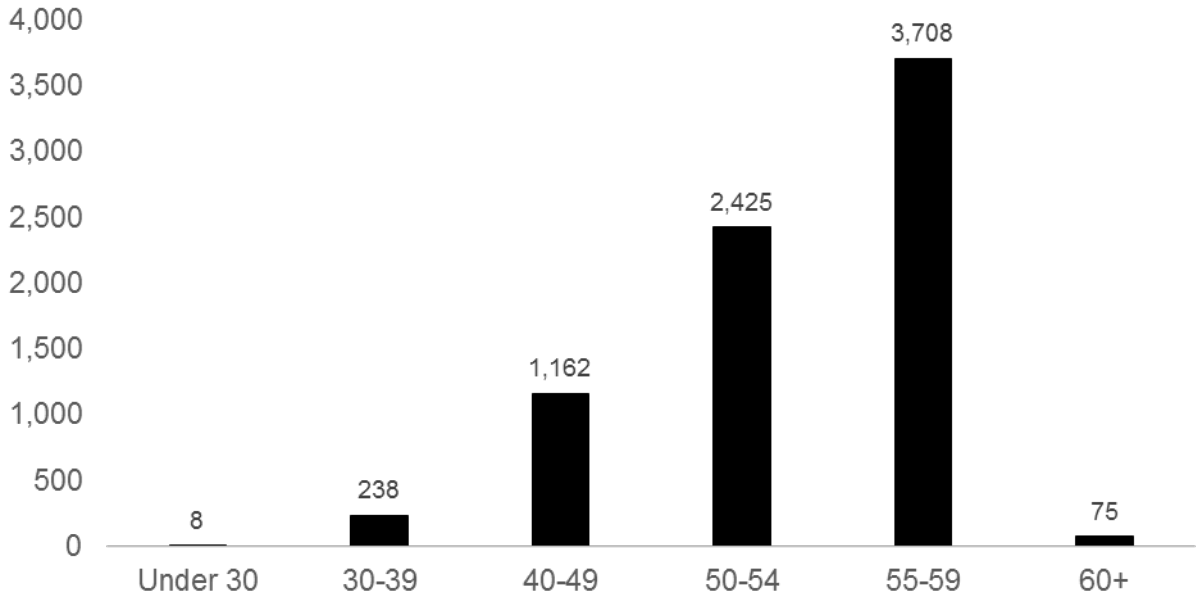
Figure 6 Teachers accepted onto ill health pension by Tier, 2007 to 2014



Internal DfE analysis using OH Assist data, 2007 to 2014

Half of all of the retirements due to ill health were teachers aged 55 or over, and 81% were teachers aged 50 and over (see Figure 7). The most common health conditions which led to ill health retirement are cancers (22%); mental and behavioural conditions (22%) and diseases of the nervous system (17%). Cancer and diseases of the nervous system had the highest proportion of younger teachers (each with 28% of cases among teachers aged under 50). This is different from the proportions reported in other countries in the previous chapter (Ireland, Germany and Scotland) which found that 35-47% of ill health retirements related to mental disorders.

Figure 7 Number of ill health retirements by age, 2007 to 2015

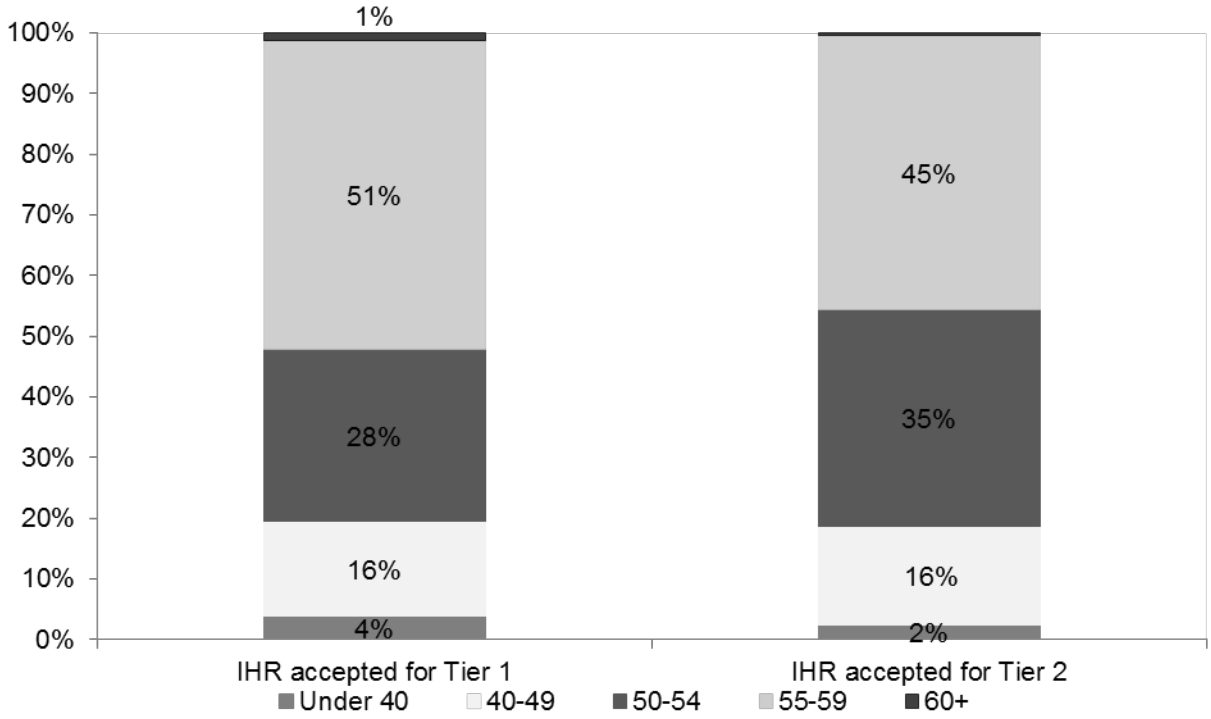


Internal DfE analysis using OH Assist data, 2007 to 2015

The proportion of younger teachers (aged under 50) taking Tier 1 and Tier 2 retirement is similar, below 20% of the total of Tier 1 and 2 retirements. A slightly higher proportion of the Tier 1 retirements are teachers aged over 50 (see Figure 8), although this is not statistically significant.

For Tier 1, the most common illnesses are cancers (33%) and diseases of the nervous system (22%). For Tier 2 retirements, the only condition which makes up more than 10% of retirements is mental and behavioural disorders (41%). Mental and behavioural disorders only represent 11% of Tier 1 retirements.

Figure 8 Distribution of ages for Tier 1 and Tier 2 retirements



Internal DfE analysis using OH Assist data, 2007 to 2015

Older teachers' health

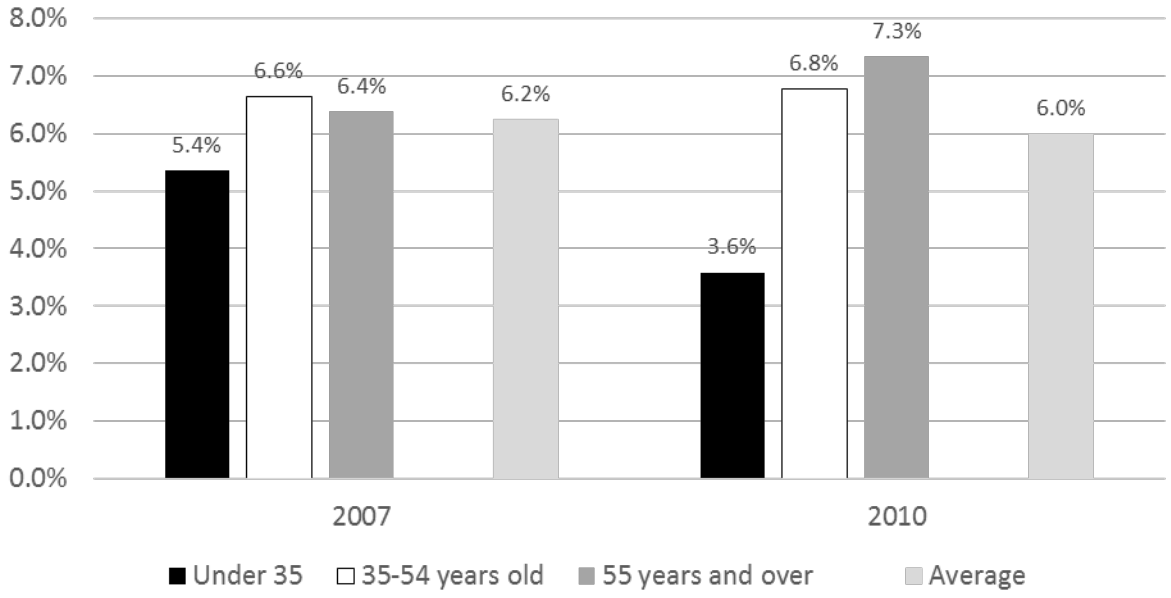
In 2007 and 2010 the LFS provided detailed information on work-related health conditions[17]. In 2007, just over 6% of teachers reported that teaching had made them ill. There was little difference between the age groups. In 2010, the proportion of teachers who had been made ill by work remained much the same (at 6%). However, there were differences between the age groups, with older teachers (aged 55 and over) more likely than other teachers to report that they had been made ill by work although the difference with those aged 35-54 was not large (see Figure 9).

[17] This is based on the LFS variable "Whether (the respondent was) made ill by job in last year"

The proportion of teachers self-reporting a work related illness is higher than the proportion of workers reporting illnesses in a comparable group of professionals[18]. This higher rate of reported illnesses is consistent across all age groups in both 2007 and 2010.

In the comparator group, the proportion of workers reporting a work-related illness was 3.5% in 2007 and 3.7% in 2010 and there was no difference between the three age groups.

Figure 9 Work related illness reported by teachers



Labour Force Survey, 2007 to 2010

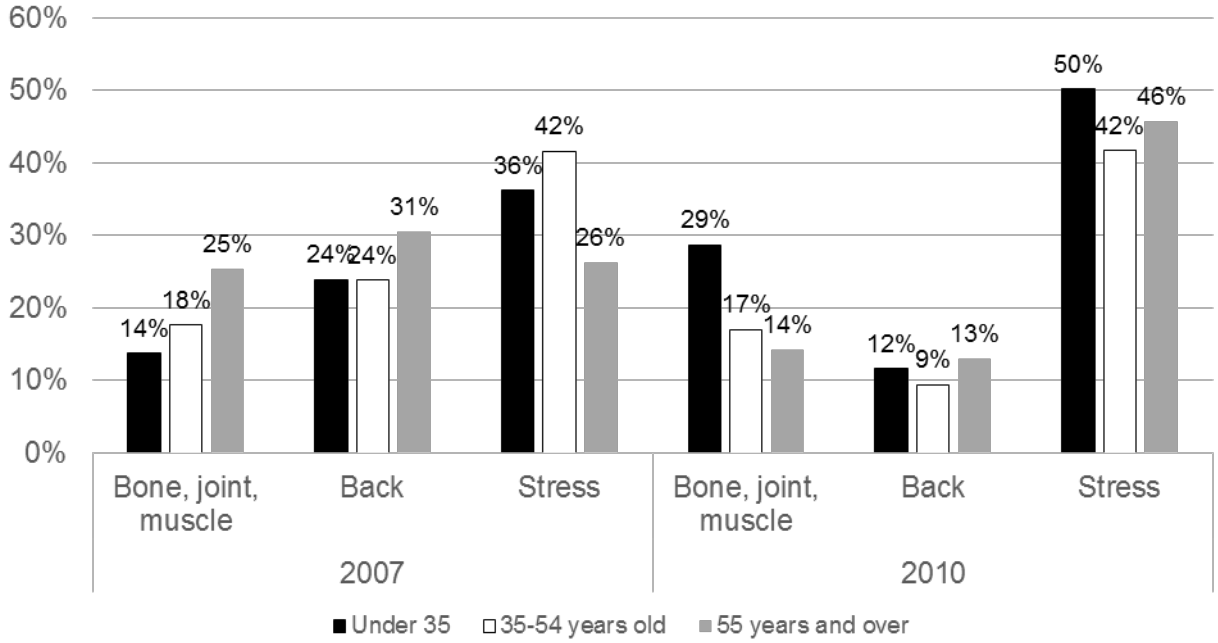
The most common illness caused by work among teachers was stress, anxiety and depression in both 2007 and 2010 (see Figure 10). Musculoskeletal conditions were the other common physical health problems among teachers. This broadly mirrors the balance of disorders reported in studies of teachers' health in Finland and Germany described in the previous chapter. There are some differences between 2007 and 2010 but the sample size is small so these are not significant. In 2010, stress is the most common illness for all age groups, whereas in 2007 back problems for teachers over the age of 55 were more common than stress conditions. The overall proportion of total illnesses that were stress, anxiety or depression among teachers increased between 2007 and 2010. The most common illnesses reported by teachers were the same as the

[18] The comparable group of professionals was made up of Health Professionals (SOC code 221), Therapy Professionals (222), Nursing and Midwifery Professionals (223), Legal Professionals (241), Business, Research and Administrative Professionals (242), Architects, Town Planners and Surveyors (243), Welfare Professionals (244), Librarians and Related Professionals (245), Quality and Regulatory Professionals (246), and Media Professionals (247).

most common illnesses reported by workers in the comparable group of professionals. As with teachers, the most commonly reported illness was stress.

The proportion of illnesses reported as stress in the comparator group was 36% in 2007 and 48% in 2010. As with the results for teachers, there was no clear pattern between age and the type of illnesses reported.

Figure 10 Illnesses attributed to work



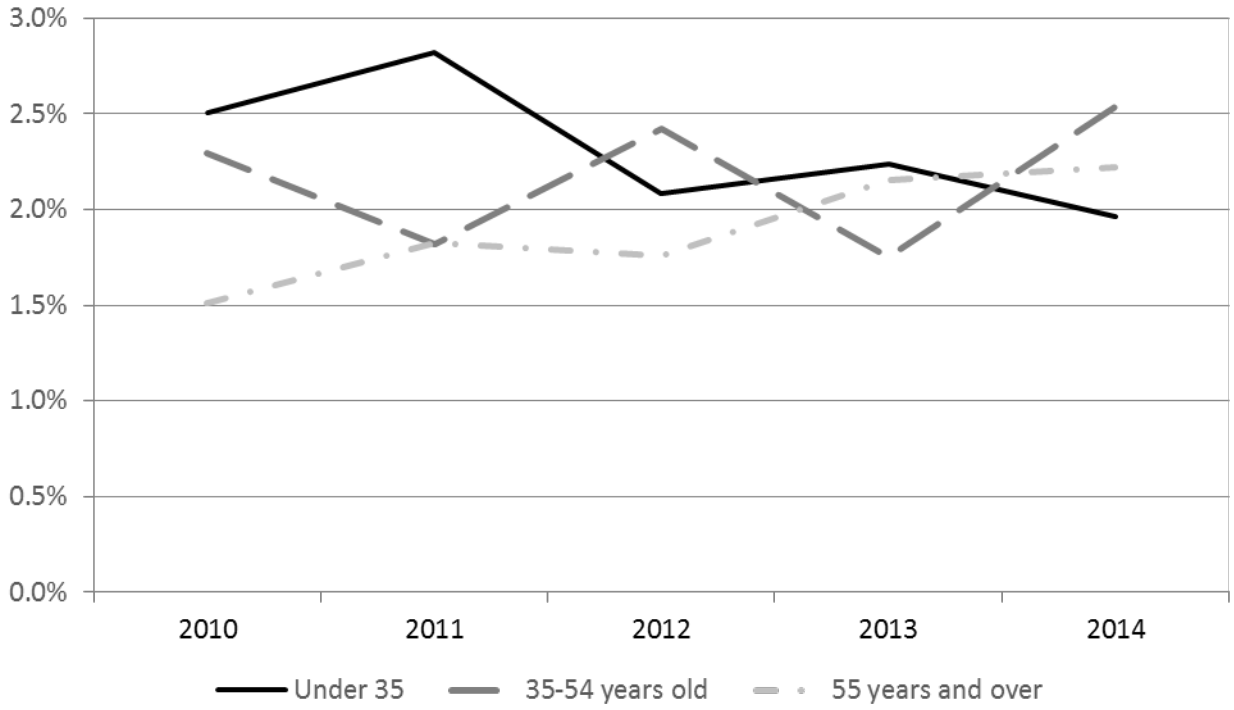
Labour Force Survey, 2007 to 2010

Older teachers' absence

Three data sets allow analysis of the relationship between the average age of a teacher and their absence from work through illness. These are the SWC, the LFS and the Health Survey. The SWC is the most detailed data source, but this only covers teachers. The LFS and Health Survey allow a comparison between teachers and individuals who work in comparable sectors.

The LFS reported the number of individuals who had been absent from work in the past week due to sickness or injury. This data was analysed for teachers and by age group. It shows that the percentage of teachers who had been absent from work in the past week was similar across the age groups, but slightly lower for older teachers when compared to younger teachers (see Figure 11 Average absences from work in week previous to survey) over the entire period analysed (the difference was not statistically significant). However, the percentage of older workers who reported being absent had increased while decreasing for younger workers. In 2014 older workers were on average slightly more likely to be absent than younger workers, although these differences were not statistically significant.

Figure 11 Average absences from work in week previous to survey

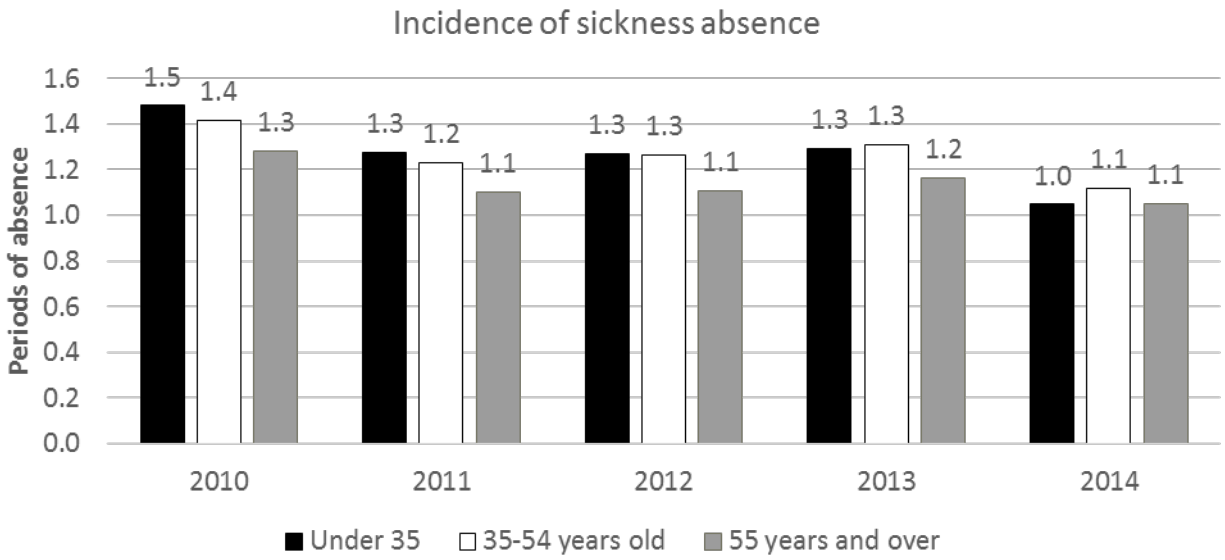


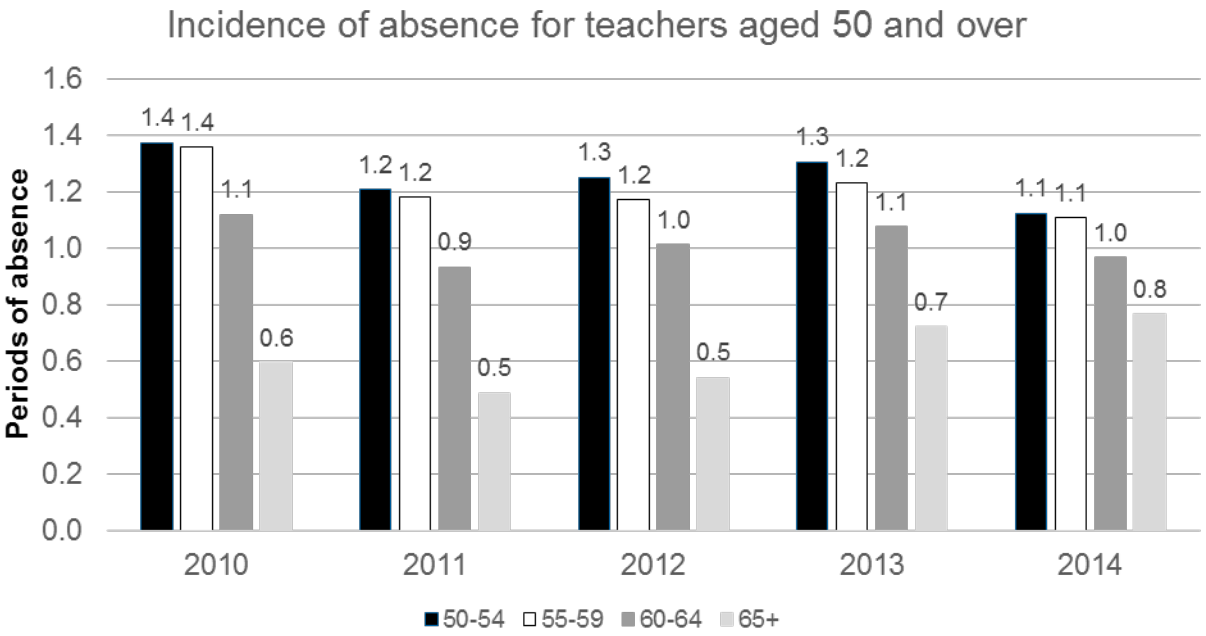
Labour Force Survey, 2010 to 2014

Similar findings were found from analysis of the other data sources. Using SWC data, Figure 12 again shows that older teachers are less likely to have an incidence of absence through sickness than their younger colleagues. This has been found in studies of smaller samples of teachers, such as Freude et al's (2005) study of teachers in Germany.

Figure 13 shows that teachers in leadership and management positions are less likely than classroom teachers to have an incidence of absence. This pattern was observed across all age groups and years. As with the pattern for all teachers, older leaders are less likely to have an incidence of absence than younger leaders.

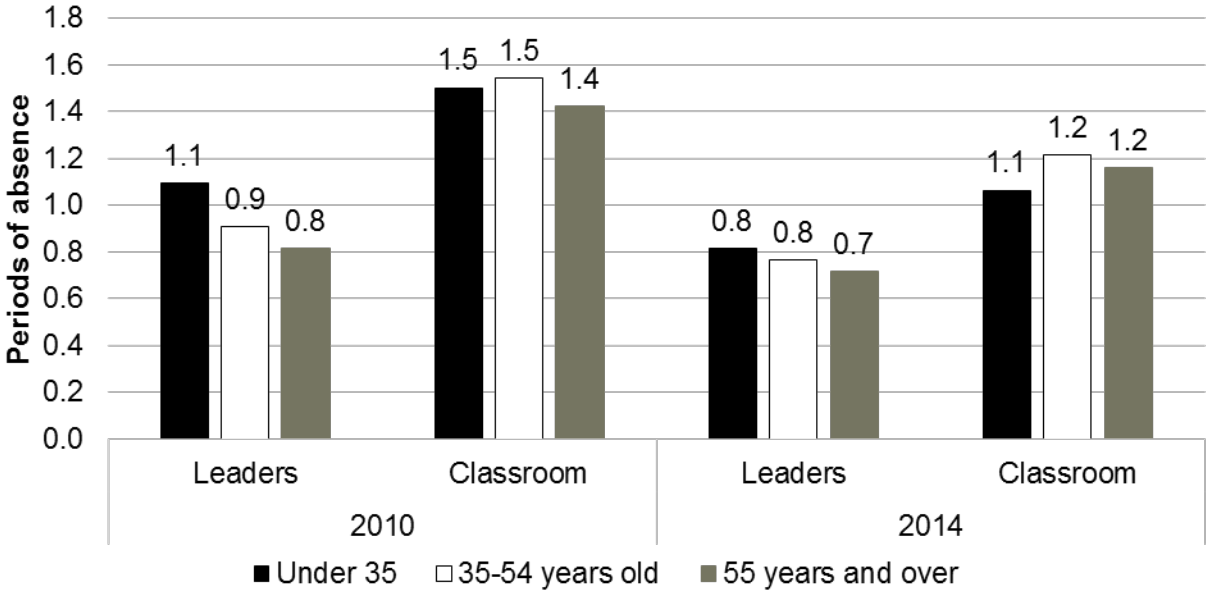
Figure 12 Average incidence of sickness absence (separate periods of absence)





School Workforce Census, 2010 to 2014

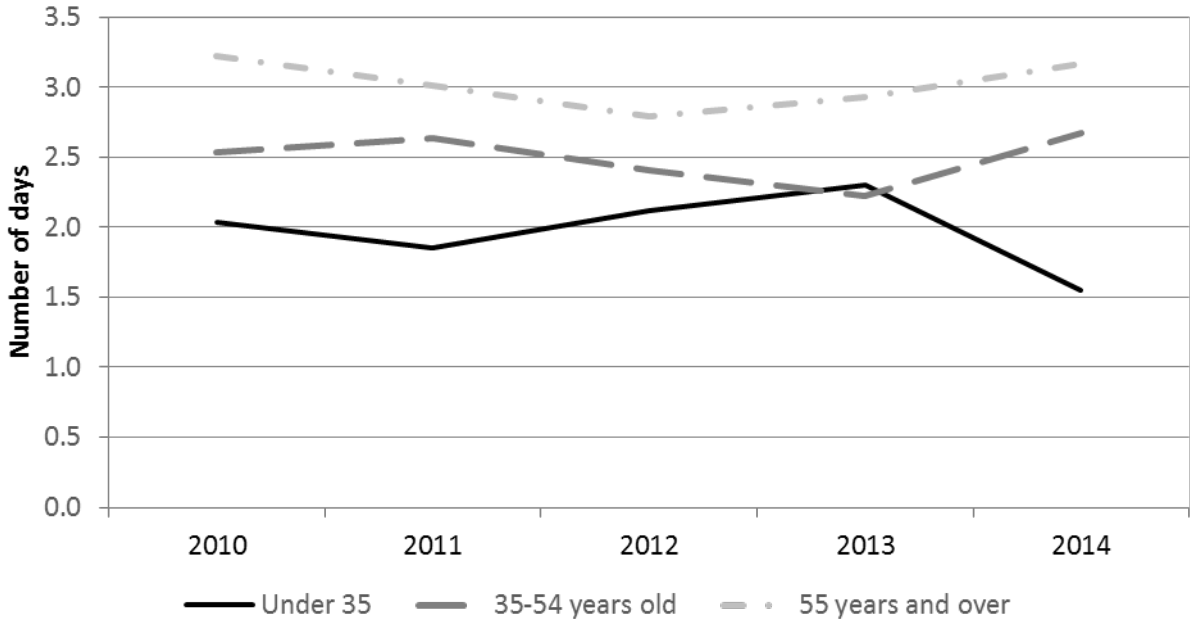
Figure 13 Average incidence of sickness absence (separate periods of absence) by job role



School Workforce Census, 2010 to 2014

Figure 14 shows that older teachers generally had a longer average duration of sickness than younger teachers (although the difference is not statistically significant) with the annual figures varying between an average of 2.5 to 3.5 days for teachers aged 55 and above and between 1.5 and 2.5 days for teachers aged under 35 (from LFS data).

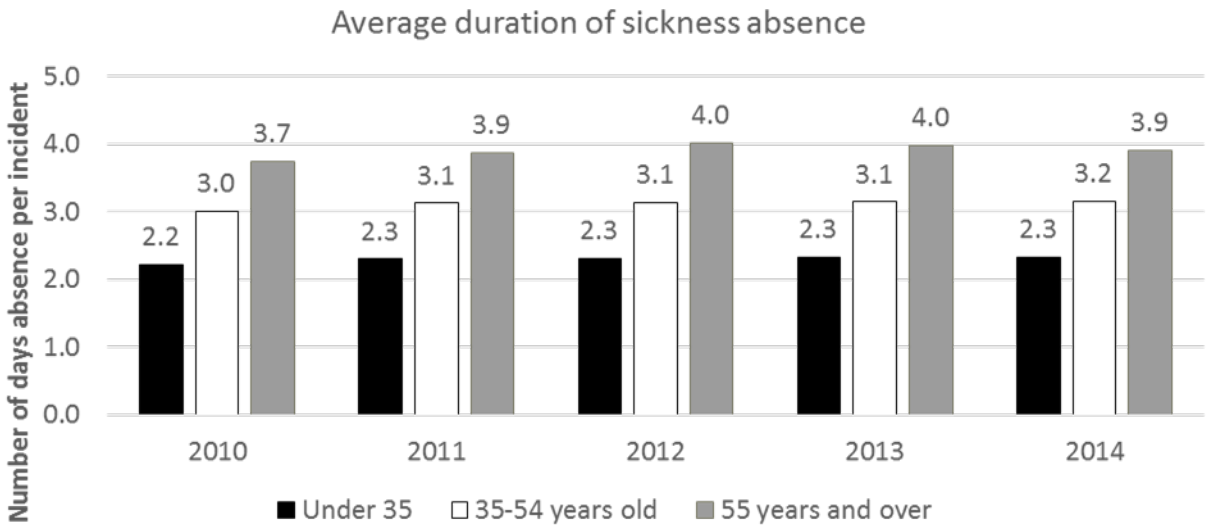
Figure 14 Average duration of absence (days)

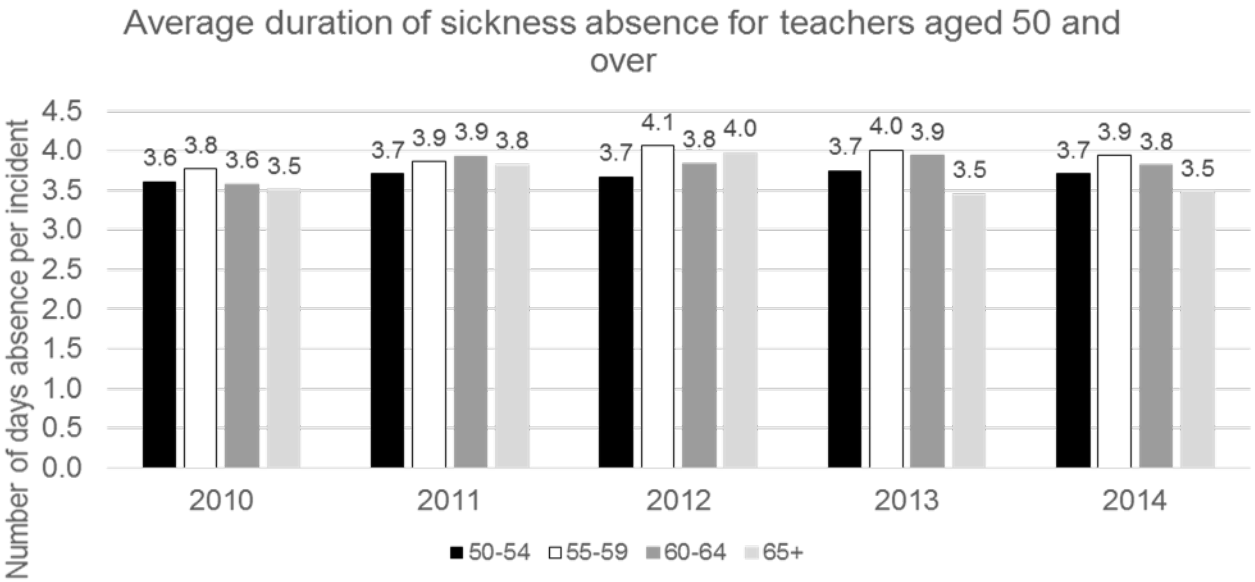


Labour Force Survey, 2010 to 2014

Again the SWC data shows that when teachers aged 55 and over were absent due to sickness the duration of absence was longer than for younger workers. Among teachers aged over 50, there is no evidence that the duration of absence rises with age towards pensionable retirement age (see Figure 15). The SWC data also shows that teachers in leadership and management positions have a higher average duration of sickness absence than classroom teachers in all age groups. Again, this is consistent across all age groups and years (see Figure 16). Older leaders have a higher average duration of sickness absence than younger leaders.

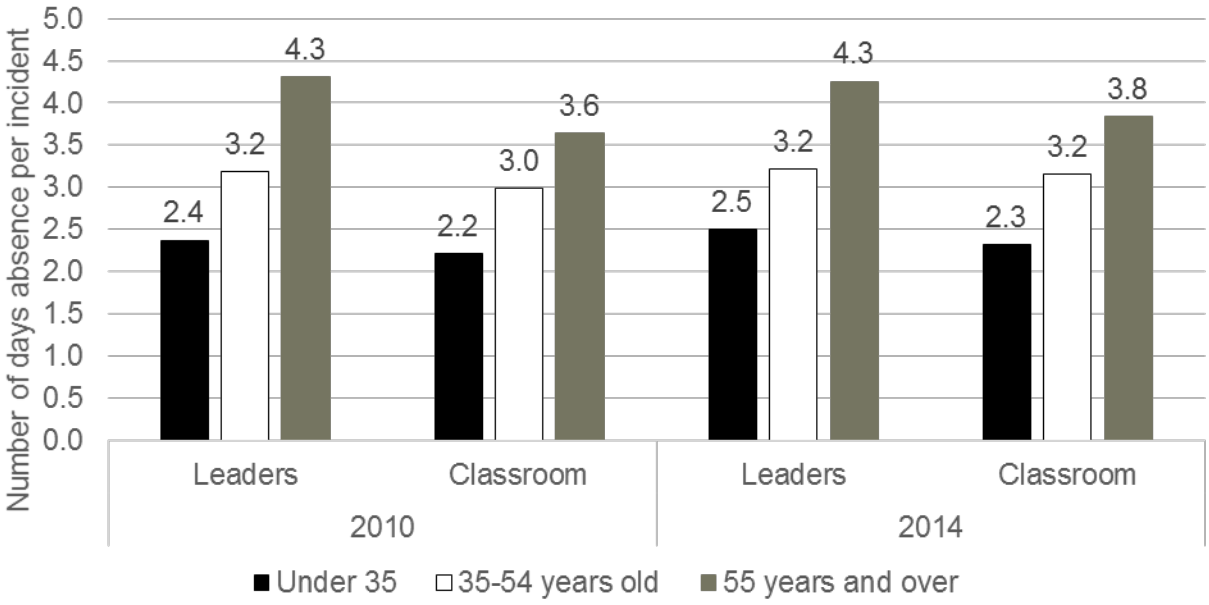
Figure 15 Sickness absence duration (days)





School Workforce Census, 2010 to 2014

Figure 16 Sickness absence duration (days) by job role

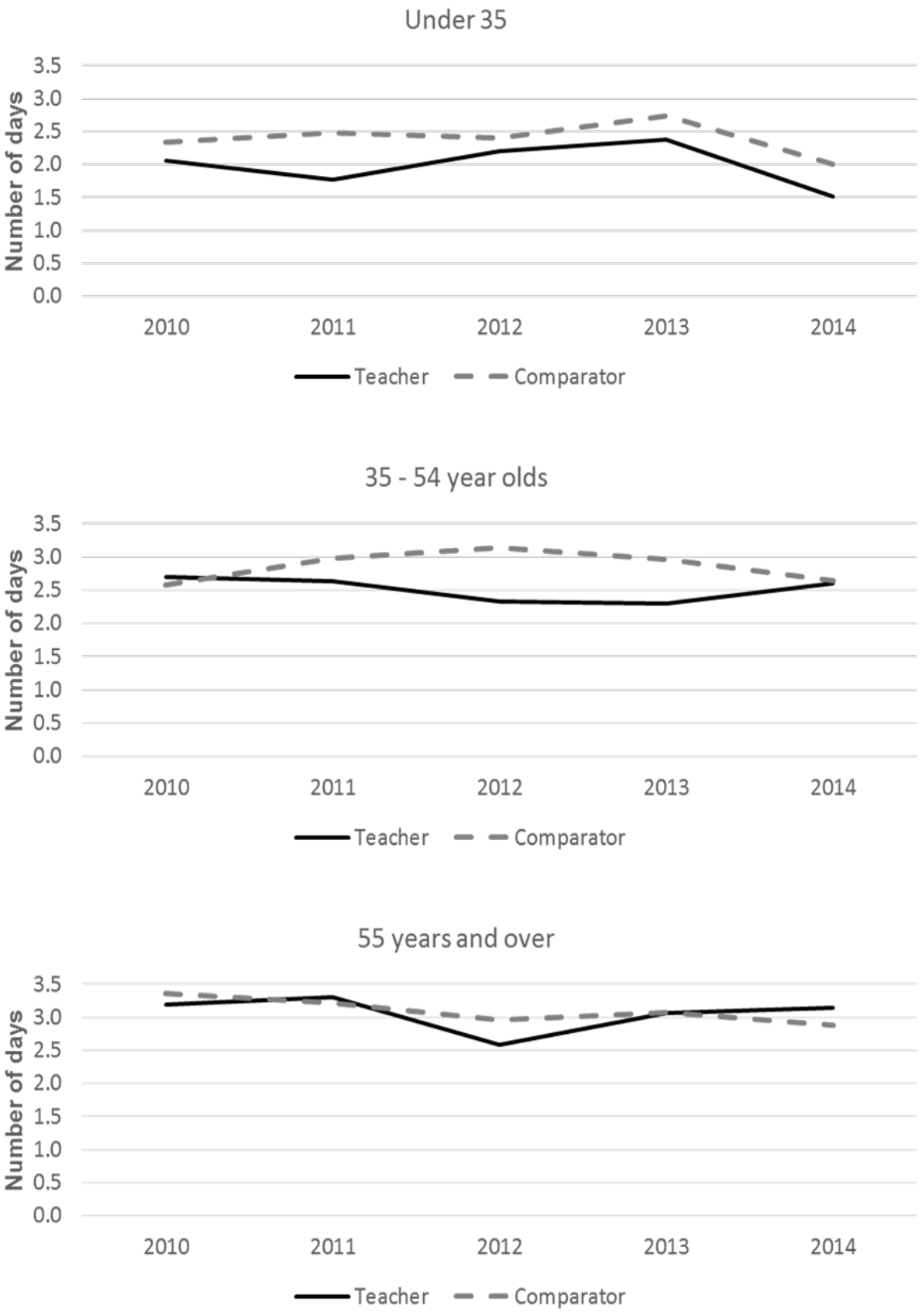


School Workforce Census, 2010 to 2014

Comparing the patterns of absence among teachers with a group of professionals[19], the percentage of teachers reporting absence was very similar to other workers in all age groups. However, there were greater (although non-significant) differences between the duration of absences reported by teachers and comparable professionals. In the younger age groups, the average duration of teacher absence was consistently slightly lower than for comparable professionals (see Figure 17). This difference generally persisted in the 35 to 54 year old age group, but this gap did not exist in the 55 years and over age group.

[19] The comparable group of professionals was made up of Health Professionals (SOC code 221), Therapy Professionals (222), Nursing and Midwifery Professionals (223), Legal Professionals (241), Business, Research and Administrative Professionals (242), Architects, Town Planners and Surveyors (243), Welfare Professionals (244), Librarians and Related Professionals (245), Quality and Regulatory Professionals (246), and Media Professionals (247).

Figure 17 Average duration of absence from work: teachers compared to other professionals



Labour Force Survey, 2010 - 2014

The Health Survey provides information on the self-reported state of health of teachers and a comparable group of professionals[20]. Figure 18 shows that the percentage of teachers reporting they were in “very good health” decreased with age in 2012 and 2013 but not in 2010 or 2011. Apart from 2013, there was a similar pattern in the comparable professional group. This broadly supports the conclusions drawn in this REA that older teachers in work report slightly higher levels of poor health and lower wellbeing than young teachers.

Figure 18 Percentage of respondents stating they were in “very good health”, 2010 – 2013

Health Survey for England, 2010 - 2013

[20] This comparator group consisted of Health professionals and Business, media and public service professionals.

The SWC also allows a more detailed analysis of absence than the LFS, as the incidence of unauthorised absence, unpaid authorised absence and other authorised absence was collected. As with the incidence of sickness absence, older workers were slightly less likely than younger workers to have an incidence of unpaid authorised absence, unauthorised absence and other paid absence.

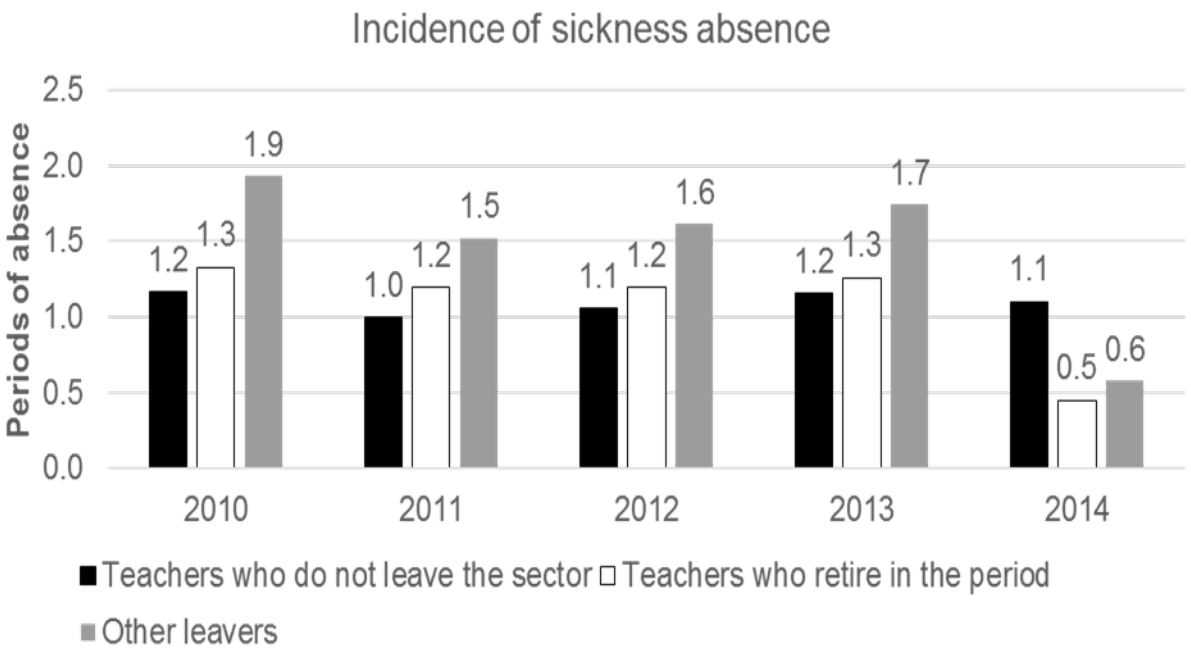
Absence and retirement

The SWC allows the relationship between absence and whether a teacher took up retirement during the period 2010 to 2014 to be explored. It should be noted that no causality should be attributed here (for example that the intention to retire causes higher absence rates, or higher absence rates cause retirement). The analysis for teachers aged 55 and over in Figure 19 and

Figure 20 show the incidence of sick leave (the number of separate periods of absence per teacher) and average duration of sick leave (number of days per incidence of sick leave) for three groups: those who had not retired before September 2014; those who retired between 2010 and 2014; and those who left the sector for other reasons. This shows that teachers who remain in the sector have a lower incidence of sick leave (in all years but 2014) and a shorter average duration than those who retire (in all years but 2014[21]). However, teachers who retire have a lower incidence rate and shorter average duration of absence than teachers who leave the sector for other reasons. This may indicate that health affects motivation to remain working in teaching, or that motivation to remain in teaching affects the propensity to take sickness absence when ill.

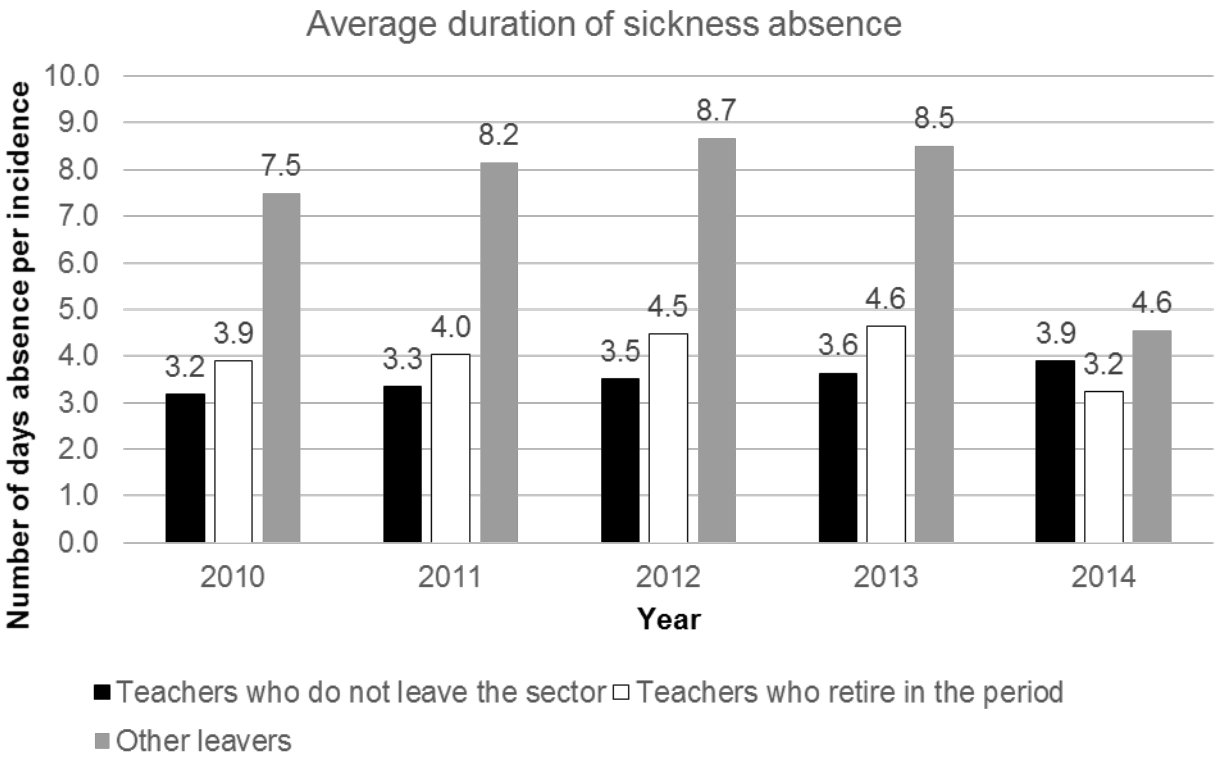
[21] In 2014 the sample size for teachers leaving the sector is much smaller than previous years, as the number of leavers from the sector is much smaller. Therefore conclusions should not necessarily be drawn from large differences between the results for 2014 and previous years.

Figure 19 Incidence of sickness absence for teachers aged 55 and over 2010-14



School Workforce Census, 2010-2014

Figure 20 Sickness duration of teachers aged 55 and over 2010-14

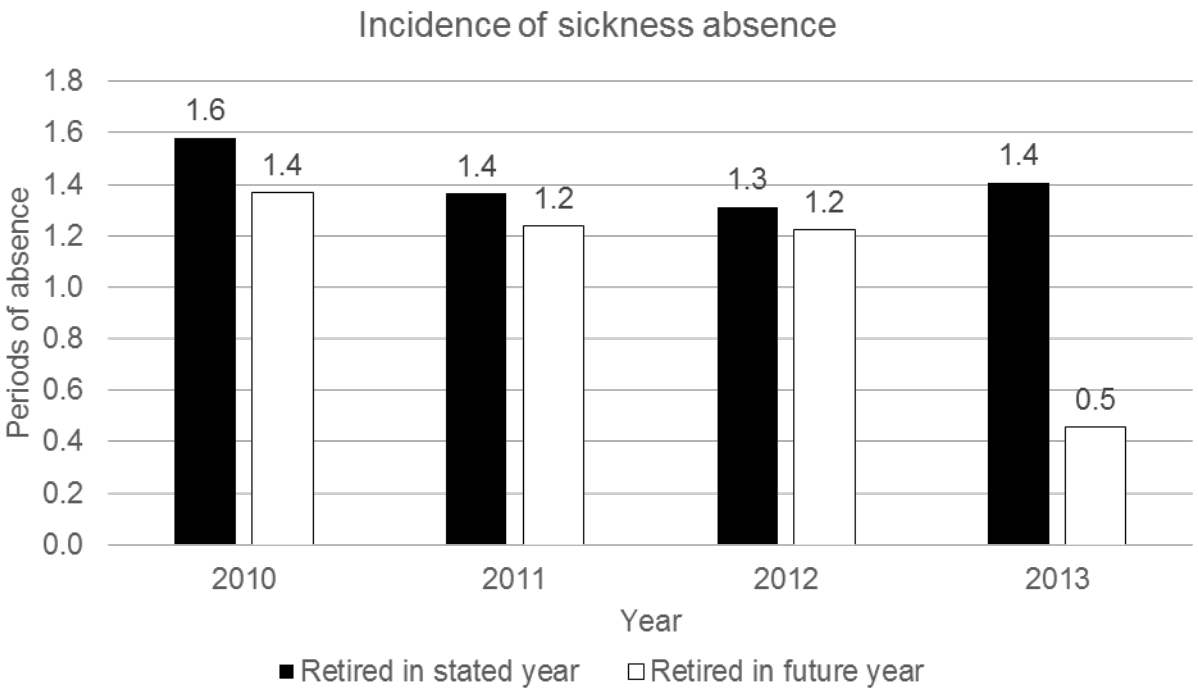


School Workforce Census, 2010-2014

In order to examine the relationship between retirement and absence in more detail, the year of retirement was introduced as an additional variable. This allowed a calculation of the incidence and average duration of absence for teachers retiring in that year to be made. This was then compared against the incidence and average duration of absence for teachers who retired in future years (for example the incidence of absence in 2010 for teachers who retired in 2011 to 2014). This analysis was again limited to teachers aged 55 and over.

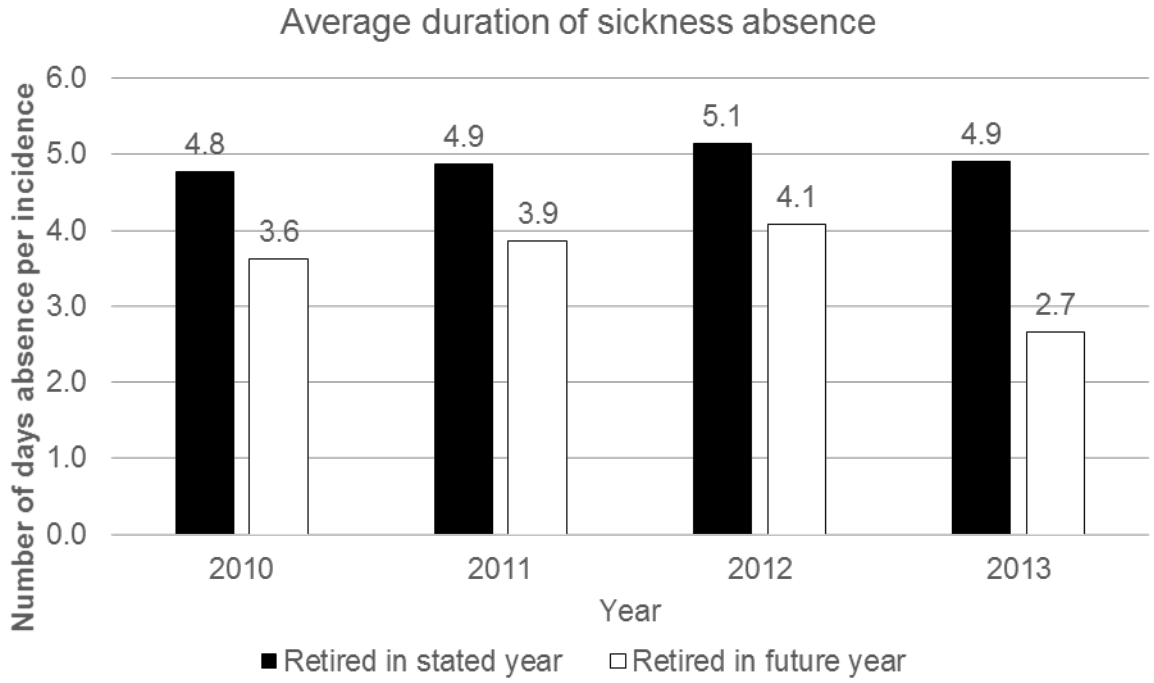
Figure 21 shows that there was very little difference between the incidence of sick leave between teachers who retired in the stated year and those who retired in future years. However, there was a greater difference between the average duration of sickness absence (see Figure 22). This difference was maintained over the entire period analysed (2010-13).

Figure 21 Incidence of sickness absence 2010-13



School Workforce Census, 2010-2014

Figure 22 Duration of sickness absence 2010-13



School Workforce Census, 2010-2014

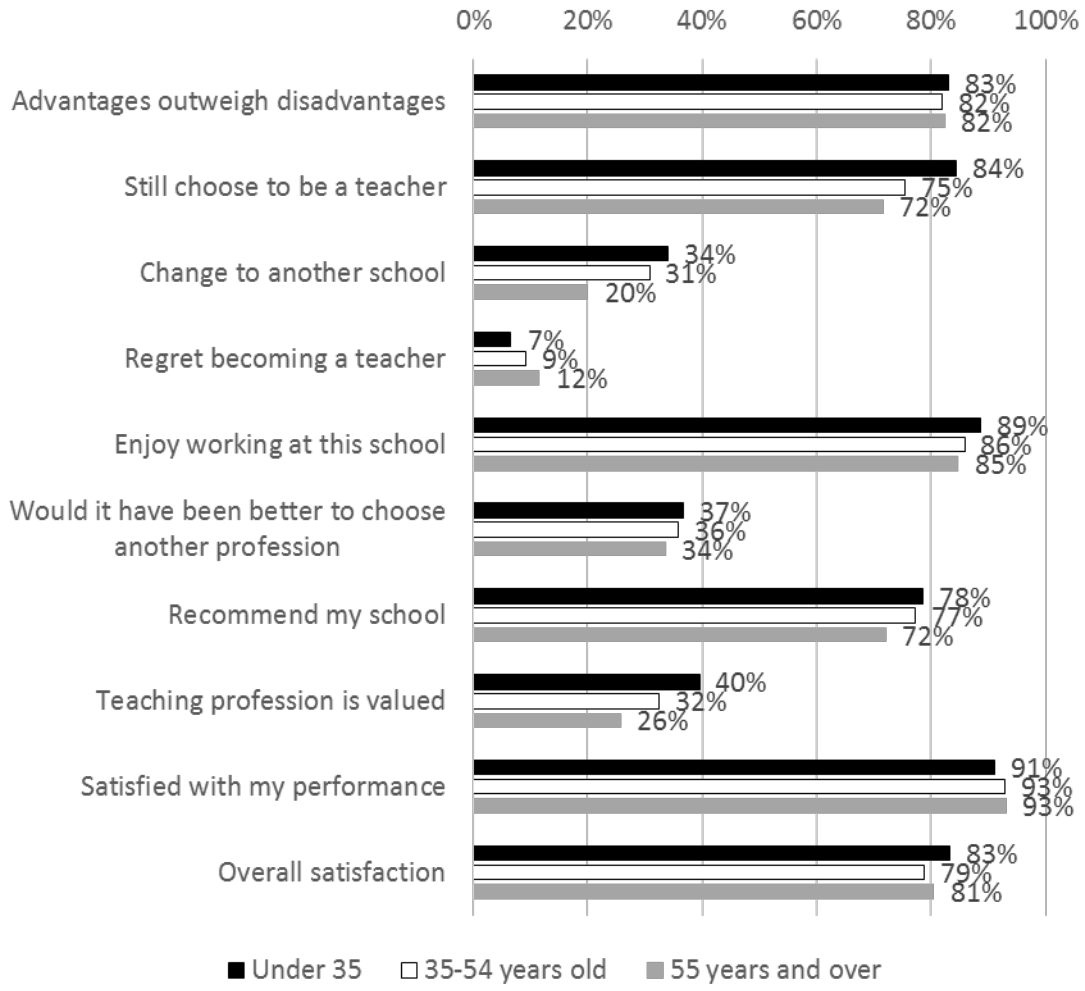
Teachers' motivation and work ability

The OECD's TALIS survey collects teachers views on their profession, including satisfaction, access to training, the time spent on different tasks and their ability to carry out tasks which may reflect their motivation and work ability.

Job satisfaction

The overall level of job satisfaction for teachers is similar across the three age groups (see Figure 23). However, there are some noticeable differences between the age groups for some of the questions around job satisfaction. Older teachers were less likely to agree with the statement that they would choose to be a teacher again if they had the choice, and more likely to say that they regret becoming a teacher (12% compared to 7% among young teachers). Older teachers were less positive in how they saw teaching being valued by society (72% compared to 84% of younger teachers). Factors such as being valued were found to be important in studies of older workers' intention to retire described in the previous chapter (Warburton et al and Muurinien et al).

Figure 23 Teachers' satisfaction with the job in England



OECD TALIS data, England 2013

This suggests that older teachers' views of the profession are less positive than younger teachers. However, similar percentages of older teachers and younger teachers reported that they enjoyed their job (85%), that they were satisfied with their performance in their job (93%), and that the advantages of being a teacher outweigh the disadvantages (82%).

Training

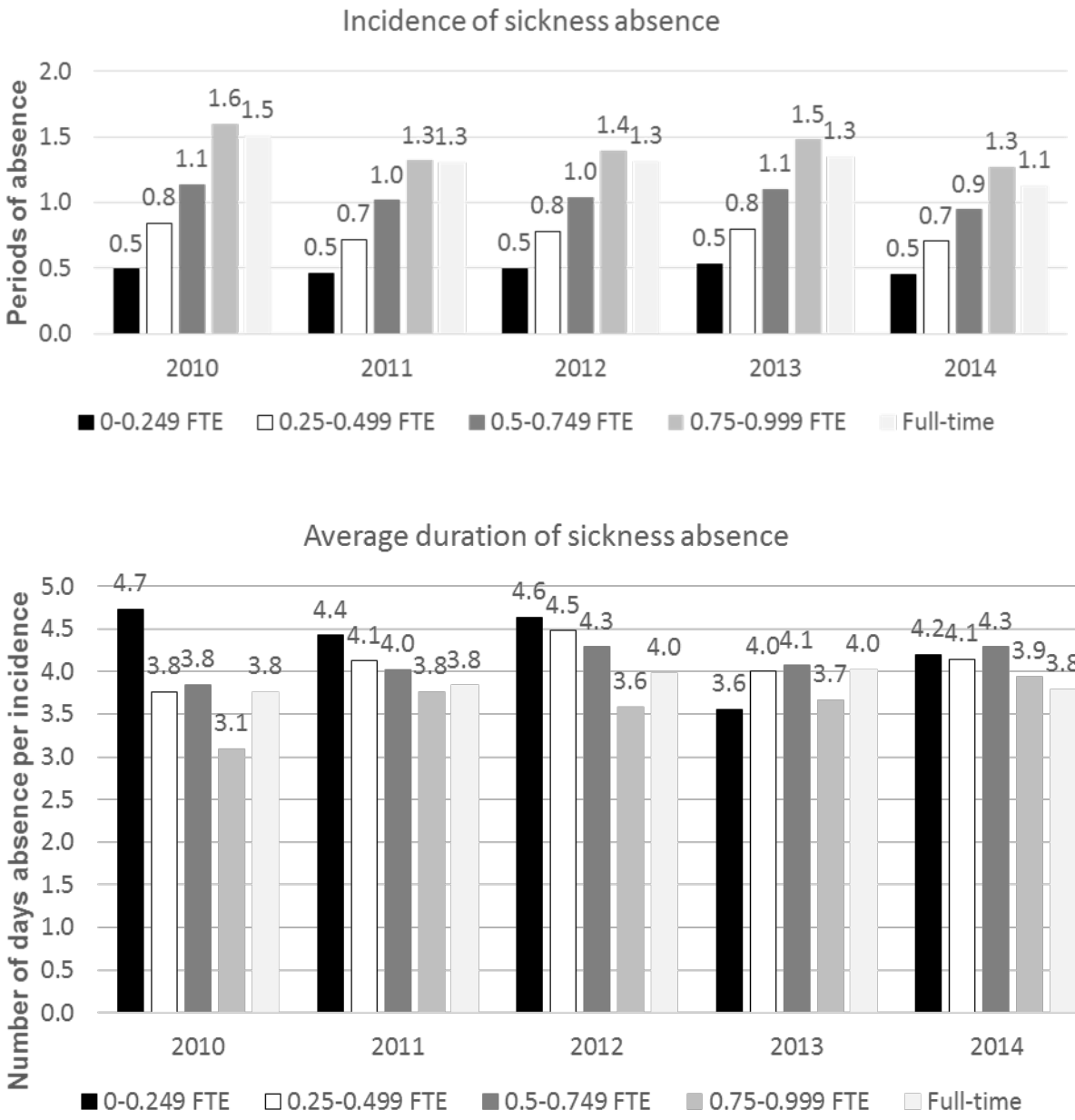
One factor which could have an impact on job satisfaction is take up of training. A slightly lower percentage of teachers aged 55 and over reported having participated in any training in the last 12 months than those in younger age groups (81% for teachers aged 55 years and over, 89% for teachers aged under 35 and 91% for those aged 35-54 years). This was particularly the case for training leading to qualifications. There were no barriers to training which were more prevalent among older teachers than younger teachers with older teachers less likely to agree with statements suggesting barriers to training, particularly conflict with work schedule.

One area where a higher proportion of older workers than younger workers said they needed training was in ICT (77% of over 55 year olds, compared to 63% of under 35 year olds). Despite this, only 45% of over 55 year old teachers who attended training had training in ICT.

Impact of contextual factors on teachers' health

The SWC allowed the examination of some contextual factors on teachers' health. One such factor was the opportunity to work part-time (Figure 24). Among teachers aged over 55 the incidence of sick leave was much lower for part-time workers than full-time workers. The incidence rate decreased with the amount of time a part-time worker was at work. However, the duration of sick leave for part-time workers was generally higher than for full-time workers. This suggests that more flexible working conditions alone do not necessarily allow teachers to be in better health and be present more often. However, there could be other factors influencing these findings (for example teachers in poor health taking part-time work as they recover).

Figure 24 Hours worked (FTE) and sickness absence



School Workforce Census, 2010-2014

Conclusions

The data analysis indicates that:

- The number of teacher retirements has fallen over the last four years after several years of increases in teacher retirements, at the same time as there has been a small increase in the average age of retirement;
- ARB retirements have increased while ill health and premature retirements have decreased. Ill health retirement is predominantly granted to teachers aged over 50 with the highest proportions aged 55-59;

- Teachers' absence through illness from work compares favourably with other professional workers; teachers aged over 55 have shorter absences than other professional workers;
- There is support for some of the findings from the REA often based on small samples of teachers in similar contexts:
- absence through illness is not significantly related to age;
- teachers reporting very good health does not fall greatly from the age of 55;
- school leaders have fewer incidences of sickness absence than classroom teachers;
- the duration of absence is longer for teachers aged over 55 (both for classroom teachers and school leaders); and
- stress related illness is the greatest reason for ill health absence among teachers;
- The OH Assist data on the reasons for ill health retirement in England show a much greater proportion relate to physical illnesses than mental disorders, contradicting the findings from the REA based on samples and, in some cases, self-reporting;
- Older teachers' absence from work through illness is not closely related to taking retirement though it may be a factor in leaving teaching;
- Falling perceptions of being valued and increasing perceptions of regretting teaching as a career may indicate lower motivation, although older teachers are as likely to enjoy the school they work in and feel they are satisfied with their performance as younger teachers; and
- Some of the incentives identified in the REA which keep older workers engaged in their work, such as providing training and maintaining satisfaction with their place of work, may not be in place.

Conclusions

This section presents the conclusions from the REA and the datasets analysis taking account of the quality, breadth and depth of the evidence.

Overview of key findings

These are the key relevant findings emerging from the analysis:

- There is indicative evidence that the health of school teachers is more likely to be adversely affected by their job than for head teachers, university teachers and teaching assistants;
- Teachers report stress related illnesses more than other health related problems and these affect teachers of all ages. Although there is some contradictory evidence, older teachers are less likely to report stress related illness than inexperienced teachers;
- Teachers aged over 50 report that they have slightly lower levels of wellbeing and overall health than younger teachers and report physically related illnesses more than younger teachers but these differences are not large;
- Teachers aged 55 and over have similar levels of reported sickness than younger teachers although the duration of their absence is slightly longer;
- Education workers are less frequently absent from work through sickness than comparator groups up to the age of 55, then absent for similar frequencies;
- Older teachers' work ability does not appear to affect their performance in terms of their contribution to schools'/learners' educational outcomes;
- While older teachers are more pessimistic about their job than younger teachers which may affect their motivation, other attitudes are similar to younger teachers;
- Physical related illness accounts for more ill health retirements than mental illnesses;
- Occupational health services are not well known about and it is not clear to what extent they are used as a means to enable teachers to access treatment which helps to extend their careers.

The findings can address some of the study aims better than others as set out in Table 5 below. In particular it is not possible to consider how suitable rehabilitation, OHS and welfare services are to providing appropriate support for teachers who are working longer and those applying for ill health retirement. Nor is it possible to address how well the provisions in teacher pension schemes are understood by members and employers.

Table 5 Key findings

Research aim	Key findings
The physical, mental and emotional demands of each role within the teaching profession, and an assessment of the impact of age on each of these roles, including how any particular issues caused by growing older could be addressed.	Teachers tend to have higher levels of reported stress than head teachers and teaching assistants. The work ability of teachers does not significantly deteriorate as they age though it does fall because their overall physical health falls from the age of 50 (though this is no different from other professional workers). Teachers report stress related illnesses more than other health related problems and these affect teachers of all ages more than other groups of workers. Although there is some contradictory evidence, older teachers are less likely to report stress related illness than inexperienced teachers. Older teachers aged 55 and over have similar levels of reported sickness than younger teachers although the duration of their absence is slightly longer. Education workers are less frequently absent from work through sickness than comparator groups up to the age of 55, then absent for similar frequencies. There is no evidence to suggest that older teachers have a negative effect on pupils' attainments.
The medical conditions which underpin applications for ill health pensions and how these could be addressed	The OH Assist data for ill health retirement in England shows that cancers account for as many reasons for ill health retirement as mental health disorders. Mental health problems and stress related illnesses are more commonly reported by teachers as reasons for their ill health retirement.
The provision, availability and quality of occupational health support and other support and health services (e.g. to assist those with loss of mobility) and how suitable they are to providing appropriate support for teachers who are working longer.	Occupational health services are not well known about and it is not clear to what extent they are used as a means to enable teachers to access treatment which helps to extend their careers' Compared to health workers teachers facing ill health retirement are not often offered OHS. Teachers on long term sickness absence may be assisted to return to work with OHS and rehabilitation. Older teachers can benefit from having a dialogue about their career plans and opportunities to adjust their roles.

Research aim	Key findings
The current teachers' ill health pension provisions; how suitable they are for teachers who are working longer and how well the provisions are understood by members and employers.	Older teachers' motivations to remain in work may be assisted by opportunities to work in less stressful roles/work fewer hours which the TPS enables.

Implications of the review

With teachers faced with working longer than many do at present into their 60s and for some in time continuing to work beyond the age of 65, schools might expect to find that the duration of sickness will rise and that more of these incidences may relate to physical as much as stress related illnesses. Actions to address older teachers' health conditions may have to focus not just on occupational health and welfare but also the work environment since these also make a considerable contribution to teachers' mental health and their motivation to work instead of retiring from teaching.

To address longer working, the employers of teachers should consider:

- Offering services which can help teachers to manage health conditions and maintain their work ability. Where OHS and rehabilitation services are available, these need to be offered; where welfare and advice services are available these may need to be better promoted;
- Adjusting working conditions which give rise to stress related illness and/or roles which can reduce stress (not necessarily reducing hours). The TPS provisions for career average earnings affecting the pension paid should assist in enabling teachers to change to lower paid roles which they may find less stressful/demanding before they retire;
- Providing career support for older teachers through regular review of ambitions and needs;
- Promoting and providing training that is required by teachers aged over 50 so they can better manage their job and feel valued.

Gaps in the data and literature

The study has been limited by the scope of the literature as well as its quality. The data has provided some useful supporting evidence.

In particular it should be noted that:

- Empirical research on some of the specific questions is not extensive or does not fully address the question;

- Studies were often small scale (relatively small samples of teachers and schools), relating to a specific country and area within it;
- Age differentiation was often crude (under and over 45, younger/older) and did not necessarily relate to those aged 60-64 or 65 and over;
- Role differentiation was seldom assessed in studies though a few studies focused on specific groups, such as head teachers or lecturers and early years teachers, for example;
- Studies on health generally focused on those who were in the workforce whose health might generally be expected to be better than those who have left in their 50s and 60s.

Neither the data nor the literature allow the study to examine the impact of teachers working longer into their 60s because they either relate to a workforce which has few teachers aged in their 60s or have no data specifically for those aged over 60.

There is also very little literature about the efficacy of any provisions to motivate and support teachers working longer by addressing their health and wellbeing.

Annex 1: Review protocol

The review protocol focused on three aspects important for planning and then conducting the review:

Inclusion criteria: to decide what material is within scope for the review;

Search strategy: detailing the sources of material;

Search terms: detailing the search terms for journal databases.

Each of the following sections below sets out our thinking for each of these steps.

Inclusion criteria

The purpose of the inclusion criteria is to determine what material is within scope for the review. The study needed a broad approach (geography, timescale, publication type) because the material has to come from a wide variety of sources (not necessarily peer reviewed) and evidence from outside Europe could well be relevant. Table 6 provides the inclusion criteria drawing on the study objectives and the specific review questions in section 1, including the different groups of teaching staff in scope.

Table 6 Criteria for study inclusion

Characteristics of the literature	Inclusions
Time period	The study will focus on all literature published between 1990 and 2015.
Geography	Assessment of policy actions or interventions that affect teachers' ability to continue teaching and their motivation of teachers to work for longer. The countries of interest include: England Other countries in the UK EU Member States OECD member states
Type of publication	Peer reviewed journal articles Un-peer reviewed academic research outputs (reports; working papers; discussion papers; conference papers) Government/EC and government/EC commissioned research outputs Publications of other research organisations / think tanks / advocacy bodies Other documents provided by the call for evidence

Characteristics of the literature	Inclusions
Target groups	Teachers (by different roles – executive heads, head teachers, deputy heads, assistant heads, classroom teachers, and other specialists who are teachers by profession) – in early education, state-funded and independent schools, (including Academies and Free schools), special schools, PRUs, and SFCs Other comparable professions – health sector, children's services, social workers, youth worker, teaching support staff, further education workforce, higher education workforces
Study design	No exclusions on design (studies will be ranked by assessment of their quality)
Types of policies/interventions in scope	Pensions rules • Ill health pensions rules • Premature retirement • Retirement before Normal Pension Age(NPA) Information and guidance on pension rights Flexibility to adjust/alter roles • Provision for stepping down as a result of ill health • Phased retirement Flexible working patterns as a result of ill health or for phased retirement Occupational health support Career planning support Training and continuous professional development

Characteristics of the literature	Inclusions
Impacts/outcomes in scope	Increased ability to work longer (full-time or part-time) Increased motivation to work longer (different role/part-time) Improved performance in their role, in terms of outcomes for students and sustain/improve job satisfaction Delaying retirement until (or beyond) the NPA Taking up phased retirement as an alternative to ill health retirement Financial benefits to the state • Additional contributions to the TPS (less risk of requiring means-tested welfare in retirement) • Reduction in schools' recruitment/replacement costs • Reduced government expenditure on initial teacher training places

The search strategy details the sources of material. Table 7 below sets out the search strategy used based on the study objectives and the inclusion criteria.

Table 7 Search strategy

Type of source	Indicative sources for inclusion
Journal databases	EBSCO (this includes access to Education Research Complete, Social Sciences Full text); Scopus, Google Scholar Education Resources Information Centre (ERIC)
Specific journals	Educational Management & Administration The Cambridge Journal of Education Ageing and Society Demographic Research International Social Security Review Journal of Human Resources Labour Economics Economic and Labour Market Review British Journal of Occupational Therapy

Type of source	Indicative sources for inclusion
Research institutions	British Occupational Health Research Foundation Centre for Mental Health Institute for Fiscal Studies Institute for Employment Studies Pensions Policy Institute Oxford Institute of Ageing Institute for Policy Studies in Education, London Metropolitan University University of Birmingham Medawar Centre for Healthy Ageing Research The Centre for Research into the Older Workforce Institute of Health and Wellbeing, University of Glasgow (conducted a study in 2005 on teachers occupational health) Centre for Research on Ageing, University of Southampton Eurofound
Government and government agencies	Department for Education Education Scotland Department for Children, Education, Lifelong Learning and Skills (Wales) Department of Education (Northern Ireland) Health and Safety Executive General Teaching Council for Wales General Teaching Council for Northern Ireland General Teaching Council for England DG Education and Culture (European Commission) International Labour Organisation HM Treasury (for example, the Review of Ill health Retirement in the Public Sector) Department of Work and Pensions The Teaching Council (Ireland)
Other stakeholders and interest groups	Five submissions have been received as part of the call for evidence: • NAHT • Teachers Support Network • NASUWT (2) • NUT

Table 8 provides a set of search terms based on the study objectives. Each primary term will be combined with each secondary term, and in turn each secondary term will be combined with each tertiary term.

Table 8 Search terms

Primary search term	AND	AND
Teacher	Part-time	Adapting roles
Teaching assistant	Ageism	Work longer
Education workforce	Career break	Sickness absence
Public sector	Rehabilitation	Motivation
Instructor	Early retirement	Health
Lecturer	Occupational health service	Psychological health
Deputy head/assistant head/vice headteacher	Retire	Ageing
Senior teacher	Flexible working	Mental health
Head teacher/headteacher	Ill health retirement	Physical health
School support staff	Job share	Flexibility
Health sector	Pension	Emotional health
	Phased retirement	Ill health
	Premature retirement	Capability
	Redeployment	Stress
	Retirement planning	Minority
	Sabbatical	Gender
	Teachers' Pension Scheme	Women
	Workplace adjustment	Disability

Annex 2: Literature used in REA

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NAHT. Reponses to the Working Longer Review Stage 1 (Submitted by NAHT through Call for Evidence)

NASUWT. Age Discrimination in Employment 2015 (Submitted by NASUWT through call for evidence)

NASUWT. NASUWT Call for Evidence 1 2015 (Submitted by NASUWT through call for evidence)

NASUWT Sink or Swim? Learning Lessons from Newly Qualified and Recently Qualified Teachers

National Union Teachers. NUT – Working Longer Review – Stage 1 Call for Evidence (Submitted by NASUWT through call for evidence) 2015

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Annex 3: Data extraction template

Category	Review field	
Reference	Reference number	
	Full reference	
	Study title	
	Author/consultancy/contact	
	Year	
	Source	
	Country	
	Peer review	
Study overview	Study aim and objectives	
	Commissioning organisation	
	Does the study include evidence relating to evidence relating to the effects of ageing or any of the impacts or outcomes set out in the assessment framework? Y/N If NO, stop review	
Evidence of the effect of ageing	Evidence about the mental effects of working longer	
	Is this evidence broken down by age group? Are there significant differences between age groups?	
	Evidence about the physical effects of working longer	
	Is this evidence broken down by age group? Are there significant differences between age groups?	
	Is age treated as an explanatory variable in the paper? What effect does it have?	
Policy action overview	Classify the policy/intervention	
	Aims and objectives of the policy action	
	Nature of provision and key features	
	Target group for provision (e.g. roles, level of education, comparable professions)	
Assessment framework overview and specific review questions	Inputs (e.g. individual teachers' circumstances, work environment)	
	Policy interventions (activities)	
	Outputs	
	Outcomes	
	Factors influencing outcome achievement (what made the policy/intervention effective)	

Category	Review field	
	Impact/long-term benefits (e.g. impact on costs and contributions to the pension scheme, reduced replacement and recruitment costs)	
	Differential impact between different approaches, target groups or contexts (if applicable)	
	How was success/effectiveness demonstrated?	
	Evidence gaps - are there gaps in the evidence?	
Study results	Overview (if required)	
	Evidence of long-term impact of policy action	
	How are the impacts quantified?	
	What policy recommendations does the study make?	
Review of methodology	Methodology (empirical, model, survey, lit. review, case study etc.)	
	Sample size and sampling method (if appropriate)	
	Is working longer clearly defined as an impact/outcome? (Y/N)	
	Evidence of methodological and statistical robustness	
	Evidence of bias and independence (e.g. is the study produced in-house? Is the theory outlined by the study supported by data?)	
	Good practice methodology (Y/N – why?)	
	Innovative methodology (Y/N - why?)	
Dataset (if applicable)	Data source(s)	
	Time period	
	What could this dataset potentially be used for?	
	Available from/contact	
Assessment	What quality assessment would you give this piece of research? Use grading in quality assessment table	
	Use of study in final report (Y/N)	
	Reason for non-inclusion	
	Other comments	

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