Absence attributed to sickness in oil tanker crews

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Carter, J. T. (1976). British Journal of Industrial Medicine, 33, 9-12. Absence attributed to sickness in oil tanker crews. Absences attributed to sickness were investigated in 1410 deck and engine-room crew members during a period of two years and five months. The mean frequency of absences was 0.23 per man year, with a mean duration per absence of 41 days. The absence frequency varied with both rank and place of work. Altogether 23% of deck officers serving throughout the study and 43% of engine-room ratings had one or more absences. Spells of absence in officers were five times more frequent when they were on leave than at sea. In the younger officers more than half of all spells that were initiated while on leave occurred at the end of the leave period. The contrasting environments of ship and shore allow the relative importance of effects on absence frequency of the work and home environment and of medical and social factors to be considered separately.

Traditionally, seafaring has been an occupation in which employment was casual. Crews signed on for a voyage or a period of time and at its end they were paid off. Illness, injury, or death while at sea was recorded in the ship’s log and sometimes also at a central registry. Illness between voyages was of little concern to shipowners or any other organization. The health care of seafarers was concentrated on screening new recruits, controlling hygiene on board ship, and providing emergency treatment (Hutchison, 1969). Nonacute and minor illness either at sea or on shore received little attention despite its effect on attendance and performance.

In recent years most shipping companies have introduced permanent contracts of employment for seafarers. Indeed it is difficult to visualize today’s technically complex ships manned on the traditional casual system. This change has brought new aspects of seafarers’ health care into prominence. Absence from work or extension of leave attributed to sickness has been a continuing problem for marine managements but it is now more apparent because many seafarers have permanent employment contracts.

The difficulties created by absence and illness are greater than in shore-based industry because a ship cannot sail until it is fully manned. Excess manpower must be employed to make good any absent crew members. In this study absence attributed to sickness in a group of seafarers employed on oil tankers has been analysed and the problems of absence control are discussed. Previous surveys of seafarers’ health have studied deaths (Otterland, 1960), attendances at seafarers clinics (Hutchison, 1943), or illnesses recorded while at sea (Levy, 1969; 1972). No study has attempted to measure morbidity either at sea or on shore, although morbidity may be related to occupational hazards and whether at sea or on land may pose problems for marine managements and doctors. The extensive morbidity data collected by the Royal Navy during many years (Ellis, 1969) have limited relevance to merchant seamen, as conditions of work, medical care, and discipline differ. Most large shipping companies now keep personnel and medical records of their mariners. These can be used to study morbidity or absence from work.

Methods
Esso Petroleum Company (UK) employs approximately
1700 mariners; its ships vary in size from 500 t coasters to 250 000 t crude oil carriers. Each vessel has a crew of between 10 and 40 men. Most seafarers are on long-term contracts of employment with full pay continuing throughout periods of certified sickness from the date of joining the Company. All deck and engine-room crew serving on ocean-going tankers and large coastal vessels were included in the study. The study period was from each individual's first change of duty after 1 January 1972 until his last change of duty before 17 May 1974.

Esso tanker crews work an average of about 90 days at sea and then have 30 to 45 days' leave. The only disability likely to result in recorded absence while at sea, or to cause immediate certification of sickness on arrival in port, is an injury or medical emergency.

On leave absences may result from medical emergencies, elective medical treatment, minor medical conditions, or psychosocial problems. Two studies were carried out using service records:

1. The frequency and the number of calendar days' absence per man year were calculated for subgroups of all deep sea and large coaster deck and engine-room crews. The results were age-corrected using proportionate weighting. This information was obtained from personnel records stored on computer tape.

2. The pattern of absence in deck and engine-room officers was analysed in detail, using personnel records to establish the relationship of absence with time at sea or on shore, and national insurance medical certificates to find the attributed cause of the absence. This was not investigated in ratings.

### Results

Altogether 1410 men were included in the survey (Table 1). All were British registered seafarers and most of them lived in the United Kingdom.

The population was relatively young with most man years served by the 25-29-year age group (Table 2). The frequency of absence varied more than the mean duration of absence which was relatively constant in all but the youngest and oldest age groups.

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Man years served</th>
<th>Absences</th>
<th>Absences per man year served</th>
<th>Mean duration of absence (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>Days</td>
<td>No.</td>
</tr>
<tr>
<td>Under 20</td>
<td>78</td>
<td>18</td>
<td>558</td>
<td>0.23</td>
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<tr>
<td>20-24</td>
<td>375</td>
<td>61</td>
<td>2704</td>
<td>0.16</td>
</tr>
<tr>
<td>25-29</td>
<td>497</td>
<td>88</td>
<td>3547</td>
<td>0.18</td>
</tr>
<tr>
<td>30-34</td>
<td>336</td>
<td>88</td>
<td>3510</td>
<td>0.26</td>
</tr>
<tr>
<td>35-39</td>
<td>244</td>
<td>78</td>
<td>2890</td>
<td>0.32</td>
</tr>
<tr>
<td>40-44</td>
<td>156</td>
<td>36</td>
<td>1367</td>
<td>0.23</td>
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<tr>
<td>45-54</td>
<td>184</td>
<td>48</td>
<td>2305</td>
<td>0.26</td>
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<tr>
<td>Over 54</td>
<td>46</td>
<td>25</td>
<td>1408</td>
<td>0.54</td>
</tr>
<tr>
<td>All ages</td>
<td>1917</td>
<td>442</td>
<td>18289</td>
<td>0.23</td>
</tr>
</tbody>
</table>
Frequency of absences
Absences were more frequent in ratings than in officers and more frequent in engine-room crew than in deck crew (Table 3). Although men recruited during the study had a lower frequency of absence than other groups there was no consistently raised frequency in leavers. When the proportion of men experiencing absences was studied in the group who served throughout the study period (Table 4) 28% of officers and 40% of ratings had had one or more absences (P < 0.01). There was a smaller difference between deck (28%) and engine-room (35%) crews (0.1 > P > 0.05).

Timing of absences
There was no consistent seasonal variation in absences. In officers there was a far higher frequency of spells of absence while on shore than at sea (Table 5). The relative frequency of absences at sea and on shore was similar in deck and engine-room officers. Officers under 30 years initiated 58% of their leave time absences after they had completed 80% of their leave allowance. Older men had fewer end of leave absences (Table 6).

Certified causes of absence in officers
The details given on National Insurance sickness certificates do not allow either the severity of disability or the urgency of treatment to be established. Analysis of the attributed causes by diagnosis (International Classification of Diseases) for 233 spells showed some features of note.

At sea The commonest causes of spells of absence were injuries and psychiatric disability. It is interesting to note that fractures and other injuries more frequently occurred on leave than at sea.

On leave Eleven out of the 17 men who had surgery while on leave initiated their absences in the last 20% of their leave time.

Overall The commonest certified causes of absence were influenza (11 spells), bronchitis (eight spells), and anxiety (six spells).

Injuries resulted in a total loss of 1139 days, 14% of all lost time.

The single certified cause resulting in most lost time was anxiety (409 days).

There were no obvious differences in the causes of absences in deck and engine-room officers.

Discussion
Absences attributed to sickness do not measure true morbidity. They result from the interaction of morbidity, attitudes to work, and social pressures. Seafarers are an unusual group in whom absence-
taking behaviour can be investigated and compared in two very different circumstances. At sea, the mariner has strong managerial and social pressures on him to remain working and medical advice is not readily available, hence it is likely that he will work unless he is clearly unable to do so or unless the master considers that restriction is advisable or medical aid required. On shore, the mariner is with his family and friends. He has ready access to medical care and has the prospect of separation from his family at the end of leave to contend with. It is also his only opportunity to obtain non-urgent medical advice and treatment.

In this study the excess of absences in ratings compared with that in officers is probably related to social differences, home circumstances, and attitudes to absence taking. The difference between deck and engine-room crews is less easily explained. The finding that in officers this excess occurs both at sea and on shore and the lack of any specific attributed causes associated with it suggests that it is more closely related to psychosocial factors than to specific environmental stresses. A higher rate of certified absence while on shore would be expected, but the marked excess of absences towards the end of leave in young officers is unexplained. It may reflect the importance of sickness absence as a means of extending the period of leave in this group.

The relative rarity of reported injuries while at sea compared with those on shore, particularly fractures where the diagnosis is almost invariably confirmed by radiography, suggests that with good safety standards the frequency of accidents at sea can be reduced to well below that occurring in everyday life.

One of the major medical problems in the selection and surveillance of ships' crews appears to be the detection of individuals at risk of psychiatric problems. No adequate methods are currently available but a detailed examination of the social and medical antecedents to psychiatric illness in seafarers could be valuable.

The high frequency of absences attributed to surgical treatment at the end of leave and the long delays which preceded treatment in some individuals suggest that wider use of the special medical facilities that are available for seafarers might reduce the time lost because of routine surgery.

Two related but distinct problems require to be resolved:

1. How to minimize morbidity in seafarers.
2. How to minimize absences attributed to sickness without affecting adversely morale or morbidity.

Morbidity at sea is probably close to its irreducible minimum. The major outstanding problem is psychiatric illness. On shore the co-ordination of existing hospital services to ensure that the seafarer receives rapid treatment and rehabilitation is essential.

The control of absences attributed to sickness is primarily a problem for marine managements. The employment of seafarers on long-term contracts makes the problem more apparent than was the case when labour was casual. Any financial incentive to include periods of sickness in normal leave allowances might have the serious consequence of encouraging men to return to sea when they were not fit to do so. Any system of allowances for uncertificated leave is liable to abuse and difficult to check with such a dispersed population. Positive incentives to return to work, such as good working conditions and a reunion with old friends, may help. The current trends towards greater flexibility in manning may be removing the incentive of team membership. One of the most effective incentives, particularly for officers whose promotion is linked with performance, is the knowledge that a medical certificate is not evidence of incapacity but merely a statement that the person has seen a doctor and informed him of a recent illness.

There is unlikely to be a major improvement in the rates of absence on shore until the present scheme of sickness certification and benefit payments is modified. If the absentee had to justify his absence direct to marine management with a medical referee called in when required there would almost certainly be a considerable reduction in absences attributed to sickness and the pattern of absence would reflect more clearly the pattern of true morbidity.

More detailed investigations of absence attributed to sickness in seafarers are needed, particularly among ratings. Alternating periods in the very different environments of ship and shore allow the relative roles of true morbidity and social factors in the initiation of absences to be investigated and also provide conditions for studying the role of differing work environments and types of work on health in a situation where non-occupational variables are well controlled.

References


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