

# Workmen's compensation for occupational hand injuries

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**Background.** The Compensation for Occupational Injuries and Diseases Act No. 130 of 1993, as amended in 1997 (COIDA), provides payment to healthcare providers for treatment of occupational injuries in South Africa (SA). Patients and employers are often unaware of procedures for claiming, and patients then carry the burden of costs themselves. Additionally, under-billing results in a loss of income for treating hospitals. Hand injuries are common occupational injuries and form the focus of this study.

**Objectives.** To investigate whether occupational hand injuries treated at the Martin Singer Hand Unit at Groote Schuur Hospital, Cape Town, were accurately captured and allocated correct professional fee coding and billing. Accurate capturing and billing would allow for access to the Compensation Fund and allocation of finances to improve service delivery, as well as avoid unnecessary costs to otherwise uninsured patients.

**Methods.** All new hand injuries presenting to the hand unit at the hospital in August 2017 were sampled in a retrospective folder review. Injuries on duty (IODs) were identified and analysed further. Coding and billing were compared with independent private quotes.

**Results.** Sixty new hand injuries presented during the month. Fifteen were IODs, but only 6 were recognised by administration. The other 9 were billed at minimum income rates and 5 of these patients also had operations, which were not billed for. A total of ZAR88 871.99 was under-billed in terms of professional fees only. The 9 incorrectly classified patients had to bear costs themselves at a median of ZAR130.00 each.

**Conclusions.** There were large discrepancies in billing for occupational hand injuries. This resulted in costs to the patients and loss of income for the facility. Access to the Compensation Fund is vital in financing resources in the overburdened public sector. Suggestions for improvement include accessing COIDA funds in order to improve administration at the unit, so improving identification, coding and billing of occupational hand injuries.

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Hand injuries can account for up to 29% of trauma seen in any emergency department.<sup>[1-4]</sup> In centres that specialise in occupational injuries or microsurgery and hand surgery, the figure can reach 73%.<sup>[5,6]</sup>

Few patients presenting to Groote Schuur Hospital, a public hospital in Cape Town, South Africa (SA), have private insurance. Most are funded by themselves and charged according to their income category. Those who sustain an injury on duty (IOD) are funded via the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993, as amended in 1997 (COIDA),<sup>[7]</sup> and were the focus of this study. Patients who qualify for funding from the Compensation Fund should largely be attended to in the private healthcare system, where there are more resources. However, some do still attend the overburdened public hospitals. In these cases, the additional income the hospitals receive from the fund, if adequately accessed and allocated, can serve as a valuable source of finances that potentially allows for improvements and expansion in service delivery, infrastructure and staffing. These improvements would allow the hospitals to manage this addition to their already overburdened workload more adequately.

## Objectives

We hypothesised that many occupational hand injuries presenting to the Martin Singer Hand Unit at Groote Schuur Hospital are unfortunately not captured as IODs. However, SA labour law is clear: all persons who are employed by a business entity on a contractual basis (verbal or written), and are paid, are covered by the COIDA (South African Labour Guide<sup>[8]</sup> and Compensation for Occupational

Injuries and Diseases Act No. 130 of 1993, as amended in 1997,<sup>[7]</sup> sections 1(xix) and 80(6)).

The primary objective of this study was to determine how many patients presenting to the public hospital's hand unit in a single month with occupational hand injuries had been correctly captured as claimable COIDA cases. Another primary objective was to examine coding and billing to calculate any discrepancies between what was actually billed and what should have been billed if capturing and coding had been accurate. The secondary objective was to determine the proportion of new injuries presenting in a single month at the hand unit that were due to IOD.

## Methods

A descriptive study was conducted in the form of a retrospective folder review of all newly presenting hand injury cases ( $N=60$  in total) at the Groote Schuur Hospital hand unit during the month of August 2017. Ethics approval from the University of Cape Town Faculty of Health Sciences Human Research Ethics Committee (ref. no. 831/2017) and institutional approval were obtained. Mechanism of injury, nature of injury and nature of employment were recorded, as well as presence or absence of supporting employer's forms. Visits to the unit, admissions and procedures (such as operations or plaster of Paris cast application) were recorded. Notes are strictly written on a standardised proforma that includes the exact circumstances and mechanism of injury and the nature of employment, and all procedures are recorded in the same file. Patients with other hand conditions that were not due to trauma, even if they were possibly

related to work activities (e.g. overuse or ergonomic injuries), were excluded.

These cases were then examined to identify any IOD patients who would qualify for COIDA funding according to the information in the folder and labour law guidelines. The definition of 'employee' in the COIDA is broad enough to cover anyone who works for another and is injured or gets sick on or because of the job, even individuals selected from the roadside to work for the day, provided that:

- there is an employment contract (oral, written, implied or express)
- the employee is entitled to remuneration (whether in cash or in kind)
- the employee is working for the benefit of the employer's business (and not in a private home)
- the employee is not otherwise covered by the South African National Defence Force or the South African Police Service.<sup>[7,8]</sup>

COIDA registration status or absence of an employer's report were pragmatically disregarded, as employers who do not register with the Compensation Commissioner should be reported to the relevant labour authorities because they are not complying with the statutory requirements prescribed in the COIDA. They may be liable to a fine or imprisonment, as well as a fine of *the full medical compensation amount due to the patient*. It is therefore advisable for medical practitioners to complete the requisite medical report (the First Medical Report) for submission to the employer and to alert the Department of Labour in cases where it is evident that an employer has not registered in terms of the COIDA.<sup>[7]</sup>

Fifteen IOD patients who would qualify for COIDA funding were identified and analysed further by examining their administrative billing profile. Hospital invoices containing codes and billing with ZAR values charged were obtained from the finance department. The hospital used UPFS (Uniform Patient Fee Schedule) codes. Patients who were classified as non-IODs were billed according to the UPFS Fee Schedule for Subsidised Patients (H1 level, level 3 healthcare institution). Patients who were classified as IODs were billed according to the UPFS Fee Schedule for Full Paying Patients (level 3 healthcare institution). Only the costs incurred by doctors (i.e. professional fees that relate to consultations and procedures) were included in this study. Other costs such as physiotherapy, X-rays and facility fees were excluded. These actual hospital bills were compared with a surgeon-advised billing profile. The latter was obtained by consultants in hand surgery independently reviewing the folders and providing quotes with coding and costs according to what they would bill the same patients in a private setting. The private surgeons used National Reference Price List coding and billed according to COIDA rates. Simple descriptive statistics were used to analyse the data, and simple subtraction was used to calculate discrepancies in monetary values charged.

## Results

Fifteen out of 60 new hand injuries (25%) presenting during August 2017 were attributable to IOD, and costs should therefore have been claimed from the Compensation Fund. Unfortunately, only 6 of these (40% of IODs) were recognised by hospital administration as IODs. The median amount charged by the hospital per correctly captured IOD patient was ZAR1 794.00. However, the surgeon-advised billing for the same patients was a median of ZAR6 368.14 per patient. Three of the 6 patients had four operations (three debridements of septic wounds and one re-debridement). One had a side-room procedure under local anaesthetic that was incorrectly captured by Grootte

Schuur Hospital as cast application only, rather than local nerve block, manipulation of fracture and cast application.

The remaining 9 patients (60%) were not recognised as having sustained an IOD and were billed at minimum income rates. They had to bear the costs themselves at a median of ZAR130.00 each. Surgeon-advised billing according to private rates quoted a median of ZAR7 145.79 each for these 9 patients. Five of them had hand operations that were not billed for at all by the hospital (debridement and reduction of open fracture, debridement and removal of foreign body, debridement of deep septic wound, debridement and arthrotomy for joint-penetrating wound, and debridement with digital neurolysis and closure of wound). All operations were performed under a local or regional nerve block provided by the surgeon.

In this single month a total of ZAR52 533.25 was under-billed owing to non-recognition of IOD cases, and ZAR36 338.77 owing to discrepancies in public v. private billing even in recognised IOD cases. A total of ZAR88 871.99 was under-billed across the 15 IOD patients.

## Discussion

Larsen *et al.*<sup>[4]</sup> reported that every year one out of every 55 inhabitants of The Netherlands and one out of every 28 inhabitants of Denmark visits an emergency department for hand injuries. In occupations such as carpentry, hand injuries can represent as many as 67.1% of all occupational injuries.<sup>[9]</sup> Direct costs can range from USD1 772 to USD22 086 per patient.<sup>[10,11]</sup>

A large proportion (60%) of the IODs in our population were not recognised as such by hospital administration. Hypothetical reasons for the difficulty in capturing this information include that none of these patients had employer's forms at presentation. Another factor could be that employment status was listed in 4 cases as 'informally employed' by administration rather than a named job description. Lack of knowledge regarding which employees qualify for COIDA cover results in patients not being recognised and classified as IOD.

Unfairly, the incorrectly classified patients in our sample had to bear the costs of their medical treatment themselves rather than the Compensation Fund providing the funds. A median of ZAR130.00 each may not seem excessive, but when the costs of medications and other therapies and the indirect costs of transport to and from the treating hospital and loss of income due to temporary incapacity are added to this amount, the expense becomes one that an individual in a minimum salary category can ill afford.

There were major discrepancies between the procedural coding and billing for COIDA cases in private practice as opposed to the public hospital, in part because in private practice bills are itemised, whereas in public hospitals there are set procedure category costs. Additionally, in private practice the codes are generated in consultation with the doctor performing the procedure, whereas in the public sector this task is often left to non-medical administrative personnel with limited clinical insight. Both public and private bills used their regular codes and rates that they would charge for IOD patients covered by the COIDA.

The results of this study are relevant, as they reveal that a large amount of money was 'lost' by the treating hospital as a result of incorrect billing. COIDA funding is a valuable source of income, and the funds generated could be put to use not only in regular day-to-day costs but also in upgrading and expanding existing facilities in order to provide better care to more patients. The public sector is currently overwhelmed across all departments. Occupational hand injuries can be managed in public hospitals, but then the fund must be properly billed so that finances can be allocated to improving and

increasing available resources. Alternatively, if patients have access to external funding via the COIDA, ideally they should be managed in the private sector, thereby decompressing the public sector load and allowing the remaining self-funded and indigent patients to be managed better in the public hospitals, as the resources would be less strained.

Policymakers could invest in motivating clinicians and administrators to complete the arduous task of assisting in correct classification and billing by officially allocating the funds raised to improving specific facilities at the treating hospital.

### Study limitations

Weaknesses of this study include that convenience sampling resulted in a small sample size compared with the international literature. Anecdotally, there were few cases of severe injury in August 2017 compared with other months, which could have resulted in the total costs being somewhat less than what would be regarded as normal.

### Conclusions and recommendations

There were large discrepancies in identifying and coding and billing for occupational hand injuries in the month of August 2017, resulting in unnecessary costs to some patients of a median of ZAR130.00 each and loss of income for the facility of up to ZAR88 871.99 in this single month.

Discussion with hospital management is underway in order to apply the findings and recommendations of this study. Suggestions include employing a case manager to aid with IOD patients, for example in clarifying employment status with patients and contacting employers to ensure COIDA registration or report them to the relevant labour authorities if they fail to register. Involving clinicians in procedural coding rather than leaving it up to non-clinical administrative staff is another way of ensuring that the correct procedures are recorded and billed for. Resources and funding to support these additional interventions is a problem – the hospital is barely managing with its current budgetary and time constraints. Directly accessing the additional resources raised by processing IOD cases correctly and feeding funds straight back into the public hand unit would be the perfect solution. However, these funds are currently going directly to Treasury for the National Department of Health (NDoH) to allocate at its discretion. Discussions on how to access funds are currently underway with hospital management, and plans to possibly take it up at NDoH or government level are in motion.

An alternative suggestion is that prioritisation of non-IODs should take place when the unit is overburdened, as the public hospital is those patients' only viable option for healthcare. IOD patients can be transferred directly to hand surgeons in the private sector for care, which may end up being more timely and comfortable. In this case, however, the public hospital and the NDoH would lose the potential revenue.

In terms of relevant recommendations, we advise that it is mandatory that all public facilities create work teams to both capture all IOD cases and bill them adequately. Recommendations for further research include for other public hospitals and clinics in our hospital to perform similar studies to ascertain whether our findings are generalisable and whether our recommendations can be followed. Future study would include analysing the effects of any such intervention on coding and billing profiles or the unit workload.

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