

## AIC Insurance and Welfit Oddy

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### Background

AIC Insurance (AIC) is a South African Insurer based in the Eastern Cape that underwrites short-term temporary disability (sickness) risks. AIC has been underwriting these benefits for Welfit Oddy (WO) since 1 March 1971. WO manufactures steel containers.

The objective of the study was to test the following hypotheses:

1. Employees who are known to be HIV positive are absent from work due to sickness more often and for longer durations than employees who are known to be HIV negative.
2. For employees who are known to be HIV positive, those who are on a wellness programme are absent from work due to sickness less often and for shorter durations than employees who are not on a programme.

### Methods

Claims data, which is unique in that it measured sick leave from the first day of illness, were extensively analysed. All incidents of sick leave have been reported by way of a claim to AIC for a refund of an insured benefit of 50% of earnings. A doctor's certificate supporting the incident was attached to each claim. Using this information AIC could record the first day of illness, the duration of illness, the diagnosis and the practice number of the issuing medical practitioner.

### Period

The consecutive periods of the review are:

Period 1: 1 October 2002 ( $t_0$ ) to 30 September 2003 ( $t_1$ ) and

Period 2: 1 October 2003 ( $t_1$ ) to 30 September 2004 ( $t_2$ ).

### Employee Data

Membership of the scheme was compulsory and turnover is summarised in Table 1.

**Table 1**

Number of employees	Period 1	Period 2	Combined
Active at $t_0$	388	517	388
New entrants	161	72	233
Deaths	4	4	8
Withdrawals	28	33	61
Active at $t_2$	517	552	552

Employee turnover during the period was 13%.

## AIC Insurance and Welfit Oddy

### Absenteeism Data

During the period of the review, a total of 621 employees were exposed comprising 249,641 employee days (Table 2). There were a total 501 working days in which employees were exposed to illness. This equates to an exposure weighted-average membership of 498 for the full period.

**Table 2**

Employee Group	Number of employees	Exposure (days)	Number of incidents	Number of days sick	Absenteeism rate
Active throughout	340	170,340	1,732	4,438	2.61%
New Entrants	233	69,188	880	2,227	3.22%
Exits	69	15,007	317	1,132	7.54%
New Entrant - Exit adj.	(21)	(4,894)	(106)	(329)	6.72%
<b>Total</b>	<b>621</b>	<b>249,641</b>	<b>2,823</b>	<b>7,468</b>	<b>2.99%</b>

During the period, employees were off sick on 2,823 separate occasions comprising a total of 7,468 days. This represents a sick incidence rate of 2.83 per employee per annum. The average duration per incident was 2.65 days equivalent to 7.50 days per employee per annum (Table 3).

**Table 3**

Data / Period	Period 1	Period 2	Combined
Weighted average employee exposure	446	551	498
Total sick incidents	1,129	1,694	2,823
Total days taken	2,988	4,480	7,468
Average number of days per incident	2.65	2.65	2.65
Incidence rate per w-a employee (p.a.)	2.53	3.07	2.83

### Population Group

The in-house nursing sister E Lee-Angell, described the employee relationship with the company as loyal. The average length of service for employees who were active as at  $t_2$  was 7.6 years. WO recruited 42% of its workforce during the two year period of the review consequently employees who were employed throughout the period had a significantly higher average length of service of 11.6 years. The average monthly employee earnings as at  $t_2$  was R3, 991 (approximately US\$ 600).

## AIC Insurance and Welfit Oddy

The average age of the group and gender distribution is summarised in Table 4.

**Table 4**

Date	Average age	Male : Female ratio
t <sub>0</sub>	36.7	4.6
t <sub>1</sub>	36.5	5.5
t <sub>2</sub>	36.9	5.9

### HIV classification

All employees were classified according to their HIV status. An employee’s HIV status was recorded as “unknown” (Type U) status unless there was specific proof of actual HIV status. Records were kept by the nursing sister for each employee as they moved from Type U into a different group. The identities of the individuals in each group remained confidential to the Sister. Employees were classified at time t<sub>2</sub> according to the definitions in Table 5.

**Table 5**

Classification of employees	Employee type	Number of employees	Total exposure (days)	Average exposure <sup>1</sup>
HIV status unknown	U	332	131,547	79.1%
HIV –ve confirmed	N	169	69,481	82.1%
HIV +ve confirmed	P	92	36,022	78.2%
HIV +ve confirmed and on wellness programme	PW	28	12,591	89.8%
<b>Total</b>		<b>621</b>	<b>249,641</b>	<b>80.2%</b>

<sup>1</sup> expressed as a percentage of 501 exposure days.

### Wellness programme

A wellness programme is available for voluntary participation via either a formal registration process with the employee’s medical aid or if the employee did not want to disclose the information to the medical aid, through an in-house HIV risk-management protocol. Each wellness programme provides lifestyle education, counselling, nutritional food and supplements. Further, the medical aid programme provides anti-retroviral therapy to employees who have a CD4 cell count below 200. In order to register on a wellness program the employee is required to voluntarily submit an independent HIV test to the in-house doctor. Employees displayed a tendency to perform reactive testing once they experienced HIV-related symptoms. This would suggest that the majority of employees known to be

## AIC Insurance and Welfit Oddy

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HIV positive at the end of the period were likely to have been HIV positive throughout the period (assumption 1).

### Assumptions

1. We assumed that the HIV status of an employee was static during the period of the review consistent with the HIV status on file on the last day of the period. Since employees were classified by their HIV status prevailing at time  $t_2$ , it is possible that an employee's HIV status changed during the period of the review.
2. Since an insurance contract was in place to underwrite 50% of the direct costs of sick absenteeism from the first day of illness incurred by WO, all incidents of sick absenteeism were assumed recorded.
3. An allowance was made for incidents incurred but not reported. The average incident notification period was 24.1 days (standard deviation 13.5 days).

### Results

The first hypothesis is true:

1. The average incident rate for Type P was 1.24% compared to 1.13% for Type N, a ratio of 1.097.
2. The average duration per incident for Type P was 3.12 days compared to 2.85 days for Type N, a ratio of 1.095.
3. The average absenteeism rate for Type P was 3.86% compared to 3.21% for Type N, a ratio of 1.202.

The second hypothesis is true:

1. The average incident rate for Type PW was 0.92% compared to 1.24% for Type P, a ratio of 0.742.
2. The average duration per incident for Type PW was 2.78 days compared to 3.12 days for Type P, a ratio of 0.891.
3. The average absenteeism rate for Type PW was 2.56% compared to 3.86% for Type P, a ratio of 0.663.

## AIC Insurance and Welfit Oddy

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The results are summarised in Table 6.

**Table 6**

Employee Type	Number of employees	Total exposure (days)	Number of incidents	Number of days sick	Average duration (days)	Average incident rate <sup>1</sup>	Absenteeism rate
U	332	131,547	1,477	3,521	2.38	1.12%	2.68%
N	169	69,481	784	2,233	2.85	1.13%	3.21%
P	92	36,022	446	1,392	3.12	1.24%	3.86%
PW	28	12,591	116	322	2.78	0.92%	2.56%
Total	621	249,641	2,823	7,468	2.65	1.13%	2.99%

<sup>1</sup> expressed as a percentage of exposure days.

### Acknowledgment

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