

Use of clinical guidelines for whiplash by insurers

Trudy J Rebbeck, Kathryn M Refshauge and Christopher G Maher

Abstract

Objective: To describe the opinions of, use of, and compliance with guidelines for whiplash associated disorders (whiplash) by insurance staff after an implementation program.

Design: Observational design using questionnaires.

Setting: Insurance offices in New South Wales, Australia.

Study participants: 138 insurance staff (60% response rate) working in compulsory third party (CTP) claims for the 8 CTP insurers in NSW.

Intervention: Responses were collected after an implementation program that included education workshops provided by an insurance regulator and by insurance staff trained by the regulator.

Results: After implementation, 73% were aware of the CTP guidelines for whiplash, 85% had access to them, and compliance with the recommendations was 71%. Awareness of, and compliance with the guidelines was not related to attending the regulator workshop ($P=1.0$). Insurance staff found the guidelines to be helpful, with the mean ratings for relevance to work and in managing claims being 7.8/10 and 6.9/10, respectively.

Conclusion: Awareness of, and compliance with guidelines for whiplash among insurance staff was high after the implementation program, but was not related to attending the regulator workshop. Compliance may be improved by addressing the barriers nominated by the participants. Developing a specific guideline for the insurer market was considered useful.

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What is known about the topic?

Guidelines for whiplash have been produced in Australia. Compulsory third party (CTP) insurers fund and approve treatment for whiplash in NSW, hence a specific guide was also developed for insurers. In primary health care, implementation strategies that include education have resulted in changed behaviour that is more consistent with guidelines, and similar changes would be expected in the insurance industry.

What does this paper add?

This paper is the first to report on the result of an implementation strategy of guidelines for whiplash in the insurance industry. We found that 85% of insurance staff reported being able to access guidelines and 73% reported being aware of them. Awareness and compliance with guidelines was not related to attendance at a regulator workshop. Barriers to implementation included absence of information on chronic whiplash and unknown cost effectiveness of endorsed interventions.

What are the implications for practitioners?

This study provides health policy makers and educators with information on how to develop and implement guidelines in the insurance industry, and the potential barriers that may exist. ♦

WHIPLASH ASSOCIATED DISORDER (whiplash) is involved in 42% of compulsory third party (CTP) insurance claims in New South Wales, Australia. The cost associated with rehabilitation for whiplash is the highest of any musculoskeletal injury compensated for in the CTP scheme. Health outcomes for whiplash are poor, with over 60% of whiplash sufferers in Australian studies unrecovered after the acute phase (3 months) of their injury.¹ In order to address this, the Motor Accidents Authority (MAA), the industry's regulating authority, developed clinical guidelines for the management of acute whiplash in 2001.² Following the approach advocated by the National Health and Medical Research Council of Australia (NHMRC),³ the MAA produced versions of the guidelines for each of the stakeholders involved

in the management of whiplash: CTP insurers, health providers and consumers.² The aim was to widely disseminate and implement the guidelines to optimise management of whiplash in NSW.

The CTP insurers in NSW were considered a major target market for the whiplash guidelines, given their role in approving and funding treatment for whiplash claimants. Compensation for people injured in motor vehicle accidents (MVAs) in NSW is a modified common law scheme. For example, claimants not at fault in their MVA can lodge a claim, and the insurer has 3 months to determine liability. The role of insurance staff is to consider requests for treatment, and to recommend funding for reasonable and necessary treatment until the claim is settled. Clinical guidelines for the effective treatment of whiplash should therefore be useful to insurance staff in assisting them to manage claims.

Simply producing clinical guidelines is unlikely to result in behaviour change.⁴⁻⁶ Rather, multiple implementation strategies are recommended by the NHMRC to improve the likelihood of behaviour change.³ Successful implementation strategies in health care include the use of interactive education, resulting in greater changes in professional behaviour than either no intervention or lecture formats.⁷ Results are mixed when using local opinion leaders,^{8,9} with greater changes in behaviour reported in specific settings such as nursing practices^{10,11} and if the opinion leader is peer-chosen.^{8,12} Other implementation strategies recommended by the NHMRC include the use of flow charts, clinical and computer reminders, audits and feedback. Recent studies however, have not found these strategies to be effective for behaviour change in health care.¹³⁻¹⁵ There are no studies to date that report on implementation strategies in the insurance industry. Given the pivotal role of insurance staff in treatment approval, it seems reasonable to address behaviour change among this group using strategies shown to be successful for other professional groups.

Barriers to the use of clinical guidelines in health care could also be potential barriers in the insurance industry. For example, in the health

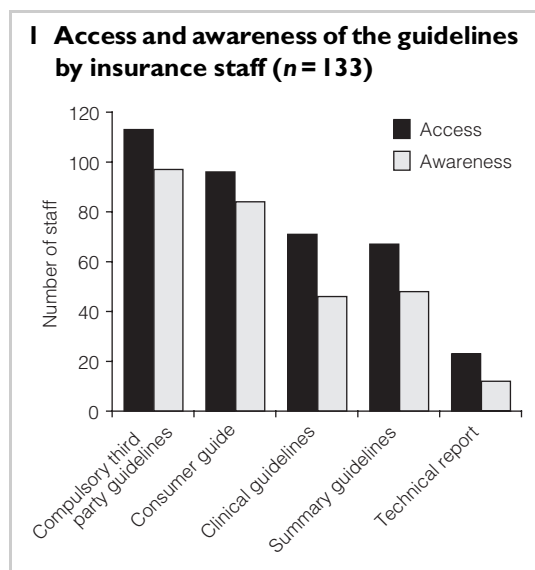
care industry, uptake is poor if compliance with the guidelines affects staff organisation,¹⁶ demands the acquisition of new knowledge,¹⁶ is not compatible with existing values,^{16,17} is influenced by patient preferences,¹⁸ or the research base supporting the guidelines is controversial.^{16,19} Cost effectiveness in producing the health outcome is a factor considered important in the insurance industry.^{4,20} Otherwise little is known about barriers to the use of guidelines in this group.⁴ Examining the opinions of insurance staff about the guidelines may therefore be helpful in identifying potential barriers to implementation.

The purpose of this study was to describe access to, awareness of and compliance with clinical guidelines for whiplash by insurance staff after an implementation program that included education. We aimed to explore the opinions of insurance staff about the guidelines in order to identify barriers to implementation.

Methods

An implementation program for the CTP guidelines was developed by the MAA and one of the authors. During the guideline development process, several meetings were held with the claims managers and rehabilitation staff employed by the CTP insurers, to ensure that insurance companies had "ownership" of the guidelines. Claims managers were consulted about how the CTP version of the guide should be written to be meaningful for claims officers. The managers were also consulted on the in-house educational process with their staff. It was emphasised in these meetings that the guidelines were not mandatory, and that the health provider's judgement could override them.

Educational workshops were offered by the MAA as an optional part of the educational process, with one of the authors delivering some of the content. The half-day session included lectures regarding the development, role and clinical content of the guidelines. Case studies were presented with interactive workshops as part of discussion. Claims officers and rehabilita-



tion advisors were invited to attend, although it was not mandatory to do so. Over the 18-month intervention period, four educational workshops were held, and a total of 155 insurance staff had attended one of the sessions.

Study outcomes were collected by questionnaires sent to the eight CTP insurers in NSW about 18 months after the guidelines were released and after in-house education and four workshops had been conducted. Claims managers working for each individual insurer distributed the questionnaires to the CTP claims officers and rehabilitation advisors. Claims managers estimated that about 230 target staff (214 claims officers and 16 rehabilitation advisors) were employed by the eight insurers at the time of the study. Respondents returned questionnaires by document exchange. This process allows for exchange of documents between companies using standardised packaging, thus de-identifying the data.

The two-page questionnaire included questions regarding whether insurance staff had access to, and how they became aware of the guidelines. They were asked to self-rate their knowledge of the guidelines from 1 (poor) to 10 (excellent). Questions about compliance included when they applied the guidelines, and whether they usually send the consumer guide out to claimants. Given

that the guidelines are written for acute whiplash, the guidelines are relevant up to 3 months after injury. The opinions of insurance staff about the guidelines were determined by rating on a 1–10 scale factors such as accuracy, comprehensiveness, relevance to work and assistance in managing claims. Ethical approval for this study was obtained from the University of Sydney Human Research Ethics Committee.

Data analysis

Descriptive statistics were calculated for questions regarding the profile of insurance staff, and their awareness, access, opinions of and satisfaction with the guidelines. Chi-square analysis and independent samples t-tests were performed to determine the effect of factors such as mode of education on awareness of and compliance with the guidelines. The McNemar test was used to compare the proportion of subjects with access to guidelines to the proportion aware of the guidelines. Data were analysed using the Statistical Package for the Social Sciences, version 10.0, for Windows (SPSS Inc, Chicago, Ill, USA). Significance level was set at $P = 0.05$.

Results

Access to and awareness of the guidelines

One hundred and thirty eight questionnaires were returned (response rate, 60%). All 16 rehabilitation advisors returned the questionnaire; the remaining respondents were claims staff ($n = 122$; 88%). Not all questions were answered by each participant. Responses were received from staff employed by each of the 8 NSW CTP insurers. The mean duration of employment in insurance was 4.67 years (SD, 4.9). Fifty-three percent of respondents had worked in the insurance industry for 3 years or less, including 25% for less than 1 year. The majority of respondents (125/138; 91%) approved treatments regarding whiplash, and 75% (103/138) made recommendations about treatment for whiplash injuries.

Most respondents (113/133; 85%) reported that they had access to the CTP version of the guidelines, however, fewer (97/133; 73%; $P =$

2 Awareness of guidelines in those who did and did not attend the regulator workshop

	Attended	Did not attend	P value
CTP guideline (n = 132)			
Aware	25	75	1.0*
Not aware	8	24	
Consumer guide (n = 132)			
Aware	25	63	0.29†
Not aware	8	36	
Knowledge rating, mean (SD)	6.36 (1.55)	5.67 (1.86)	0.06*

* Statistical test = χ^2 . † Statistical test = independent *t*. ◆

0.004) reported being aware of the contents. Similarly, while 72% (96/133) had access to the consumer guide, fewer (84/133; 63%; $P=0.08$) were aware of the contents (Box 1). The majority of respondents had access to a hard copy of the CTP guidelines (91%), with only 17% having electronic or web access.

Awareness of the content of the guidelines was most commonly acquired by attending in-house education (81/132; 61%), followed by attending the educational workshops (33/132; 25%), by reading a hard copy (15/132; 11%),

or other (3/132; 2%). Awareness of the guidelines was not related to attending the regulator (MAA) workshop (Box 2), however it is noted that only 25% of respondents attended the workshop.

The mean self-rated knowledge was 5.8 ± 1.8 . Most respondents (40%) rated their knowledge as high ($> 7/10$), while few (9%) rated their knowledge as poor ($< 3/10$). There was a trend for self-rated knowledge of the guidelines to be higher among those who attended the educational workshop (6.4 ± 1.5) than those who did not (5.7 ± 1.9), but the difference was not statistically significant ($P=0.06$).

Factors relating to compliance with and use of the guidelines

Sixty-four percent of insurance staff used the guidelines when making treatment decisions. Insurance staff most commonly used the guidelines to direct appropriate treatment (35%) and to stop treatment (17%). Fifty-six percent of respondents made such decisions based on the guidelines after 3 months from the time of injury, when the guidelines no longer applied. Using the guidelines within the correct time frame (Box 3) was not related to attending the regulator workshop ($P=1.00$), professional background ($P=0.25$), experience in insurance ($P=0.91$) or self-rated knowledge ($P=0.16$).

3 Factors related to use of and compliance with the guidelines

	Applied guidelines within correct time frame		P value	Send guide to claimants		P value
Regulator workshop						
Attended (n = 33)	43%		1.0*	75%		0.35*
Did not attend (n = 99)	44%			69%		
Work in						
Claims (n = 122)	47%		0.25*	69%		0.25*
Work in rehab (n = 16)	40%			81%		
	Yes	No		Yes	No	
Experience (years in insurance), mean (SD)	4.05 (4.2)	3.96 (3.0)	0.91†	4.31 (3.8)	4.97 (5.8)	0.45†
Knowledge rating (0–10), mean (SD)	5.97 (1.7)	6.48 (1.7)	0.16†	6.07 (1.8)	5.27 (1.8)	0.02†

* Statistical test = χ^2 . † Statistical test = Independent *t*. ◆

4 Insurer ratings of helpfulness of guidelines on a scale of 1 (poor) to 10 (excellent)

Helpfulness attribute	Rating, mean (SD)				% rating attribute > 7/10	% rating attribute < 3/10
	All	Claims*	Rehab†	P value‡		
Accuracy	6.7 (1.7)	6.6 (1.7)	7.3 (1.2)	0.10	63	4
Ease of understanding	7.4 (1.7)	7.4 (1.8)	7.4 (1.0)	0.77	72	2
Comprehensiveness	6.9 (1.7)	6.8 (1.7)	7.6 (1.2)	0.03	66	4
Relevance to work	7.8 (2.0)	7.7 (2.1)	8.6 (1.3)	0.02	81	5
Assistance in managing claims	7.0 (2.3)	6.9 (2.3)	7.6 (1.8)	0.19	64	9
Benefit of consumer guide to patients	7.6 (1.7)	7.5 (1.8)	7.9 (0.8)	0.44	65	3

* Claims = staff with a claims or insurance background. † Rehab = rehabilitation advisors (staff with a health professional background). ‡ P value comparing mean rating of claims staff with rehab staff. Statistical test = independent *t*.

Compliance with the guidelines was also measured by the percentage of insurance staff sending the consumer guide out to claimants (Box 3). Seventy-one percent of respondents sent the guide out to claimants, and this was not related to attending the regulator workshop ($P=0.35$), professional background ($P=0.25$) or experience in insurance ($P=0.45$). However, respondents who sent the guide out to consumers had significantly higher self-rated knowledge (6.1 ± 1.8) than those who did not (5.3 ± 1.8 ; $P=0.02$).

Opinions of the guidelines by insurance staff

The opinions of insurance staff about the guidelines are summarised in Box 4. The mean rating for relevance to work was high (7.8 ± 2.0), while one of the lowest ratings was for assistance in managing claims (7.0 ± 2.3). Rehabilitation advisors (insurance staff with a health professional background) rated the guidelines significantly higher for comprehensiveness (rating 7.6/10 compared with 6.8/10, $P=0.03$) and relevance to work (rating 8.6/10 compared with 7.7/10, $P=0.02$) than staff with a claims background. Years in insurance did not affect opinions about the guidelines ($P<0.05$ for all scales).

Insurance staff were asked to state which of the publications they found most helpful, by ranking them in order from 1 (minimum) to 5 (maximum). The most helpful publication was the CTP guideline with 60% of respondents rating the guide as number 1 or 2. The consumer booklet

was rated the second most helpful, with 45% of respondents rating the guide as number 1 or 2. Free text responses regarding the least helpful aspect of the guidelines were provided by 27 respondents. The most common response (37%; $n=10$) was that the guidelines do not include advice for the management of whiplash after the first 3 months.

Discussion

This study is the first to describe the use and opinion of guidelines for whiplash by the insurance industry after an implementation program. While we found that awareness and compliance with the guidelines was high and similar to other industries, there was room for improvement. Most insurance staff became aware of the guidelines from the in-house education rather than the regulator workshops. Awareness of, and compliance with the guidelines was not associated with attending the regulator workshop, or experience. Potential barriers to compliance with the guidelines were identified from the insurer's opinions of the guidelines, and include a poor perception of the evidence base and the need for the guidelines to cover the chronic phase of whiplash.

Following the implementation program, a high percentage (73%) of insurance staff were aware of clinical guidelines for whiplash. While similar studies have not been undertaken in this

industry, these awareness levels compare favorably with those reported in other industries. For example, awareness of guidelines among medical practitioners varies between 11% for guidelines on exercise treadmill testing²¹ to 59% for national cholesterol guidelines.²¹ In other medical specialties, awareness of guidelines is similar; 40% of physicians being aware of American Thoracic Society guidelines,²² and 57% of orthopaedic consultants being aware of guidelines for tibial fractures.²³ Against this background, the level of awareness achieved by our sample would be considered high.

Compliance with the guidelines was as high as awareness, with 71% of insurance staff sending the guide out to claimants after implementation. Studies examining compliance with guidelines among physiotherapists have reported that 64%²⁴ and 66%¹⁹ of respondents complied with the recommendations contained in them. In general practice, compliance with guidelines is reported on average as being 52%²⁵ for Canadian physicians and 61%¹⁶ for general practitioners in the Netherlands. Hence, 18 months after release of the guidelines, we found that compliance with guidelines in our insurer cohort was similar to compliance levels reported for various health professions.

The guidelines were most commonly accessed by claims officers with less than 4 years experience within the insurance industry, and with no health education background. Most of the respondents (91%) were involved in making decisions regarding whiplash treatment, yet 36% of staff did not use the guidelines when making these decisions. It would appear therefore, that many decisions regarding whiplash treatment are being made by relatively inexperienced staff with no health education, who do not consult the whiplash guidelines. This highlights the need for strategies to improve compliance, particularly among the claims officer group.

Compliance among insurance staff may be improved by overcoming barriers they nominated. Barriers to compliance include the perception that the guidelines are not evidence-based (mean rating 6.7/10), and that they are

not comprehensive (mean rating 6.9/10). The perception that guidelines are robust and based on a high level of evidence is reported to be associated with guideline adoption.^{16,19,26} Therefore, increasing the emphasis on these factors may improve guideline compliance in this group.

Compliance may also be improved by revising the guidelines so that management of chronic whiplash is considered. The whiplash guidelines were considered highly relevant to the work of rehabilitation staff (mean rating 8.6/10), particularly because they are not necessarily knowledgeable regarding the management of whiplash. However, the most common reason provided by respondents for why the guidelines were not relevant was that they cover whiplash for the first 3 months only. Despite this, over 55% of respondents used the guideline to make decisions about claimants after 3 months. There were no published clinical guidelines on chronic whiplash when the study was conducted, so using a guideline for acute whiplash rather than none at all is probably expected in this group. Given this finding and the high cost of managing chronic whiplash (eg, in NSW over 70% of costs for managing whiplash occur after 3 months from injury), the production of a chronic whiplash guideline may be urgent.

Education regarding the guidelines appeared useful in this sample, however the ideal method of education is unknown. We anticipated an improved level of compliance if insurers attended the educational workshop, given that the workshop included an interactive element, a factor found to be successful in health care.^{7,27} Instead, we found compliance was not related to this. However, only 25% of our sample attended the workshop, with the greater proportion (61%) having received their education in-house, where the mode of delivery of education was unknown. Thompson O'Brien et al⁷ concluded that interactive education is more successful in changing health practice compared with a control, rather than alternate methods of education. Studies that have directly compared different education strategies have mixed results. For

example, one study concluded that there was no difference between interactive and didactic methods of education,²⁸ while another found 18% greater compliance with active education than with passive education.²⁹ Given that the majority of our sample (86%) gained their knowledge of the guidelines by attending some form of education, education appears useful. However, direct comparison of different forms of education would need to be investigated in order to establish the ideal method of education for guideline implementation.

Finally, developing specific guidelines for the target audience appears to be useful. Insurers rated the specific guideline developed for CTP insurers the most helpful. We also asked 85 consumers to rate the consumer guideline from 1 (extremely unhelpful) to 5 (extremely helpful), finding the median rating to be 4. Free-text responses from the consumers indicated that the neck exercises in the guidelines were helpful and easy to understand. The NHMRC recommend involvement of the target group in the development and implementation process, and that different versions of the guidelines should be produced for each target group.³ This strategy may have resulted in the high satisfaction with the guidelines reported by both the target groups, and supports the involvement of target groups in the development of future guidelines.

Conclusions

This study found that the awareness of, and compliance with guidelines for whiplash among insurance staff was high after an implementation strategy that included education, and compares favourably with other industries. Compliance may be improved by addressing the identified barriers, such as the poor perception of the evidence base, and including material relevant to chronic whiplash. Awareness of, and compliance with guidelines was not related to attending the regulator workshop that had a known element of interactive education. Insurers found the guidelines to be helpful, indicating that developing specific guidelines for this group is useful.

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Competing interests

The authors declare they have no competing interests.

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