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# A study of work related injury reporting in New Zealand; Reconciling serious harm notifications and ACC claims data

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## Abstract

The aim of this study was to determine whether there is a significant difference between workplace serious harm accidents that are reported to the Department of Labour and workplace injury claims that are made to the Accident Compensation Corporation (ACC) that would be classed as serious harm injury for the ACC Classification Unit (CU) Fruit and Vegetable Wholesale?

The average number of ACC acute serious harm injury claims made per year for the years 2004-2009 was 32.17 (2dp). Of these identified claims 3.17 (9.85%) average per year, were reported to the Department of Labour. This result proved to be significantly different with a 99.9% confidence level.

A reverse correlation comparing serious harm accident reports submitted to the Department of Labour found the average annual number of reports for the same time period was 29.33 (2dp), of these reported accidents an annual average of 7.50 (26.05%: annual average percentage) had a corresponding ACC injury claim; of the correlated injury claims an annual average of 4.33 (14.76%: annual average percentage) would not have been classed as serious harm injury claims, leaving 3.17 (10.81%) serious harm reports that correlated with ACC serious harm injury claims.

Using ACC data as the external comparison, it was shown that the ACC data for acute serious harm injury claims did not correlate well with the Department of Labour serious harm accident data, the monitoring authority. This indicates that many workplace serious harm injuries are not being reported to the Department of Labour.

Using the Department of Labour data to get a reverse correlation it was found that a degree of over reporting was occurring for the same time period, accidents were being reported that did not have a corresponding ACC injury claim.

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## Chapter 1 Introduction

Internationally, work related injury data can provide useful and often essential information for the development of injury prevention strategies. Statistical collections of workplace fatal injury data have a critical part to play in identifying hazards and, consequently, in identifying the most appropriate targets for prevention. They also have a critical role in benchmarking national occupational health and safety performance (Feyer et al, 2001). In recent years, periodic or on-going collections of data on workplace fatal and nonfatal injuries have been reported in an increasing number of countries (Cryer et al, 1987; Feyer et al, 1999; Harrison et al, 1989; NOHSC, 1998; Jenkins et al, 1993).

Injury surveillance mechanisms can be used to interpret and understand the incidence and patterns of injury, as well as facilitate the design and evaluation of intervention programs at an industrial and government level. However, the validity of many work related injury surveillance tools has not often been evaluated in terms of capturing pattern and information accuracy (Alamgir et al, 2006).

In New Zealand two agencies are primarily responsible for the collection and analyses work related injury data. These agencies are the Department of Labour (DoL) and the Accident Compensation Corporation (ACC). Workplace compensation claims datasets represent an important source of information on work-related injuries. However, a key concern about the compensation statistics is that they are based on reported and accepted claims only. Injury notification to enforcement agencies is the other major injury surveillance mechanism. The HSE Act, which the DoL administers, states that all serious harm accidents are to be reported to the Department of Labour within 48 hours of the accidents occurrence. An instant fine of up to \$10,000 can be imposed per accident for non-disclosure of serious harm accidents. Serious harm accidents are defined in Schedule 2 of the amendment to the HSE Act 1992 (Health and Safety in Employment Act, 2002).

This study will determine work-related injury capturing patterns of the workers compensation system by investigating the agreement of compensation records and notifications to the Department of Labour for a specific business group. The aim of the research will be to examine data provided by the Department of Labour and the ACC, with the intent of determining whether serious harm accidents are being under reported and if so, the extent of under reporting.

### ***Structure of thesis***

This dissertation is composed of six chapters. Chapter 1 provides an Introduction to the study's scope and aims. Chapter 2 reviews the research literature concerning work related injury reporting and notification and under-reporting of injury data at the national and organisational level. Chapter 3 describes the Methodology used for the analysis of the datasets. Chapter 4 presents the results of the comparative analysis over a 5 year data period. Chapter 5 is a Discussion of the implications of the findings in relation to previous research identified in the literature review and for injury surveillance generally. Chapter 6, are the Conclusions and Recommendations of the study and identifies areas for future research and suggestions for implementation.

## Chapter 2 Literature Review

Internationally, work related injury data can provide useful and often essential information for the development of injury prevention strategies. Statistical collections of workplace fatal injury data have a critical part to play in identifying hazards and, consequently, in identifying the most appropriate targets for prevention. They also have a critical role in benchmarking national occupational health and safety performance (Feyer et al, 2001). In recent years, periodic or ongoing collections of data on workplace fatal and nonfatal injuries have been reported in an increasing number of countries (Cryer et al, 1987; Feyer et al, 1999; Harrison et al, 1989; NOHSC, 1998; Jenkins et al, 1993).

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Several studies in the USA (Waller et al., 1989; Frumkin et al., 1995; Stanbury et al., 1995; Biddle et al., 1998; Rosenman et al., 2000) and Canada (Shannon and Lowe, 2002) have identified underreporting of work-related injuries to the compensation systems. Work-related injuries are not always reported to workers' compensation systems for several reasons, such as discouraging supervisors and co-workers, legal status, job insecurity, high odds of having a claim rejected procedural complications, unawareness about the system, injury not considered serious enough, and social stigma (Herbert et al., 1999; Rosenman et al., 2000; Azaroff et al., 2002; Shannon and Lowe, 2002). As well, the workers' compensation system does not compensate every claim that is filed (Stanbury et al., 1995; Herbert et al., 1999).

In addition to workers' compensation claims data, some other surveillance tools for non-fatal work-related injuries have been explored (McCurdy et al., 1991; Hayden et al., 1995; Murphy et al., 1996; van Charante and Mulder, 1998; Morse et al., 2001; Tercero and Andersson, 2004).

Injury notification to enforcement agencies is the other major injury surveillance mechanism. In the UK, official information on workplace injuries is collected under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). These regulations stipulate that employers have a legal duty to report to HSE any injuries to employees resulting in an absence from normal work for more than three days. Under the RIDDOR system, HSE categorises injuries in terms of severity (fatal, major, or over-3-day absence), nature and bodily site of injuries, age, sex, and employment status of injured persons; and industry of occurrence.

At a national level, recorded accident data, such as that collected under RIDDOR, is used by health and safety enforcement agencies to identify industries where interventions are most needed to control high rates of injury. Accurate reporting of work-related injuries and illnesses can help to identify unsafe work environments and work practices; monitor worker health and wellbeing; and eliminate hazards; or, at least, control the health and safety risks to employees.

### *Accident and injury under-reporting*

European research describes a picture of prevalent non-fatal accident under reporting comparable to that observed in the UK. Haastrup and Romer (1995) analysed accident reports from seven European accident-reporting databases to estimate the number of unreported accidents between 1984 and 1992. Reports were specific to industrial accidents involving hazardous materials that resulted in fatalities, injuries, evacuation and/or large economic loss at installations relevant to European Commission legislation. None of the described accidents were listed in all seven databases and there was little overlap between databases.

A literature review on reporting workplace injury trends by the Health and Safety Laboratory (2005) uncovered numerous articles on under reporting in the US and, although the structure of the reporting system is different from that in the UK, the US research points to some generic factors that are worthy of note. As in the UK, debate has surrounded the extent of under reporting of non-fatal workplace injuries to the US Bureau of Labour Statistics (BLS). Research by Leigh, Marcin and Miller (2004) concluded that there was substantial under capture in the BLS Annual Survey; some due to the exclusion of employee categories such as government workers and the self-employed, and some resulting from under reporting.

Previously in the US, occupational injury and illness rates declined substantially from 1992 to 1997 and research in this area often attributes this decline solely to prevalent under reporting (to avoid inspections / gain incentives for good safety performance). There are, however, several other potential explanations for this observed decrease (Mustard, 2002; Karr, 2000; Conway & Svenson, 1998). These include changes in the nature of work led to less hazardous workplaces in many industries; industry recognition of hazards has changed, as US employers are realising that increasing safety at the workplace lowers 'worker compensation' costs; success of occupational health and safety programs in preventing accidents and Occupational Safety and Health Administration (OSHA, the US equivalent of HSE), implemented measures to increase compliance and reduce violations of safety standards.

In further support of the premise that the decrease in US injury rates is multi factorial, a study by Conway and Svenson (1998) found that, although under reporting persisted in the US, there was no apparent increase in the size of the problem. In addition, no data were identified that would support the hypothesis of a sudden and dramatic increase in under reporting; suggesting that under reporting cannot explain the recent decline in occupational injury and illness rates in the US. Whether similar conclusions will be reached by HSE is under investigation and is as yet uncertain.

As McKnight et al. (2001) suggested the recent observed rise in UK injury rates might be due to changes in the workforce composition rather than changes in reporting levels. Both the HSE and OSHA have attempted to discover more about the quality of reported data.

One US-based study by Eisenberg and McDonald (1988) recorded evidence of both under reporting and over-reporting of non-fatal incidents. Surprisingly, 15% of incidents logged were over-recorded (i.e. were not supposed to be recorded under the BLS record-keeping guidelines), possibly reflecting confusion amongst duty-holders as to their reporting responsibilities or unclear reporting systems.

Other findings revealed that total injuries and illnesses were under reported by about 10%, whereas lost-workday injury and illness cases were under reported by 25%. Individual establishments were rarely responsible for the under reporting, indicating that this is a systematic rather than a random phenomenon. A follow-up study of 250 construction establishments some 10 years later replicated this pattern of under reporting (Conway & Svenson, 1998).

Biddle et al. (1998) identified 30,000 known or suspected cases of occupational disease in Michigan, where employers, hospitals, clinics, and physicians are required by law to report

such cases (although indirect evidence shows compliance is far from complete). They found that 55% did not file for wage replacement and only 9% could be labelled as definitely having filed. While filing in this state is only done after a week off work, the authors concluded it is likely that many eligible workers did not file a claim.

In the US, injuries and illnesses logged by employers conform to definitions and recordkeeping guidelines set by the Occupational Safety and Health Administration, U.S. Department of Labour. Under these guidelines, nonfatal cases are recordable if they are work-related illnesses or injuries that involve lost work time, medical treatment other than first aid, the restriction of work, loss of consciousness, a transfer to another job, or other specific conditions. Employers keep counts of injuries separate from counts of illnesses. They also identify whether each injury or illness involved any days away from work, days of restricted work activity, or both that occurred after the day of injury or onset of illness.

All employers with 11 or more employees in OSHA-designated high-hazard industries are required by OSHA regulation 29 Code of Federal Regulations (CFR) 1904 to maintain logs throughout the year and to complete a summary based on the log at the end of the year. Other employers also are required to maintain logs according to OSHA regulation 29 CFR 1904.42 in the event that those employers are asked to participate in the Survey of Occupational Injuries and Illnesses (SOII). BLS draws a sample of employers for SOII from both OSHA-designated high hazard industries and other industries.

Some have viewed SOII with misgivings over its failure to count all workplace injuries and illnesses. Their comments can be classified into four separate categories: under-recording of illnesses, incomplete scope in the coverage of workers, incomplete capture of injury and illness cases that are reported in other systems, and unreported cases.

For a variety of reasons, Boden and Ozonoff (2008) expect that SOII and workers' compensation are positively source dependent. Some of these reasons are that the same person might record a case in both systems; if a worker does not report a case, it is not likely to be recorded in either system; and if an employer does not think a case is compensable, then he or she might erroneously believe that it also is not OSHA recordable.

The work of Rosenman and colleagues (Roseman et al, 2006), Boden and Ozonoff (2008), and others suggests that no single data source can measure the total number of workplace injuries and illnesses. Using multiple data sources can improve completeness

of coverage by including workers and cases that are outside the scope of any particular data source and by covering cases that, for a variety of possible reasons, do not appear in a particular data set.

Shannon and Lowe (2002) found that severity of an injury was the strongest predictor of work place accidents being reported, the higher the perceived severity of the injury, for example, large lacerations, broken limbs, compound fractures or other highly visible injuries, the more likely the accident which caused the injury will be reported and a corresponding workers' compensation claim made. Shannon and Lowe showed that less visible soft tissue injuries and psychological harm caused in the workplace, for example torn meniscus, sprain/strains, torn muscles and torn ligaments which are not highly visible, were less likely to generate an accident report, due to the lack of visible symptoms that link the injury to a direct accident in the workplace.

Rosenman et al (2006) examined the data collected in an annual Bureau of Labour Statistics (BLS) and compared the data to workers compensation claims made for those businesses over the corresponding time period. The data, collected by the Bureau of Labour Statistics, was obtained using a self-reported survey. A sample of organisations was selected as a representative set of businesses. In the year prior to the survey commencing the organisations were informed that they have been selected for the survey and were asked to complete the survey over the course of a year. When the BLS data was compared to the Workers Compensation claims data, for the organisation and time period that corresponded with the BLS survey, it indicated that under reporting of workplace accidents resulting in injury had occurred.

The data indicated that there was a poor correlation between Workers Compensation Claims injury data and the BLS accident survey data for the organisations surveyed over the same time period. There were more Workers Compensation claims against the organisations account than there were accidents resulting in injury reported to the BLS accident survey.

It is suggested that the perceived severity of the injury would have been a factor in why some injuries were reported as Workers Compensation claims and not reported to the BLS. In many cases the severity of the injury could only be identified by a medical professional and therefore not easily identified by workplace staff as an injury, for example a strain or sprain injury, or a torn muscle. This information would then likely be entered into the Workers Compensation Insurance system and not to the BLS reporting system.

Zahlis and Hansen (2005) suggested that there is a distinct disconnect between the Workers Compensation system and OSHA (in the U.S.A) with respect to reportable workplace accidents and workplace injury insurance claims, which supports Probst et al (2006) findings when comparing the BLS data to the Workers Compensation claims data.

### *Organisational factors*

The research has identified wider organisational issues and characteristics that are thought to be important in work related injury reporting. These include organisational safety climate, safety communication, safety training and safety systems.

The organisational climate can be viewed as the organisations values, beliefs and principals. This term is often referred to as the culture of an organisation. It is often linked to how a person/s views and feels toward an organisation as well as the individual's perception of how they fit into the organisation. The way in which the employees perceive the beliefs, values and principles of the organisation serve as a frame of reference, guiding the employees' behaviour (Probst et al, 2008).

Organisational behaviour is shaped by what is perceived as the organisations goals, or what would benefit the organisation. In order for the organisation to achieve these goals senior management put in a series of motivators/incentives, for example, reward systems such as praise, promotion, raises etc. This "rewarded behaviour" is identified as good organisational behaviour by employees and thus taken as being the "correct" behaviour within the organisation (Probst et al, 2008).

Senior management also put in place a series of disincentives to stop behaviour that is counter to the organisations goals, for example, being reprimanded, loss of prestige and dismissal, in effect punishing undesired or "bad/incorrect" behaviour. These incentives and disincentives are identified by the employees, the employees then modify their behaviour or learn behaviour from those around them, to increase the likelihood of being rewarded for "correct" behaviour and decrease their chances for being punished for incorrect behaviour (Probst et al, 2008).

An organisation safety culture is driven/perceived in exactly the same way. If the organisations management places "value" in safety measures then the organisation will have a positive, safety culture. If management does not place "value" into safety then it will have a negative safety climate. Organisations that place a high priority on safety will invest more in the safety cause by providing safety communication which is open and honest and allows feedback. This form of communication must be of high enough quality

and quantity between work crews and management so that work crews are confident enough to approach management with safety concerns and know that these concerns will be taken seriously and action taken to remedy their concerns (Probst et al, 2008).

Safety training is important for ensuring that all employees are aware of their responsibilities with respect to safety and by providing designated staff with specific safety skills required for their roles, for example, accident investigation training, Health and Safety Management Training. If adequate safety training is not provided to front line staff, for example, what constitutes a recordable or serious harm accident, what procedures to use in the event of an emergency, then the front line staff members will be unaware of their responsibilities. This leads to under reporting due to a lack of training as the staff member does not know what constitutes serious harm (Probst et al, 2008).

Safety systems refer to policy, procedure and practices within the organisation. Policies inform the work force of the expected behaviour while at work. These policies set the foundation of procedures and practices of the organisation (Zohar, 2003). Probst et al (2006) found that when enacted policies are introduced, they are sometimes seen as draconian in nature, when suitably enforced, but over time become the organisational norm (Zohar, 2003). If developed correctly with adequate communication and input from all levels of staff, enacted safety policies can be taken up very quickly by all staff if sufficient communication and education are used to demonstrate the rationale and reasons behind the new policy and procedure (Probst et al 2006). Therefore, if there is a good/positive safety culture/climate then there is a less likely chance of under reporting occurring (Probst et al, 2008).

Probst et al (2008) showed the difference between poor and positive safety culture in that those organisations with a poor safety culture failed to accurately report 80% of reportable injuries to OSHA (Occupational Safety and Health Administration). Those organisations that were said to have a positive health and safety culture/climate failed to report 47% of eligible injuries.

In many instances organisations base their safety targets/goals on the government enforcement agency (OSHA, Department of Labour) business measurement systems. The rationale being the government agencies measurements are easily definable, it is a government requirement, managers could be measured against them, contracts could be won or lost on these numbers and these numbers could be easily manipulated to meet the

criteria for the above. This data is based on accident statistics data, number of Lost Time Injuries, number of Medical Treatment Injuries etc. often termed lagging indicators

When organisations base their health and safety performance measurements on lagging indicators e.g. accident data, lost time injuries, medical treatment injuries, etc, it has been shown to promote under reporting (Agamar et al, 2006; Probst et al, 2008). Lagging indicators tend to reflect organisations systems failures, where leading indicators, conversely, tend to reflect what the organisation is doing in a positive sense.

### *Reporting systems in New Zealand*

In New Zealand, the Accident Compensation Corporation is the agency that provides all New Zealanders and visitors to New Zealand with accident insurance for personal injury resulting from accidents. It is a comprehensive no fault system of accident injury cover (ACC, 2010). This system of compensation arose due to a Royal Commission which was established in 1967 to investigate the continuation of the tort based system. The Royal Commission found that the liability based system (Tort based system) did not provide adequate financial support for accident victims whose' injuries had severely reduced their capacity to work. The result of this finding was the main driving force behind the establishment of the ACC, for which the no fault based system was developed and which is still in use today (Bismark and Paterson, 2006).

Prior to the introduction of the ACC individuals who had been injured as a result of workplace accidents had to approach their employers for suitable recompense. If the employer was unwilling to compensate the injured party then the injured employee had to take legal action against the employer (Howell et al, 2002).

The introduction of the ACC no fault system insured that all accident victims, who sustain injury, are able to receive paid medical care, and should this injury cause the victim to have a reduced capacity to work; ranging from no longer being able to work through to partial return to duties, then the injured party will receive suitable financial compensation, and/or support (ACC, 2010).

The Department of Labour is the government agency responsible for overseeing the New Zealand labour market, specifically relating to the enforcing legislation related to the workplace. This includes Health and Safety, Immigration and Employment Relations (Department of Labour, 2010).

The Department of Labour administers the Health and Safety in Employment Act 1992 (HSE Act) which defines the responsibilities of employers and employees, with respect to health and safety within the workplace. The overall aim of this legislation is "the prevention

of workplace injury and harm” (Health Safety and Employment Act, 1992). This legislation was developed using existing legislation from the United Kingdom, with several slight variations specific to the New Zealand workplace environment. In short the HSE Act 1992 and the HSE Regulations 1995 set out the rules and possible penalties related to all aspects of health and safety within the workplace. (Slappendel, 1995).

The HSE Act states that all serious harm accidents are to be reported to the Department of Labour within 48 hours of the accidents occurrence. An instant fine of up to \$10,000 can be imposed per accident for non-disclosure of serious harm accidents. Serious harm accidents are defined in Schedule 1 of the amendment to the HSE Act 1992 (Health and Safety in Employment Act, 2002).

Prosecution, under the HSE Act, are carried out to serve as deterrence. They come about to preserve the normalcy of everyday life. Prosecution is a way of protecting the public, the public’s right to a moral, ethical and fair society, punishing the guilty, and in doing so protecting and reassuring the public. The punishment of guilty parties also serves as an example to others who may be working outside of the law, (Gunningham, 2007).

Prosecution serves the public interest by reinforcing that there are legal (and moral) boundaries that cannot be crossed without adverse consequences (Gunningham, 2007).

The Department of Labour however must select which serious harm accidents warrant prosecution, and which of these would best serve the public interest. Litigation is expensive and the Department of Labour does not have unlimited resources with which to prosecute every infraction, therefore these resources are allocated to cases that will have the most effect (Gunningham, 2007).

Non-disclosure of serious harm workplace accidents does not require litigation, in fact, it is similar to a speeding ticket issued by the police, if you get caught not reporting a serious harm accident, it can incur an instant fine of up to \$10,000 per infringement. This could be considered on a case by case basis, so in some cases it would range from a written notification, stating that the offender has been found out for the first time, informing them of the possible consequences, thus giving them a warning and increasing their awareness of the law, right up to cumulative fines for organisations guilty of numerous non-disclosures.

### *A model for work-related injury non reporting*

Webb et al (1989) suggested a rationale for non-disclosure of serious injury accidents. The term put forward by Webb et al, was that of a “filter system”, in which partial barriers, or semi permeable membranes, are located at key points in the reporting process, which limits or stops the information getting through to the enforcement agency (Department of Labour). Webb et al (1989) developed a conceptual filter system which was used to show the various stages and barriers that accident information must pass through in order to be appropriately reported.

Webb et al used the term “level” to refer to a given set of data collected at a given stage in the accident reporting system. Early levels in the model represent detection associated with the injury, for example, employee perception of what is classed as an injury, this can be influenced by factors such as, employee knowledge, is this an injury or not, business safety culture, indicating if reporting of accidents/injury is actively supported or actively frowned upon. These influences and perceptions are the filters that the information must pass through to get to the next level. The junction between levels was termed a “filter”. This filter comes into action when deciding on which information, if any, is allowed to proceed onto the next level of the accident reporting system.

In many cases these filters are selectively permeable, so that some types of injury information passes through more readily than others. In many cases it is the severity and/or visibility of the injury that affects how permeable the filter is, this could explain why many soft tissue injuries are not reported, when compared to a cut, fracture or amputation injuries, as there is a preconceived notion that an injury requires some form of visual cue, so for example, a lacerated finger is more likely to move through the filter up to the next level of injury/accident recognition than say a strained back.

The first filter in the Webb model is related to the workers perception of an injury, sometimes referred to as “illness behaviour” or the “propensity to seek help when ill”. This can be affected by such factors as social class, gender, marital status, occupation and education, attitudes of co-workers, legal necessity (portioning blame), as well as seemingly unrelated factors such as unemployment rate (will I lose my job if I report this?), accessibility to health/first aid services (if there are no first aid supplies around, do I really need first aid? Therefore do I need to report this?). All of these factors, affect the workers perception on what constitutes an injury and in so doing, influence whether or not the

accident notification activity proceeds to the next level, reporting the accident/injury to the supervisor/manager.

The second filter is a matter of perception on the part of the employees' supervisor/manager. This second filter is controlled by the supervisor/managers' perception of the employee; is he/she a hard worker, a complainer, or someone who is frequently injured. Factored into the supervisors/managers perception are the characteristics of the supervisor/manager in question, what is his/her age, training, attitude toward safety. Then there are external influences which may affect the supervisor/managers decision, such as, is there additional paperwork involved with this, will we meet targets/goals minus one worker, will this affect my bonus to name but a few. Once the supervisor/manager has factored in these influences he/she will decide if the accident/injury passes through the second filter to level 3 processing the accident/injury, and/or sending the injured party to get medical treatment.

Level 3 in the Webb model consists of medical staff treating the injured party, with the filter to level 4 being the medical staffs' perception on whether to submit a medical centre report. In New Zealand with the ACC, no fault system, all workplace accidents that are sent to a medical professional are submitted to the ACC by the medical professional, for reimbursement. Another factor involved is that very few New Zealand businesses carry their own medical staff.

The level 4 filter is then a matter of which reports make it into the companies' records. The filter is dependent on company policies, perceptions of the person in charge of collating this data, for example, safety officer. In many cases companies are only concerned with serious injuries which must be reported as a legal requirement, therefore the 4<sup>th</sup> filter is relatively impermeable to minor injuries (Smith et al, 1978).

The perceptions of the person collating the data would also affect the progression through this filter; if the person (safety officer, H&S Coordinator) is responsible for reducing reportable accidents then this could introduce a bias on their part, managerial pressure to produce a fall in accident and/or injury rate.

Level 5 of the Webb et al (1989) model is when the accident is reported to senior management. It is this filter that information on serious accidents and injury must pass through to reach government agencies such as the Department of Labour.

Level 6 of the model is the reporting of serious harm accidents to the Department of Labour. This filter is dependent on several variables, nature of regulations the degree of enforcement and the willingness of the company/business to divulge this information.

The main conclusions from Webb et al (1989) research and consequent development of the filter system model, was that there is a considerable amount of injury and accident information lost due to filtering effects, and therefore much data lost on how to stop reoccurrence, and/ or future related loss. Another conclusion was that businesses tended to only be concerned with serious or severe injury, overlooking high frequency, less serious/severe injuries, thus missing opportunities to help prevent the severe injuries from occurring at all.

### *Factors associated with under reporting*

One of the major factors/filters associated with under reporting, is that of businesses not wanting to attract the attention of regulatory agencies. This is not just the case in New Zealand industry but also in the United States of America (Ruser and Smith, 2010). Ruser and Smith found that companies that disclosed the equivalent of serious harm accident data to OSHA were inspected more often than those that did not. They also found that companies that were not inspected by OSHA showed evidence of consistent under reporting of serious harm accidents to OSHA.

Azaroff et al (2002) cited research carried out in 1987 by the National Academy of Sciences, which found that several of the United States of America largest corporations wilfully under reported work place injuries, the main reason being to avoid OSHA inspections.

Other reasons cited for this under reporting included competition between companies and between plants within companies. This was done in an attempt to record a lower injury rate than their counterparts, as well as to enhance the supervisors/managers reputation (Azaroff et al, 2002).

In many cases organisations prefer to disclose positive information, enhancing their reputation and prestige. Therefore reporting of serious harm accidents is seen as negative information, which would have a negative impact on the company's reputation and prestige (Brown and Butcher, 2005).

Another rationale for under reporting is that the business does not perceive any benefit (profit) in reporting of serious harm accidents (Gunningham, 2007). In some cases organisations have embarked on “defensive training”, in which they have educated employees in the strategies of how to avoid reporting and self incrimination with respect to breaches in the HSE Act, in effect anti-ethical behaviour (Gunningham, 2007).

Slappendel (1995) also noted that this type of business behaviour, in non disclosure of serious harm accidents, could also be an indicator of other short comings in business obligations, for example, obligations under the Resource Management Act and Fair Trading Act.

This study attempted to determine work-related injury capturing patterns of the workers compensation system by investigating the agreement of compensation records and notifications to the Department of Labour for a specific business group, in this case the ACC classification unit “Fruit and Vegetable Wholesale”. The Fruit and Vegetable Wholesale industry sector in New Zealand represents an important workplace setting to investigate the extent of serious harm reporting and compensation records for work-related injury surveillance both because of its hazardous work environments and importance to the local economy. This research will examine data provided by the Department of Labour and the ACC, with the intent of determining whether serious harm accidents are being under reported and if so, the extent of under reporting.

## Chapter 3 Methods

### Ethics

The ethical considerations of this research were discussed with the supervisor and a Low Risk Ethics application was registered by the Massey University Human Ethics Committee in June 2010.

Data was requested and collected from two national injury databases. The New Zealand Accident Compensation Corporation (ACC) claims data base and the New Zealand Department of Labour serious harm notifications database.

### *ACC data*

Specific data was requested from the ACC. This data referred to the Classification Units (CU) code 47150, Fruit and Vegetable Wholesaling. This data consisted of all ACC workplace injury claims made for the years 2004 through to, and including, 2009, a five (5) year period.

The data provided by the ACC contained information on:

- Geographical location
- Levy Client Name
- Accident Date
- Registration Date
- Age of Client
- Sex (Male/Female)
- Claim Cost Range
- Injury
- Injury Site (on body)
- Accident Notes

Data was provided for each of the years in question, 2004 to 2009 (refer Appendix 1).

The ACC data was then analysed to identify acute cases of workplace serious harm, injury claims. To identify acute serious harm cases the criteria from the Health Safety and Employment Act 1992 was used. This criteria can also be found on the Department of Labour (DoL) information web site (refer Appendix 2).

The criteria used were as follows;

- Any injury claims for:
  - Bone fractures
  - Tendon/ligament tear or rupture
  - Pneumothorax (collapsed Lung)
  - Concussion
  - Torn Gastrocnemius
  - Hernia
  - Amputation
- Further analysis of the ACC injury claims data, that could be classed as acute serious harm was conducted.
- This included:
- Frequency of acute serious harm injury.
  - Fracture and tendon ruptures for example.
- Frequency information on the locations on body that were injured.
  - This would further provide information on trends that were occurring in this ACC CU.
- The ACC raw data sets are presented in Appendices 3, 4, 5, 6, 7 respectively.

#### *Department of Labour (DoL) data*

Data was requested from the DoL on the same group of businesses, ACC CU code 47150, Fruit and Vegetable Wholesaling. After contacting the DoL directly, it was found that the DoL used an entirely different system of grouping/coding. The DoL used the Australia/New Zealand Standard Industrial Classification NZ version 1996.

Initial attempts to get raw data from the DoL consisted of listing all businesses named in the ACC Fruit and Vegetable Wholesaling CU code. This data could not be easily obtained from the DoL system.

Direct consultation with DoL representatives advised that the easiest way to obtain the information would be to attempt to identify possible matches within the DoL coding system.

The A/NZ Standard Industrial Classification NZ Version 1996 was obtained and informed matches were made.

These codes consisted of:

- Plant Nurseries A0111
- Vegetable Growing A0113
- Grape Growing A0114
- Apple and Pear Growing A0115
- Stone Fruit Growing A0116
- Kiwifruit Growing A0117
- Crop and Plant Growing A0619
- Meat Processing C2111
- Poultry Processing C2112
- Bacon, Ham and Small Goods Manufacture C2113
- Fruit and Vegetable Processing C2130
- Farm Produce and Supplies Wholesale F4519
- Fruit and Vegetable Wholesale F4715
- Grocery Wholesale F4719
- Fruit and Vegetable Retail G5122
- Road Freight Transport I6110

It became apparent that some of the codes may not seem related to Fruit and Vegetable Wholesaling, due to the fact that several businesses included in the ACC CU code do not exclusively undertake fruit and vegetable wholesale or may have diversified into other industry sectors. Examples include; Hellaby Meats (South Island) Ltd, Aerocool Ltd, Maxco Labour Ltd.

Once the DoL data was received and comparatively analysed it was found that a large number of acute serious harm injury claims had not been reported.

It was thought that the businesses in question may not have been included in the A/NZ Standard Industrial Classifications listed. It was at this point that a list of all serious harm accidents reported for the year 2004 up to and including, 2009 was requested. This was to ensure that the comparison was accurate between the two sets of data.

The data supplied by the DoL consisted of:

- Business Name
- Incident Date

- Industry Group Name
  - Industry Name
  - Agency (of harm)
  - Mechanism (of harm)
  - Injury
  - Body Part
  - Regional Location
  - Investigated or limited response
- This new data was then analysed in the same way as the ACC data, specifically for the businesses included in the ACC CU code 47150, Fruit and Vegetable Wholesaling.
  - Frequency and types of injury reported, (fatalities were excluded)
  - Locations on body that were injured and frequency of location of injury.

Once this initial data was analysed a detailed comparison between the ACC data and the DoL data was then completed. This consisted of identifying all instances of serious harm injury claims made to the ACC and matching that specific data to the reported serious harm incidents data supplied by the DoL.

Comparisons relied on the data sets supplied by both agencies matching up:

<b>ACC</b>	<b>DoL</b>
Levy Client Name	Business Name
Accident Date	Incident Date
Injury	Injury
Injury Site	Body Part
Location	Regional Location

Injury claims identified as acute serious harm from the ACC data would be compared to the DoL data to ascertain if it had been reported to the DoL. This is a legal obligation under the Health and Safety in Employment Act 1992.

If an identified serious harm injury claim did not appear in the DoL data, then it would be classed as an unreported serious harm injury.

This data will then be overlaid to see if there is a difference between the 2 sets of data.

- Comparison data tables are presented in the results section
- Comparison graphs are presented in the results section.

The analysis would then show the difference, if any, between workplace serious harm accidents reported to the DoL and workplace injury claims that are made to the ACC that would be classed as serious harm injury for the ACC CU 47150, Fruit and Vegetable Wholesaling.

## Chapter 4 Results

For the 2004 to 2009 period there were 176 serious harm accidents reported to the Department of Labour and 196 injury claims made to the ACC which would be classed as serious harm injury.

Of the 176 serious harm accidents reported to the Department of Labour, 45 correlated with data obtained from the ACC. This equated to 25.6% (1dp) of all reported serious harm accidents which could be traced to an ACC injury claim.

Of the correlated information, 26 of the 45 injuries would not be considered serious harm injuries. This equates to 14.8% (1dp), of the 176 serious harm accidents reported.

This left 19 identified acute serious harm injuries from the ACC which correlated with the Department of Labour serious harm accident report data.

Of the 192 identified serious harm injury claims found in the ACC data 19 of these were reported to the Department of Labour as serious harm accidents 9.9% (1dp). (Please see Table 1 for detailed breakdown of comparison and figure 1 for a graphical representation of the data).

From table 1 we can see that the annual average number of ACC serious harm injury claims for the 2004 – 2009 was 32.17(2dp), the standard error (99.9%) was 10.42(2dp). The average number of these cases reported to the Department of Labour as serious harm accidents for the 2004 -2009 period was 3.14(2dp) with a standard error of 2.61.

This is shown graphically in figure 2 showing that for the 2004-2009 period there was a significant difference (with a 99.9% confidence level) between ACC serious harm injury claims and correlated Department of Labour serious harm reports.

Figure 3 shows the correlation from Department of Labour serious harm accident report data with ACC serious harm injury claims. This indicates that some serious harm accidents reported to the Department of Labour may not have resulted in an ACC injury claim, i.e., no one was hurt, or that the medical treatment was paid for privately without an ACC claim being lodged.

	2004	2005	2006	2007	2008	2009	Total	Average	Variance	Standard Deviation	99.9% error
Acute serious harm injury claims	23	41	34	28	41	26	193	32.17	49.81	7.06	10.42
Acute Serious Harm injury claims reported to Department of Labour reports as Serious Harm	1	2	6	2	3	5	19	3.17	3.14	1.77	2.61
Percentage of Acute Serious Harm Injury Claims Reported to the Department of Labour as Serious Harm (%)	4.35	4.88	17.65	7.14	7.32	19.23	9.84	10.09	36.20	6.02	8.88
Department of Labour Serious harm reports submitted	34	18	24	29	33	38	176	29.33	44.56	6.67	9.85
Department of Labour serious harm reports that correlate with ACC injury claims	5	4	10	7	9	10	45	7.50	5.58	2.36	3.49
Percentage of Serious Harm Reports that have a correlated ACC Injury Claim (%)	14.7 1	22.2 2	41.67	24.14	27.27	26.32	25.57	26.05	65.41	8.09	11.94
Department of Labour serious harm reports that correlate with ACC injury claims that would not be considered acute serious harm injuries.	4	2	4	5	6	5	26	4.33	1.55	1.25	1.84

Table 1. Comparison of ACC Acute Serious Harm injury claims and Department of Labour reported serious harm cases.

Table 1 show that the average claims rate for serious harm injuries to the ACC was 32.17; this is approximately 10 times the number reported to the Department of Labour for this same period (3.17).

Table 1 also shows that the average number of serious harm accidents reported to the Department of Labour was 29 per year; this data had a 26% correlation with the ACC data, approximately four (4) times the number reported to the ACC for this time period.

## Comparative Annual ACC Serious Harm Accident Injury Claims and Department of Labour Serious Harm Accidents Reported for the Years 2004 to 2009.

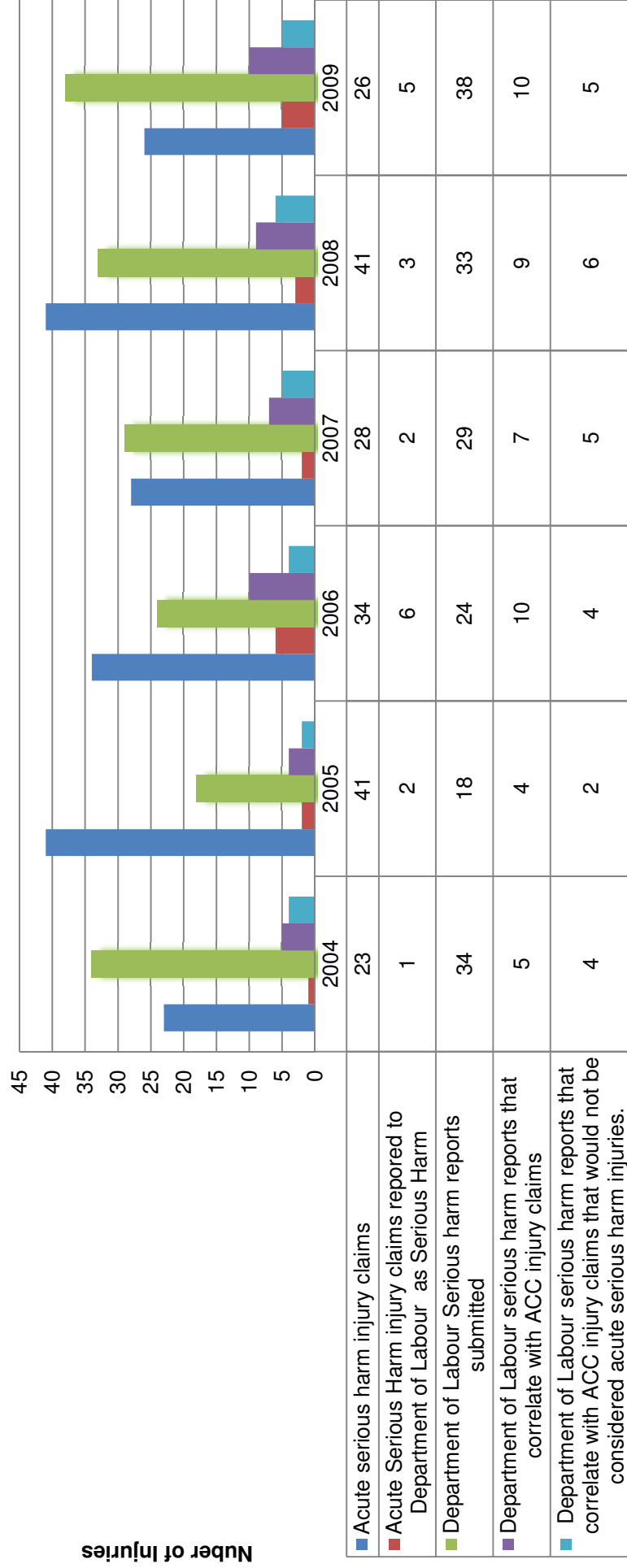


Figure 1. Comparison of Annual ACC Serious Harm Accident injury claims and DoL Serious Harm accidents reported 2004 – 2009.

This graph gives a visual representation between the data sources looking specifically at the comparison between ACC acute serious harm injury claims reported to the Department of Labour, and also Department of Labour serious harm reports submitted that correlate with ACC injury claims.

Fractures and soft tissue injuries were the most frequent serious harm injury claims placed with the ACC, over the 6 year period (2002 – 2009), with 61.7% (1dp) and 14.5% (1dp) respectively.

There were 6 other categories of ACC serious harm injury claims identified that ranged from 0.5% of the total to 7.3% of the total number of injuries claimed. These were in descending order; concussions, 7.3% (1dp); amputations, 7.3% (1dp); torn gastrocnemius, 6.7% (1dp); brain injuries, 1.0% (1dp); eye injuries, 1.0% (1dp) and Pneumothorax, 0.5% (1dp).

## Average Comparison of Serious Harm ACC Injury Claims and Department of Labour Serious Harm Accident Reports for Years 2004 to 2009. (99.9% Confidence Interval)

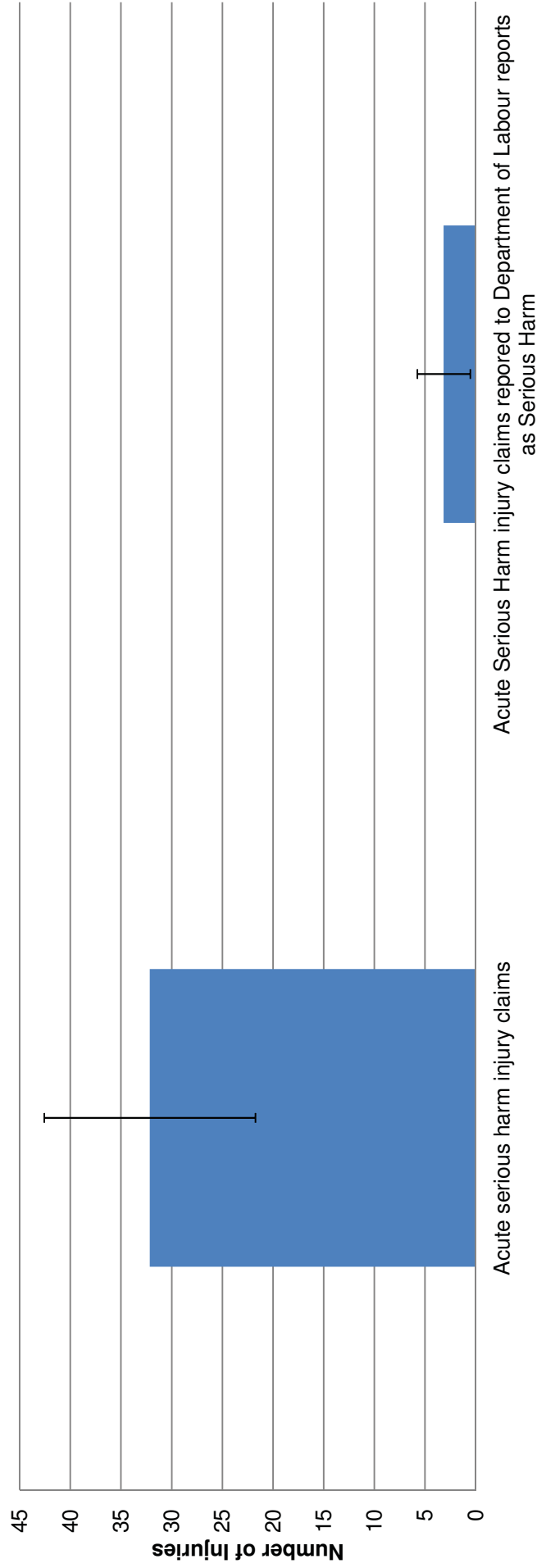


Figure 2. Average Comparison of Serious Harm ACC Injury Claims and Department of Labour Serious Harm Accident Reports for Years 2004 to 2009. (99.9% Confidence Interval)

Figure 2 shows that there is a significant difference (99.9% confidence level) between the number of acute serious harm injury claims made and the number of these claims that are reported to the Department of Labour.

## Average Comparison of Serious Harm Accidents Reported to Department of Labour and ACC Serious Harm injury claims that Correlate for Years 2004 to 2009. (99.9% Confidence Interval)

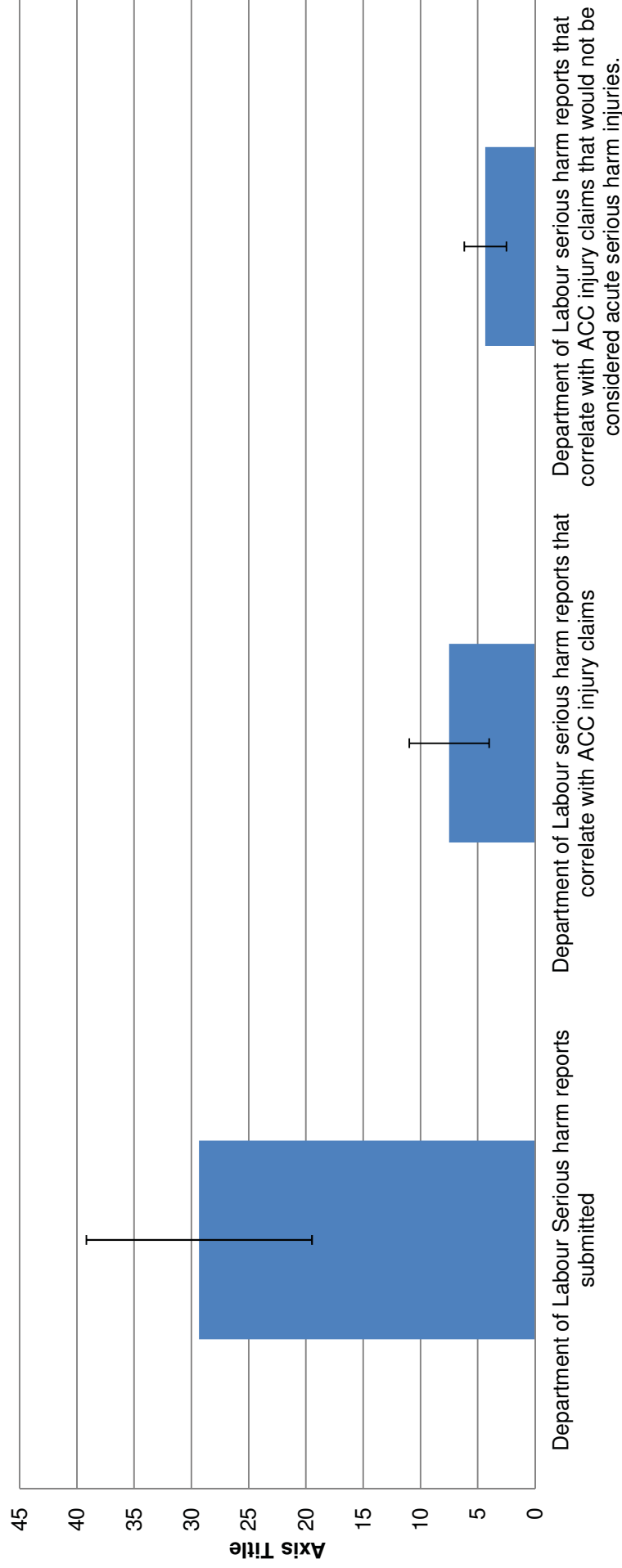


Figure 3. Average comparison of serious harm accident reported to the Department of Labour and ACC serious harm injury claims for years 2004 to 2009. (99.9% confidence interval)

Figure 3 shows the reverse correlation of figure 2. It has an extra data set added to indicate accidents that were reported to the Department of Labour and have a correlating ACC injury claim. Using the injury criteria set out in the methods section, it can be seen that of these 26.05 (annual average) injury claims only 4.33 would have been classed as serious harm injury. This indicates a degree of over reporting in these cases, or some other factor that escalates the injury to serious harm status.

Figure 3 shows that there is a significant difference (99.9% confidence level) between the number of serious harm reports submitted to the Department of Labour and the number of correlating ACC injury claims made.

### ACC Data

Of the 193 acute serious harm injury claims identified in the ACC data 119 were fractures. 61.7% (1dp).

The next highest form of acute serious harm injury was tendon injury, specifically, tears and ruptures, with 28 identified cases, 14.5% (1dp).

The other identified cases of acute serious harm injury claims found in the ACC data were

- Concussions 14 7.3% (1dp)
- Amputation 14 7.3% (1dp)
- Torn Gastrocnomius 13 6.7% (1dp)
- Brain injuries 2 1.0% (1dp)
- Eye injuries 2 1.0% (1dp)
- Pneumothorax 1 0.5% (1dp)

Detailed annual results can be found in table 2, graphical representations of this data can be found in figures 3 and 5.

Collated data for locations of injury on the body can be found in table 3.

ACC Data	2004	2005	2006	2007	2008	2009	Total	Percentage (%)
<b>Serious harm injury claims</b>								
<b>Tendon ruptures, tears</b>	3	12	3	3	5	2	28	14.51
<b>Pneumothorax</b>	1	0	0	0	0	0	1	0.52
<b>Concussion</b>	1	3	1	3	4	2	14	7.25
<b>Torn Gastrocnemius</b>	0	2	3	1	4	3	13	6.74
<b>Amputation</b>	0	3	3	2	4	2	14	7.25
<b>Fractures</b>	18	21	23	17	23	17	119	61.66
<b>Eye injuries</b>	0	0	1	1	0	0	2	1.04
<b>Brain Injuries</b>	0	0	0	1	1	0	2	1.04
<b>Total</b>	23	41	34	28	41	26	193	100

Table 2. Annual results for types of identified acute serious harm injuries claimed, taken from ACC data.

## ACC Serious Harm Injury Claim Data 2004-2009: Injury Type

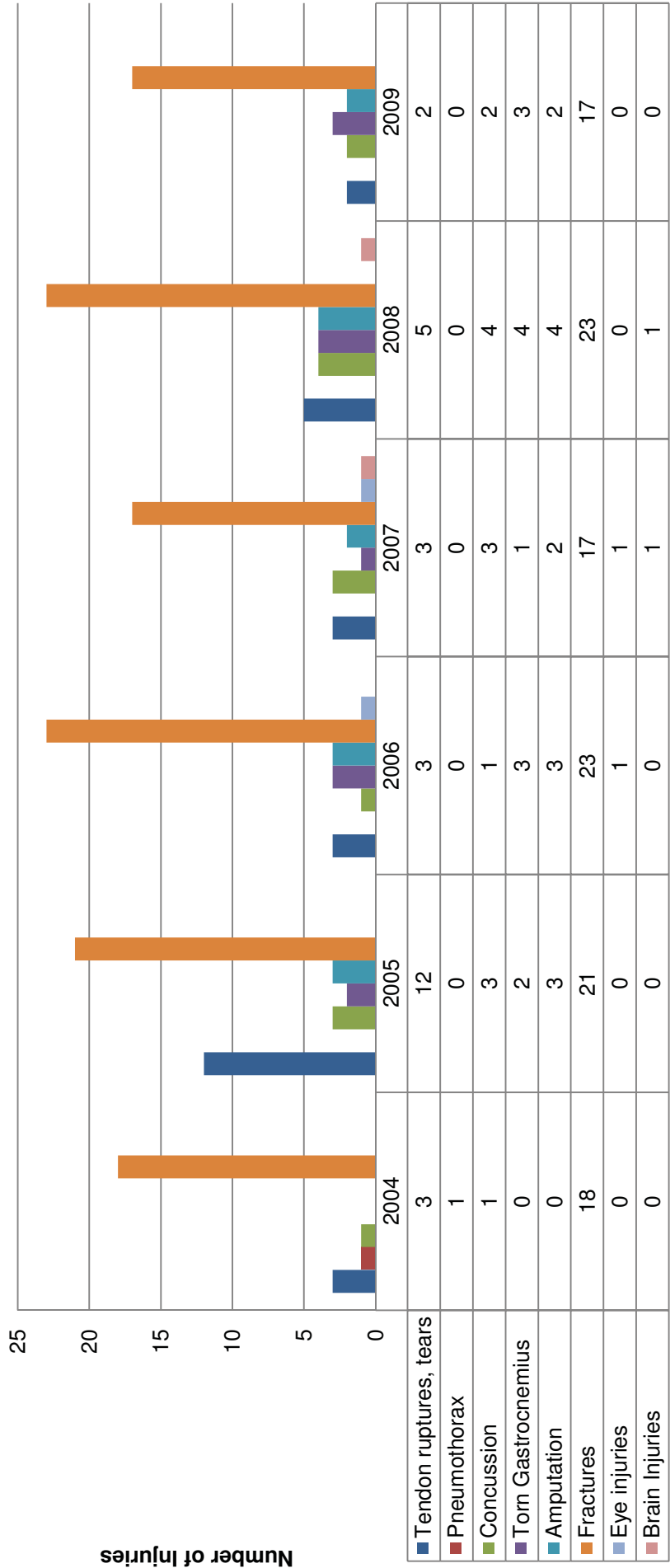


Figure 4. ACC serious harm injury type data.

Figure 4 is a graphical representation of the classes of serious harm injury claims made to the ACC by year. This shows the differences in the number and types of injury visually.

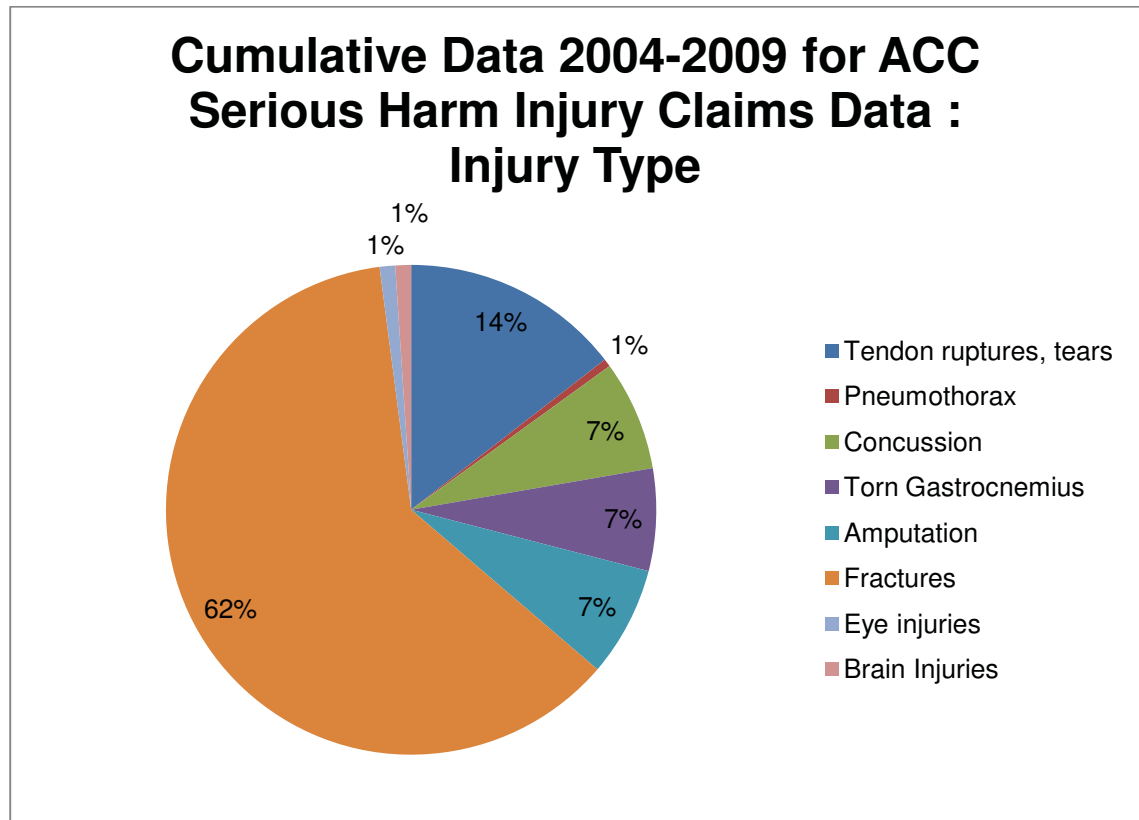


Figure 5. Proportions of ACC serious harm injury claims by injury type.

Figure 5 shows the cumulative proportional data for the serious harm injury claims data collected from the ACC. The proportions of serious harm injury claims are dominated by fractures. This pie chart indicates how dominant fracture injuries were when compared to other types of injuries.

Injury Location ACC	2004	2005	2006	2007	2008	2009	Total	Percentage (%)
Head	3	3	2	6	6	2	22	11.40
Torso	7	2	3	4	4	4	24	12.44
Upper Limbs	6	19	15	8	16	11	75	38.86
Lower Limbs	7	17	14	10	15	9	72	37.31
<b>Total</b>	<b>23</b>	<b>41</b>	<b>34</b>	<b>28</b>	<b>41</b>	<b>26</b>	<b>193</b>	<b>100</b>

Table 3. Locations of injury by year.

The highest frequency injury location on the body was the upper limbs, with 75 identified serious harm injury claims (38.86%) followed closely by the lower limbs with 72 identified serious harm injury claims (37.31%).

The remainder of serious harm injury claims consisted of:

- Torso 24 12.4% (1dp)
- Head 22 11.4% (1dp)

This information can be found in table 3 with graphical representations of the data in figures 6 and 7.

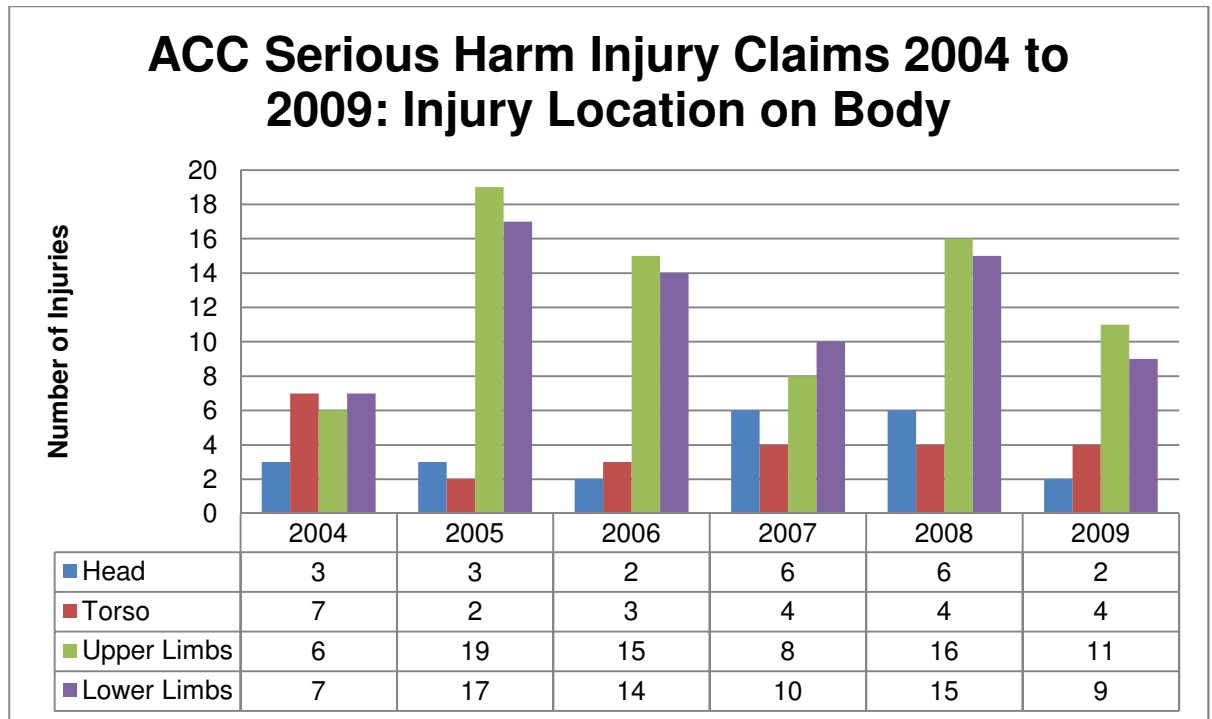


Figure 6. ACC serious harm injury claims 2004 to 2009 illustrating frequency of body locations injured

Figure 5 is a graphical representation of the data presented in table 3. This graphing of the data shows that for the 2004 year the number of injuries per body part was very similar.

In 2005 serious harm injury claims for the limbs (both upper and lower) increased greatly, torso injuries decreased and head injuries stayed the same.

2006 saw a decrease in all injury areas, except torso, however limb injuries were still 4-5 times that of other injury locations.

2007 saw a marked decrease in the number of limb injuries and an increase in the number of head and torso injuries. Head and torso injuries stayed the same for 2008; however limb injuries increased dramatically with upper limb injuries doubling and lower limb injuries increasing by a third. 2009 saw head injuries decrease to 2006 levels, torso injuries stayed the same and limb injuries decreased.

Over the 6 year period head and torso injuries appeared to stay at the same levels ranging from 2-6 and 2-7 respectively, limb injuries tended to always be higher than head and torso injuries and had a significantly larger range 6-19 upper limbs, 7-17 for the lower limbs.

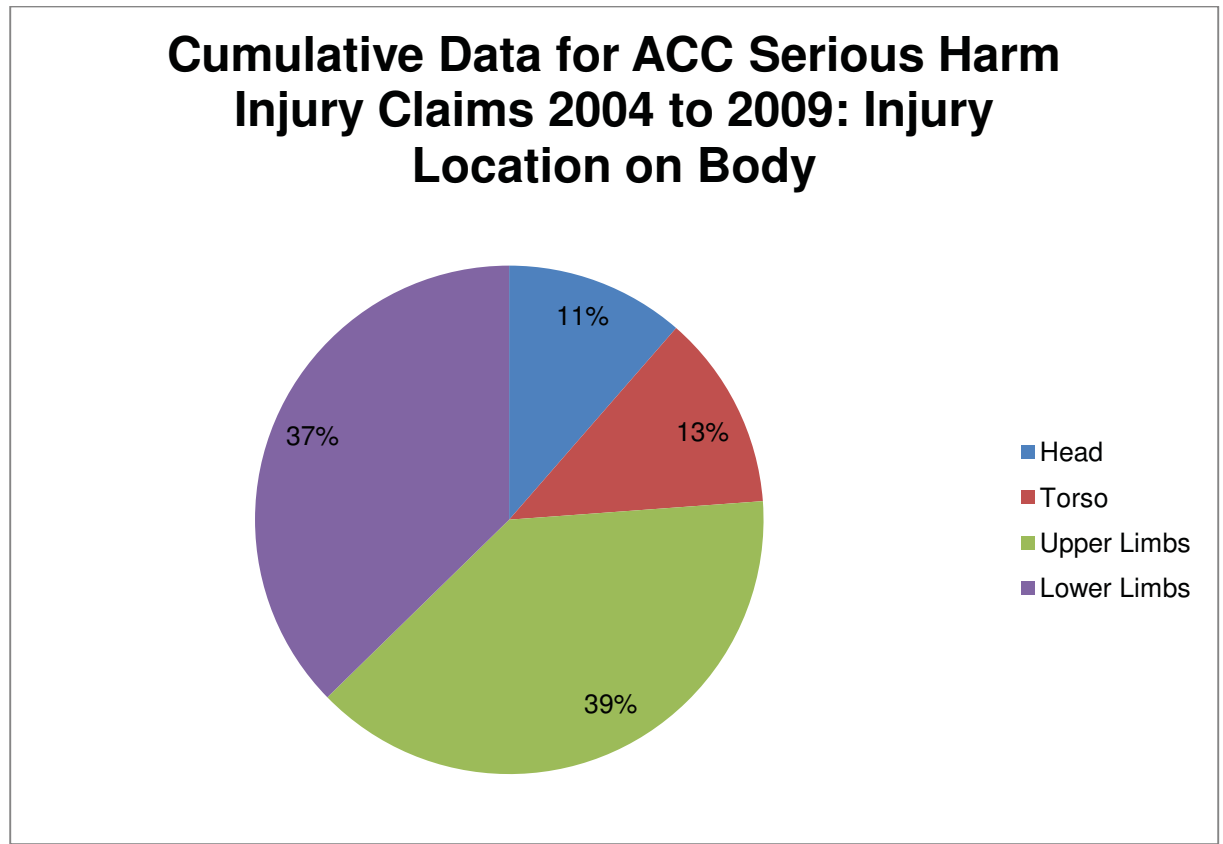


Figure 7. Proportions of ACC serious harm injury claims by injury location.

Figure 7 shows the proportions of injuries over the 6 year period, limb injuries making up 76% of injuries, 37% lower limbs, 39% upper limbs, head and torso injuries made up the other injury locations with 11% and 13% respectively.

### Department of Labour (DoL) data

For the 2004-2009 period there were 176 reported serious harm accidents. Of these accidents 60 were fractures 34.1% (1dp). The next highest type of reported serious harm injury was unspecified wounds, with 57 reported 32.4% (1dp), following that, tendon injuries, amputations, concussions and brain injuries at 4%, 2.8%, 1.7% and 0.6% respectively.

This information can be found in Table 4 with graphical representations of the data found in figure 8.

This shows the data year on year. It illustrates that many of the injuries, burns, eye injuries, brain injuries, and amputation and concussion injuries were very inconsistent over the 6 year period, some years several would occur, other years none would occur. Tendon injuries were the most consistent type of injury with between 2 and 5 injuries reported each year.

Fractures, unknown injuries and unspecified wounds occurred reasonably consistently, however ranged wildly. Fractures ranged between 6 – 17 reported events per year, unspecified wounds ranged between 5 – 19 reported events per year, unknown injuries had a range between 0 – 7 per year for the 6 year period.

<b>Department of Labour Injury Type Data</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>Total</b>	<b>(%)</b>
<b>Fractures</b>	7	6	9	12	9	17	60	34.09
<b>Tendon Injuries</b>	5	4	3	2	3	4	21	11.93
<b>Burns</b>	0	0	0	0	0	0	0	0
<b>Eye injuries</b>	0	0	2	1	4	0	7	3.98
<b>Brain Injuries</b>	1	0	0	0	0	0	1	0.57
<b>Amputation</b>	0	1	1	0	2	1	5	2.84
<b>Concussion</b>	0	0	1	1	1	0	3	1.70
<b>Unspecified Wounds</b>	19	7	5	9	7	10	57	32.39
<b>Unknown</b>	2	0	3	4	7	6	22	12.5
<b>Total</b>	34	18	24	29	33	38	176	100

Table 4. Annual results for types of identified serious harm injuries, taken from Department of Labour data.

## Department of Labour Reported Serious Harm Data 2004-2009: Injury Type

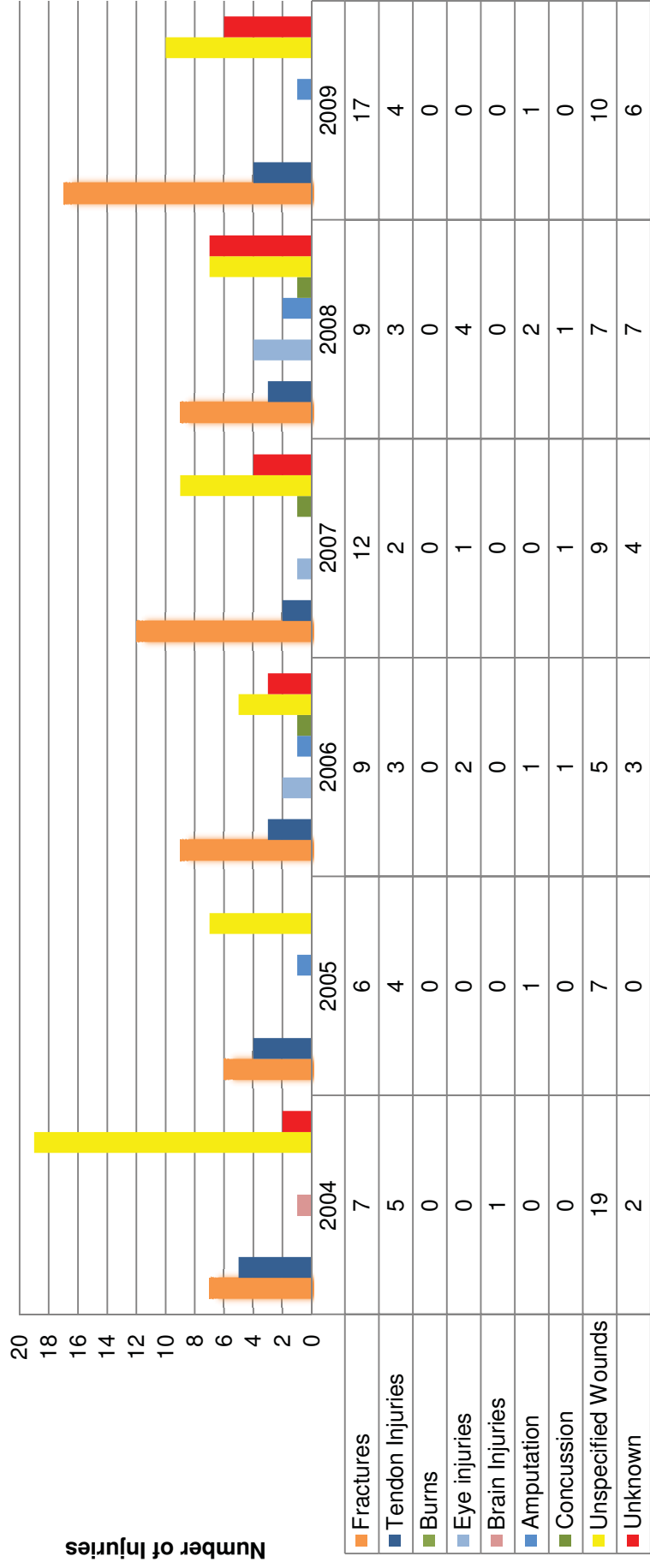


Figure 8. Department of Labour serious harm Injury type data

## 2004-2009 Cumulative Data for Department of Labour Reported Serious Harm Data: Injury Type

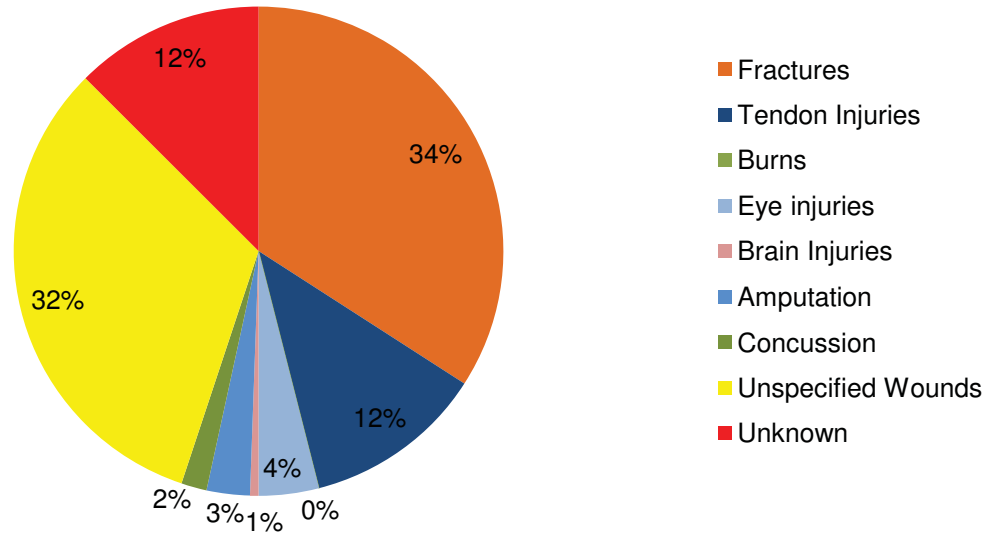


Figure 9. Proportions of Department of Labour serious harm accident reports by injury type.

Figure 9 illustrates the proportions of the injuries for the 6 year period that were reported to the Department of Labour as Serious Harm accidents. This representation indicates how large the various injury classes were. Of particular note is the unspecified wounds and unknown injuries.

This shows that 44% of all the serious harm accidents reported to the Department of Labour 44% had little or no data relating to the type of injury incurred.

The frequency for injury locations on the body are as follows:

- Upper limb injuries            62     35.2% (1dp)
- Lower limb injuries           50     28.4% (1dp)
- Head and neck injuries       32     18.2% (1dp)
- Injuries to the torso           20     11.4% (1dp)
- Systemic injuries               7      4.0% (1dp)
- Multiple location injuries     5      2.8% (1dp)

This information can be found in table 5, with graphical representations in figures 10 and 11.

DoL data Serious Harm Body Locations	2004	2005	2006	2007	2008	2009	Total	Percentage (%)
Head and Neck	7	3	3	6	10	3	32	18.18
Torso	2	4	2	5	5	2	20	11.36
Upper Limb	12	3	9	7	14	17	62	35.28
Lower Limb	10	7	8	9	2	14	50	28.41
Multiple Locations	1	1	1	1	0	1	5	2.84
Systemic	2	0	1	1	2	1	7	3.98
<b>Total</b>	<b>34</b>	<b>18</b>	<b>24</b>	<b>29</b>	<b>33</b>	<b>38</b>	<b>176</b>	<b>100</b>

Table 5: Body locations of injuries reported to the Department of Labour.

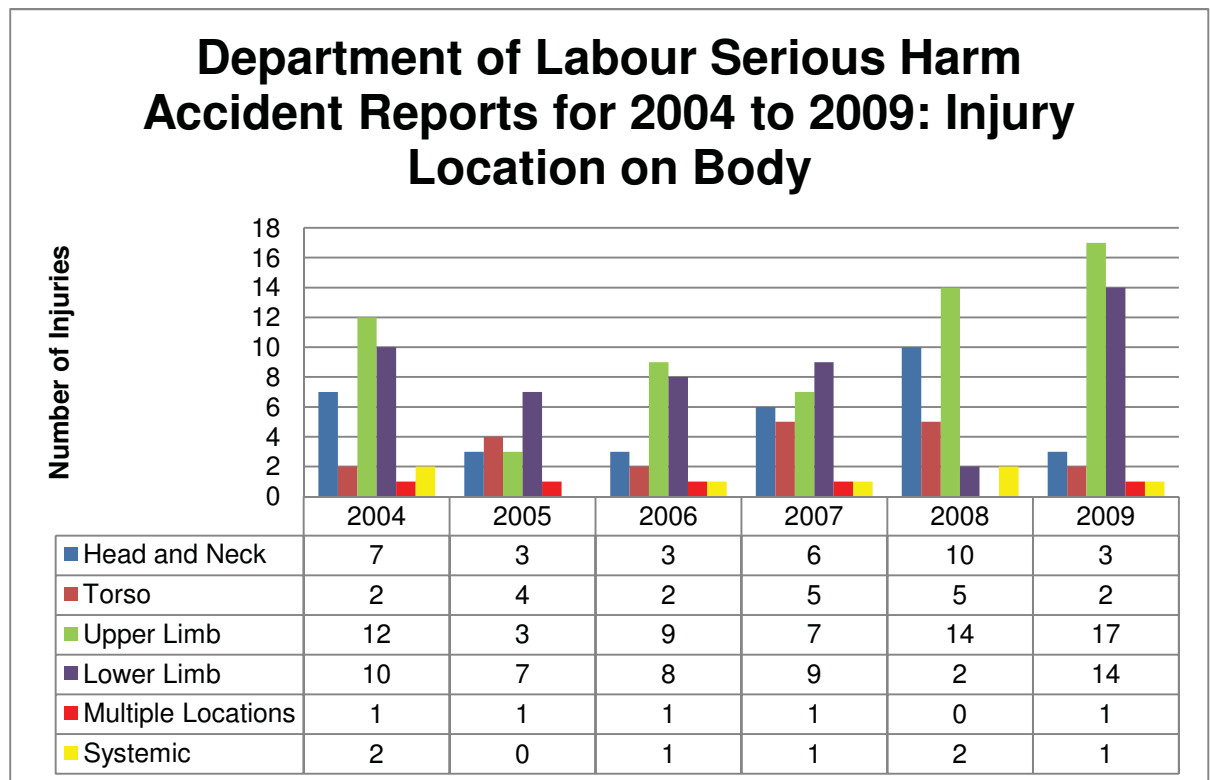


Figure 10. Department of Labour serious harm accident reports for 2004 to 2009 illustrating frequency of body locations injured.

Looking at the graph presented in figure 10 it is seen that the results were far from consistent year on year. Head and neck, upper limb and lower limb injury numbers seem to fluctuate wildly. Systemic seemed to be the most closely matched year on year.

## 2004-2009 Cumulative Data for Department of Labour Reported Serious Harm Data: Injury Location on Body

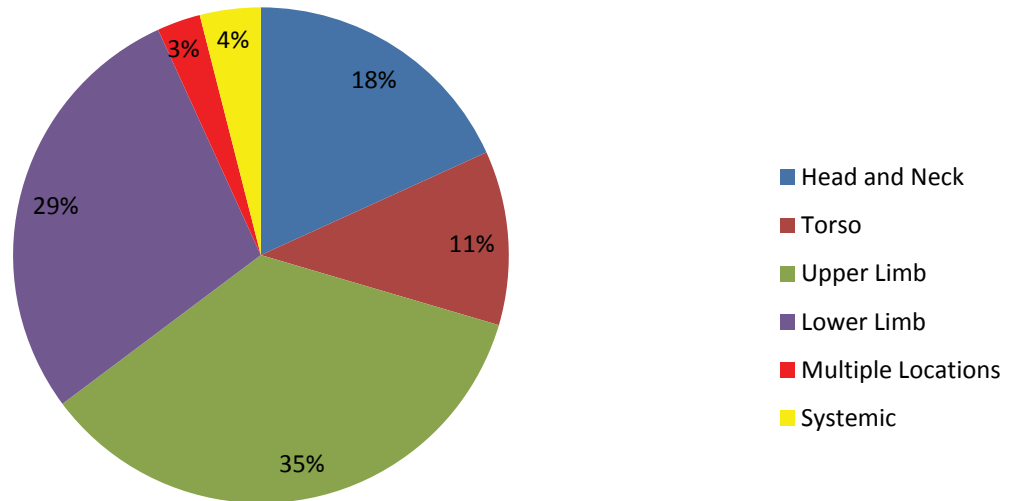


Figure 11. Proportions of Department of Labour serious harm accident reports by injury location

The cumulative data presented in figure 11 has upper limb injuries, 35%, and lower limb injuries, 29%, as the highest reported serious harm injury locations, followed by head and neck injuries at 18% and torso injury locations, 11%. This matches up well with the ACC data when injury location trend data is compared. It should be noted that the ACC data did not have multiple or systemic injury classes in it.

From these results we can see that for trending purposes, types of injuries and injury locations the data from both the ACC and Department of Labour is very closely matched, with respect to percentages of overall injuries recorded.

It is when we try to match up specific cases and numbers per year for the 2004 to 2009 period that the data fails to match.

The percentage correlation between the ACC serious harm injury claims reported to the Department of Labour as serious harm accidents was far below that of the Department of Labour reported serious harm injuries that have an associated ACC claim with the average for the former being 10% and the average for the latter being 26%. This is still very low for both by any estimation.

## Chapter 5 Discussion

In New Zealand two agencies are primarily responsible for the collection and analyses work related injury data. These agencies are the Department of Labour (DoL) and the Accident Compensation Corporation (ACC). Workplace compensation claims datasets represent an important source of information on work-related injuries. However, a key concern about the compensation statistics is that they are based on reported and accepted claims only. Injury notification to enforcement agencies is the other major injury surveillance mechanism. The HSE Act, which the DoL administers, states that all serious harm accidents are to be reported to the Department of Labour within 48 hours of the accidents occurrence. An instant fine of up to \$10,000 can be imposed per accident for non-disclosure of serious harm accidents. Serious harm accidents are defined in Schedule 2 of the amendment to the HSE Act 1992 (Health and Safety in Employment Act, 2002).

This study aimed to determine work-related injury capturing patterns of the workers compensation system by investigating the agreement between compensation claims records and notifications to the Department of Labour for a specific business group. The aim of the research was to examine data provided by the Department of Labour and the ACC, with the intent of determining whether serious harm accidents are being under reported and if so, the extent of that under reporting.

It was originally intended to base this study on a larger scale national study, however after seeing the scale of the data for all of New Zealand injuries it was decided to limit the research to a investigate a single industrial classification unit, in this case fruit and vegetable wholesale industry sector.

The information provided was data obtained from the ACC under the Official Information Act. This data was sorted to remove personal identifiers and additional information that would not have been considered as serious harm injury. This sorted injury data was then compared to the Department of Labour dataset to ascertain the number of serious harm injuries that were not reported to the Department of Labour.

The ACC data was received quickly as it appeared to be a simple matter for the ACC to pool the data for the Classification Unit Fruit and Vegetable Wholesale. Once this data was received, analysis was started. The initial problem associated with this data collection was finding criteria to use to identify serious harm injury. Once the criteria had been chosen (refer Methods section) the analysis of the collected data could begin.

It was found that the Department of Labour and the ACC did not have a compatible database. The data was not coded and stored in an easily accessible manner. Initially the author had to go through the list of Department of Labour industry codes and select which industries would have businesses that related to the ACC data pertaining to the Fruit and Vegetable Wholesale classification unit.

Once this was completed and the data received back from the Department of Labour, it was found that there were several businesses missing. It had taken 2 months between submitting the industry codes and obtaining the information from the Department of Labour. Noting that some data was perhaps missing, the author then requested a complete breakdown of all serious harm accidents for the years of 2004 to 2009 inclusive. Once again there was a 2 month delay between the request for the data and receiving the data. This delay meant that the author had lost 4 months of valuable analysis time.

Once the data from the Department of Labour had been selected back it could be sorted by several different criteria; type of injury; location of injury and number of injuries.

The Department of Labour data and the ACC data were matched in many cases; however some data could not easily be classified. An example of this was the number of “unknown” injuries found in the Department of Labour data. There was no such criterion in the ACC data, due to the nature of the claims system; to receive ACC a doctor prognosis was required. Tendon injuries, eye injuries, amputations, concussions and fractures were easily identified. Attempting to correlate unknown/unspecified data could not be done easily. In this case the author attempted to correlate with other data supplied, injury locations, date of accident etc.

### *Overview of Findings*

The aim of this study was to determine whether there is a significant difference between workplace serious harm accidents that are reported to the Department of Labour and workplace injury claims that are made to the Accident Compensation Corporation (ACC) that would be classed as serious harm injury for the ACC Classification Unit (CU) Fruit and Vegetable Wholesale?

Interpretation of the bar graph shown in Figure 2, shows with a 99.9% confidence level that there is a statistically significant difference between the average number of acute serious harm injury claims made and the average number of correlated average acute serious harm accidents reported to the Department of Labour for the years 2004 to 2009. From these results, there is clear evidence that under reporting of workplace serious harm

accidents resulting in acute injury is occurring. This agrees with previous findings of Azaroff et al (2002) and Murphy et al (1996).

On average for the years 2004 to 2009, 9.85% of acute classed serious harm injury claims were reported to the Department of Labour as serious harm accidents. Using a similar approach to that of Murphy et al (1996) and Azaroff et al (2002), with ACC data used as the external comparison, it has been shown that the ACC data was more complete than that of the Department of Labour, the monitoring authority. This data also shows that serious harm accidents were significantly under reported, in this case by 101.5%. These findings support Azaroff et al (2002) hypothesis that under reporting was found to be in the hundreds of percent.

For the ACC classification unit "Fruit and Vegetable Wholesale" the reporting of serious harm accidents is much lower than the estimated average reported by Slappendel (1995), Ruser and Smith (2010) and Brown and Butcher (2004), who had estimated on average 75% of all serious harm accidents were not reported, with the 25% being reported as serious harm accidents. From the results presented here this would be a gross underestimate. This result in itself is cause for concern, that such a large proportion of serious harm injuries go unreported.

On average for the period 2004 to 2009, 32.17 (2dp) serious harm injury claims were made per year; this is not in itself a high number for such a large classification unit, consisting of at least 63 organizations. With this figure in mind the findings of this study indicates that many businesses in the Fruit and Vegetable Wholesale classification unit are knowingly, or unknowingly, not complying with the requirements of the legislation and may be at risk of prosecution.

The reasons for this under reporting can only be speculated at this time, being that this was not the aim of this study. Gunninghams (2007) research into this area gives insight into why under reporting occurs whether from lack of knowledge or wilful non-disclosure. Ruser and Smith (2010), Azaroff et al (2002) also give insight into why businesses do not report serious harm accidents. One reason being that the business does not want to draw attention to itself. This could attract the attention of government agencies, such as the Department of Labour, which could bring about prosecution and associated bad publicity.

Another effect of non-disclosure would be that the business would be able to claim some prestige for itself, in that it has not made "x" number of reports, for serious harm accidents,

to authorities, thus enhancing its' business reputation (Brown and Butcher, 2004; Probst et al 2008). Probst et al (2008) have also discussed the effect of the "Organisational Safety Climate". This can play a part in how and if serious harm accidents are reported.

Organisational safety climate is shaped by what is perceived as the organizations goals, or what will benefit the organization. If safety is perceived as a burden to the organization then the organizational safety climate will reflect this; less resource will be committed to improving safety as it is viewed as having no return, or benefit (Probst et al, 2008). This puts up barriers to reporting of serious harm accidents which correlate with some of the barriers described in the Webb filter system (1989).

The Health and Safety in Employment Act 1992 states that all serious harm accidents are to be reported to the Department of Labour within 48 hours of the accidents occurrence. An instant fine of up to \$10,000 can be imposed per accident for non-disclosure of a serious harm accident.

#### *ACC and Department of Labour data comparison*

An examination of the Department of Labour data for the years 2004 to 2009, it appears that there were a reasonable number of serious harm accidents being reported by the classification unit, when the Department of Labour data is compared with the ACC data there are correlations between the 2 data sets. 26.0% (7.50 accidents reported per year on average) of the Department of Labour data correlated with ACC data, however of this correlated data 57.7% (4.33 accidents per year on average) would not be considered acute serious harm injuries. This does not take into account injuries resulting in lost time or the exaggeration of an existing condition which may have made them serious harm injuries.

For the purposes of this study only acute identifiable serious harm injury claims were used as the criteria for selection of cases. Further investigation into all injury claims is required to identify chronic and lost time Injury related serious harm injury claims.

It should be noted that 176 serious harm accidents were reported to the Department of Labour from the ACC classification unit Fruit and Vegetable Wholesaling, as shown in Table 1, of these 131 accidents did not correlate with data from the ACC, and of the 45 that did correlate 26 did not meet the criteria set out for acute serious harm injury.

The 131 unclaimed injuries indicates that there may be under reporting of injury claims to the ACC, similar to instance described by Shannon and Lowe (2002), Probst and Estrad (2010) and Strunin and Bocken (2004).

There are several possible reasons why 131 of these serious harm reports did not correlate with the ACC data, these could include:

- Accident may not have resulted in an injury.
- Business is part of ACC Partnership Programme (ACC, 2010).
- Representative may not have been aware of what constitutes serious harm accident/injury, therefore incorrectly reported (Azaroff et al, 2005).
- Injury sustained may have been an aggravation or recurrence of a pre-existing injury, therefore the original older injury claim would have been used.
- Over reporting due to lack of understanding; with respect to the HSE Act (O'Hara et al, 2005).

### *Injury Type Distribution and Data Collation*

Fractures were the highest proportion of serious harm injury claims in the ACC data at 61.6%. The remaining 38.3% of identified serious harm injury claims were made up of 7 other types of acute injury ranging from brain injuries to soft tissue injuries, for example, tendon tears and ruptures.

A comparison with the Department of Labour data shows that fractures were also the highest proportion of injury types reported at 34.1%, followed by unspecified wounds (32.4%). The remaining 33.5% ranged from brain injuries to unknown injuries, as this data was not available.

This correlates with data collected by Shannon and Lowe (2002) which found that the lower the perceived severity of the injury the less likely it was that the injury would be reported, therefore if an injury was highly visible, for example an injury which involved visible trauma, the more likely it was to be reported (Alamgir et al, 2006).

A comparison of data presented by Rosenman et al (2006) which compared injuries reported to Workers Compensation which correlated to injuries reported to the Bureau of Labour Statistics showed that traumatic injuries to bones, surface wounds, bruises and traumatic injuries unspecified, which were claimed for in workers compensation, had a high correlation with reported BLS injury data, indicating that the higher the perceived severity the more likely it was to be reported to both agencies.

The Department of Labour comparison shows the inconsistencies between the types of data collected by the Department of Labour and the ACC, that 32.4% were “unspecified wounds” and 12.5% consist of “unknown” injuries, which means that 44.9% of the 176 reported serious harm cases ( $176 \times 44.89\% = 79.0$ ) serious harm accidents) the “harm” could not be identified, a significant flaw in reporting and follow up procedures on the part of the Department of Labour.

In some cases of serious harm accident reporting it may be due to the fact that there was no serious harm injury, due to overzealous reporting on the part of the business, in essence over reporting (Daniels and Marlow, 2005).

This could be one reason for the large amount of “unspecified wounds” and “unknown” injuries. If this is the case, it could be noted as a “non serious harm injury/incident”. However the data suggests this type of behaviour is extremely rare and under reporting is more common than over reporting (Powell et al, 1971).

Another reason could be that the Department of Labour is simply under resourced. Gunningham (2007) stated that government departments/organizations do not have an endless supply of resources; therefore they must choose to pursue the cases that will provide the most benefit.

Reason (1997) states that one of the essential factors important to quantity and quality of incident reports is “rapid, useful, accessible and intelligible feedback to the reporting community”.

Therefore if the Department of Labour, being the government/enforcement agency, does not fully investigate serious harm reports, to the degree that 44.9% of injury data is “unknown” or “not specified”, what sort of message is this sending to business.

The most fundamental data in a serious harm accident is the type of serious harm that was incurred. This must be one of the most important points of data to be collected. The fact that it was not collected 44.6% of the time. This statistic compares poorly with data collected by Rosenman et al (2006), whose data showed that only 12% unknown or unspecified. This data raises questions about under resourcing, resource allocation as put forward by Gunningham (2007), and the type of message this data conveys to business. These questions could be addressed in future research.

### *Reasons For Under Reporting*

Pranksy, Snyder, Dembe and Himmelstein (1999), identified high levels of work-related injury and harm underreporting existed (83%) in manufacturing industry, in the United States with the largest contributor to this being lack of management support and action on previous events. Surveys commissioned by the Health and Safety Executive showed reporting rates filed by employers alone are under-reported by at least 40% (Health & Safety Commission, 2003). Suggesting managerial commitment to health and safety remained an issue in industry in the United Kingdom.

Other factors which can be linked to management support are organisational safety climate, which is dictated by management (Probst et al, 2008).

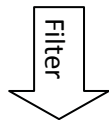
### *The Webb Filter Effect*

The concept of filters was first introduced by Webb et al (1989). This section will apply the Webb filter theory to injury reporting and notification to illustrate how the “filters” affect the process, which will either allow a serious harm accident to be reported to the Department of Labour or not.

The first filter to be identified would be the injured party, the doctor would advise them of their diagnosis. The doctor then submits an ACC claim form to the ACC, in order to get reimbursed (ACC, 2010).

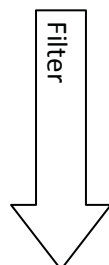
The process is as follows:

An accident occurs



Worker does not perceive injury.

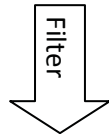
Worker perceives he/she is injured



The worker may not perceive the injury as serious harm, this may be due to cultural perceptions, he/she may acknowledge the injury and decide to continue working, this could be due to a cultural desire to appear strong or “tough” (Azaroff et al, 2002).

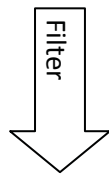
The worker recognizes the injury, but may decide it is not related to the accident, deciding to continue working and not report the accident (Azaroff et al, 2002).

The worker does not perceive the injury as serious enough to report (Thompson, 2007). The worker may be discouraged/motivated not to report the injury due to negative organizational safety climate (Probst et al, 2008)



Worker perceives willingness/desirability of reporting this accident and injury to his/her supervisor.

The worker may decide not to report the accident and injury as they may fear being discriminated against due to the injury, the risk disciplinary action, stigmatization or even job loss due to organizational safety culture (Thompson, 2007; Daniels et al, 2005; Rosenman et al, 2006; Probst et al 2008).

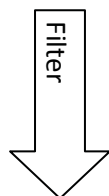


Worker reports accident and injury to supervisor.

Supervisor may not perceive the injury as serious harm, due to lack of training on what constitutes serious harm.

Supervisor may think the employee is lying (Azaroff et al, 2002).

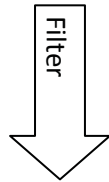
Supervisor perceives that the worker has a legitimate work related injury that a serious harm accident has occurred which resulted in this injury.



Supervisor has recognised that a serious harm accident has occurred resulting in injury.

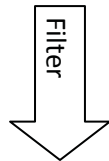
Supervisor offers medical assistance or delegates to first aid trained staff (Azaroff et al 2002).

Supervisor perceives willingness/desirability of reporting accident to manager.



Supervisor makes decision on reporting the serious harm accident to his/her manager. The supervisor may decide not to report the serious harm accident as they may fear discrimination because of the accident, the risk disciplinary action, stigmatization or even job loss due to organizational safety climate (Daniels et al, 2005; Azaroff et al 2002; Rosenman et al, 2006; Probst, 2008).

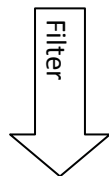
Supervisor reports serious harm accident to manager.



Manager may not perceive the injury as serious harm, due to lack of training on what constitutes serious harm.

Manager may think the supervisor and/or employee is lying (Azaroff et al 2002).

Manager perceives willingness/desirability/knowledge of reporting accident as serious harm to Department of Labour and senior management.



Manager may not inform senior management and/or the Department of Labour due to loss of status, fear of bad publicity that may result from reporting the accident, loss of safety associated remuneration, due to organizational safety climate (Thompson, 2007; Daniels et al, 2005; Azaroff et al 2002; Probst et al, 2008).

Each arrow and list of comments next to the arrow indicates a partial or possible barrier/filter to the reporting process.

The filter process depicted, although highly simplified, illustrates the various filters/barriers that must be passed through before a serious harm accident comes to the attention of the Department of Labour, by being reported.

It is at the filter points that the process either stops, in which case it is not reported, or continues onto the next step.

In some cases it is a matter of an individual's knowledge of what constitutes serious harm, and their perception of how serious the injury is, that either stops the process or allows it to continue to the next step (Azaroff et al, 2002; Daniels et al, 2005).

In other cases it is a matter of motivation that stops the process, for example, a manager may be motivated more by the prospect of a reward, should they achieve a certain number of days/weeks/months/years without a serious harm accident (Daniels et al, 2005), or fears reprisal for reporting the accident (Azaroff et al, 2002; Daniels et al, 2005) or loss of career advancement (Azaroff et al, 2002). These are but a few of the possible motivators that may come to affect whether or not a serious harm accident is reported or not, these motivators are closely aligned with the organizational safety climate (Probst et al, 2008).

Using the filter theory, put forward by Webb (1989), it is seen that the filters usually are lack of knowledge, with respect to the HSE Act and reporting criteria, or some form of motivational reward, for example, low number of accidents and/or peer pressure, not wanting to appear weak (Smith et al, 1978). Poor/negative organizational safety climate (Probst et al, 2008).

It is these many filters involved in the ACC classification unit Fruit and Vegetable Wholesaling that contribute to under reporting of serious harm accidents to the Department of Labour. These filters are so strong that they affected the reporting of serious harm accidents to such an extent that only 9.84% (2dp) of all identified cases of serious harm injury claims were actually reported to the Department of Labour for the years 2004 to 2009.

If the Department of Labour were to decide to investigate these unreported serious harm injury claims, or simply decided to prosecute for non-disclosure they could potentially get \$1,760,000 worth of instant fines, from this classification unit alone. This would of course be at the discretion of the Department of Labour who would have to look at it on a case by case basis, taking into account the businesses assets, as an instant \$10,000 fine might put some of the small to medium sized businesses out of business.

#### *Implications and Recommendations for Future Research*

The research question of this study was designed to ascertain if under reporting of workplace serious harm accidents was occurring using the data obtained from the ACC as the comparison for the classification unit Fruit and Vegetable Wholesale. This classification unit was chosen as a sample to make the task more manageable and because the author had some experience in this type of work environment.

Due to the nature and findings of this research further study could be done using a similar method, but looking at other classification units, to see if findings of this study can be found are replicated in other classification units.

The finding from research of this type would ascertain if what occurred in the classification unit Fruit and Vegetable Wholesale is a unique phenomenon or if it can also be identified in other classification units. This data can then be used to find out if under reporting is more, or less, prevalent in other classification units.

One of the unexpected findings of this study was that while the Department of Labour recorded many serious harm accidents in the period between 2004 and 2009 for this particular classification unit, in this period of time 44% of the injuries were classed as “unknown” (12%), and unspecified wounds (32%). Weather this was due to coding difficulties in their systems or for some other unspecified reason merits further study.

The author found it hard to comprehend that 44% of all serious harm accidents resulted in some form of unknown or unspecified injury. Why are some injuries classed as “unspecified wounds” or simply “unknown”?

Is it as Gunningham (2007) put forward the Department of Labour is underfunded? Why are they underfunded? Why is the Department of Labour not given more funding to help protect the workforce? What is the current system used by the Department of Labour with respect to accident investigation and injury coding? Is the current system not designed to capture this type of information?

The findings of this study also led to another conclusion, that the ACC and Department of Labour do not readily share information. This is illustrated in the findings. The large discrepancy between the ACC data for serious harm injuries and that of the Department of Labour reported serious harm accidents.

What is the rationale behind clause of the Health Safety and Employment Act 1992, why has it been decided that the Department of Labour could only use ACC data for trending purposes.

It would seem more pertinent to fully investigate the reasons for the injury, with a focus on prevention. If serious breaches of the Act were identified then why shouldn't there be a prosecution?

Why is the ACC not run like other insurance type companies, for example ensure that the injury has a reference number from the Department of Labour, if not the company must

bear the full cost of the injury treatment, similar to the procedure used by insurance companies for burglaries, in which a Police reference number is required before the claim can start to be processed (New Zealand Police, 2001).

This would ensure the injury is reported and investigated with a focus on prevention, ensuring the business educates its employees on the ACC injury claim process, as well as the businesses processes associated with workplace accidents.

Alternately the research could also look at ways in which the two agencies could pool their resources or better manage the systems that are currently in place, for example, the ACC WSMP system, Department of Labour workplace inspections.

This research may even make an argument to modify the legislation to allow greater cooperation and transparency between the two agencies.

### *Limitations of the study*

This research was based on New Zealand data; with the lack of New Zealand based research on the subject matter much of the background, literature review, was based on data and papers from other countries.

This in itself was not a large research limitation.

This information gave valuable insight into how other countries with similar OSH laws fared with respect to under reporting. This information also provided a perspective on how different countries dealt with work place injuries and worker compensation and how, and if, the 2 groups interacted.

In most cases the OSH legislation was essentially the same, with very minor differences.

With respect to the workers compensation in most cases it was very similar, the only difference was that the Workers Compensation was not always administered by the government, in some cases it was administered by third party insurers.

The coding method for serious harm accidents (injury), which was taken from the HSE Act 1992, may have been a source of error as it was dependent on the authors' interpretation of the nature of injury as specified in the Health and Safety in Employment Act (1992).

The authors experience in rehabilitation management associated with such injuries, and dealing with these injuries may have also been influence.

Injury type's interpretation may have been another source for error, in particular:

- The authors' interpretation of injury prognosis in the ACC records.
- The authors' interpretation of the injuries recorded in the Department of Labour records.

## Chapter 6: Conclusions and Recommendations

This data provides evidence that workplace injuries that result in serious harm are occurring that are not reported to the Department of Labour

After examining and comparing the 2 data sets it can also be concluded that the injury type data collected by the Department of Labour is inadequate, to not know what the harm is in a serious harm accident for 44% of cases is an indication that follow up and investigation on the part of the Department of Labour does not occur in such a way that injury specific details are recorded. Whether this is due to poor investigation processes/procedures or the reporting function in the Department of Labour database not being capable of supporting this function is unknown, but the data shows that a large proportion of injuries are recorded as “unknown” or “unspecified wounds”.

It is believed that this study has made a contribution to the field of occupational safety and health. The results have provided data that supports the hypothesis that under reporting of serious harm injury accidents is occurring in the sample industry classification unit, Fruit and Vegetable Wholesale.

### Recommendations

1. It is recommended that further study/comparisons on other ACC Classification Unit codes and Department of Labour data to see if under reporting occurs in them and to what extent.
2. It is recommended that the Department of Labour improve data collection procedures and investigation of serious harm accidents.
3. It is recommended that the ACC put procedures in place which ensure that injuries that can be classed as workplace serious harm are brought to the attention of the Department of Labour.
  - a. For example ensure that the injury has a reference number from the Department of Labour, if not the company must bear the full cost of the injury treatment, similar to the procedure used by insurance companies for burglaries, in which a Police reference number is required before the claim can start to be processed (New Zealand Police, 2001).
  - b. This would in turn ensure the business would educate its employees on the ACC injury claim process, as well as the businesses processes associated with workplace accidents.

4. It is recommended that ACC adopt a “3 strikes system”. That is if 3 cases of serious harm injury claims are not reported to the Department of Labour, the business incurs a penalty, with respect to, WSMP. Potentially a demotion from their current WSMP status;
  - a. Tertiary to Secondary.
  - b. Secondary to Primary
  - c. Primary to no accreditation at all.
5. It is recommended that there be a change in legislation that allows the Department of Labour to use ACC data to investigate serious harm injury claims.
6. It is recommended that the Department of Labour inform businesses identified as an offender (under-reporting), via letter or visit, and to ensure that if a repeat transgression occurs their business will be fined.
  - a. This would incentivize businesses to increase education in occupational health and safety and also increase businesses overall awareness of occupational safety and health legislation.

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## Appendix 1: ACC Correspondance

---

Subject: 08757 STA Fresh Fruit and Vegetable Industry ACC Claims

Date: Wed, 5 May 2010 17:02:22 +1200

From: [Jennie.Cacho@acc.co.nz](mailto:Jennie.Cacho@acc.co.nz)

To: [R.URANGIA@HOTMAIL.COM](mailto:R.URANGIA@HOTMAIL.COM)

Hi Rima,

Please see attached for your requested information on ACC Claims in Fresh Fruit and Vegetable Industry (as per your email below).

As your request is on Claim detail, we can not provide you the exact age and the exact costs incurred, due to confidentiality reasons, instead the figures shown are in age range and cost range respectively. And same with the dates (Accident and Registration), only the month and year can be provided for your request.

The claims included in this worksheet are all those accepted work-related ACC claims employed in Fresh Fruit and Vegetable Industry, which incurred costs during the last ACC financial year 01Jul2008 to 30Jun2009. some of which may be on-going claims.

Hope this satisfies your requirement.

Regards,



**Jennie Cacho**, Senior Analyst/Programmer Contractor, Business Intelligence -  
Information Services, Business Technology Group, ACC

Tel +64 4 918 7295 / Ext 45844

ACC / Information Services / Business Technology Group / Laptop House, 23 Waring Taylor Street  
PO Box 242 / Wellington / New Zealand / [www.acc.co.nz](http://www.acc.co.nz)

ACC cares about the environment – please don't print this email  
unless it is really necessary. Thank you.

---

---

From: Rims[SMTP:R.URANGIA@HOTMAIL.COM]  
Sent: Friday, April 09, 2010 9:42:13 AM  
To: Statistics  
Cc: 'Laird, Ian'; s.j.legg@massey.ac.nz  
Subject: Statistical information  
Auto forwarded by a Rule

Hello,

My name is Rima Urangia, I am doing a research project on claimed workplace injuries within the Fresh, fruit and vegetable wholesaling industry.

Specifically I am looking for information in a table format which would include:

- Injury ,type.
- Doctors notes on injury
- Geographical location
- Area of body in which injury occurred
- Age of injured party
- Sex of injured party
- Cost of injury
- Date injury occurred
- Date reported

- If possible name of business

If the name of the business is not available please provide a list of all the businesses that are part of the Fresh Fruit and Vegetable Wholesale group.

This information will be used to do a comparison between the accident claims submitted to ACC, specifically looking for accidents that could be classed as "serious harm" under the Health and Safety Employment Act 1992, (for example bone fractures, cases in which greater than 1 week was taken off work, serious burns and lacerations etc.) and data obtained from the Department of Labour on the businesses that are included in this group.

Many thanks,

Rima Urangia

---

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We accept no responsibility for changes made to this email or to any attachments after transmission from the office."

---

Subject: RE: 08757 STA Fresh Fruit and Vegetable Industry ACC Claims  
Date: Thu, 3 Jun 2010 10:11:26 +1200  
From: [Jennie.Cacho@acc.co.nz](mailto:Jennie.Cacho@acc.co.nz)  
To: [r.urangia@hotmail.com](mailto:r.urangia@hotmail.com)

Hi Rima,

Please see attached file for your request on 5 -year data.

The spreadsheet has 5 worksheets (one for each financial year). Please note though that report per financial year is based on Claim Cost for the year. So a claim may cross over 2 or more financial years (and thus be reported in more than 1 worksheet) if they have been incurring costs in those financial years.

Regards,



**Jennie Cacho**, Senior Analyst/Programmer Contractor, Business Intelligence -  
Information Services, Business Technology Group, ACC

Tel +64 4 918 7295 / Ext 45844

ACC / Information Services / Business Technology Group / Laptop House, 23 Waring Taylor Street  
PO Box 242 / Wellington / New Zealand / [www.acc.co.nz](http://www.acc.co.nz)

ACC cares about the environment – please don't print this email  
unless it is really necessary. Thank you.

---

**From:** Rima Urangia [mailto:r.urangia@hotmail.com]  
**Sent:** Tuesday, 1 June 2010 07:58  
**To:** Jennie Cacho  
**Subject:** RE: 08757 STA Fresh Fruit and Vegetable Industry ACC Claims  
**Importance:** High

Hello Jennie,  
Thank you for this information.  
I neglected to ask that I needed the information for the previous 5 years, my apologies.  
Please send the same information for each of the years 2004 to 2008 for the Fresh Fruit and Vegetable Wholesale Industry.

I have copied and pasted the bulk of mu original email here so you don't need to scroll down to read the original, specifically the information needed.  
Once again for the years 2004 up to and including the year 2007.

Specifically I am looking for information in a table format which would include:

- Injury ,type.
- Doctors notes on injury
- Geographical location
- Area of body in which injury occurred
- Age of injured party
- Sex of injured party
- Cost of injury
- Date injury occurred
- Date reported
- If possible name of business

This information will be used to do a comparison between the accident claims submitted to ACC, specifically looking for accidents that could be classed as "serious harm" under the Health and Safety Employment Act

1992, (for example bone fractures, cases in which greater than 1 week was taken off work, serious burns and lacerations etc.) and data obtained from the Department of Labour on the businesses that are included in this group.

Many thanks,

Rima Urangia

---

Subject: 08757 STA Fresh Fruit and Vegetable Industry ACC Claims

Date: Wed, 5 May 2010 17:02:22 +1200

From: [Jennie.Cacho@acc.co.nz](mailto:Jennie.Cacho@acc.co.nz)

To: [R.URANGIA@HOTMAIL.COM](mailto:R.URANGIA@HOTMAIL.COM)

Hi Rima,

Please see attached for your requested information on ACC Claims in Fresh Fruit and Vegetable Industry (as per your email below).

As your request is on Claim detail, we can not provide you the exact age and the exact costs incurred, due to confidentiality reasons, instead the figures shown are in age range and cost range respectively. And same with the dates (Accident and Registration), only the month and year can be provided for your request.

The claims included in this worksheet are all those accepted work-related ACC claims employed in Fresh Fruit and Vegetable Industry, which incurred costs during the last ACC financial year 01Jul2008 to 30Jun2009. some of which may be on-going claims.

Hope this satisfies your requirement.

Regards,



**Jennie Cacho, Senior Analyst/Programmer Contractor, Business Intelligence - Information Services, Business Technology Group, ACC**

Tel +64 4 918 7295 / Ext 45844

ACC / Information Services / Business Technology Group / Laptop House, 23 Waring Taylor Street  
PO Box 242 / Wellington / New Zealand / [www.acc.co.nz](http://www.acc.co.nz)

ACC cares about the environment – please don't print this email unless it is really necessary. Thank you.

---

From: Rims[SMTP:R.URANGIA@HOTMAIL.COM]  
Sent: Friday, April 09, 2010 9:42:13 AM  
To: Statistics  
Cc: 'Laird, Ian'; s.j.legg@massey.ac.nz  
Subject: Statistical information  
Auto forwarded by a Rule

Hello,

My name is Rima Urangia, I am doing a research project on claimed workplace injuries within the Fresh, fruit and vegetable wholesaling industry.

Specifically I am looking for information in a table format which would include:

- Injury ,type.
- Doctors notes on injury
- Geographical location
- Area of body in which injury occurred

- Age of injured party
- Sex of injured party
- Cost of injury
- Date injury occurred
- Date reported
- If possible name of business

If the name of the business is not available please provide a list of all the businesses that are part of the Fresh Fruit and Vegetable Wholesale group.

This information will be used to do a comparison between the accident claims submitted to ACC, specifically looking for accidents that could be classed as "serious harm" under the Health and Safety Employment Act 1992, (for example bone fractures, cases in which greater than 1 week was taken off work, serious burns and lacerations etc.) and data obtained from the Department of Labour on the businesses that are included in this group.

Many thanks,

Rima Urangia

---

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We accept no responsibility for changes made to this email or to any attachments after transmission from the office."

## Appendix 2: Department of Labour Correspondence

---

From: Dept.of.Labour@dol.govt.nz  
To: r.urangia@hotmail.com  
Date: Thu, 3 Jun 2010 16:01:19 +1200  
Subject: RE: Research Data

Hello

Your email has been forwarded to the appropriate area of the Department for a response

Regards

### Information Advisor

Department of Labour | Te Tari Mahi  
56 The Terrace | PO Box 3705 | Wellington | New Zealand  
Web: [www.dol.govt.nz](http://www.dol.govt.nz)

---

**From:** Rima Urangia [mailto:r.urangia@hotmail.com]  
**Sent:** Thursday, 3 June 2010 9:22 a.m.  
**To:** Dept. of Labour  
**Subject:** Research Data  
**Importance:** High

Hello,

My name is Rima Urangia, I am doing a research project on reported serious harm injuries within the Fresh, fruit and vegetable wholesaling industry for the years 2004 to 2009.

Specifically I am looking for information related to the companies listed at the end of this email (From 2004-2009), and would like the information to include:

- Number of reported Serious Harm injuries (or a list that I can collate myself)
- Type of injury

- Area of body in which injury occurred
- Age of injured party
- Sex of injured party
- Injury type
- Date injury occurred
- Date reported
- Geographical location
- Fatalities for the companies in question
- Which serious harm injury cases required prosecution

This information should be listed for each company individually and **not** as cumulative data.

This information will be used to do a comparison between the accident claims submitted to ACC, specifically looking for accidents that could be classed as "serious harm" under the Health and Safety Employment Act 1992, (for example bone fractures, cases in which greater than 1 week was taken off work, serious burns and lacerations etc.) and data obtained from the Department of Labour on the businesses that are included in this group.

I would like this information to be from the years **2004 up to and including 2009.**

I would also like a copy of the **criteria used by the DoL to assess if an injury is serious harm or not**, in particular, soft tissue injuries, such as muscle sprains, ligament damage etc. as well as the acute cases such as fracture, severe lacerations etc.

The companies I require this information for are as follow:

24 Carrot Ltd

45 South Management Ltd

A H & D B Finlay Ltd

Aerocool Ltd

Alcom Ltd

Aparima Holdings Ltd

Apata Ltd

Apollo Pac Ltd

Auckland Pack & Cool Ltd

Bindon & Powell

Birchwood Packhouse Ltd

Boyds Asparagus Industries Ltd

C H Slater Ltd  
Camelot Fresh Fruit Company Ltd  
Cedenco Ohakune  
Central Organics Ltd  
Chevalier Wholesale Produce Ltd  
Christopher W & Shirley M Dunstan  
Coker Fruit Company Ltd  
Compass Fruit Ltd  
Crasborn Group Ltd  
Crasborn Packing Ltd  
D Maks Ltd  
Darlings Fruit Packers Ltd  
Delta Produce Co-operative Ltd  
Dg & Jj Ltd  
Dirk Bier  
Dms Progrowers Ltd  
DMS Progrowers Ltd - Te Puna  
DMS Progrowers Ltd - Pukepack  
Eastpack Kiwifruit Operations Ltd  
Eastpack Ltd  
Edenz Ltd  
Ellis Agricultural Services Ltd  
Enza Ltd  
Far North Packers Ltd  
Felkirk Ltd  
Fieldfresh NZ Ltd  
Fresh Connection Ltd  
Fresh Direct Ltd  
Fresh Vegetable Packers Ltd  
Freshmax NZ Limited

Freshmax NZ Ltd  
Fruit Packers (Hawkes Bay) Co-operative  
Ltd  
Fruit Solutions Ltd  
Fruitworx Ltd  
Fruitworx Ltd  
Fus Ltd  
Gisborne Packing & Coolstorage Ltd  
Golden Mile Fruitpackers Ltd  
Green Shed Ltd  
Growers Direct Ltd  
Hanna Hothouses Ltd  
Hellaby Meats (South Island) Ltd  
Hodgie's Fresh Fruit Co Ltd  
Ian David Smith  
Jb NZ Holdings Ltd  
Joe's Vege Stall Ltd  
Kaipara Kumara Ltd  
Kelvin Thomas Blythe  
Kerikeri Cold Storage Ltd  
Kevin Stephen Joe  
Kiwi Coast Growers (Te Puke) Ltd  
Kiwi Produce Ltd  
Kph Produce Ltd  
Ksv Ltd  
Latitude 41 Ltd  
Living Foods Ltd  
Longview Packing Ltd  
M R & C L McGreevy  
MacFarlane & Growers Ltd

Market Gardeners Ltd  
Marlborough Marketing Co-operative Ltd  
Martin John Lehndorf  
Millenium Foods Ltd  
Molyneux Packhouse Ltd  
Morgan Laurenson Ltd  
Mount Erin Fruit Services Ltd  
Mount Produce Ltd  
Mr Bensemman Raymond O  
Mr Robert E Trainor  
Mr Bean Ltd  
Naturezone Ltd  
New Zealand Apple & Pear Marketing Board  
New Zealand Fruits Ltd  
New Zealand Gourmet Holdings Ltd  
NZ Goldpak Ltd  
Opey Marketing Company Ltd  
Opotiki Packing & Coolstores Ltd  
Orangewood Ltd  
Pacific Pack & Cool Ltd  
Phil Reid Wholesale Fruit & Veges Ltd  
Picasso Produce Ltd  
Plains Produce (Canterbury) Ltd  
Prendo Prepack Ltd  
Prepared Produce Ltd  
R J Flowers Ltd  
Ronald Alexander Jamieson  
Satara Co-Operative Group Ltd  
Saxton Fruit Ltd

Seeka Kiwifruit Industries Ltd  
Southern Packers Ltd  
Sue Wong Joe  
Sundale Fruitpackers Ltd  
Sunfruit Orchards Ltd  
Taylor Corporation (1995) Ltd  
Tbd Ltd  
Telegraph Hill Ltd  
The Fresh Fruit Company of Nelson Ltd  
The Juice Company Ltd  
The New Zealand Kiwi Fruit Ltd  
The Pak House Ltd  
Trevelyan's Pack & Cool Ltd  
Tropical Fresh Ltd  
Turiwiri Produce Ltd  
Turners & Growers Fresh Ltd  
Turners & Growers Ltd  
United Fruit Packers Hawkes Bay Ltd  
Waimata Horticultural (1998) Ltd  
Wilcon Produce Company Ltd  
Willowtree Produce Ltd  
Wing On Wholesale Co  
Zeafruit Company Ltd  
Zespri Group Ltd  
Zespri International Ltd  
Zheng Zheng International Ltd

Many thanks,

Rima Urangia

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If it exists, you'll find it on SEEK [Want to be a Space Travel Agent?](#)

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9 July 2010

Rima Urangia  
r.urangia@hotmail.com

File No: 10/94962

Dear Rima Urangia

I refer to your official information request dated 21 June 2010, relating to serious harm notifications by specified industries which were:

- Farm Produce and Supplies Wholesale
- Fruit and Vegetable Wholesale
- Grocery Wholesale
- Fruit and Vegetable Retail
- Road Freight Transport

Please find the attached serious harm notifications data, listed in an excel spreadsheet attached covering:

- Business name
- Incident Date
- Industry Group Name
- Industry Name
- Agency
- Mechanism
- Injury
- Body Part
- Regional Location
- Investigated or Limited response

Note:

1. Serious harm incidents were based on notifications received from 1 Jan 2004 to 31 Dec 2009.
2. Where there are multiple employers/parties, only the primary party was selected.
3. Serious harm notifications may result in cases being investigated or limited response.

4. Serious harm notifications are dealt with as a limited response where the circumstances of the event and/or the potential for the harm or the harm suffered did not meet the Department's criteria for a full investigation.
5. There were 909 notifications reported since Jan 2004 to Dec 2009 under the selected industries listed above which consist businesses and individuals. Only those with business names were selected (893 notifications).
6. Data does not include notifications from long latency diseases caused by exposure to hazardous substances.

If you wish to discuss any aspect of your request or this response, or if you require any further assistance, you are encouraged to contact Greig Bateman, National Support Manager, Workplace Services on 04 915 6382.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Maarten Quivooy'. The signature is written in a cursive style and is followed by a large, circular scribble and a long horizontal line that ends in a vertical drop.

Maarten Quivooy  
Group Manager  
Workplace Services

for Secretary of Labour



30 July 2010

Rima Urangia  
r.urangia@hotmail.com

File No: 10/96385

Dear Rima Urangia

This letter is to acknowledge receipt of your official information request dated 28 July 2010, requesting *all serious harm accidents reported from and including, 2004 up to, and including, 2009 from all industry classifications.*

Your request is the responsibility of Maarten Quivooy, Group Manager, Workplace Services, who can be contacted at [maarten.quivooy@dol.govt.nz](mailto:maarten.quivooy@dol.govt.nz) should you have any enquiries.

You can expect to receive a response by 25 August 2010.

Yours sincerely

A handwritten signature in black ink, appearing to be 'Liz McMillan', is positioned above the typed name and title.

Liz McMillan  
Acting Director  
Executive and Governance Support Division  
for Secretary of Labour



24 August 2010

Rima Urangia  
r.urangia@hotmail.com

File No: 10/96385

Dear Rima Urangia

I refer to your official information request dated 28 July 2010, requesting *all serious harm accidents reported from and including, 2004 up to, and including, 2009 from all industry classifications.*

This letter is to notify you that the Department is extending the time available to it to answer your request. The Department's response will now be made by 22 September 2010.

The reason for the extension is:

15A (a) The request is for a large quantity of official information or necessitates a search through a large quantity of information and meeting the original time limit (20 working days) would unreasonably interfere with the operations of the department or the Minister of the Crown or the organisation.

You have the right to seek an investigation and review of our decision to extend the time by the Ombudsman, whose address for contact purposes is:

The Ombudsman  
Office of the Ombudsmen  
PO Box 10-152  
The Terrace  
Wellington 6143

Yours sincerely

A handwritten signature in black ink, appearing to be 'Liz McMillan', written in a cursive style.

Liz McMillan  
Manager  
Executive and Governance Support Division  
for Secretary of Labour

---

From: Colleen.Shramka@dol.govt.nz  
To: r.urangia@hotmail.com  
Date: Fri, 3 Sep 2010 13:40:43 +1200  
Subject: Official Information Act Request - Department of Labour

Hi Rima

You have been dealing with Leanne Rahman, regarding an OIA request for all serious harm accidents reported from and including, 2004 up to, and including 2009 from all industry classifications. Leanne is currently on bereavement leave, and I am following up on this request. If you could please give me a quick call to discuss whether it is okay for us to narrow the request and remove individuals (not companies) information, as they would not fit within the 200 businesses you are wanting to match.

My number is 04 915 4367, or alternatively I am happy to call you if you provide a number.

Regards

Colleen

Colleen Shramka  
Senior Advisor - Operational Support  
Workplace Services Group  
Department of Labour | Te Tari Mahi  
Aurora Chambers 66 The Terrace |  
PO Box 3705 | Wellington 6140 | New Zealand  
Tel: +64 4 915 4367 | Mob: +64 27 297 9359  
Email: [colleen.shramka@dol.govt.nz](mailto:colleen.shramka@dol.govt.nz)  
Web: [www.dol.govt.nz](http://www.dol.govt.nz)

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---

From: Colleen.Shramka@dol.govt.nz  
To: r.urangia@hotmail.com  
CC: I.S.Laird@massey.ac.nz; S.J.Legg@massey.ac.nz  
Date: Thu, 9 Sep 2010 08:53:05 +1200  
Subject: RE: Official Information Act Request - Department of Labour

Thanks. So just to confirm, that if you are looking only at businesses/companies that us removing individuals information would be okay?

Cheers

Colleen

---

**From:** Rima Urangia [mailto:r.urangia@hotmail.com]  
**Sent:** Thursday, 9 September 2010 8:04 a.m.  
**To:** Colleen Shramka  
**Cc:** 'Laird, Ian'; Legg, Stephen  
**Subject:** RE: Official Information Act Request - Department of Labour

Hello Colleen,

I am doing a research project on reported serious harm injuries within the fruit and vegetable wholesaling industry for the years 2004 to 2009.

Leanne had previously supplied me with information on the AS/NZ Industry Classifications Standards used by the DoL. I had tried to match up the businesses as best as I could with the information I am comparing it with, but I have found that some of the industry classifications I have used may not include the businesses I am researching.

To ensure that all the businesses I am researching are included in the data I have requested information on **all** serious harm accidents reported, **for all industries**, for the period of 2004 up to and including 2009.

This will ensure that all the businesses I am researching are included.

Many thanks,

Rima Urangia

**From:** Colleen Shramka [mailto:Colleen.Shramka@dol.govt.nz]  
**Sent:** Tuesday, 7 September 2010 1:55 p.m.  
**To:** r.urangia@hotmail.com  
**Subject:** RE: Official Information Act Request - Department of Labour  
**Importance:** High

Hi Rima

Just following up on my email below.

Regards

Colleen

---

**From:** Colleen Shramka  
**Sent:** Friday, 3 September 2010 1:41 p.m.  
**To:** 'r.urangia@hotmail.com'  
**Subject:** Official Information Act Request - Department of Labour  
**Importance:** High

Hi Rima

You have been dealing with Leanne Rahman, regarding an OIA request for all serious harm accidents reported from and including, 2004 up to, and including 2009 from all industry classifications. Leanne is currently on bereavement leave, and I am following up on this request. If you could please give me a quick call to discuss whether it is okay for us to narrow the request and remove individuals (not companies) information, as they would not fit within the 200 businesses you are wanting to match.

My number is 04 915 4367, or alternatively I am happy to call you if you provide a number.

Regards

Colleen

Colleen Shramka  
Senior Advisor - Operational Support  
Workplace Services Group  
Department of Labour | Te Tari Mahi  
Aurora Chambers 66 The Terrace |  
PO Box 3705 | Wellington 6140 | New Zealand  
Tel: +64 4 915 4367 | Mob: +64 27 297 9359

Email: [colleen.shramka@dol.govt.nz](mailto:colleen.shramka@dol.govt.nz)

Web: [www.dol.govt.nz](http://www.dol.govt.nz)

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21 September 2010

Rima Urangia  
r.urangia@hotmail.com

File No: 10/96385

Dear Rima Urangia

I refer to your official information request dated 28 July 2010, relating to serious harm notifications from 2004 to 2009.

Please find the attached serious harm notifications data attached, listed in an excel spreadsheet covering:

- Business Name
- Incident Date
- Industry Group Name
- Industry Name
- Agency
- Mechanism
- Injury
- Body Part
- Regional Location
- Investigated or Limited Response.

Only serious harm notifications with business names are provided. Data with an individual's name are excluded, as per email discussions, as they are outside of the scope of your request and to protect the privacy of individuals.

If you wish to discuss any aspect of your request or this response, or if you require any further assistance, you are encouraged to contact Phil Revell, National Business Support Manager, Workplace Services on 04 915 6382.

Yours sincerely

Craig Smith  
Acting Group Manager  
Workplace Services

for Secretary of Labour

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PHONE +64 4 915 6235 | FAX +64 4 915 4370 | PO BOX 3705 | AURORA CHAMBERS, 66 THE TERRACE | WELLINGTON | NEW ZEALAND | WWW.DOL.GOV.TZ

Note:

1. Serious harm incidents were based on notifications received from 1 Jan 2004 to 31 Dec 2009 which include fatalities.
2. Where there are multiple employers/parties, only the primary party was selected.
3. Serious harm notifications may result in cases being investigated or limited response.
4. Serious harm notifications are dealt with as a limited response where the circumstances of the event and/or the potential for the harm or the harm suffered did not meet DoL's criteria of a full investigation.
5. Data does not include notifications from long latency diseases caused by exposure to hazardous substances.