Ill-health retirement among healthcare workers in the Southern Health Board of the Republic of Ireland

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Aim To determine the incidence rates, trends and medical causes of ill-health retirement (IHR) among different occupational classes in the Southern Health Board (SHB).

Methods The 14 702 permanent employees of the SHB were divided into six occupational classes based on socio-economic status and occupational demands. The occupational classes were compared for incidence rates of IHR, age at IHR, years of service and medical causes of IHR. The total group of employees was used as the standard for statistical comparison. Incidence rates were compared using standardized IHR ratios (SIHRRs). Medical causes were compared using proportional ill-health retirement ratios (PIHRRs).

Results Three hundred and three employees were granted IHR from 1994 to 2000. The overall incidence rate of IHR was 2.9 per 1000 employees per annum. The highest SIHRRs occurred in male maintenance staff at 345 (CI: 221–513) and female support staff at 158 (CI: 123–201). With regard to age and years of service, IHR peaked at a time that coincided with enhancement to pension entitlements. The common causes of IHR were musculoskeletal disorder (38%), mental illness (17%), circulatory disorder (12%) and neoplasia (8%). PIHRRs did not vary significantly between the classes.

Conclusion IHR was more common among manual healthcare workers. The structure of the pension scheme appeared to influence the timing of IHR. Occupational class did not appear to influence the medical causes of IHR.

Key words Ill-health retirement; healthcare worker; pension scheme.

Introduction Employees who suffer permanent incapacity should have access to early retirement on health grounds. However, ill-health retirement (IHR) is costly in human and financial terms and should only be considered when other options have been exhausted [1,2,3].

Considerable variability in IHR rates has been found between and within industries, public and private sectors and countries [4,5]. A high incidence of IHR in healthcare workers has been recorded, in particular among manual workers and nurses [3,6]. Most studies compared occupations using incidence rates, but Rodgers compared ambulance workers to other healthcare workers using standardized ill-health retirement ratios (SIHRRs). This method allows a more meaningful comparison since it takes account of age/gender differences [6].

The most common medical causes for IHR among healthcare workers appear to be musculoskeletal disorders and psychiatric illnesses [3,6]. Health care workers are exposed to many hazards, which may impact on their health [7]. In addition, workers with ill-health may be unable to meet the demands of their job.

Factors other than ill-health and occupational demands influence the process of IHR. These include psychosocial issues, cultural values, attitudes to work, the occupational health physician and management policies [8,9]. Furthermore, there is evidence that the structure of the pension scheme may influence the rate and timing of IHR [4]. Determining the incidence, cause and influences of IHR are necessary to develop an effective preventative strategy.

The objectives of this study were to compare the incidences and medical causes of IHR between health-
care occupational classes using annual IHR rates, SIHRRs and proportional ill-health retirement ratios (PIHRRs) and to assess the influence of the pension scheme on IHR trends.

Methods

The Southern Health Board (SHB) employed 14,702 permanent (full-time and part-time) workers in 2002. Employees with five or more year’s service are eligible for a pension if they retire on health grounds. The benefit is determined by the employee’s salary on the date of retirement and their years of service. There are enhancements to the benefit after 10 and 20 years service; allowable up to the age of sixty. The optimum benefit is payable after 20 years service and before the 60th birthday. Employees who apply for IHR are assessed by the board’s occupational health physician. There is no central assessment as is the case with the United Kingdom NHS pension agency. The medical criteria applied are based on the standards recommended by the Association of NHS Occupational Physicians (ANHOPs) [10].

The occupational health files of all 303 employees granted IHR from 1994 to 2000 were studied for age, occupation, years of service given and the main medical diagnosis. Employees were divided into six occupational classes: manual, administration, medical/dental, nursing, paramedical and maintenance. The employees in these groups were assumed to have similar occupations and to belong to the same socio-economic classes and therefore should have had comparable risk factors for ill-health.

The 2002 SHB employee database was chosen as the denominator to calculate the annual incidence rate of IHR for each year of the study. The records available for 2002 were the most complete and accurate available. SIHRRs were calculated using the incidence rate in the total group of employees as the standard for comparison. Using the indirect method of standardization, an age-adjusted expected IHR rate for each occupational class was determined; the observed number of IHRs was divided by the expected number and multiplied by 100 to give a SIHRR.

The main medical diagnoses were classified according to the International Classification of Disease (10th Revision) into codes 1–21 [11]. The proportions of those in each occupational class granted IHR due to each ICD code were determined. Proportional ill-health retirement ratios (PIHRRs) for the common medical causes were calculated using the total group of those who retired as the standard. A PIHRR of 1 means there is no difference between the proportions of those from a class who retired due to a particular disease compared with the standard. Statistical analysis was performed using the Microsoft Excel, 2002 statistical package. Confidence intervals and \( P \) values were calculated. SIHRRs, average annual incidence rates and PIHRRs were compared using the \( \chi^2 \)-test. Where sample size was small Fischer’s exact test was used. Means were compared using the Student’s \( t \)-test.

The Research and Ethics Committee of the Cork University Hospital gave their approval for this study.

Results

Information on occupational class and gender was available for 100% of retirees, on age for 297 (98%), on medical cause for 265 (88%) and on years of service for 261 (86%) of retirees. Missing data was not recorded in the case notes.

The average annual rate of IHR was 2.9/1000 per annum for female employees (range: 1.9–3.9/1000 pa) and 2.85/1000 for male employees (range: 1.4–3.9/1000 pa). Average annual incidence rates, SIHRRs and total numbers employed in each occupational class are demonstrated in Table 1. Manual workers (male maintenance and female support) had the highest levels of IHR and professional workers (medical/dental and paramedic) had the lowest. The levels of IHR for nurses were low, with males more at risk than females, while administration staff also had low levels. There were no IHRs among the small number of female maintenance workers.

The rate of IHR increased with age, peaking at 50–60 years. Figure 1 illustrates the annual age specific IHR incidence rates for male and female employees.

Male retirees gave an average of 24 years service (range: 5–40 years). Females gave an average of 20.9 years (range: 6–35 years). The number of IHRs are plotted against years of service given in Figure 2. Years of service peaked at 20–25 years.

Musculoskeletal disease, circulatory disease, mental illness and neoplasia were the common causes of IHR and accounted for 74% of all cases. In Table 2, the numbers of employees granted IHR due to the common medical causes are presented with the PIHRRs. None of the PIHRRs achieved statistical significance.

Discussion

This study looked at IHR in all classes of healthcare workers and it is the first study of IHR in healthcare workers in the Republic of Ireland. The techniques of SIHRR and PIHRR were seen to be useful comparative measures of risk of the incidence and cause of IHR. This study adds to the evidence of previous studies that the pension scheme influences the timing of IHR [4,5].
Some of the class sizes were small and the findings cannot easily be extrapolated to other provinces or countries. There are other limitations to the findings; using the employee population of the year 2002 as the denominator for all years may have led to bias. It assumes that the numbers employed remained constant over the period of study; however, there was an increase in staff over the seven years. Nonetheless, recruits were young and probably less likely than older workers to fall ill; many were employed on temporary contracts and did not qualify for IHR benefit. It is unlikely, therefore, that the number of older permanent employees varied significantly during the study period. Furthermore, most IHR occurred in workers aged over 45 years, with over 20 year's service. Therefore, the 2002 population profile while acknowledging its potential for bias was considered to be an acceptable denominator for each year of the study.

Using the total group as the standard for statistical comparison may also have biased results since data from the larger groups over-influenced the standard.

The annual IHR incidence rate found in this study is lower than that found elsewhere [1,3,4,6]. However,
the higher IHR levels among manual workers concurs with other studies [1,4]. Pattani found a rate of 5.5 per 1000 healthcare workers with a higher incidence among manual workers [3]. Brenner’s study of Irish construction workers, who had similar occupations to the maintenance workers in the SHB, found a rate of 5.3/1000 per annum [12].

Other studies found similar common medical causes of IHR, but differences were noted between occupations [1,6,12]. Pattani found that manual healthcare workers were the most likely to retire early due to musculoskeletal illness [3], while Rodgers found that ambulance personnel were at the greatest risk of retiring on mental health grounds [13]. In Brenner’s study, circulatory illness was a common cause of IHR that was attributed to adverse lifestyle practices among construction workers.

There are many reasons why manual workers are most at risk of IHR. They are unskilled and have limited options for redeployment if their health fails. In addition, they belong to lower socio-economic classes and therefore are more likely to have poor health and adverse lifestyle factors than employees from higher socio-economic groups [14,15]. Finally, manual workers with ill-health may have more difficulty coping with the demands of their occupation than workers with sedentary roles. The occupational health and health promotional needs of manual workers need to be addressed by the SHB IHR prevention strategy.

The absolute numbers of nurses leaving the SHB on health grounds are high and reducing IHR in this group would produce considerable financial saving. Nursing is physically and psychologically demanding and accommodating ill-health is difficult. This has been discussed in other studies [16,17]. In contrast, accommodating administration staff in the SHB with health problems is relatively straightforward.

The levels of IHR may be low among doctors/dentists, but pension and recruiting costs are high [3]. Doctors do not conform to traditional sick role behaviour and are unlikely to take sick leave or IHR [18,19], therefore researching doctors who leave their posts on all grounds including resignation, dismissal and death in service would provide a better insight into their health needs.

This study provides no evidence that exposure to occupational hazards contributes to IHR, since no occupation had a higher proportion of IHR from any cause. The finding that IHR peaked at a time that coincided with maximum pension enhancements concurs with a recent UK study [4]. The SHB pension scheme appeared to influence the timing of IHR. The IHR peak at the optimum years of service could be coincidental or reflect the incentive to IHR at this time. The fall off in IHR levels after the age of 60 years is due in part to the survivor effect of older workers, but also the pension scheme encourages employees to retire before their

### Table 2. Number of IHRs and medical cause (with PIHRRs), 1994–2000

<table>
<thead>
<tr>
<th>ICD code</th>
<th>Support</th>
<th>Admin</th>
<th>Medical/dental</th>
<th>Nurse</th>
<th>Para-medic</th>
<th>Maintenance</th>
<th>All retirees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
</tr>
<tr>
<td>2: Neoplasia</td>
<td>1 (0.5)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5: Mental illness</td>
<td>1 (0.7)</td>
<td>1 (1.2)</td>
<td>1 (0.9)</td>
<td>0</td>
<td>1 (0.1)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9: Circulatory illness</td>
<td>2 (1.3)</td>
<td>2 (2.2)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13: Musculoskeletal illness</td>
<td>0 (0.1)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>113</td>
<td>2</td>
<td>7</td>
<td>6</td>
<td>2</td>
<td>17</td>
</tr>
</tbody>
</table>

PIHRRs: P < 0.05.
sixtieth birthday and penalizes those who ill-health retire after this.

The SHB pension scheme also encourages employees to take IHR rather than reduce their hours on health grounds, since the financial benefit is based on their final salary. The European Association of Public Sector Pension’s Institution found that IHR rates can be reduced if management and pension schemes are flexible [5]. It would be sensible to allow employees to accrue benefits on an annual basis, so that employees with ill-health could opt to continue working with reduced hours and those for whom IHR is the only option could retire without incurring penalties.

The effects of the pension scheme on IHR trends warrant further research. A larger study of healthcare workers in the Republic of Ireland is necessary to provide more accurate information.

In conclusion, the annual IHR incidence rate in the SHB was low when compared with other studies of healthcare workers. Manual healthcare workers were most at risk of IHR. Pension scheme structure appeared to influence the timing of IHR. There was no difference between the occupational classes in the proportions of medical causes of IHR.

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References