THE ECONOMIC BURDEN OF RHEUMATOID ARTHRITIS
March 2010
ABOUT NRAS

NRAS provides support, information, education and advocacy for people with rheumatoid arthritis (RA) and juvenile idiopathic arthritis, their families, friends and carers. NRAS also provides support and information for people with RA to help them remain in work and effectively manage their condition. We are also a resource for health professionals with an interest in rheumatology, and work closely with rheumatology teams across the UK. Our goal is ‘a better life for people affected by with rheumatoid arthritis’.

EXECUTIVE SUMMARY

- Rheumatoid arthritis (RA) is a chronic, disabling autoimmune condition in which the body attacks itself. It predominantly impacts upon the joints, but can also affect other organs, such as the heart and lungs. It is a completely different condition to osteoarthritis, which it is frequently confused with. RA impacts heavily on people of working age (it is most common after 40, and three-quarters of people with RA are first diagnosed when of working age), and it is a major cause of sickness absence and – ultimately – worklessness. An NRAS report from 2007 found that almost 29.3% of the people with RA surveyed gave up work as a result of their condition – with 28.4% doing so within one year of diagnosis, and well over half (59%) doing so within six years.

- Around 580,000 people have RA in England – a figure which suggests that in excess of 690,000 people in the UK as a whole live with the condition. This is equivalent to over 1,000 people in every UK Parliamentary constituency.

- Recent years have seen a number of concerns about the provision of rheumatology services being voiced – with many of these concerns summarised by the NRAS-backed King’s Fund report for the Rheumatology Futures Group, Perceptions of patients and professional on rheumatoid arthritis care published in January 2009. In part as a result of these concerns, the National Audit Office (NAO) launched an investigation into the efficiency and effectiveness of services for people with rheumatoid arthritis, which reported in July 2009.

- The NAO’s report found scope for productivity improvements to be delivered by improving RA services, and – in particular – by diagnosing and treating RA earlier, which the report stated, “can limit progression of the disease”. The NAO’s report found that, “productivity gains could be achieved and patient quality of life improved through better integration and coordination of services”.
In order to ascertain the extent of these productivity gains, NRAS decided to undertake a re-assessment of the economic burden of the condition. We decided to do so because existing estimates are old (based on studies undertaken before 2000), and inappropriately combine the costs associated with productivity losses with spending on healthcare. This is inappropriate because increasing spending on healthcare should, as the NAO report highlighted, result in reductions in the costs arising from productivity losses. This report, which sets out NRAS’s own estimate of the economic burden of RA, makes use of more recent figures, and does not suffer from the methodological weaknesses of earlier estimates.

This report finds that the overall cost to the UK economy of productivity losses due to RA is almost £8 billion per year – equivalent to over 2p on income tax (distributed between the four home countries as shown in chart 1 below). In contrast to this £8 billion economic burden, this report finds that NHS expenditure totals less than £700 million – with expenditure on social care adding to the expenditure on managing the condition (although a large proportion of this expenditure is paid for privately, rather than being funded – like the NHS – from general taxation). This report concludes, therefore, that the economic burden of RA is some 12 times more than the investment the UK taxpayer makes in treating the condition, as shown in chart 1.

**Chart 1: The economic burden of RA: UK countries**

<table>
<thead>
<tr>
<th>Country</th>
<th>Economic Burden</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>£6,641,468,202</td>
</tr>
<tr>
<td>Scotland</td>
<td>£665,731,916</td>
</tr>
<tr>
<td>Wales</td>
<td>£388,343,618</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>£229,836,019</td>
</tr>
</tbody>
</table>

Total economic burden of RA to the UK: £7,926,925,954
KEY RECOMMENDATIONS

• The National Audit Office (NAO) makes a large number of recommendations which are designed to improve the quality and provision of NHS RA services and deliver productivity benefits to country as a whole. Given the scale of the productivity losses apparent in this report, we ask the Government to address these recommendations as a matter of urgency. These recommendations include:

  o The Department of Health should explore the cost-effectiveness of options for raising public awareness of the symptoms of inflammatory arthritis, including RA, to encourage people to present to the NHS promptly after symptom onset.

  o The Department of Health and Primary Care Trusts (PCTs) should build on the NAO’s own economic analysis to promote the benefits to long-term health and the economy of the early treatment of people with RA, and of supporting people with the disease to remain in or return to work.

  o PCTs should assess the number of people with RA in their population, and identify what specialist and multidisciplinary services they need and how to design and deliver them by engaging with patients, their families, carers, rheumatology specialists and groups representing people with RA. To assist them in doing so, we recommend that the Department of Health asks the National Institute for Health and Clinical Excellence (NICE) to update the ‘costing report’ (ie a tool to assess the costs and benefits of improving RA services) which it provides to NHS organisations with this economic analysis.

• We believe that the best approach to take in implementing these and the other recommendations is to provide strong, national clinical leadership from within the Department of Health. We therefore agree with our partners in the wider musculoskeletal community that the Department of Health should appoint a National Clinical Director for musculoskeletal conditions, with responsibility – and clear lines of accountability – for improving NHS musculoskeletal services in general and, within this, RA services specifically.
We add to these recommendations, by asking – in this report – for a number of steps to be taken to improve future assessments of the economic burden of RA. These recommendations are important in order to measure progress, and are:

- The UK Health Departments should conduct their own detailed and comprehensive assessments of the economic burden of RA, to inform their own policy development.

- The UK Health Departments should conduct robust audits to ascertain the actual ages at which a person with RA is diagnosed, the proportion of diagnosed people who subsequently leave work, and the ages at which they do so.

- The Department for Work and Pensions (and its equivalents in the devolved administrations) should make an assessment of the social security benefits paid to people with RA, and the UK Health Departments should then build this into their own assessments of the economic burden of RA.
SECTION 1: Rationale for this study

- Rheumatoid arthritis (RA) is a chronic, disabling autoimmune condition in which the body attacks itself. It predominantly impacts upon the joints, but can also affect other organs, such as the heart and lungs. Severe RA can reduce life expectancy by between six and ten years.10 Around 580,000 people have RA in England11 – a figure which suggests that in excess of 690,000 people in the UK as a whole live with the condition.1 This is equivalent to over 1,000 people in every UK Parliamentary constituency.

- The last decade has witnessed a great deal of progress in the care given to people affected by RA. Waiting time targets have drastically shortened the time it takes to see a specialist from referral, while new treatments and surgical techniques have allowed people living with RA to expect a much-improved quality of life than was previously the case.

- There is, nevertheless, much more to do.

  - A report investigating the efficiency and effectiveness of RA services conducted by the National Audit Office (NAO), and published in July 2009, found that people with RA often encounter delays in diagnosis – for a variety of reasons – even though, “early diagnosis and treatment can limit progression of the disease.”12

  - A report last year by the King’s Fund – on behalf of the NRAS-supported ‘Rheumatology Futures Group’ – warned that some professionals believe that the 18-week waiting time target results in, “significantly greater delays in seeing patients with existing disease.”13

- These challenges not only impact directly on the lives of those living with RA: the failure to deliver world-class RA care also adversely affects the economy. RA impacts heavily on people of working age (it is most common after 4014), and is a major cause of sickness absence and – ultimately – worklessness. An employed person with RA has an average of 40 days’ sick leave a year (compared to 6.5 days for the average person), whilst an NRAS report from 2007 found that, of the 45% of people with RA not in work, 28.4% had given up work within one year of diagnosis.15

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1 Given that the England population is 83.8% of the UK total, and assuming that the burden of RA is directly proportional in all the UK’s home countries.
A key conclusion from the NAO’s report made clear that, “productivity gains could be achieved [by] better integration and co-ordination of services, leading to quicker diagnosis and earlier treatment, but in the short-term costs to the NHS would increase”.\textsuperscript{16} Achievable productivity improvements were estimated by the NAO to be in the region of £31 million each year, provided that additional investment was made in NHS services.\textsuperscript{17}

NRAS welcomes the NAO’s conclusions as a valuable contribution to the policy debate, and we hope that its findings will act as a stimulus to improve RA policy at the national level – in part through the appointment of a National Clinical Director with over-arching clinical responsibility for the NHS’s musculoskeletal programme. However, we have become concerned by some of the more frequently-cited estimates of the productivity losses due to RA, since we believe these understate the actual economic burden of RA and – as a result – underplay the actual productivity gains which could be achieved by delivering better services.

The NAO report quotes figures (although it does not make use of them in its own economic modeling), suggesting that the economic burden of RA is up to £4.8 billion a year.\textsuperscript{18} We believe that this figure is questionable because:

- It is based on a study undertaken in 2000, using figures from earlier years, and is now outdated.
- It inappropriately combines costs due to productivity losses with the costs of healthcare spending, which artificially inflates the overall ‘economic burden’ and confuses the issue at hand, which is whether spending on RA services is sufficiently high to minimise the overall productivity losses.

All public policy decisions need to be underpinned by an informed and robust consideration of the likely costs and benefits to individuals, families, the taxpayer and wider society. This is particularly true in the context of the current financial climate, when all public expenditure decisions must be exposed to close scrutiny and justified – where necessary – to the taxpayer. NRAS therefore decided to undertake its own analysis of the economic burden of RA, in order to address the concerns with the existing estimates set out above. This analysis adopts two stages:

- First, we have made an assessment of the actual productivity losses resulting from RA – first, by calculating the productivity losses incurred by the 26,000 new diagnoses of RA in England annually; and second, by calculating the legacy productivity losses amongst those who have already been diagnosed with RA and forced to give up work. By combining these two calculations, we reach a figure of £7,925,379,954\textsuperscript{2}, which we believe to be an accurate assessment of the actual per annum economic burden of RA to the UK.

\textsuperscript{2} The estimate is given to the nearest £ but cannot be regarded as accurate to this degree.
Second, we have made an assessment of the healthcare ‘costs’ associated with treating RA (ie healthcare spending). By undertaking this assessment, we can compare and contrast the economic cost to society of RA at present, and the investment society makes in treating it. This report estimates that the overall spending on RA healthcare services totals £688,544,153 per annum.

At each stage, we calculate first the figure for England, and then apply it to the devolved nations in proportion to the size of the home countries' populations. Although this assumes that the distribution of RA cases in Scotland, Wales and Northern Ireland is identical to that in England, we believe this is a sound basis on which more detailed work can be undertaken in the future. **We recommend therefore that, after having studied in detail the findings of this report, we believe all UK Health Departments must conduct their own assessments of the economic burden of RA, to inform their own policy development process.**
SECTION 2: The loss of productivity due to RA

As stated above, the productivity losses arising from RA can be broken down into two components:

- The new per annum costs associated with new diagnoses
- The ‘legacy’ per annum costs arising from those already diagnosed with RA

We deal with each of these in turn.

(2) (i) New per annum costs associated with new diagnoses

The NAO estimates that every year in England, 26,000 people are diagnosed with RA. In order to ascertain what their impact on the economy will be, it is necessary to identify or calculate the following variables:

- The age at which each of the 26,000 people was diagnosed with RA. Given the difficulties in determining this, we instead assume that all 26,000 were diagnosed with RA at the same ‘mean’ age.
- The proportion of the 26,000 new diagnoses who will – ultimately – leave work as a result of their condition, and when they do so. Given the similar difficulties, we assume that all people who will leave work due to RA do so at the same ‘mean’ age after diagnosis.
- The productivity losses associated with each person who leaves work. As a proxy measure for productivity per year, we use Office for National Statistics figures on mean earnings per annum. This is a reasonable assumption to make, since it is not unreasonable to assume that a person’s salary reflects their own productivity.

We deal with each of these in turn.

(2) (i) (a) Age at diagnosis

- There is no relatively available data source which provides a ‘mean age of diagnosis’ for RA. There are, for example, no ‘RA registries’ (akin to cancer registries) which capture information on diagnosis. The most useful central data source is the Department of Health’s Hospital Episodes Statistics (HES), which captures the age of each person admitted to hospital with a diagnosis of RA. However, it is likely that a person with RA will – in general – be admitted to hospital only some years after having originally been diagnosed, since the disease must have progressed to the point where a stay in hospital is required. Using inpatient HES data to ascertain a mean age of diagnosis is, therefore, unreliable, since the data sample will be skewed towards older people.

- Other data sources suffer from other limitations. The NAO report, for example, states that, “rheumatoid arthritis is most common after the age of 40, but can affect people of
any age\textsuperscript{21}, but does not provide an upper limit. Therefore, no mean age of diagnosis can be calculated from this.

- In the absence of clearly defined limits, we draw on the Arthritis Research UK’s statement that, “the most common age for the disease to start is between 40 and 50”.\textsuperscript{22} We therefore assume, from this, that the mean age of diagnosis is 45. Future estimates of the economic burden of RA could benefit from more detailed studies of the actual age of diagnosis, and we call on the UK Health Departments to commission these studies.

(2) (i) (b) Proportion of people who leave work

- There are a wide variety of available data which indicate when a person with RA might give up work following diagnosis. A 1987 study suggests that one-half of people with RA will have stopped work within 10 years of diagnosis.\textsuperscript{23} More recently, NICE has stated that one-third of people with RA will have stopped work within two years of symptom onset.\textsuperscript{24} However, none of these data sources indicate the proportion of people with RA who were already in work when their diagnosis was made.

- Data on both of these variables are contained in a 2007 study by NRAS, undertaken in partnership with Access Research, \textit{I want to work}.... This study found that 45.1\% of people with RA were not in work at the time of the survey\textsuperscript{25}, and that 64.8\% of these gave up work as a result of their condition.\textsuperscript{26} The study underlines, therefore, that 29.3\% of the 26,000 new diagnoses made every year will leave work – or 7,614.\textsuperscript{3} Once again, we note that future studies of the economic burden of RA could benefit from more comprehensive analyses, and ask that the Department for Work and Pensions takes a lead on this work (reflecting the knock-on impact RA has on social security payments).

- \textit{I want to work}... also offers an assessment of the length of time between a person’s diagnosis and their leaving work. These calculations are provided in table 1 below:

\footnotesize
\begin{flushleft}
\begin{tabular}{|c|c|}
\hline
Year of diagnosis & Year of leaving work \tabularnewline \hline
1987 & \textit{I want to work}... \\
\hline
2007 & \textit{I want to work}...
\end{tabular}
\end{flushleft}

\footnotesize
\begin{flushleft}
\textsuperscript{3} NRAS has recently undertaken the same work-related survey in Scotland. We will be publishing the survey results at the British Society for Rheumatology’s Annual General Meeting and conference in April 2010, but these survey results remain similar to the 2007 UK-wide survey referenced above.
\end{flushleft}
Table 1: Percentage of people leaving work within x years of diagnosis

<table>
<thead>
<tr>
<th>Period between diagnosis and leaving work assumed for this calculation</th>
<th>Calculation for weighted average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 1 year</td>
<td>0.14 years (0.5 multiplied by 0.28)</td>
</tr>
<tr>
<td>1-3 years</td>
<td>0.35 years</td>
</tr>
<tr>
<td>4-6 years</td>
<td>0.63 years</td>
</tr>
<tr>
<td>6-10 years</td>
<td>1.20 years</td>
</tr>
<tr>
<td>Over 10 years</td>
<td>3.13 years</td>
</tr>
</tbody>
</table>

Mean length of time between diagnosis and leaving work 5.44 years

- As the table above shows, the 7,614 people who leave work as a result of their condition every year do so at a mean 5.44 years after diagnosis. Given that we assume that the mean age of diagnosis is 45, this suggests that people leave work at a mean age of 50.44 years.

(2) (i) (c) Productivity losses associated with leaving work

- As stated above, we assume in this section that ‘productivity per head’ is equivalent to ‘mean earnings per head’. Given that a person with RA leaves work at 50.44 years, we assume that their productivity is equivalent to the mean earnings per head for those aged between 50 and 59 given in the Office for National Statistics’s *Annual Survey of Hours and Earnings*. These earnings are shown in the table below.

- It is important to stress that there are differences in mean earnings per head between males and females. In order to be as accurate as possible, we therefore assume that the gender distribution of RA cases is identical to that estimated by the NAO, which stated that, “women are more than twice as likely as men to have the disease.” Given this, we assume that the ratio of female to male cases of RA is 2 : 1.

- We also make the assumption that, if not forced to give up work due to RA, both men and women would have continued to work to their respective statutory retirement ages. Therefore:
  - Men leaving work at age 50.44 would otherwise have continued working until 65.00 years, meaning that they lost 14.56 years of their otherwise productive working life
  - Women leaving work at age 50.44 would otherwise have continued working until 60.00 years, meaning that they lost 9.56 years of their productive working life

- These productivity calculations are given in table 2 below:

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4 Column does not sum to 100% because some respondents did not state when they stopped working
Table 2: Productivity losses associated with new diagnoses of RA (England)

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th></th>
<th>Male</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean earnings per head per year (A)</td>
<td>£19,893</td>
<td></td>
<td>£36,590</td>
<td></td>
</tr>
<tr>
<td>Female : male ratio of RA cases</td>
<td>2</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Actual number of newly diagnosed</td>
<td>5,076</td>
<td></td>
<td>2,538</td>
<td></td>
</tr>
<tr>
<td>people with RA leaving work every</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>year (ie the gender distribution of</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the 7,614 people leaving work) (B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Productive working years of life</td>
<td>9.56</td>
<td></td>
<td>14.56</td>
<td></td>
</tr>
<tr>
<td>lost (C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total productivity losses associated</td>
<td>£965,314,863</td>
<td></td>
<td>£1,352,086,906</td>
<td></td>
</tr>
<tr>
<td>with new diagnoses of RA (A x B x C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- As the table above shows, the total productivity losses associated with the 26,000 newly diagnosed cases of RA every year in England is £2,317,401,769.

- We can apply this figure to the relative population sizes of the home countries, in order to estimate this figure both for all the home countries, and the UK as a whole. Table 3 shows that the productivity loss to the UK associated with the 26,000 newly diagnosed cases of RA every year is £2,765,395,906.

Table 3: Productivity losses associated with new diagnoses of RA (UK)

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage of UK population in each country</th>
<th>Cost due to lost productivity per annum accounted for by those newly diagnosed</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>83.8%</td>
<td>£2,317,401,769</td>
</tr>
<tr>
<td>Scotland</td>
<td>8.4%</td>
<td>£232,293,256</td>
</tr>
<tr>
<td>Wales</td>
<td>4.9%</td>
<td>£135,504,399</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>2.9%</td>
<td>£80,196,481</td>
</tr>
<tr>
<td>UK</td>
<td>100%</td>
<td>£2,765,395,906</td>
</tr>
</tbody>
</table>

5 Figures in tables may not sum due to rounding
(2) (ii) Legacy per annum costs arising from those already diagnosed with RA

The costs identified in section (2) (i) above relate only to those productivity losses associated with the 26,000 newly diagnosed cases of RA in England every year. However, there are additional legacy costs associated with those already-diagnosed with the condition.

In order to determine these costs, it is necessary to calculate or identify the following variables:

- The total number of people currently living with RA
- The proportion of these who have given up work as a result of their condition, and the age at which they did so
- The productivity losses associated with those who leave work

We deal with each of these in turn.

(2) (ii) (a) The number of people currently living with RA

- There are a wide range of estimates for the number of people living with RA. However, the most robust, up-to-date estimate is that contained in the NAO report, which states that, "we estimate that in England some 580,000 adults have rheumatoid arthritis". We use this as the basis for the productivity loss calculation in this section.

(2) (ii) (b) The number of people currently living with RA who had to give up work as a result of their condition

- For consistency, we adopt the same approach as in section (2) (i) to estimating the proportion of people currently living with RA who had to give up work as a result of their condition. This means that, of the 580,000 people currently living with RA, 29.3% of these are not in work because of their condition. This suggests that 169,847 people in England with RA were forced to give up work as a result of their condition.

- We again assume that the mean age at which the 169,847 people were diagnosed with RA is 45, and that the mean length of time between diagnosis and leaving work is 5.44 years. These are the assumptions underpinning section 2(i).
(2) (ii) (c) Productivity losses associated with giving up work

- Applying the same methodology to that included in section (2) (ii) (c) gives the figures shown in table 3 below.

**Table 4: Total legacy productivity losses associated with existing cases of RA (England)**

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean earnings per head per year (A)</td>
<td>£19,893</td>
<td>£36,590</td>
</tr>
<tr>
<td>Female : male ratio of RA cases</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Actual number of people with RA who have left work (ie gender distribution of the 169,847 people with RA who have left work) (B)</td>
<td>113,231</td>
<td>56,616</td>
</tr>
<tr>
<td>Productive working years of life lost (C)</td>
<td>9.56</td>
<td>14.56</td>
</tr>
<tr>
<td>Total productivity losses associated with existing diagnoses of RA (A x B x C)</td>
<td>£21,533,946,944</td>
<td>£30,161,938,673</td>
</tr>
</tbody>
</table>

- The table above shows that the productivity losses associated with people already diagnosed with RA sums to almost £52 billion. It is important to underline, of course, that these are costs which arise over a number of years – since they are the legacy costs associated with everyone who has been diagnosed with RA in the past. Unlike the costs associated with new diagnoses, they are not therefore additional costs arising year-on-year, and must therefore be spread over the years in which the productivity losses are incurred, shown in table 4 below.

**Table 5: Total per annum legacy productivity losses associated with existing cases of RA (England)**

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total productivity losses associated with existing diagnoses of RA</td>
<td>£21,533,946,944</td>
<td>£30,161,938,673</td>
</tr>
<tr>
<td>Years over which the losses are spread (ie years of working life lost)</td>
<td>9.56</td>
<td>14.56</td>
</tr>
<tr>
<td>Per annum legacy productivity losses</td>
<td>£2,252,504,910</td>
<td>£2,071,561,722</td>
</tr>
</tbody>
</table>

- As the table above shows, the total per annum legacy productivity losses associated with the 580,000 already-diagnosed cases of RA in England is £4,324,066,633

- We can apply this figure to the relative population sizes of the home countries, in order to estimate this figure both for the home countries, and the UK as a whole. Table 5 below shows that the total legacy productivity loss to the UK associated with those already living with RA every year is £5,159,984,048.
Table 6: Total per annum legacy productivity losses associated with existing cases of RA (UK)

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage of UK population in each country</th>
<th>Cost due to legacy per annum productivity losses</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>83.8%</td>
<td>£4,324,066,633</td>
</tr>
<tr>
<td>Scotland</td>
<td>8.4%</td>
<td>£433,438,660</td>
</tr>
<tr>
<td>Wales</td>
<td>4.9%</td>
<td>£252,839,218</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>2.9%</td>
<td>£149,639,537</td>
</tr>
<tr>
<td>UK</td>
<td>100%</td>
<td>£5,159,984,048</td>
</tr>
</tbody>
</table>

- This section has calculated the annual per annum productivity losses associated both with newly-diagnosed cases and the legacy costs of patients already diagnosed patients with RA. The findings of this section are summarised in table 6 below, which shows that the overall economic burden to the UK economy from RA every year is £7,925,379,954. This is equivalent to 2.3p on income tax.34

Table 7: Overall per annum economic burden of RA (UK)

<table>
<thead>
<tr>
<th>Country</th>
<th>Cost due to lost productivity per annum accounted for by those already diagnosed</th>
<th>Cost due to lost productivity per annum accounted for by those newly diagnosed</th>
<th>Total productivity losses</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>£4,324,066,633</td>
<td>£2,317,401,769</td>
<td>£6,641,468,402</td>
</tr>
<tr>
<td>Scotland</td>
<td>£433,438,660</td>
<td>£232,293,256</td>
<td>£665,731,916</td>
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<tr>
<td>Wales</td>
<td>£252,839,218</td>
<td>£135,504,399</td>
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<tr>
<td>Northern Ireland</td>
<td>£149,639,537</td>
<td>£80,196,481</td>
<td>£229,836,019</td>
</tr>
<tr>
<td>UK</td>
<td>£5,159,984,048</td>
<td>£2,765,395,906</td>
<td>£7,925,379,954</td>
</tr>
</tbody>
</table>
SECTION 3: Costs to the health service

- The analysis above reveals the significant economic burden to the UK economy caused by RA. Whilst it is unreasonable to assume that all productivity losses could be averted, it is reasonable to assume, as the NAO has said that:\(^3\text{5}\)

“Productivity gains could be achieved and patient quality of life improved through better integration and co-ordination of services, leading to quicker diagnosis and earlier treatment.”

- However, the NAO also highlighted that short-term costs to the NHS would increase through the delivery of more integrated and coordinated services. In order to help policymakers decide on the relative merits of additional investment in RA services, this report also examines the current cost to the NHS of delivering RA services in order to compare and contrast it with the economic burden of the condition. Although these are ‘costs’ to the NHS, they do not represent productivity losses, since expenditure on the NHS remains within the economy. We do not, therefore, add it to our overall assessment of the ‘economic burden’ of RA.

- NRAS’s submission to the Public Accounts Committee’s recent inquiry on Services for people with rheumatoid arthritis highlighted the NAO’s estimate that costs to the NHS of treating RA in England are £557,000,000.\(^3\text{6}\) We believe this figure is a fair estimate, and have applied it to the other home countries in proportion to their population size, as shown in table 7 below:

Table 8: Total per annum costs to the health services of treating RA (UK)

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage of UK population in each country</th>
<th>Cost to the health services in each country of treating RA</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>83.8%</td>
<td>£577,000,000,000</td>
</tr>
<tr>
<td>Scotland</td>
<td>8.4%</td>
<td>£57,837,709</td>
</tr>
<tr>
<td>Wales</td>
<td>4.9%</td>
<td>£33,738,663</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>2.9%</td>
<td>£19,967,780</td>
</tr>
<tr>
<td>UK</td>
<td>100%</td>
<td>£688,544,153</td>
</tr>
</tbody>
</table>

- As the table above shows, we estimate that the overall costs to the health services of RA in the UK are £689 million.

- The productivity losses due to RA and the amount expended on RA in each of the home countries are compared and contrasted in the following chart. As this shows, the economic burden of RA to the UK outstrips healthcare spending on it almost 12-fold.
There is therefore a significant gap between current levels of spending on RA services and the economic burden it imposes on the UK. We therefore call on the Government to work to reduce these productivity losses by investing in additional NHS RA services, using the NAO’s recommendations as a guide. These recommendations include, among others:

- The Department of Health should explore the cost-effectiveness of options for raising public awareness of the symptoms of inflammatory arthritis, including RA, to encourage people to present to the NHS promptly after symptom onset.

- The Department of Health and PCTs should build on the NAO’s own economic analysis to promote the benefits to long-term health and the economy of the early treatment of people with RA, and of supporting people with the disease to remain in or return to work.

- PCTs should assess the number of people with RA in their population, and identify what specialist and multidisciplinary services they need and how to design and deliver them by engaging with patients, their families, carers, rheumatology specialists and groups representing people with RA.

To assist them in doing so, we call on the Department of Health to ask NICE to update the ‘costing report’ it provides to NHS organisations in England alongside its ‘clinical guideline’ on RA. This costing report sets out for NHS organisations the costs and benefits which can be achieved by improving NHS RA services, but currently omits any assessment of the overall burden of RA to the wider economy, and is based on outdated estimates of the prevalence of RA in
England (it estimates that only 316,500 people in England have RA – rather than the 580,000 people identified by the NAO).^38

- We believe that the best approach to take in implementing these and the other recommendations is to ensure that there is strong clinical leadership within the Department of Health over the entire NHS musculoskeletal programme. We therefore agree with our partners in the wider musculoskeletal community that the Department of Health should appoint a National Clinical Director for musculoskeletal conditions, to lead a targeted programme of work focused on improving RA services.

MORE INFORMATION

If you would like any further information about any aspect of this report, or about NRAS’s other work, please get in touch with us:

National Rheumatoid Arthritis Society
Unit B4, Westacott Business Centre
Westacott Way
Littlewick Green
Maidenhead
Berkshire
SL6 3RT

Telephone: 01628 823 524
Email: enquiries@nras.org.uk

Visit our website: www.nras.org.uk
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