RESEARCH AND EVALUATION

# Risk factors in health care and social assistance

## LITERATURE REVIEW

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New Zealand Government

WORKSAFE
Mahi Haumaru Aotearoa

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# EXECUTIVE SUMMARY

This document provides an overview of literature on occupational harms and risk factors in the health care and social assistance sector. While occupational harms were explored in the sector as a whole, the risk factors focused on three particular settings: hospital, community and residential.

## Methodology

A number of methods were used in producing this literature review. They include descriptive analyses of secondary data obtained from different sources (for example, Stats NZ, ACC, WorkSafe and other government published reports); and, a non-systematic review of relevant literature. The review also made use of information in news media where appropriate.

It is acknowledged that the review covered a large and complex sector that continues to evolve in response to a number of challenges. This document is a general overview that provides a snap shot of the risk factors across the various settings in which health care and social assistance workers may find themselves working in. It is also acknowledged there are gaps in the evidence that future research may be able to fill.

## Key findings

Workers in the health care and social assistance sector can experience poor physical and psychosocial health outcomes.

Figure 1 below presents a high level summary of the types of harm and risk factors identified in this literature review. It also depicts the overlapping nature of the three examined settings (hospital, community and residential) and identifies the factors that put some workers at greater risk.

Commonly reported injuries in the sector were soft tissue and laceration/puncture/sting. Musculoskeletal disorders (MSDs) were also a common work-related health issue for health care workers. In addition to the physical harms, psychosocial harms such as stress, anxiety, and depression experienced by workers in the sector are covered by this review.


**Risk factors**

- Patient handling/physical demand
- Violence/physical abuse
- Bullying/harassment
- Exposure to dangerous substances/ infectious agents, including pandemics
- Stress/traumatic stress

**Workers at greater risk**

- Migrants
- Women
- Older workers
- Agency workers

**Harm**

**Physical**

- MSDs
- Injuries
- Infections

**Psychosocial**

- Stress
- Anxiety
- Depression

**FIGURE 1:** Risk factors and harm in the Health Care and Social Assistance Sector

The above harms are attributed to several key occupational risk factors identified in this literature review, comprising:

- patient handling/physical demand
- violence and physical abuse
- bullying and harassment
- exposure to dangerous substances and infectious agents, including pandemics
- traumatic stress
- shift work, and
- work-related psychosocial risk factors such as high job demand, low job control, lack of social support, and effort-reward imbalance.

The prevalence of these risk factors varies across different types of settings.

During the course of the literature review the COVID-19 pandemic began. We address the risks posed by pandemics in section 5.3 of the report, this is in response to the high level of interest in the health and safety of workers in the health care and social assistance sector. The review acknowledges that the pandemic has impacted on workers in all settings, including changing the demand for and delivery of their services, and the evolving advice on how to keep themselves and others safe.

### HOSPITAL SETTINGS

In hospital settings (which includes medical centres), most relevant available literature has focused on clinical staff, especially nurses. Evidence suggests that patient handling, violence and physical abuse, and shift work are some key risk factors contributing to the poor health outcomes experienced by staff in this kind of setting. Moreover, nurses are at higher risk of experiencing bullying, harassment and discrimination at work compared to other groups. As a result, they have also been found to be prone to experiencing stress and MSDs. For doctors, common risk factors noted in this literature review are violence and physical abuse, exposure to dangerous substance and infectious agents, and shift work (including night shifts). With non-clinical staff,[1] one thing to be noted is that while they may experience a lower incidence of risk compared to clinical staff, they receive less training in dealing with these risks.

### COMMUNITY SETTINGS

In community settings, two key groups of occupation focused on in this literature review were ambulance workers/paramedics, and community-based health and social services workers. For ambulance workers and paramedics, the nature of work plays a significant role in their health and safety. Several risk factors commonly reported include: patient handling, working under extreme time pressure, driving, exposure to traumatic events, and unpredictable work patterns. While some of these risk factors are similar to those identified in hospital settings, the literature reveals their additional impacts that may lead to stress, burnout and compassion fatigue in community settings.

### RESIDENTIAL SETTINGS

In residential settings, this literature review focused on aged care workers, in-home disability support workers and hospice workers. Common risk factors for these workers included physical demands, violence and physical abuse, stress, sexual harassment, and psychosocial risk factors such as lack of control over workloads, organisational culture issues, and emotional demands of the job. These risk factors

[1] Nonclinical staff does not include hospital cleaners as they are classified under the Administrative and Other Support Services sector in the ANZSIC.

in residential settings are often exacerbated by conditions such as dealing with clients with dementia or mental illness, and working in a private home alone. As a result, they may experience injuries and poor psychosocial health, especially stress and burnout.

### SPECIFIC WORKERS AT GREATER RISK

The demographic profile of the workforce reveals the high proportions of migrant, female, agency workers, and older workers in the health care and social assistance industry. Accordingly, occupational risk factors for these groups of workers are considered within this review.

The exploitative employment practices that some migrant workers experience are frequently noted in the literature. For example, a migrant worker in a community based or residential care setting may have no employment agreement, work hours without breaks and receive limited health and safety training. Some of the reasons that migrant workers can be at greater risk include the financial pressure, language barriers and cultural differences they experience, as well as reliance on employment with a specific employer for their visa and a lack of awareness of New Zealand workplace laws.

Evidences also suggest that female healthcare workers (for example, nurses, 91% of whom are female in New Zealand) are at higher risk of experiencing violence, physical abuse, bullying and sexual harassment.

## Summary

The health care and social assistance sector in New Zealand is large, employing over 246,480 people (as of February 2019), including around 89,600 staff working in hospitals, 69,400 employed in medical and other health care services, 54,100 in residential care services and 33,400 in social assistance services (Stats NZ, 2020b). These workers provide a wide range of services to clients who are vulnerable because they are ill, have a disability or experience complex personal and social issues. The sector itself is under continuing strain due to the high demand with services, limited funding and workforce shortages.

Health care and social assistance workers are at the frontline of responses to the health and wellbeing of our community. In the course of their work they are exposed to risks such as:

- patient handling/physical demand
- violence and physical abuse
- bullying and harassment
- exposure to dangerous substances and infectious agents (including pandemics)
- traumatic stress
- shift work, and
- work-related psychosocial risk factors such as high job demand, low job control, lack of social support, and effort-reward imbalance.

Once the current pandemic has been contained, health care and social assistance workers will continue to be exposed to these risk factors. For some workers their exposure to risks is elevated due to their age, gender, ethnicity and the nature of their employment status. The result is a population of workers who have experienced work-related harm that can have an ongoing impact on their quality of life.

# 1.0 Introduction

# The health care and social assistance sector has been under increasing pressure due to several socioeconomic factors such as an aging population and the emergence of new diseases.

In New Zealand, the sector has been experiencing a chronic labour shortage, with many jobs filled by overseas labour sources. The Harm Reduction Action Plan, jointly authored by ACC and WorkSafe, has set out to reduce work fatalities and potentially fatal work injuries in this sector as a priority.[2]

This literature review provides an overview of occupational harms and risk factors in the health care and social assistance sector. It looks at relevant literature in both New Zealand and international contexts. Findings presented in this document are intended to help inform the better management of health and safety in the sector.

While occupational harms were explored in the sector as a whole, relevant risk factors were examined in three particular settings: hospital, community and residential. These contexts are described below:

- **Hospital settings**: They mainly include hospitals and medical centres, and cover both clinical and non-clinical staff. Doctors and nurses constitute a large proportion of the healthcare workforce in these settings and, consequently, are dominant studied groups in relevant literature. Other occupations in a hospital setting include Allied Health, laboratory workers and hospital based social workers.
- **Community settings**: Key occupational groups in the community settings covered in this literature review include ambulance workers/paramedics, and community-based health and social services workers. The latter group includes community-based nurses (for example, health educators), midwives, community mental health nurses, and social workers.
- **Residential settings**: 'Residential care' defined by Section 2 and Section 6 of the Health and Disability Services (Safety) Act 2001, refers to care for disabled, elderly, and physically or mentally unwell people in a residential facility, which may be privately or publicly funded facilities. There are a range of roles in this setting including doctors, nurses, personal care assistants and support workers. In this literature review, residential settings cover live-in facilities, including hospices, in-home aged care and disability support.

[2] The Harm Reduction Action Plan incorporates the goals and priorities of the Health and Safety at Work Strategy 2018-2028, WorkSafe's 2018-2022 and ACC's injury prevention strategy and priorities: worksafe.govt.nz

It is acknowledged that some health care roles in particular may carry out their work in more than one setting. For example, New Zealand midwives provide maternity care in hospital and community settings. Antenatal care usually occurs in a clinic or community facility, with some midwives providing home visits. Labour and birth care can occur at home or in primary, secondary or tertiary healthcare facilities. Postnatal care is usually provided in the home for the first six weeks after birth (Tupara & Tahere, 2020, p.21). Around 3,226 midwives hold an annual practicing certificate in New Zealand and the workforce is almost entirely female with an average age of 46.5 years (Midwifery Council Te Tatau o te Whare Kahu, 2019, p.4). In this report risk factors for midwives are described in the 'community setting' sections.

# 2.0 Method

# Two methods are used in this literature review.

First, descriptive analyses of secondary data were conducted to obtain an overview of the strategic context and the harm profile in the health care and social assistance sector. Secondary data were mostly sourced from the Business Demographic Statistics, Linked Employer-Employee Data (LEED), Injury data and the 2013 Census published by Stats NZ.

The key research questions of this literature review are:

1. What is the harm profile of the health care and social assistance sector in New Zealand?
2. What are the risk factors that may contribute to the identified harms in the health care and social assistance sector in New Zealand?

To answer these questions a non-systematic literature review of relevant articles was undertaken. While the review is non-systematic, the primary criteria for selecting were literature that:

- was published in a peer-reviewed journal or published by an organisation with a similar remit to WorkSafe (for example, the Health and Safety Executive (HSE) or Safe Work Australia) or other comparable government entity.
- provided contextual background to the health and safety risk factors in the health care and social assistance sector or were published in the last ten years.
- provided expert positions on areas where the empirical evidence is inadequate.

Given the current status of the COVID-19 pandemic, some grey literature has been included such as media reports in the pandemic section of this review to augment the available published literature. This grey literature has been used sparingly and with the aim of confirming whether findings about previous pandemics are relevant in the current COVID-19 pandemic.

The sources were selected through a range of keyword searches using academic databases and the websites of government departments.

# 3.0 Strategic context

**IN THIS SECTION:**



## 3.1 Section summary

This section provides background information related to businesses and employees within the health care and social assistance sector. It enables a better understanding of the context in which the health and safety issues addressed in this literature review are managed.

The health care and social assistance sector continues to experience a number of chronic challenges. For example challenges in the health care subsector include high demand for services, labour shortages (Ministry of Health [MOH], 2014), and perceptions of inadequate funding (for example, Anthony, 2018; Rosenberg & Keene, 2018; and MartinJenkins, 2019).

Recently, the government increased funding to specific parts of the Sector, such as expanding frontline mental health services and suicide prevention programmes. Other initiatives included expanding the number of nurses in schools (The Treasury, 2019). These investments, though positively received by mental health services providers, when implemented will place added pressure on the available workforce. For example, in 2018 it was estimated that up to 5,000 more mental health and addiction workers would be needed in the next 10 years to offset the impact of population growth and an aging workforce retiring (Te Pou o te Whakaaro Nui, 2018).

The health care and social assistance sector covers a diverse range of functions, service settings and organisation types, this makes it hard to provide an accurate picture of the sector. Table 1 below reveals the number of organisations and how many paid employees there are in the sector.

| EMPLOYEE COUNT SIZE GROUP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 0 | 1–5 | 6–9 | 10–19 | 20–49 | 50–99 | 100+ | Total |
| **Enterprises** | 12,426 | 4,149 | 1,272 | 1,212 | 762 | 285 | 252 | 20,349 |
| **Paid employees** | 0 | 10,200 | 9,300 | 16,200 | 22,400 | 19,300 | 169,100 | 246,480 |

Source: Stats NZ, 2019

**TABLE 1:** Size of the health care and social assistance sector

The non-government and not-for-profit organisations in the health care and social assistance sector have traditionally engaged volunteers in a wide range of roles (Sanders et al., 2008). The table above shows that there are 12,426 organisations with no paid employees active in the sector comprising self-employed practitioners and PCBUs that rely on volunteers. The Stats NZ Non-Profit Institutions Satellite Account 2018 found that community organisations most likely to have paid staff are those working in the Health and Social Services category, with 21.4% of the workforce (on average) being paid staff (Stats NZ, 2018). Overall, there has been an ongoing lack of reliable and consistent data on New Zealand's volunteer workforce, (Wilson, 2001).

In terms of paid workers, most are employed in the hospital and medical and other health care services sub-sectors. The demographic profile of the workforce is unique – for example, a nurse in New Zealand is likely to be a woman in her forties of either New Zealand European background or from overseas (New Zealand Nurses Organisation, 2018). As of March 31 2019, there were 54,456 practising nurses in this country, with nine percent male, eight percent identifying as Māori, and four percent identifying as Pasifika (Nursing Council of New Zealand, 2019, p.5). Around 26% of New Zealand nurses received their qualifications overseas (Health and Disability System Review, 2020, p.183).

## 3.2 Health care and social assistance in New Zealand

The Australia and New Zealand Standard Industrial Classification system (ANZSIC) breaks down the health care and social assistance sector by activity. Table 2 below details those activities included in health care and social assistance.

| HEALTH CARE AND SOCIAL ASSISTANCE | | | | EMPLOYEE COUNT |
|---|---|---|---|---|
| **Q84** | **Hospitals** | | | |
| | Q840 | Hospitals | | |
| | | Q840100 | Hospitals (except psychiatric hospitals) | 89,500 |
| | | Q840200 | Psychiatric hospitals | 120 |
| **Q85** | **Medical and other health care services** | | | |
| | Q851 | Medical services | | |
| | | Q851100 | General practice medical services | 13,100 |
| | | Q851200 | Specialist medical services | 3,800 |
| | Q852 | Pathology and diagnostic imaging services | | |
| | | Q852000 | Pathology and diagnostic imaging services | 4,400 |
| | Q853 | Allied health services | | |
| | | Q853100 | Dental services | 5,700 |
| | | Q853200 | Optometry and optical dispensing | 2,600 |
| | | Q853300 | Physiotherapy services | 3,050 |
| | | Q853400 | Chiropractic and osteopathic services | 760 |
| | | Q853900 | Other allied health services | 25,300 |
| | Q859 | Other health care services | | |
| | | Q859100 | Ambulance services | 3,550 |
| | | Q859900 | Other health care services n.e.c. | 7,100 |
| **Q86** | **Residential care services** | | | |
| | Q860 | Residential care services | | |
| | | Q860100 | Aged care residential services | 37,800 |
| | | Q860900 | Other residential care services | 16,300 |
| **Q87** | **Social assistance services** | | | |
| | Q871 | Child care services | | |
| | | Q871000 | Child care services | 14,100 |
| | Q879 | Other social assistance services | | |
| | | Q879000 | Other social assistance services | 19,300 |
| **Total employee count as at February 2019** | | | | **246,480** |

Source: ANZSIC, 2006; Stats NZ, 2020b

**TABLE 2:** ANZSIC industry classification – health care and social assistance sector and employee numbers

The health care workforce has experienced significant pressure due to a number of socio-economic factors and global challenges such as an aging population, migration, the health burden of increasing complex long-term conditions, new infections and antibiotic resistance, and health and social consequences from climate change (Cornwall & Davey, 2004; MOH, 2018). The Ministry of Health (MOH) noted several challenges facing the health care workforce in New Zealand, including: limited funding, shortage in both the regulated and unregulated workforce, ongoing maldistribution of workers between rural and urban locations, and the reliance on short-term recruitment strategies such as immigration, attracting ex-practitioners, reducing turnover and improving productivity (MartinJenkins, 2019; MOH, 2006; Radio New Zealand, 2017).

According to MOH (2006), mental health has been an area that has consistently received investment in workforce development. More recently, the 2019 government budget is dedicated to delivering better wellbeing for New Zealanders and has approved funding for 13 new mental health, wellbeing, and additional initiatives (MOH, 2019). This reflects the increased pressures that mental health conditions requiring specialist support services place on an already stretched health care and social assistance sector workforce.

The social assistance sub-sector is also experiencing an increase in the level and complexity of demand for services. The MartinJenkins 2019 report *Social Service System: The Funding Gap and How to Bridge It* revealed that the social sector is under significant financial pressure due to an approximately $630 million annual funding gap. The funding gaps refers to the difference between the true cost of service delivery and what organisations received through government funding and contracts (MartinJenkins, 2019).

In addition, the social assistance sub-sector has seen successful pay equity claims lead to higher wages for the predominantly female workforce. The MartinJenkins report identified a number of current challenges to the capacity and sustainability of NGO social services including:

- workforce pressures: wage gap and pay equity
- rising cost pressures and the continued underfunding of annual overheads, and
- pressure to meet the increasing level of unfunded need.

Traditionally organisations have tried to meet unfunded demand by creating other income streams through fundraising, having workers undertake unpaid hours and/or recruiting volunteers to fill the gaps.

Given the predicted growth of the aging population in New Zealand, and the likely increased demand on the Health Care and Social Services workforce, it is crucial that workplace health and safety within the sector is managed effectively. The next section looks at employment and businesses in the industry.

## 3.3 Employment and enterprises in health care and social services

According to Business Demography Statistics from Stats NZ, there were 246,480 employees in the health care and social assistance sector by February 2019, making up 10.7% of the workforce. The number of enterprises was relatively small (20,349 enterprises), accounting for 3.7% of all enterprises. (Stats NZ, 2019). The distribution of employee counts and enterprises per sub-sector is illustrated in Table 2 (data at February 2019 from Stats NZ). While employment was relatively normally distributed across the sub-sectors, the majority of enterprises were in the Medical and Other Health Care Services sub-sector (81%) and Social Assistance Services (14%). In terms of employment growth

trends, historical data over the last five years indicate slight increases in the Hospitals and Medical and Other Health Care Services sub-sectors (4% and 3.4% respectively between February 2018 and February 2019), while the numbers employed within the other sub-sectors has remained relatively unchanged.

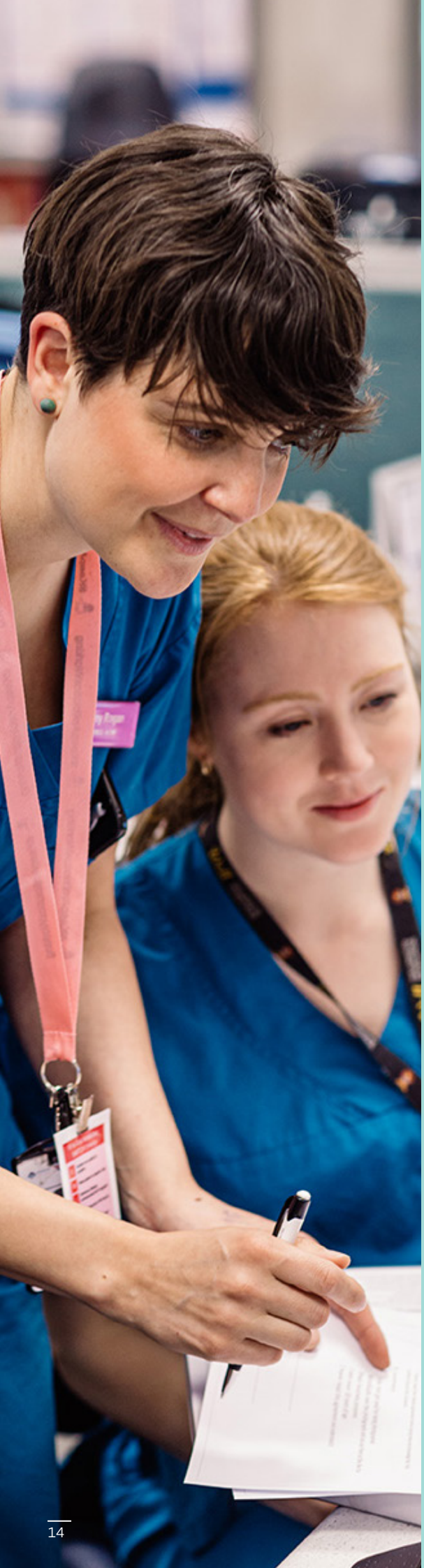
2013 Census data provides a snapshot of the health care and social assistance workforce:[3]

- Sex: 82% female versus 18% male in the Healthcare and Social Services sector (compared to 48% and 52% respectively in the total industries workforce)
- Ethnicity: mostly European (76%), followed by Asian (12%), Māori (11%), and Pacific Peoples (4.8%). This mirrored the ethnicity configuration of all industries total, which was 76.9% European, 11.2% Māori, 11% Asian and 5% Pacific Peoples.
- Age: 45 years old or above (57%)
- Work status: mostly full-time (69%) (Stats NZ, 2015).

The average hourly pay rates for employees in the sector was $34.31 ($44.16 for men and $34.31 for women), compared to the total industry average hourly rate of $32.76 ($34.51 men and $30.73 women) (Figure NZ Trust, 2020). In a study by Ravenswood and Douglas (2017), almost half of the respondents in the aged care workforce reported being dissatisfied with their pay. Many aged care workers work part-time, and there is increasing use of migrants to meet a shortage of workers (Ravenswood & Douglas, 2017; Ravenswood et al., 2015).

As noted earlier, the Health Care and Social Services sector has historically relied on unpaid volunteers to supplement its paid workforce (Sanders et al., 2008). The 2019 report by MartinJenkins found that the Not-for-Profit sector contributed to 2.8% of national GDP and employed around 4.4% of the country's total workforce, or 5.3% including volunteers. According to Census 2013, over 3,300,000 people reported engaging in at least one unpaid activity (52% female and 48% male). While most volunteer activities were for individuals' own households, there was a small percentage of people who reported helping someone who was ill or had a disability who does not live in their household (eight percent), and doing voluntary work for or through an organisation (14%). It has been stated that over 65% of the 20,000 people involved in the St John Ambulance service are volunteers (Ngaro, 2018

[3] Work and labour force data from the 2018 Census had not been published at the time of writing this review.



# 4.0
# Harm profile

**IN THIS SECTION:**

The activities undertaken by both paid and unpaid Health Care and Social Services workers are typically undertaken in one of three settings:

- hospital
- community
- residential.

The nature of risks that workers are exposed to can vary, depending on in which setting work is being undertaken. For example, a nurse in a hospital works within a team, a community-based nurse would typically be working alone and driving during the course of their shift (Terry et al., 2015). With this in mind, this report presents the findings about risk factors based on the setting, as there are certain risks that are unique to each environment.

This section provides an overview of the types of harm that workers in the health care and social assistance sector commonly experience. It investigates relevant data and information in both the New Zealand and international contexts. The results indicate some similarities between these two contexts. Both physical and psychological harms exist in the health care and social assistance sector. Commonly reported poor health and safety outcomes include:

- work-related injuries (for example, soft tissue, laceration/puncture/sting, fracture/dislocation, falls/trips/slips, etc)
- diseases (MSDs, nosocomial infection)
- stress (WorkSafe, 2019a).

The nature of these harms varies across different settings (hospital, community and residential).

## 4.1 New Zealand

Data presented in this section were from two main sources: Injury data from Stats NZ which is based on information about claims for work-related injury made to the Accident Compensation Corporation (ACC); and data from the System for Work-related Injury Forecasting and Targeting (SWIFT) at WorkSafe.

### Data from Stats NZ

Data from Stats NZ indicates increasing numbers of work related claims made in the Health Care and Social Services sector over the last five years. The claims are categorised as requiring at least one week away from work (WAFW) or requiring less than a WAFW. The injury data for the five years to 2017/18 is provided in the Table 3 below.

In general, the number of injury claims in the health care and social assistance sector has been increasing gradually, with the majority of claims resulting in less than one week away from work.

| CATEGORY OF CLAIM | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|---|---|
| **GROUP 0 Falls, trips and slips of a person** | **2052** | **2131** | **2237** | **2196** | **2309** |
| Hospitals | 614 | 611 | 659 | 645 | 622 |
| Medical and other health care services | 377 | 425 | 493 | 452 | 502 |
| Residential care services | 601 | 587 | 580 | 605 | 578 |
| Social assistance services | 460 | 508 | 505 | 494 | 607 |

| CATEGORY OF CLAIM | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|---|---|
| **GROUP 1 Hitting objects with a part of the body** | **1018** | **987** | **1075** | **1024** | **1110** |
| Hospitals | 222 | 237 | 277 | 260 | 232 |
| Medical and other health care services | 338 | 337 | 336 | 315 | 356 |
| Residential care services | 301 | 257 | 289 | 296 | 324 |
| Social assistance services | 157 | 156 | 173 | 153 | 198 |
| **GROUP 2 Being hit by moving objects** | **2839** | **2949** | **3156** | **2973** | **2962** |
| Hospitals | 935 | 982 | 1104 | 1032 | 995 |
| Medical and other health care services | 424 | 435 | 486 | 446 | 444 |
| Residential care services | 1132 | 1168 | 1200 | 1123 | 1105 |
| Social assistance services | 348 | 364 | 366 | 372 | 418 |
| **GROUP 3 Sound and pressure** | **12** | **18** | **14** | **26** | **26** |
| Hospitals | 1 | 9 | 4 | 13 | 14 |
| Medical and other health care services | 4 | 4 | 5 | 3 | 1 |
| Residential care services | 5 | 5 | 4 | 5 | 10 |
| Social assistance services | 2 | | 1 | 5 | 1 |
| **GROUP 4 Body stressing** | **3542** | **3636** | **3716** | **4064** | **4352** |
| Hospitals | 855 | 855 | 895 | 1171 | 1274 |
| Medical and other health care services | 734 | 746 | 777 | 772 | 782 |
| Other store-based retailing | | | | 1 | |
| Residential care services | 1146 | 1185 | 1196 | 1236 | 1278 |
| Social assistance services | 807 | 850 | 848 | 884 | 1018 |
| **GROUP 5 Heat, electricity and other environmental factors** | **186** | **151** | **182** | **155** | **166** |
| Hospitals | 31 | 31 | 47 | 49 | 35 |
| Medical and other health care services | 35 | 31 | 35 | 28 | 41 |
| Residential care services | 87 | 70 | 78 | 57 | 71 |
| Social assistance services | 33 | 19 | 22 | 21 | 19 |
| **GROUP 6 Chemicals and other substances** | 97 | 98 | 121 | 104 | 112 |
| Hospitals | 23 | 21 | 19 | 26 | 25 |
| Medical and other health care services | 16 | 24 | 31 | 23 | 21 |
| Residential care services | 38 | 25 | 39 | 29 | 32 |
| Social assistance services | 20 | 28 | 32 | 26 | 34 |
| **GROUP 7 Biological factors** | 1 | 5 | 2 | 4 | 5 |
| Hospitals | 1 | 2 | 2 | 3 | 4 |
| Medical and other health care services | | 2 | | 1 | 1 |
| Social assistance services | | 1 | | | |

| CATEGORY OF CLAIM | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|---|---|
| **GROUP 8 Mental stress** | 2 | 2 | 1 | 2 | 6 |
| Hospitals | 2 | | | | 4 |
| Medical and other health care services | | | | | 1 |
| Residential care services | | 1 | 1 | 1 | |
| Social assistance services | | 1 | | 1 | 1 |
| **GROUP 9 Vehicle incidents and other** | 3931 | 4098 | 3977 | 3629 | 3325 |
| Hospitals | 1689 | 1568 | 1546 | 1165 | 841 |
| Medical and other health care services | 514 | 581 | 621 | 645 | 709 |
| Residential care services | 1159 | 1257 | 1151 | 1100 | 1018 |
| Social assistance services | 569 | 692 | 659 | 719 | 757 |
| **Grand total** | **13680** | **14075** | **14481** | **14177** | **14373** |

Source: Injury data from Stats NZ, 2018

**TABLE 3:** Number of claims in health care and social assistance sector

Stats NZ 2018 provisional data showed that there were 14,016 work-related claims made in the sector, accounting for approximately 5.9% of all work-related claims. Most of the claims were made by females (83.5%) compared to males (17.1%). As mentioned earlier in Section 3, older workers made up a high proportion of the workforce. They also accounted for a considerable proportion of claims (27.4% and 26.0% by those who were 55–64 years old and 45–55 years old respectively). About one in every five claims resulted in more than one week away from work.

Data to February 2018 reveals that the most commonly reported type of injury in the sector was soft tissue (75.6% of work related claims), followed by laceration/puncture/sting (9.3%) (Table 4).

| TYPE OF INJURY | NUMBER OF CLAIMS |
|---|---|
| Soft tissue | 10,590 |
| Laceration, puncture, sting | 1,308 |
| Foreign body in orifice/eye | 102 |
| Fracture/dislocation | 435 |
| Burns | 201 |
| Dental | 60 |
| Trauma induced hearing loss | 6 |
| Inhalation/ingestion | 18 |
| Gradual onset: Industrial deafness | 9 |
| Gradual onset: Pain syndromes | 84 |
| Gradual onset: Local inflammation | 39 |
| Gradual onset: Occupational disease | 18 |
| Other and undefined | 1014 |
| **Total** | **14,016** |

Source: Injury data from Stats NZ, 2018

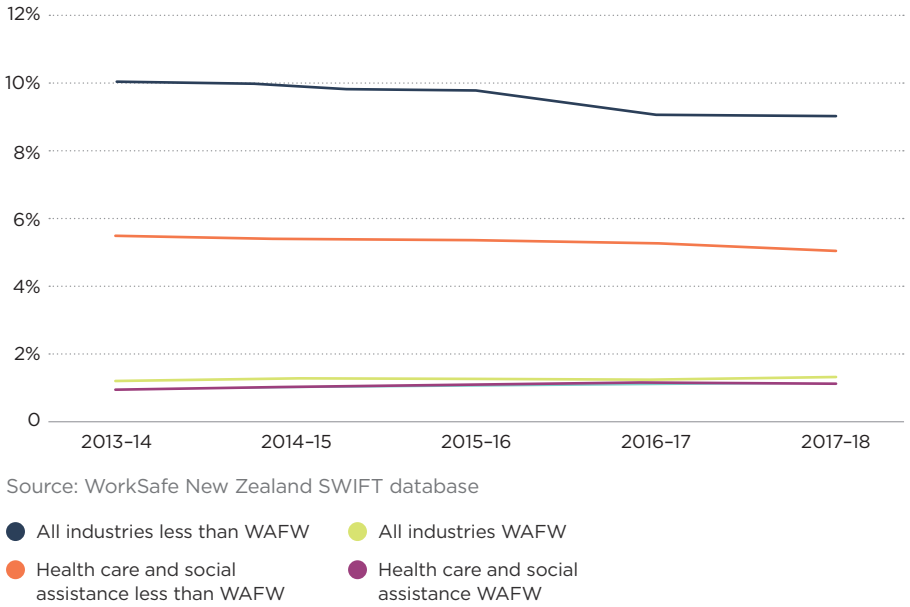
**TABLE 4:** Types of injury in health care and social assistance, February 2018

## Data from WorkSafe

According to WorkSafe data, more than 3,000 ACC claims were made in 2016 by Aged Care Residential Services workers, the second highest subsector in terms of ACC claims made, just after hospitals. Nurses and personal care workers were the occupations most frequently represented in sector claims data. Common injuries were soft tissue injuries including lumbar, shoulder and neck sprains, followed by accidents caused by a needle.

SWIFT data at WorkSafe show a small but steady increase of injury claims in the health care and social assistance sector over the past five years (Figure 4). The majority of reported injuries (about 80%) were classified as 'non-severe' which meant they resulted in less than one week away from work. 'Severe' injuries included those that resulted in at least one week away from work. While the numbers of non-severe injuries remained relatively similar over the past five years, the numbers of severe injuries had increased gradually.

**Comparison of injury claims – health care and social assistance and all industries**




Source: WorkSafe New Zealand SWIFT database

**FIGURE 2:**
SWIFT injury data in the health care and social assistance sector[4]

With regard to types of injury, SWIFT data reveal similar patterns between severe and non-severe injuries. That is, the most commonly reported types of injury regardless of what level of severity are **body stressing** and **vehicle incidents and other**, followed by being hit by moving objects. However, among the severe injuries, those related to the vehicle incidents and other category were slightly higher than injuries related to body stressing. Falls, trips and slips were also relatively common, making up 15% of non-severe injury claims and 19% of severe injury claims.

More recently, from January to June 2019, WorkSafe's data recorded 1,353 injuries in the Health Care and Social Services sector that resulted in more than a week away from work.[5] Among these, 174 injuries (13%) were classified as being hit by a person accidentally and 66 injuries (5%) were being assaulted by a person or persons. These are associated with the risk factor of violence and physical abuse which is addressed in more detail in Section 5.

[4] Figure 4 presents annual data on the basis of a financial year (from 1 July to 30 June the following year)

[5] Data available on WorkSafe's website: data.worksafe.govt.nz

## Findings from studies in New Zealand

Studies in the New Zealand context show that workers in the health care and social assistance workers are experiencing occupational harms. Please refer to the WorkSafe Segmentation and Insights Programme fact sheet on health care and social assistance workers and employers: worksafe.govt.nz

## Hospital settings

In hospital settings, needlestick injuries and musculoskeletal disorders are commonly reported (Fullerton & Gibbons, 2011; Harcombe et al., 2009). Doctors experienced a high risk of needlestick injuries, followed by nurses and midwives (Fullerton & Gibbons, 2011). Among 181 nurses participating in a study on the impact of MSDs in New Zealand (Harcombe et al., 2009), 91% of nurses reported at least one MSD that lasted for more than one day in the 12 months prior the survey. Low back, neck and shoulder pain were the most frequently reported MSDs 57%, 52% and 39% respectively. Another study showed the annual prevalence of nursing related back pain at 37% (Coggan et al., 1994).

## Community settings

This review found that overall, there is a paucity of New Zealand based peer reviewed research on workers in community settings. Some research studies have been conducted within Australia and New Zealand (for example, van Heugten, 2013), but their small sample sizes make it difficult to draw generalisable conclusions, or they do not meet the criteria of having been peer reviewed (for example, the research was conducted as part of a Masters programme).

In 2017, WorkSafe commissioned the Centre for Public Health Research (Massey University) to conduct a worker exposure survey to identify current and potential hazards for the New Zealand workers in seven targeted occupational groups. As part of the findings, the survey outlines key hazards among community based nurses.

| TYPE OF HAZARD | SURVEY FINDING |
|---|---|
| **Biological** | 66% of nurses reported exposure to biological materials (for example, patients' urine or blood) |
| **Ergonomic** | 90% are exposed to working in awkward or tiring positions |
| **Chemical** | Almost 50% are exposed to environmental tobacco smoke |
| **Physical** | 63% were working in hot/warm and cold/damp environments at least a quarter of the time<br>– 50% reported they had experienced violence at work |
| **Psychological** | 60% reported bullying |

Source: WorkSafe, 2019b

**TABLE 5:** Summary of Massey University survey findings – commnity health nurses

Despite the lack of published peer-reviewed research on harm in community health care settings, the harm experienced by emergency health care workers is anecdotally recognised. For example, the Royal Australian and New Zealand College of Psychiatrists, in its endorsement of the *Expert Guidelines: Diagnosis and Treatment of Post-Traumatic Stress Disorder in Emergency Services Works*,[6] noted:

> "there is clear evidence that emergency workers have higher rates of PTSD (post-traumatic stress disorder) symptoms than the general population and that for many emergency workers, these symptoms are causing significant distress and functional problems" (Fuatai, 2017).

[6] A copy of the guidelines can be found at: www.blackdoginstitute.org.au

### Residential settings

The New Zealand Aged Care Workforce Survey 2016 showed that common injury mechanisms in residential settings include lifting, pushing/pulling, bending, repetitive movements, and prolonged standing (Ravenswood & Douglas, 2017). These accounted for 51.5% of all injuries for residential care healthcare assistants, while hitting, being hit or being cut by an object, a person or a vehicle caused a further 12.6% (Ravenswood & Douglas, 2017, p.29).

Psychosocial health is a significant concern for workers across settings in the health care and social assistance sector. A study on 365 health professionals in New Zealand indicated that they were likely to be exposed to a range of traumatic events that may lead to stress/secondary traumatic stress, and it appeared that the issue was more prevalent among social workers (Manning-Jones et al., 2016).

The New Zealand Aged Care Workforce Survey 2016 showed that 70.9% of residential care healthcare assistants experienced job-related stress (Ravenswood & Douglas, 2017). Exposure to mental stress-related factors accounted for 11.4% of workplace injuries or illness among these workers (Ravenswood & Douglas, 2017, p.29).

## 4.2 In other international contexts

### Hospital settings

Similar to the New Zealand context, health care workers worldwide have been found to experience several poor work-related health outcomes. More specifically, in hospital settings, MSDs (Bernal et al., 2015; Dressner, 2017; Vijendren et al., 2015); needlestick and sharp injuries (Smith et al., 2010; Vijendren et al., 2015); nosocomial infection (infections caught in a medical setting) and skin diseases (Malotle et al., 2017; Vijendren et al., 2015); psychosocial health problems such as anxiety, burnout, depressions, and PTSD (Brown, 2017; Lemaire et al., 2017; Manning-Jones et al., 2016; Pai & Lee, 2011) are well documented.

### Community settings

There is a common finding in the literature that ambulance officers and paramedics have high rates of MSDs, especially lower back injuries, as well as high rates of mental injury (Roberts et al., 2015; Sterud et al., 2006; Lad et al., 2018). A systematic review by Sterud et al., 2006, found that ambulance workers have a:

- higher standardised mortality rate
- higher level of fatal accidents
- higher level of accident injuries, and
- higher standardised early retirement on medical grounds than the general working population and workers in other health occupations.

In 2011, the European Agency for Health and Safety at Work reviewed available literature and found that physical overstrain and emotional overstrain were the two key types of harm for paramedics. The health and safety of ambulance service workers is also influenced by work complexity, work environment factors and organisational risks factors, leading to cervical and lumbar spine problems (Constantin et al., 2013).

Community-based workers, such as social workers have been found to experience a range of poor health outcomes due to a combination of risk factors such as depression, burnout, compassion fatigue and attrition (Truter et al., 2017). Working in traumatic situations in which individual workers are required to act against their moral beliefs can also cause moral injury, a new type of harm emerging in the literature (Barnes, et al., 2019).

## Residential settings

In residential settings, health care and social assistance workers experience a range of harms including MSDs (Davis & Kotowski, 2015; Briar et al., 2014; Ravenswood & Douglas, 2018); sharps injuries and infections (Markkanen et al., 2015; Briar et al., 2014); and slip, trip and fall (STF) injuries (Muramatsu et al., 2018; Briar et al., 2014). Assault, harassment or violent aggression are also common harms that have been noted (Briar et al., 2014, Campbell et al., 2014, Nakaishi et al., 2013; Hanson et al., 2015; Ravenswood & Douglas, 2018; Karlsson et al., 2019).

Psychosocial harms have been explored in the literature and include: physical exhaustion and/or emotional exhaustion; mental stress; moral distress; attitudinal, emotional and behavioural changes; compassion fatigue and burnout (Braedley et al., 2018; Ravenswood & Douglas, 2017, 2018; Pijl-Zieber et al., 2018; Briar et al., 2014; Ryan et al., 2019; Skirrow & Hatton, 2007; Finkelstein et al., 2013; Whitebird et al., 2013; Quinn-Lee et al., 2014, Parola et al., 2017).

### PSYCHOLOGICAL HARMS

The review found a growing body of literature dealing with the psychological harms that can be experienced by workers in the health care and social assistance sector. These harms include:

- **Burn-out** is a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed (World Health Organization, 2019).
- **Compassion fatigue** is the physical and mental exhaustion resulting from the combined impact of vicarious stress and cumulative burnout (Cocker & Josh, 2016).
- **Moral injury** is the harm caused to workers by repetitive experiences of witnesses, failing to prevent an act that violates deeply held moral beliefs, such the oath to put the needs of patients first (Dean et al., 2019).
- **Post-traumatic stress** is a psychiatric disorder caused by exposure to a traumatic event or extreme stressor that is responded to with fear, helplessness, or horror (Mealer, et al., 2009).

The nature of the work undertaken in the health care and social assistance sector involves exposure to situations involving vulnerable people who may have experienced trauma. Repetitive exposure to such stressful situations poses a risk to workers in all three settings.

# 5.0 Risk factors

**IN THIS SECTION:**

# This section discusses the risk factors in Health care and social assistance sector.

Several key themes of the risk factors were identified through the literature review, including:

- patient handling/physical demand
- violence and physical abuse
- exposure to dangerous substance and infectious agents, including pathogens
- shift work/night shifts
- work-related psychosocial risk factors[7]
- bullying/harassment/discrimination
- stress/traumatic stress.

Within each of these key themes, the risk factors as related to the three examined settings (hospital, community and residential) for particular groups of occupations are addressed. The results are summarised in Table 6.

## 5.1 Patients handling/physical demand

### In hospital settings

Patient care activities have been known to be a risk factor for MSDs (for example, shoulder pain, neck pain, and low back pain) among health care professionals (Lauer, 2018; Wang et al., 2014). Patient handling/physical demands leading to musculoskeletal issues are particularly prevalent among nursing staff who often need to care for overweight/obese and acutely ill patients, and mobilise patients almost immediately after medical interventions (Gomaa et al., 2015). These, together with high patient-to-nurse ratios and long shifts, increase the risk of MSDs for nurses in hospitals (Gomaa et al., 2015; Lauer, 2018).

Allied Health professionals such as physiotherapists and occupational therapists are also exposed to MSDs as a result of the repetitive tasks and intense physical demands of their daily work (Liao et al., 2016; Anderson & Oakman, 2016).

Dressner (2017) identified the two most commonly reported causes of injuries for hospital workers including:

- person other than injured or ill worker (that is, moving and lifting patients)
- floors/walkways/ground surfaces (that is, slips, trips and falls).

These causes are associated with the physical demand of the job and the physical environment of the workplace.

[7] High job demand, low job control, low social support and effort-reward imbalance (Bernal et al., 2015).

| | PANDEMICS | PATIENTS HANDLING/ PHYSICAL DEMAND | VIOLENCE AND PHYSICAL ABUSE | BULLYING/ HARASSMENT | EXPOSED TO DANGEROUS SUBSTANCES | STRESS/ TRAUMATIC STRESS | SHIFT WORKS/ NIGHT SHIFTS | WORK-RELATED PSYCHOSOCIAL RISK FACTORS |
|---|---|---|---|---|---|---|---|---|
| **Hospital settings** | | | | | | | | |
| Doctors | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Specialists (for example, surgeons, oncologists, radiologists, gastroenterologists) | ✓ | | | ✓ | | ✓ | | |
| Nurses | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Non-clinical staff | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Mixed | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| **Community settings** | | | | | | | | |
| Paramedics | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| District health nurses | ✓ | | ✓ | | | ✓ | | |
| Midwives | | | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Community mental health services | ✓ | | ✓ | | | ✓ | | ✓ |
| Social workers | ✓ | | ✓ | | | ✓ | | ✓ |
| **Residential settings** | | | | | | | | |
| Residential care workers | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Home and community aged care workers | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Disability support workers | ✓ | | ✓ | | | ✓ | | ✓ |
| Hospice workers | ✓ | | | | | ✓ | | ✓ |

**TABLE 6:** Risk factors in the health care and social assistance sector

**Note**: The tick in each box in Table 6 indicates that this literature review was able to find relevant studies for that particular risk and group. An empty box does not mean that particular risk factors do not exist for certain groups. It means that this literature review did not find relevant studies to evidence their presence.

## In community settings

The Worker Exposure Survey by Massey University found that 90% of community nurses reported that they worked in awkward or tiring positions (WorkSafe, 2019b).

Paramedics have been found to have a high incidence of MSDs, compared to other sectors (Maguire et al., 2005; Sheridan, 2019). Armstrong et al. (2019) assessed the key contributors to this poor health outcome. The physical demands on paramedics such as stretcher raising and scoop stretcher lifting, whilst essential tasks, were key contributors to cumulative damage. The European Agency for Health and Safety at Work (Hauke et al., 2011) report identified that overexertion of the musculoskeletal system (moving and lifting patients) is one of the main contributing factors to the physical overstrain harm experienced by paramedics. The extent of physical demand placed on these workers may also be influenced by other risk factors such as working under pressure, exposure to traumatic events, and whole body vibration during driving (European Agency for Health and Safety at Work, 2011).

## In residential care settings

Ravenswood and Douglas (2017) reported that for residential aged care workers, common physical demand injury mechanisms were:

- lifting
- pushing/pulling
- bending
- repetitive movements
- prolonged standing.

For in-home care workers, people-handling activities – including lifting clients off and onto wheelchairs, beds, showers and toilets – were causative in both MSDs and slips, trips and falls. According to the New Zealand Aged Care Workforce Survey 2016, pushing/pulling, lifting and bending caused 36.8% of home and community care worker injuries (Ravenswood & Douglas, 2017). As obesity has become more common, in-home care workers may have increased access to hoists to help avoid injury, however, even when equipment is immediately available to use, some in-home clients refuse to allow it to be used (Briar et al., 2014).

A number of risk factors for falls, trips and slips are environmental (for example, poor lighting, medical equipment, clutter, icy outside surfaces) task-related (for example, moving people or heavy items) or personal factor-related (for example, tight timetables). 'Within the client's home, wet floors, whether caused by spills or from cleaning, were frequently identified, as were other trip hazards (rugs, cords, clutter), stairs, and rushing' (Muramatsu et al., 2018).

Finally, patient handling demands on residential care staff appear to be increasing:

> "Given new directions in health care, such as patients who live longer with more chronic diseases, bariatric patients, early mobility requirements, and those who want to be at home during sickness, higher prevalence levels may shift to different populations – home health care workers, long-term care workers, and physical therapists" (Davis & Kotowski, 2015, p.754).

## 5.2 Violence and physical abuse

### In hospital settings

Workplace violence (physical assaults, physical threats and verbal abuse) in hospitals has been widely noted in the literature (Ahmed et al., 2018; Donovan et al., 2018; Groenewold et al., 2018; Pai & Lee, 2011; Pompeii et al., 2015). Previous studies have found that patients are the primary perpetrators of violence against healthcare workers (Arnetz et al., 2018). Violence and physical abuse may result not only in injuries, but also potentially contribute to stress, and in extreme cases, trauma for the victims. This risk applies to both clinical and non-clinical staff, including allied health professionals (Alexander et al., 2004).

The risk of experiencing physical abuse, threatening behaviour and violence is applicable to staff in both hospitals and general practices. However, studies have indicated that it is more prevalent for nurses (Groenewold et al., 2018; Li et al., 2020; Pompeii et al., 2015) compared to other roles in hospital settings. This risk seems to be worsened in mental health facilities (Privitera et al., 2005) and urban areas compared to rural or township areas (Li et al., 2020). Khubchandani et al. (2019) in their review of the literature highlighted that female healthcare workers are disproportionately affected by sexual and physical violence.

Studies have also indicated that violence and physical abuses appear to be under-reported. A study at two large hospital systems in Texas and North Carolina found that the majority of victims indicated that they only reported 75% of the actual events of abuse they experienced, and that victims were more likely to report physical assaults and threats than verbal abuse events (Pompeii et al., 2015).

### In community settings

A systematic review of 25 peer reviewed studies published between 2000-2016, found that workplace violence such as physical or verbal violence against emergency services personnel is a common risk. The review found that between 53%–90% of emergency staff reported experiencing workplace violence. Violence incidence was associated with between 0.8%–8.5% of ambulance missions. Verbal violence accounted for between 21%–82% of reported abuse and was largely presented as insults and humiliation (Maguire et al., 2017).

Physical violence, such as pushing, punching, scratching, kicking, slapping, biting, or the use of weapons, occurred in between 13%–79% of reported cases of violence (Maguire et al., 2017). Intimidation and/or threats were experienced by 10%–55% of personnel. The healthcare workers who were targets of the abuse were threatened by a variety of weapons, including knives, sticks, and firearms (Pourshaikhian et al., 2016). Threats made with firearms were reported in two studies, Suserud et al. (2002) and Petzall et al. (2011), a prevalence of 17% and 27%, respectively. Furthermore, incidents of sexual assaults, cultural assaults, and harassment were reported to be 15.5%, 9.5%, and 3.5%, respectively (Pourshaikhian et al., 2016).

The New Zealand College of Midwives has identified risk factors for midwives including: aggressive manner or verbal abuse directed to midwives or others; a history of family violence; illicit drug and alcohol abuse; mental health issues for women and families; and care and protection issues (NZCOM, n.d., p.1).

A systematic review from 1983 to 2003 found that community nurses' responses to patient aggression include: anger, fear or anxiety, post-traumatic stress disorder symptoms, guilt, self-blame, and shame. These happen in most countries and nursing domains (Needham et al., 2005), which appears to be confirmed by more recent smaller scale studies. For example, an Australian study conducted by Terry et al. (2015) found that risks factors for nurses working in rural and remote community settings included vertical (occurring between two or more persons on different hierarchical levels) and horizontal violence (peer to peer). The New Zealand

experience appears consistent, with the Worker Exposure Survey finding that half of the nurses reported they had experienced violence at work and 22% reported experiencing violence at their workplace sometimes (19%) or often (3%) (WorkSafe, 2019b).

Regarding violence against community-based social workers, a recent European study suggests that:

> "Workplace violence increased significantly during the study interval. Although violence was clearly related to specific characteristics of the labour market (gender, age, sector, etc) and the work environment (client contact frequency, time pressure, control, and computer work)" (van den Bossche et al., 2013).

Other studies (for example, Zelnick et al., 2013; Wood & Moylan, 2017) have shown that the likelihood of workers experiencing violence could be influenced by several factors, such as working alone, contact with the public, and traveling to dangerous areas.

The nature of social work activities mean that these risk factors may be encountered on a regular basis. Respass and Payne (2008) used American data to identify trends in workplace violence experienced by social services workers. The findings suggest that social services workers are nearly six times more likely than other workers to experience workplace violence (Respass & Payne, 2008).

## In residential settings

Being violently assaulted by the people under care in residential settings was a risk well-documented in the research (Briar et al., 2014, Campbell et al., 2014, Nakaishi et al., 2013). According to Nakaishi et al. (2013), residential care workers often tolerated violence and harassment because of financial constraints, lack of qualifications, fear of being accused of abandoning their client, and a bond or sense of obligation towards their client.

Campbell et al. (2014) stated "home health care workers experience client aggression or violence at alarming rates". The subsequent harms for the care worker included:

- decreased wellbeing
- a decrease in the quality, quantity and efficiency of the health care being provided.

Examples of physical violence in the home setting included slapping, hitting, lashing out, stabbing, kicking, spitting, choking, throwing objects. Non-physical aggression examples included yelling, screaming, swearing, name calling, stalking, false accusations, spreading rumours, feigning a disability, manipulation, financial control, threats of physical harm, threats with weapons, and cornering.

Hanson et al. (2015) found that homecare workers were at high risk of experiencing workplace violence, verbal aggression and sexual harassment, and these behaviours correlated with increased stress, depression, burnout, and sleeping problems for the worker. For residential care workers looking after clients with dementia, Karlsson et al. (2019) identified environmental factors as a risk for experiencing violence, including physical and verbal abuse. These factors included working in a home with too little space to perform care tasks, and having unpredictable work schedules (Karlsson et al., 2019, p.448).

Meanwhile, for direct care workers in live-in residential care facilities, WorkSafe (2017) found that while assault vs. accident data was hard to differentiate, it was notable that some residential care workers were being injured while restraining patients. The majority of these injuries were caused in interactions with mental health patients, geriatric patients, and patients who were confused for other

reasons. This appears to be a growing category of patients. 'It is expected that the number of New Zealanders with dementia will rise from 48,000 in 2011 to about 78,000 in 2026" (WorkSafe, 2017).

In the New Zealand Aged Care Workforce Survey 2016, only 10.9% of residential care worker respondents had never experienced physical abuse in their job, and just 4.3% had never experienced verbal abuse (Ravenswood & Douglas, 2017). This prevalence has meant that abuse from clients is expected and tolerated and has become normalised, especially when the client suffers with dementia or mental illness (Ravenswood et al., 2018). They further stated that "failure to report abuse is a serious issue as studies have identified that abuse from clients can cause emotional stress and detachment from clients, leading to poorer quality of care, lower job satisfaction, and is linked with symptoms of burnout" (Ravenswood et al., 2018, 304).

## 5.3 Exposure to dangerous substance and infectious agents

### In hospital settings

According to the US Centers for Disease Control and Prevention, the health care setting has the largest and most diverse array of agents that are hazardous to humans—more than any other occupational setting—ranging from medications that produce acute symptoms to those linked to reproductive toxicity and cancer (National Institute for Occupational Safety and Health, 2004). Key 'at risk' healthcare workers include:

- Pharmacists, pharmacy technicians, and nurses responsible for preparing or administering hazardous drugs have the highest potential exposure to antineoplastic agents.
- Direct or indirect exposure to hazardous drugs may happen to nurses, pharmacists and pharmacy technicians, physicians and physician assistants, and operating room personnel.
- Nonclinical hospital staff exposed to hazardous drugs may include shipping and receiving personnel, environmental services workers (for example, housekeeping, laundry, and maintenance), and workers involved in the transport or disposal of hazardous drugs or waste.

  (Lombardo & Roussel, 2018)

An example of this exposure was reported by Karakoc and Taskoylu (2019) in their review of nurses and drug preparation unit personnel (pharmacists and pharmacy technicians) who work regularly with cytotoxic substances. They argue that more needs to be done to implement effective engineering controls that limit exposure to such toxic substances and improve personal protective equipment (Karakoc & Taskoylu, 2019).

In addition, healthcare professionals in hospital settings are exposed to various other toxic substances such as disinfectants, antiseptics, inhaled and topical medications, natural rubber products, sensitizing metals, and lotions and creams (Weber et al., 2016). There are also concerns about some of the blood borne viruses (for example, Hepatitis B, Hepatitis C and Human Immunodeficiency Virus), that may cause serious consequences for those contracting an infection. Since clinical staff are in contact with patients and chemicals in medical substances more frequently compared to non-clinical staff, the risks associated with such contacts are likely to be more prevalent to them.

Besides blood, patients' mucous (via droplet), faeces and excreta are also causes of harm to health care workers. Because of their close contact with patients, health care workers may be exposed to influenza, meningitis, tuberculosis and

measles (Walton & Rogers, 2017; Cole et al., 2020). In addition Bernard et al. (2009) observed that nurses' skin-to-skin contact with patients creates the potential for fecal–oral transmission of disease (for example, norovirus infection).

## In community settings

The type of incidents that paramedics attend can expose them to dangerous substances. For example, paramedics arrive at situations that can pose a direct risk to their immediate health and safety, for example:

- industrial accidents at sites such as factories, mines or construction sites
- traffic accidents involving fuel and/or other chemicals that have spilt or is burning
- natural disasters such as earthquakes and floods that expose asbestos, spilt chemicals and biological hazards (for example water contaminated with sewage) (Hauke et al. 2011).

Shepherd et al. (2017) noted a research bias toward psychological conditions in their report on first-responder well-being after the 2011 Christchurch earthquake. The bias results in a neglect of exploration of the physical effects such as musculoskeletal and respiratory conditions, neurological symptoms (headache and fatigue), abdominal pain, skin complaints and cardiovascular symptoms. The report also noted that the delayed onset of these conditions is not uncommon.

The European Agency for Health and Safety at Work (Hauke et al., 2011) report also noted the limited research on the impact of hazardous substances to emergency workers. The report identified the consequences of serious health problems caused by exposure to hazardous materials and dangerous combustion products such as various types of cancer, asbestosis, skin disorders, changes in biochemical and blood parameters, reproductive problems, and general shorter life expectancy.

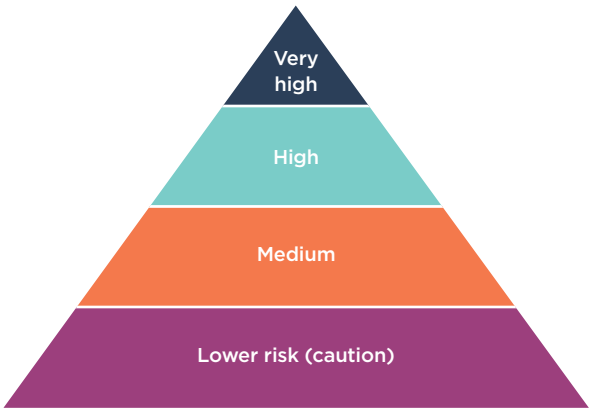
## In residential settings

There is a risk from infections as a result of dealing with bodily fluids (Briar et al., 2014). Residential care staff are also exposed to the risk of percutaneous injuries from sharp medical devices (sharps) including syringes, infusion systems, lancets and blood collection devices. These injuries carry a risk of blood borne pathogen infections. Difficulties exist in minimising infection risk in home settings, as they are more variable and less controlled than facility-based settings. Furthermore, re-use of medical sharps is widespread among home users, for reasons including saving money, convenience and sustainability (Markkanen et al., 2015). There are no guarantees of safe storage or disposal of sharps in the home setting. Brouillette et al. (2017) calculated a two percent annual risk of sharps injuries for home care aides, even though they may not be directly administering treatments.

## Pandemics

"A pandemic is an epidemic of infectious disease that spreads through human populations across a large region, for example multiple continents or even worldwide" (MOH, 2018). Pandemics may continue over an extended period of time and overwhelm the resources of affected communities as the population does not have immunity to the virus (MOH, 2017). They can cause significant economic, social, and political disruption (Madhav et al., 2017).

The diagram below, focused on pandemic influenza, describes how workers providing health care and social assistance services are at higher risk of exposure than workers who do not have close physical contact with people, especially those who may have the virus.




**Very high exposure risk**

Healthcare employees (for example, doctors, nurses, dentists) performing aerosol-generating procedures on known or suspected pandemic patients (for example, cough induction procedures, bronchoscopies, some dental procedures, or invasive specimen collection).

Healthcare or laboratory personnel collecting or handling specimens from known or suspected pandemic patients (for example, manipulating cultures from known or suspected pandemic influenza patients).

**High exposure risk**

Healthcare delivery and support stff exposed to known or suspected pandemic patients (for example, doctors, nurses, and other hospital staff that must enter patients' rooms).

Medical transport of known or suspected pandemic patients in enclosed vehicles (for example, emergency medical technicians).

Performing autopsies on known or suspected pandemic patients (for example, morgue and mortuary employees).

**Medium exposure risk**

Employees with high-frequency contact with the general population (such as schools, high population density work environments, and some high volume retail).

**Lower exposure risk (caution)**

Employees who have minimal occupation contact with the general public and other co-workers (for example, office employees).

Source: U.S. Department of Labor, 2009

**FIGURE 3:** The exposure risk for workers in the health care sector

Pandemic-related risks that health care and social assistance workers may face during the course of work are outlined in this section.

## UNCERTAINTY AND INCREASED DEMANDS

The COVID-19 pandemic that has impacted most of the world during 2020 has highlighted the risks of infectious disease that workers in the health care and social assistance sector face. This section presents an overview of the hazards posed by pandemics, with reference to COVID-19 where data was available.

Brosseau (2020) notes that since 2003 there have been three instances of a novel coronavirus causing significant respiratory morbidity and mortality. Pandemics, by their very nature, cut across all aspects of life, including workplace health and safety. The health care and social assistance sector is an essential part of any response to population level health crises in two ways:

- Firstly, there are the existing service users who must continue to be cared for, as safely as possible. This would include patients receiving health care in hospital settings as well as clients in aged care facilities or people with a disability who receive in-home personal care services.
- Secondly, the health care and social assistance workforce needs to provide care to those people who become unwell because of the pandemic and require specialist care sometimes provided according to quarantine protocols. (Brosseau, 2020).

This makes the delivery of health care services more challenging because of the combination of increased patient demands and a shortage of skilled staff (either due to illness or unwillingness to report to work) (Gershon et al., 2010; OECD, 2020). These challenges also make the management of the health and safety of health care workers even more difficult, with difficult calls made in an effort to protect workers and maintain quality services for clients (McGhee & Kewley, 2020).

### EXPOSURE TO THE PATHOGEN

During a pandemic, health workers caring for the sick are at risk of exposure to the pathogen (OECD, 2020). The World Health Organization has estimated that one-third of SARS cases were among health care workers (WHO, 2003). Sepkowitz and Eisenberg (2005) (as cited in Brosseau, 2020) reported that by the end of the outbreak in 2004, 57% (378) of the 667 SARS cases treated in Asian and Canadian outbreak hospitals were health care workers or medical students.

The Lietz et al. (2016) meta-analysis of 15 research studies confirmed the assumption that health care personnel were particularly at risk of influenza A (H1N1) infection during the 2009 pandemic. The authors noted that health care facilities should intensify their focus on strategies to prevent infections among health care personnel, especially during the first period of pandemics (Lietz et al., 2016).

Jones and Carver (2020) drawing on emerging data, suggest that health care workers make up at least 10% of all those infected with COVID-19 in some European countries. They reported that the same rate of infection was evident in previous coronavirus outbreaks, such as SARS (Jones & Carver, 2020).

In the context of an aging workforce, there are other implications for workers' personal health and safety. It has been noted that these older nurses and physicians, were they not part of the health care workforce, would be staying at home to minimize their risk of exposure (Buerhaus et al., 2020). The exposure that these workers have to the illness puts them at increased risk of adverse health outcomes, and yet they continue to bring their knowledge and expertise to frontlines of health care.

Emerging evidence about the COVID-19 pandemic indicates that inadequate preparedness can have has serious consequences for whole population. Commonly reported problems included (Mason & Friese, 2020; Wong et al., 2020):

- insufficient personal protective equipment
- inadequate information
- lack of guidance from hospital leadership and government.

It was estimated that, in China alone, 3,300 healthcare professionals were infected and 22 died because of "insufficient protective equipment (Mason & Friese, 2020). Wong et al. (2020) recognised the extra measures being put in place as a response to the COVID-19 pandemic, but also noted there were issues around communication gaps and limited training for new procedures.

### WORKFORCE VULNERABILITIES

Balicer et al. (2006) found that clinical staff were more likely to report to work than technical/support staff during a pandemic. The decision to come to work was influenced by staff members' perceived importance of their role and their ability to respond to the risks posed by coming into work. This perception can be problematic in a pandemic when extra engineering controls may be required and the assistance provided by the technical/support staff becomes a critical service. Other studies have shown, however, that during a pandemic health care workers may feel less willing to report to work mainly for reasons related to family and personal safety, and organisational factors such as workplace safety climate and pandemic planning (Gershon et al., 2010).

One of the biggest issues in the case of a pandemic is the knock-on effect of one risk factor to another. For example, the sudden increase in patient demand and a staff shortage in a pandemic may lead to the presence of other risk factors such as irregular long shifts, fatigue and stress. In 2020 OECD reported that of the workers providing long-term care to the elderly, 90% are women. These workers are among the lowest paid in the health care sector and are often working in difficult conditions with minimal training (OECD, 2020).

During the H1N1 pandemic, numerous anecdotal reports indicated that stressed healthcare facilities, especially those in emergency and intensive care departments, were under sustained pressure and staffed by exhausted workers (Gershon et al., 2010). A recent study also shows that health care workers may become prone to harassment and discrimination from the public, given the high risk of contacting the infectious agent resulting from their job (Koh, 2020).

## LABORATORY WORKERS

In addition to those directly providing care to patients, there are a number of other clinical occupations that have a critical role in responding to and managing pandemics. For example, laboratory staff who handle a wide range of materials including potentially dangerous pathogenic agents (Tait et al., 2018).

In early February 2020, the World Health Organization released guidance on laboratory biosafety in response to COVID-19 that identified that laboratories need to be properly equipped and operated by staff trained in the relevant technical and safety procedures (World Health Organization, 2020). This guidance, whilst clear on the technical elements of avoiding contact with the pathogen, does not also address how a laboratory could, or should, manage workloads or the psychosocial elements of working in a high risk environment, such as stress – an issue that has been highlighted in opinion pieces published by professional associations, internal organisation guidance, media reporting, and other grey literature.

## PSYCHOSOCIAL RISKS AND MORAL INJURY

Hoyne (2020), a member of the American Association for Clinical Chemistry, wrote about the overlooked aspects of emergency planning: “the emotional impact over time that working in an emergency has on employees.” Teams can unite effectively in the early stages to overcome a challenge under pressure, however, Hoyne cautioned that the need to continue to work under stressful conditions, while ignoring personal needs, becomes unsustainable.

As COVID-19 has emerged and become a pandemic requiring a significant response from health care agencies around the world, there is not yet an established body of evidence about its impact on the health and safety of health care and social assistance sector workers. However, some of the issues that may become the subject of future studies and research are emerging in media reports. Below is an extract of the media’s reporting of the experiences of ‘frontline’ workers during the COVID-19. The article published on New Zealand-based news site Stuff focused on the experiences of staff at the Institute of Environmental Science and Research (known as ESR) laboratory in Porirua.

**Workers who tested NZ’s first COVID-19 sample ‘hidden figures’ of pandemic**

The team of five laboratory technicians experienced a rapid increase in the number of tests they needed to perform. In addition, they were performing their work whilst following stricter than usual biosecurity protocols and in the context of mounting pressure and deadlines.

> Throughout lockdown and alert level 3 the team has been working on a rotating roster – two days on, two days off. The senior technician, when not at the laboratory, was "working at home and taking care of her two young children… the virus has consumed her life, and now, almost every conversation she has involves the word 'coronavirus', even those with her 5- and 7-year-old children".
>
> "You can't [escape it]. My two kids, they know everything about what I was doing, why I was working late hours, and that I was trying to find coronavirus" (Deguara, 2020).

The message in this report – that frontline workers have carried a significant burden throughout the pandemic, is repeated in other grey literature. For example, Greenberg et al. (2020) have discussed the moral injury experienced by health care workers during COVID-19 pandemic and argues that there is a need to protect this group from such harm. In response to this paper Dr Jose Mira submitted a commentary that identified a range of probable causes of the psychosocial harm that leads to moral injury. These included:

- lack of resources such as ventilators
- breakdown of pharmacy stock
- lack of sufficiently trained staff
- contradictions in instructions
- lack of guidelines, interruption of continuity of care in the majority of non-COVID-19 related diseases except in case of an emergency
- witnessing patients die in isolation, and far from their loved ones
- the sense of powerlessness experienced by healthcare workers seeking to provide a high level of care (Mira, 2020).

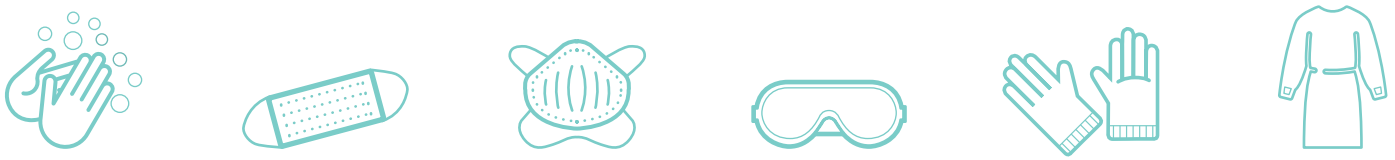
Bhaumik et al. (2020) reported frontline workers may 'experience stigmatization, isolation and be socially ostracized' during pandemics. In New Zealand, there have been reports that staff in the health care and social assistance sector have been exposed to such risks. For example:

- becoming the targets of vigilantes who perceive the care activities of workers breach government rules, for example, frequently leaving their house during the day and night to provide services to community clients with a disability or health issue (McNeilly, 2020).
- racism/discrimination – the Human Rights Commission has received complaints from Asian individuals who have felt singled out or abused in health care environments by both staff and the public (Clent, 2020).

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

When a novel illness becomes a pandemic, there is an initial period in which not much is known about the illness, how it spreads, how to prevent its spread and how to successfully treat it. As new information and guidance is released, PCBUs and workers may become confused about what is best practice to keep themselves and others safe. One area in which there was confusion in the COVID-19 pandemic was the use of PPE (Thomas, 2020). Initial guidance from the MOH, indicated that PPE was not required to be used by care workers in community settings (MOH, 2020). There were anecdotal reports of workers feeling that this may put them and their clients at risk.[8] The guidance on PPE from the MOH was updated in early May 2020, and changed to recommend the use of surgical masks should a risk assessment identify the need.

[8] Various media articles appeared during March and April, for example:
20 March 2020 Radio New Zealand
31 March 2020 Radio New Zealand
13 April 2020 TVNZ
7 May 2020 Radio New Zealand



| | | | | | | |
|---|---|---|---|---|---|---|
| **When providing care to people to have symptoms consistent with COVID-19 or are a suspected, probable or confirmed case of COVID-19** | | | | | | |
| Providing **essential** client care | ✓ | ✓ | ✗ | ✓ | ✓ | ✓ |
| **When providing care to people to who do not have symptoms consistent with COVID-19 or are not a suspected, probable or confirmed case of COVID-19** | | | | | | |
| Providing non-contact or personal care (not involving contact with blood or body fluids) | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ |
| Providing care that may involve exposure to blood, body fluids, secretions, and excretions | ✓ | After risk assessment identifies there is a risk and it's not possible to maintain physical distancing of 1m | ✗ | Standard precautions should be used for all patient care activities as usual, this means wearing the correct PPE based on your risk of exposure to blood, body fluids, secretions and excretions | | |

Source: MOH guidance, version HP7353_02—14 May 2020

**FIGURE 4:** PPE needs for health care and social assistance workers

Before the change in the official guidelines, workers in the community setting had been asking for better advice and access to PPE, given that physical distancing is not possible when providing personal care to clients when doing activities such as assistance with toileting, showering, dressing and eating.

MacIntyre et al. (2014) reported that there was conflict over PPE protocols for health care workers as a result of the focus of hospital infection control on patient safety, rather than health care worker safety. As a result health care workers were trying to heed the advice of infection control experts whilst following protocols whose primary focus was the patient. MacIntrye (2019) argues that prioritising the safety and protection of health workers and other essential first responders such as paramedics is essential to ensure they are adequately protected – not only because they may succumb to illness, but because they may refuse to work under conditions of poor occupational safety.

## 5.4 Shift works/night shifts

### In hospital settings

Shift work is rather common in hospital settings due to their 24-hour operation (Booker et al., 2018; Ferri et al., 2016; Karhula et al., 2018; Korsiak et al., 2018). Shift work and its negative impact on health is particularly prevalent for resident doctors who often have to work long hours and on night calls (Mansukhani et al., 2012). Studies revealed that shift work and permanent night shifts may result in sleep difficulties, fatigue, decrease in task performances, work-life interference, and metabolic syndrome (Karhula et al., 2018; Korsiak et al., 2018; Tucker et al., 2010). In addition to these problems, those who often work night shifts also face both verbal and physical workplace violence remarkably more often than staff with different patterns of work, for example rotating shift workers (Karhula et al., 2018). This indicates the interrelated nature of some risk factors identified in this literature review.

### In community settings

Many New Zealand midwives work long and irregular hours, and have an on-demand aspect to their work. A recent New Zealand Institute of Economic Research (NZIER) report found that "the needs of mothers means midwives are working 17-26% more than a full-time equivalent role" (NZIER, 2020, p. ii). The New Zealand College of Midwives (NZCOM) stated that:

> Lack of effective support and funding for midwives over many decades has resulted in longer working hours, no access to back up or help when needed, excessive work demands, fatigue and burnout to a level that is increasingly affecting midwives' health and safety (NZCOM, 2018, p.2).

Exhaustion amongst Māori midwives has been documented, and linked with under-resourcing (Tupara & Tahere, 2020, p.4). Dixon et al. (2017) found that while employed midwives in New Zealand worked fewer hours than their self-employed colleagues, they suffered higher levels of burn-out and anxiety (p.5).

Few research projects have looked at shift work and paramedics, raising questions about patient safety, work-related fatigue and the cumulative effects of shift work on this professional group (Sofianopoulos et al., 2010). Emergency Medical Services (EMS) workers are shift workers in a high-risk, uncontrolled occupational environment. Concern for EMS shift work, shift length, and work hours has risen, due in part to recent data linking EMS worker fatigue to negative safety outcomes. Despite these data, research on the link between EMS worker weekly hours, shift work, and occupational injury is limited (Weaver et al., 2015).

### In residential settings

In New Zealand, personal care tasks make up the bulk of the aged care workload (Ravenswood et al., 2018). Basic care tasks carried out by sector staff include: mobilisation, personal hygiene, dressing, medication management, cleaning, shopping and transport to medical appointments. Advanced care tasks may include: medication administration, wound care, and specialist assessment. These employees can have shifts as short as one hour and are more likely to have low total weekly hours than those working in residential care. Short work cycles are a known psychosocial risk (Lovelock, 2019). Additionally, unpredictable work schedules were found to be a risk factor for home care workers caring for clients with dementia, who experience violence and physical abuse (Karlsson et al., 2019).

## 5.5 Work-related psychosocial risk factors

Psychosocial risk factors have been increasingly noted in the health and safety literature. The term 'psychosocial hazards' often refers to aspects of the design and management of work, and its social and organisational contexts (Cox et al., 2000). They may include factors such as high job demand, low job control, low social support, effort-reward imbalance, and high mental pressure (Bernal et al., 2015; Coyle et al., 2005; Leineweber et al., 2019; Lloyd et al., 2002). Studies have found a significant relationship between these risk factors and MSDs, as well as mental health problems (Bernal et al., 2015; Braedley et al., 2018; Cocker & Joss, 2016). The psychosocial risk factors in specific settings are further discussed in the following sub-sections.

### In hospital settings

Studies about work-related psychosocial risk factors in hospital settings have mainly focused on nurses, and the relationship between these risk factors and work-related MSDs (Amin et al., 2014; Bernal et al., 2015). Besides MSDs, other common health effects from psychosocial risk factors are mental health problems such as stress, somatic symptoms, depressive symptoms and burnout (Freimann & Merisalu, 2015; Freimann et al., 2016). These health effects also appear to be different across groups of healthcare professionals.

For instance, while many studies have found a significant relationship between psychosocial risk factors and MSDs among nurses, stress or mental illness seem to be more prevalent in the case of care assistants (Leineweber et al., 2019). Studies also indicate that psychosocial risk factors can be influenced by demographic factors such as age, gender, level of education (Leineweber et al., 2019).

A systematic review of 17 research papers on the experiences of foreign trained nurses by Viken et al. (2018) found that being "an outsider at work" had an impact on well being. Loneliness and discrimination, along with needing to operate in an unfamiliar environment were exacerbated by communication barriers. This can lead to work-related stress, role uncertainty and difficulties in decision-making (Viken et al., 2018).

### In community settings

There are a number of different health and social services roles in community settings. Despite that diversity, the literature indicates that some risk factors are common across occupations, such as increasing workloads and a lack of resources. There are also other factors such as workers' experience of statutory requirements, low job control, and role ambiguity.

Table 8 provides a high level summary of the literature on work-related psychosocial risk factors specifically related to community settings.

| ROLE | | | | | |
|---|---|---|---|---|---|
| **Risk factor** | **Community health teams** | **Community mental health teams** | **Midwives** | **Social workers** | **Child protection social workers** |
| | *Edwards et al. (2001)* | *Edwards et al. (2001)* | *Cramer & Hunter (2019); Dixon et al. (2017)* | *Lloyd et al. (2002); Coyle et al. (2005)* | *Truter et al. (2017)* |
| Increasing workloads | ✓ | ✓ | | ✓ | ✓ |
| Increasing administration | ✓ | ✓ | | | |
| Lack of resources | ✓ | ✓ | ✓ | | |
| Time management | | ✓ | | | |
| Inappropriate referrals | | ✓ | | | |
| Safety issues | | ✓ | | | |
| Role conflict | | ✓ | | ✓ | |
| Role ambiguity | | ✓ | | ✓ | |
| Degree of client contact | | | | ✓ | |
| Lack of social support | | | | ✓ | |
| Organisation of work | | | ✓ | ✓ | |
| Staff shortages | | | | | ✓ |
| Exposure to aggression and violence | | | | | ✓ |
| Fulfilling statutory responsibilities | | | | ✓ | ✓ |
| Lack of professional development opportunities | | | ✓ | | |
| Lack of management support | | | ✓ | | |

**TABLE 7:** Distribution of psychosocial risk factors in community settings

## In residential settings

Psychosocial risk factors observed in the literature for residential settings included high physical and emotional work demands, shift work, work overload, low job control, low pay, workplace tensions, and for in-home care workers, poor physical environmental conditions (Douglas & Ravenswood, 2019; Pijl-Zieber et al., 2018; Braedley et al., 2018; Hignett et al., 2016; Briar, Liddell et al., 2013; Finkelstein et al., 2018, Ravenswood & Douglas, 2017).

Long-term residential direct care staff often work with older, frail, vulnerable and dying populations, who are often living with some combination of illness, disability, dementia and incontinence. As such they can experience heavy workloads. “When long-term care workers do not have time to do their work fully and well, they are forced to live with the knowledge that residents often suffer, and this knowledge produces continual feelings of frustration, guilt, anger and sadness for many workers” (Braedley et al., 2018).

Work overload combined with low worker control can cause moral distress for care workers (Pijl-Zieber et al., 2018; Braedley et al., 2018). Moral distress was defined as "a painful feeling or psychological imbalance resulting from recognising an ethically correct action that cannot be performed because of hindrances such as lack of time, reluctant supervisors or a power structure that may inhibit a moral, political, institutional or juridical action" (Barlem & Ramos, 2015). Harms included physical and/or emotional exhaustion, and avoidance behaviours.

Disability support workers and hospice workers, in particular, faced significant psychosocial risks (Skirrow & Hatton, 2006; Finkelstein et al, 2018; Whitebird et al., 2013). Skirrow & Hatton (2006) discovered significant rates of burnout among direct care workers for adults with intellectual disabilities, and found that burnout was not associated with challenging behaviours amongst the individuals they cared for, but rather with organisational variables such as the relationship between the worker, the manager and the organisation.

Finkelstein et al. (2018) examined staff working with people with intellectual and developmental difficulties, and found that psychosocial risk factors such as role ambiguity, perceived overload, care-recipient group and job involvement were significant predictors of burnout. Burnout can result in emotional exhaustion, depersonalisation, and feelings of reduced personal accomplishments (Whitebird et al., 2013).

In the New Zealand context, care and support workers in this sector have reported escalated workplace tensions and concerns over quality of care for clients after the introduction of new legislation and regulations including the 2017 Pay Equity settlement, the Home and Community Support (Payment for Travel Between Clients) Settlement Act 2016, and the Guaranteed Hours Funding Framework (Douglas & Ravenswood, 2019). "The majority of care and support workers reported that since the Settlement, their hours had been reduced." While the settlement saw many care and support workers report improvements in their personal lives as a result of being better paid, many reported a continuing lack of appreciation from managers and other workers, and workplace tension caused by resentment about the pay increase from other staff including nurses, kitchen and cleaning staff (Douglas & Ravenswood, 2019).

## 5.6 Bullying/harassment/discrimination

### In hospital settings

Another risk factor that may lead to poor health and safety outcomes for workers in hospital settings is the likelihood of them experiencing bullying and harassment at work (Huang et al., 2018; Venkatesh et al., 2016; Walton, 2015). In this literature review, this risk factor group includes bullying, discrimination, and sexual harassment, all of which are well known for being strongly linked to negative impacts on health and wellbeing such as stress and anxiety.

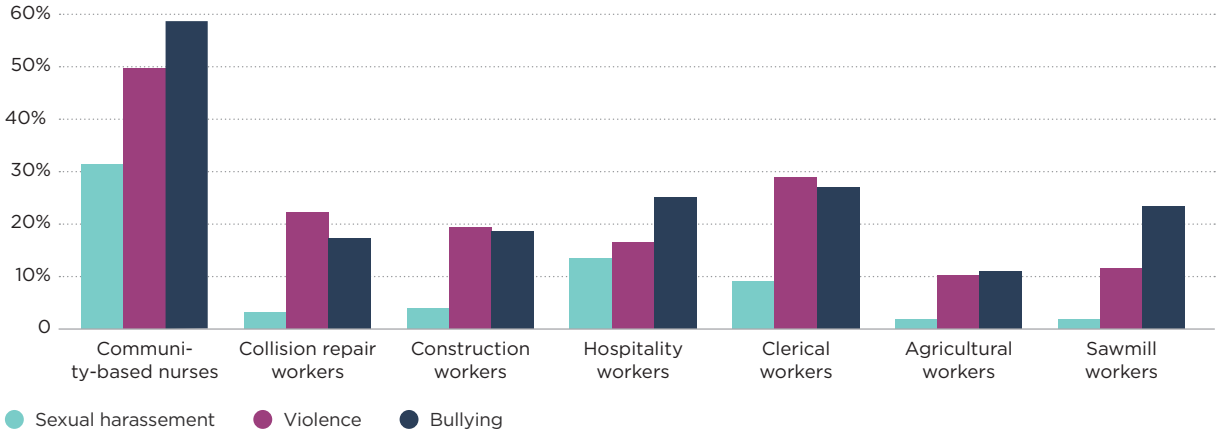
A study on bullying, discrimination and sexual harassment of trainees and fellows (that is, doctors) conducted by the College of Intensive Care Medicine of Australia and New Zealand found bullying to be more prevalent than discrimination and sexual harassment (Venkatesh et al., 2016). Although the prevalence of bullying, discrimination and harassment is often higher for nursing staff (Hutchinson, 2014), especially nursing students (Miinton & Birks, 2019), allied health professionals also report experiences of bullying at work (Demir et al., 2013). Female staff appeared to be more likely to experience discrimination and harassment in hospital settings compared to males (Walton, 2015). For non-clinical staff, discrimination and bullying were often related to patients' behaviour (Donovan et al., 2018).

## In community settings

Work-related harassment and workplace bullying were also reported by ambulance officers and paramedics, with higher prevalence for female workers (Maguire et al., 2017). In a pilot study, Boyle et al. (2007) found that sexual harassment and assault was correlated with gender. Thirty-eight percent of female paramedics reported sexual harassment, compared to 10% of male paramedics. In addition, 89% of female paramedics reported they had experienced verbal abuse compared to 80% of men (Boyle et al., 2007).

The systematic review of risk factors for workplace bullying conducted by Feijo et al. (2019) found that women were at higher risk of being bullied. They also reported factors associated with bullying were:

- **leadership styles** – authoritarian and laissez-faire leadership styles
- **psychosocial factors** – such as levels of stress
- **organisation factors** – such as the organisation of work, flexible work methods, role conflict, role ambiguity, monotonous or rotating tasks, high demands, pressure of work and lack of clarity of duties.




Source: WorkSafe, 2019a

**FIGURE 5:** Prevalence of workers exposed to psychosocial hazards at work

New Zealand based research found that community health nurses reported higher rates of exposure to sexual harassment, violence and bullying than other occupations such as clerical workers, hospitality and workers. Figure 5 above illustrates the different levels of reported prevalence across seven targeted occupational groups.

> Tupara and Tahere (2020) found that Māori midwives are:
>
> ...subjected to bullying behaviour by both their Māori and Pākehā midwifery colleagues and other people in leadership, who use their positions of power to obstruct, side-line and drive out their Māori colleagues that challenge the status quo or speak up for change (p.4).

Te Huia (2019) reported that Māori midwives found that their applications for employment were often unsuccessful, "with apparently no recognition of their cultural value within the service".

Harassment or violence can be perpetrated by the person being cared for, or their family and friends. Sexual harassment in the home setting can include asking for hugs or kisses, sexual remarks, sexual propositions, exposure to pornography, masturbation or nudity, wolf whistling, leering, sexual gestures, sexual notes, texts, etc. Sexual violence examples include inappropriate touching of a sexual nature, groping breasts or buttocks, and rape. Karlsson et al. (2019) found that home care aides frequently reported verbal abuse by clients and their family members; and that verbal abuse was strongly associated with physical abuse.

### In residential settings

In July 2017, a two billion dollar pay equity settlement came into effect for the 55,000 New Zealand care and support workers in residential aged care, home and community care and disability care. However, "it appeared that the burden of implementing the regulation had escalated tensions and bullying in the sector, which had not been apparent prior to the Settlement" (Douglas & Ravenswood, 2019, p.55). Homecare workers are at higher risk of experiencing workplace sexual harassment and this correlated with increased stress, depression, burnout, and sleeping problems (Hanson et al., 2015).

## 5.7 Stress/traumatic stress

### In hospital settings

Occupational stress is a well-documented problem among doctors, and that stress and anxiety appeared to be increased with the seniority of a doctor (Vijendren et al., 2015). Sources of stress for health care professionals in hospital settings are often associated with job constraints, managerial issues, high levels of personal accomplishment and problems with clinical diagnosis and treatment (Vijendren et al., 2015). They may also be exposed to a range of traumatic events such as severe physical injury, rape and sexual abuse, vehicle accidents and disasters (Brown, 2017; Manning-Jones et al., 2016). Another significant cause of stress for health care workers in hospital settings is violence and physical abuse from patients (Jacobowitz, 2013; Pai & Lee, 2011).

Stress in hospital settings is also relevant to non-clinical employees. The main difference to note is that, while these employees may have less exposure to traumatic events compared to the clinical staff, they often receive limited training and socialisation to deal with traumatic stress (Brown, 2017). The impact of stress on their health and wellbeing is still of concern.

### In community settings

A European Agency for Health and Safety at Work report (Hauke et al., 2011) identified stress (emotional overstrain) as a risk for first responders/paramedics. High levels of stress can result from:

- dealing with fatalities
- having a high level of responsibility for people's lives
- experiencing violence at work
- having irregular and unpredictable work patterns
- working under severe time pressures.

Prati et al. (2009) talked about the extent to which emergency workers are exposed to critical incidents in their line of duty, such as accidents involving children, mass incidents, major fires, road traffic accidents, burnt patients, violent incidents and murder scenes. A critical incident may be defined as any event whose impact is stressful enough to overwhelm an individual's usual method of coping.

Donnelly and Seibert (2009), in their review of occupational risk factors in emergency medical services, noted that almost all emergency medical technicians reported exposure to traumatic events; they also noted that PTSD rates among such workers are greater than 20%.

A research project focused on the experience of police and ambulance workers in Australia confirmed that organisational climate including management, procedures, policies and the organisational structure it promotes, can exercise a powerful influence over the way in which employees experience adverse events, employee stress, and wellbeing (Burke & Paton, 2006).

A literature review on mental health conditions among ambulance personnel found that this professional group has a prevalence of PTSD, depression, anxiety and general psychological stress higher than that of the general population (Petrie et al., 2018). It also appeared that mental health teams were subject to a wider range of risk factors than community health teams (Edwards et al., (2001).

Dixon et al. (2017) found high stress levels were endemic amongst New Zealand midwives. "While levels of stress and depression were high for all midwives, self-employed midwives providing continuity of care to a caseload of women had better emotional health and less burnout than midwives working in an exclusively employed capacity," (Dixon et al., 2017, p.5).

For social workers, the nature of social work practice, especially tension between philosophy and work demands and the organization of the work environment, are contributing factors to stress and burnout (Lloyd et al., 2009). Coyle et al. (2005) found that UK mental health social workers reported role conflict, role ambiguity and fulfilling statutory responsibilities as possible sources of stress. Burnout was related to workload, degree of involvement with patients, lack of social support, and role conflict (Coyle et al., 2005).

The literature indicates that the interplay of risks factors (for example, work demands, role conflict and burnout) can lead to compassion fatigue amongst workers in the 'caring professions'. According to Cocker and Joss (2016), compassion fatigue is stress resulting from the combined impact of vicarious stress and cumulative burnout. It is the state of physical and mental exhaustion caused by a depleted ability to cope with one's everyday environment. Professionals dealing with traumatised clients, such as health care, emergency and community service workers, are particularly susceptible to developing compassion fatigue. The impact can be:

- lower standards of patient care
- poor relationships with colleagues
- more serious mental health conditions such as PTSD, anxiety or depression (Cocker & Joss, 2016).

## In residential settings

In the New Zealand Aged Care Workforce Survey 2016, 70.9% of residential care healthcare assistants indicated that their job was more stressful than they ever imagined it would be (Ravenswood & Douglas, 2017). Exposure to mental stress accounted for 11.4% of workplace injuries or illness among these workers. Braedley et al. (2018) observed that "psychological health and safety concerns in long-term care work tend to be either minimized or framed as individual problems that require workers, rather than workplaces, to change" (Braedley et al., 2018).

Exposure to challenging behaviours is a notable source of stress for those engaged in work with people with an intellectual disability (Ryan et al., 2019). Workers in this sector are susceptible to attitudinal, emotional and behavioural changes as a consequence of prolonged exposure to stress.

Hospice workers were found to be at risk of stress causing burnout and compassion fatigue (Quinn-Lee et al., 2014; Whitebird et al., 2013). Stressors leading to burnout among hospice workers included: exposure to multiple losses, personal emotional response to dying, communication difficulties with patients and families, inadequate social support, excessive workload and conflicting expectations (Quinn-Lee et al., 2014). Whitebird et al. (2013) described compassion fatigue as secondary trauma generated by working with people who are traumatized; and a form of psychological distress with symptoms including hyperarousal, avoidance, and re-living of highly-charged experiences.

# 6.0 Workers at greater risk in the health care and social assistance sector

**IN THIS SECTION:**



# This section briefly discusses the groups of workers at greater risk in the sector.

These are workers in the sector who are indigenous or from other cultures, migrants, female, under agency work arrangements, and/or older. Workers at greater risk are those workers that experience higher rates of work-related illness, injury and harm relative to other workers. These workers experience a disproportionate burden of (avoidable) harm which may lead to inequitable health and safety outcomes compared to other workers. Both extrinsic and intrinsic factors can lead to inequity and higher risk of work-related injury or harm (See Figure 6 below).

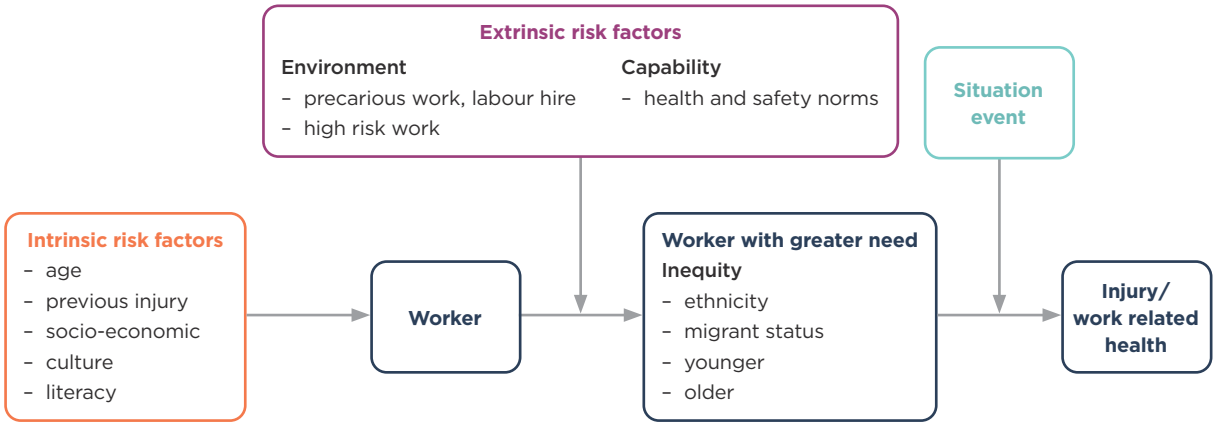



**FIGURE 6:** How extrinsic and intrinsic risk factors lead to inequity and higher risk of injury/work-related harm

## Ethnic composition of the sector

Aotearoa New Zealand is a diverse society, with a large indigenous Māori population and other cultures, including significant Asian and Pasifika populations. In the 2018 census, the four largest ethnic groups that New Zealanders identified with were: European (70.2%), Māori (16.5%), Asian (15.1%) and Pasifika (8.1%) (Stats NZ, 2019, September 23).[9] Meanwhile, working-age New Zealanders aged 15 years and older self-identified as: European (67.9%), Māori (12.3%), Asian (13.4%) and Pasifika (6.2%) (Stats NZ, 2020b).

There are 246,480 people employed in the New Zealand health and disability workforce, with approximately 75,000 working for district health boards (DHB) and 145,000 non-DHB workers (Stats NZ, 2020b; Health and Disability System Review, 2020, p.182). The DHB workforce March 2020 quarterly report stated

[9] Census 2018 collected data about New Zealanders of all ages, not only of working age. Census respondents were invited to self-identify with multiple ethnicities, if applicable.

that of the 77,606 DHB workers across New Zealand, employee-reported ethnicities were: Other (66.4%), Māori (8.2%), Asian (21%) and Pasifika (4.4%) (Central Regional Technical Advisory Services [CRTAS], 2020).[10]

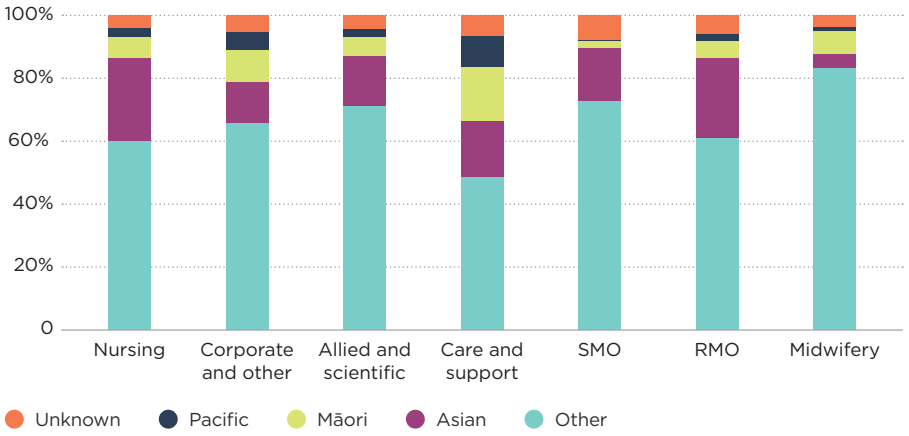



**FIGURE 7:** Proportion of ethnicities of New Zealand district health board workers by occupation group, March 2020

Source: CRTAS, 2020, p.9

| OCCUPATION GROUP | OTHER[11] | | ASIAN | | MĀORI | | PACIFIC | | UNKNOWN | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Nursing | 17,974 | 60.5% | 7,741 | 26.1% | 1,955 | 6.6% | 971 | 3.3% | 1,058 | 3.6% | 29,699 |
| Corporate and other | 10,347 | 65.6% | 2,119 | 13.4% | 1,590 | 10.1% | 978 | 6.2% | 744 | 4.7% | 15,778 |
| Allied and scientific | 8,870 | 71.1% | 2,020 | 16.2% | 744 | 6.0% | 345 | 2.8% | 490 | 3.9% | 12,469 |
| Care and support | 3,916 | 48.7% | 1,473 | 18.3% | 1,352 | 16.8% | 801 | 10.0% | 505 | 6.3% | 8.047 |
| SMO | 4,121 | 72.8% | 958 | 16.9% | 108 | 1.9% | 52 | 0.9% | 419 | 7.4% | 5,655 |
| RMO | 2,719 | 61.1% | 1,146 | 25.7% | 226 | 5.1% | 117 | 2.6% | 243 | 5.5% | 4,451 |
| Midwifery | 1,249 | 83.0% | 74 | 4.9% | 112 | 7.4% | 19 | 1.3% | 50 | 3.3% | 1,504 |
| **Grand total** | **49,196** | **63.4%** | **15,531** | **20.0%** | **6,078** | **7.8%** | **3,282** | **4.2%** | **3,509** | **4.5%** | **77,606** |

Source: CRTAS, 2020, p.9

**TABLE 8:** Count and proportion of ethnicities of New Zealand district health board workers, March 2020

The characteristics of New Zealand's ethnic populations vary significantly, including representation in the health care and social services workforce, and exposure to workplace risks. "Māori make up 15% of the New Zealand population, but only 12% of the workforce and 8% of the DHB workforce. Pacific peoples make up about 8% of the New Zealand population but only just over 4% of the DHB workforce. Māori and Pacific people are underrepresented in medical, nursing and midwifery, allied health and scientific, and many other roles" (Health and Disability System Review, 2020, p.195).

[10] **Note**: As these figures total 100%, it is likely respondents have chosen, or been assigned, one ethnicity. CRTAS states 'other' is a group amalgamation of all ethnicities that do not fall into the groups Asian, Māori, or Pacific.

[11] 'Other' is a group amalgamation of all ethnicities that do not fall into the group Asian, Māori or Pacific.

Workplace risks noted in the literature specific to ethnic groups in the New Zealand health care and social assistance sector include bullying and harassment, violence and verbal abuse, physical demands, exposure to dangerous substances and infectious agents and work-related psychosocial risk factors. In addition, the literature repeatedly records lack of cultural safety, discrimination and institutional racism as both risks and harms.

Simon (2008) found that the top health and safety concerns in the workplace for Māori nurses were stress and overwork (95%), disabling back injury (27%), on the job assault (25%) and infection (33%). Some 61% reported awareness of ethnic discrimination in their workplace, while 77% reported awareness of intimidation and 37% were aware of sexual discrimination. Some 17% had experienced workmate verbal abuse. (Simon, 2008, p.15).

Māori midwives have experienced significant levels of bullying, according to a 2020 literature review of Māori midwifery. As noted in section 5.6, Māori midwives are experiencing exhaustion from being under-resourced, subjected to bullying behaviour by both their Māori and Pākehā colleagues and leaders, and treated poorly when they speak up for change (Tupara & Tahere, 2020, p.4). Notably, a New Zealand workplace bullying survey, in which 42% of respondents worked in the health sector, found that workers who identified as New Zealand European were bullied less than other ethnicities (Gardner et al., 2013).

Stewart and Gardner (2015) observed that while Māori staff experience occupational stress in some of the same ways as their non-Māori counterparts, they also experience it in uniquely different ways as well, stating that "...the impact on Māori may be more acute because they are under-represented in the workforce, while Māori remain over-represented in the health statistics" (Stewart & Gardner, 2015, p.81). The authors found that stressors for Māori health and disability workers included institutional racism, lack of cultural safety, and a failure of non-Māori to value Māori cultural competencies. "In many instances, Māori employees are often expected to deal with 'Māori' issues, perhaps in part because their non- Māori colleagues lack the cultural competence or desire to do so" (Stewart & Gardner, 2015, p.81). Additionally, the authors found that expectations of iwi, hapu and whanau, along with tribalism, contributed to experiences of occupational stress.

"Cultural safety is a concept whereby we think more about the power relationships between the patient or professional and the client or patient. We like the professional person to think about their own culture, their own biases, the way they think about the interaction and how their biases affect the outcomes for the patient," according to Prof David Tipene-Leach (Health Quality & Safety Commission New Zealand, 2019a). The Nursing Council of New Zealand states that "unsafe cultural practice comprises any action which diminishes, demeans or disempowers the cultural identity and wellbeing of an individual" (Nursing Council of New Zealand, 2011, p.7).

Stewart and Gardner (2015) found that "as cultural safety increased for Māori staff, there was less job-related strain" (p.85). However, this positive effect did not occur in kaupapa Māori work environments. While those staff experienced higher levels of cultural safety and used more coping strategies, they also reported more organisational constraints, more role overload and more interpersonal conflict. Staff working for Māori and iwi providers also often faced significant pay disparities when compared with their DHB colleagues, due to funding pressures faced by Māori providers (Waitangi Tribunal, 2019).

Brougham and Haar (2013) found that the safe expression of cultural identity, and the ability to work according to cultural values led to lower rates of depression amongst Māori workers. The authors also found a correlation between high cultural knowledge and high cultural language skills with low depression and anxiety, noting that low anxiety was reported by respondents with high workplace collectivism and either high cultural knowledge or cultural language. McClintock et al. (2019) discovered that almost two-thirds of the Māori health workforce spoke te reo fairly well to very well, compared with 22.6% of all Māori adults.

While Pasifika peoples make up 8.1% percent of the New Zealand population, they are under-represented across the health and disability workforce. As of March 2020, only 4.2% of the DHB workforce identified as Pacific (CRTAS, 2020). Pacific peoples are concentrated in occupations including nursing, and care and support roles, and are under-represented in the medical workforce. Some work in non-clinical management, but generally in administrative support roles. On issues of cultural safety, it is noted that "the current competency of the non-Pacific workforce in relation to Pacific cultural safety, perspectives, approaches and methods is lacking and needs to be improved" (Health and Disability System Review, 2020, p.199).

## 6.1 Migrant workers

As noted earlier in this review, with the increasing demand for healthcare services and a shortage of domestic labour, New Zealand has to rely on internationally sourced labour to fill many healthcare roles (McLeod & Mare, 2013; Walker, 2008). Studies indicate that migrant workers in the health care and social assistance sector are experiencing exploitative employment practices such as:

- low pay
- long working hours
- limited training, and
- employer control (Lovelock & Martin, 2016; Peligman-Toclo, 2011; Walker, 2008).

Discrimination based on ethnicity, as well as more overt racism from managers and other colleagues, has also been well documented (Peligman-Toclo, 2011; Walker, 2008). Poor working conditions and socioeconomic factors contribute to the stress that migrant workers in the sector may experience. They may also be less likely to report health and safety issues due to their dependence on a specific employer for their work visa (Lovelock & Martin, 2016).

## 6.2 Agency workers

WorkSafe commissioned MartinJenkins to conduct a research study investigating health and safety issues in the agency work industry in 2019. Their report indicates that the health care and social assistance sector is known as one of the main client sectors for labour supply services. Moreover, the literature suggests that workers in the agency work (also called 'labour hire') industry are likely to experience a number of health and safety risks, including:

- uncertain and high-risk work
- insufficient training and experience
- economic and reward pressures
- lack of engagement and voice
- unclear lines of accountability (MartinJenkins, 2019).

## 6.3 Female workers

The background information regarding the employment in health care and social assistance (presented in the 'Strategic context' section of this review) indicates a considerable gender imbalance in the sector workforce. This literature review has shown that female workers in the health care and social assistance sector are at higher risk of experiencing violence, physical abuse, bullying and sexual harassment (Maguire et al., 2017; Boyle et al., 2007). Injury rates also appeared to be higher for female workers than for male workers (Stoesz et al., 2020).

## 6.4 Older workers

There are a high proportion of older workers in the sector. Over 50% of the workforce is made up of workers who are 45 years old or above. In a New Zealand study examining the impact of injury on the financial wellbeing of older workers (those aged 45-64 years), Davie and Lilley (2018) found that in 2009 14.1% of all ACC injury claims made by older workers (21,639 claims) were by health care and social assistance workers. This was the second highest rate for older workers after Manufacturing. Accordingly, risk factors associated with older workers such as workload, fatigue, and decreased functional ability (Phillips & Miltner, 2015; Stoesz et al., 2020) are also relevant.

Given the predominance of these groups of workers (migrant, female, under agency work arrangements, and older) in the health care and social assistance sector in New Zealand, the risk factors associated with these groups need to be taken into account when developing interventions for the sector.

# 7.0 Summary

# Within the health care and social services sector there is a population of workers experiencing types of work-related harm that may have ongoing impacts on their quality of life.

These workers provide a wide range of services to clients who are vulnerable because they are ill, have a disability or are experiencing complex personal and social issues. The sector itself is under continuing strain due to the high demand for services, limited funding and workforce shortages.

The beginning of 2020 saw the emergence of the COVID-19 pandemic. Health care and social assistance workers were amongst those at the frontline of global efforts to prevent its spread and treat those affected. A pandemic is an acute and stark reminder of the risks workers in this industry face every day. These risks include:

- patient handling/physical demand
- violence and physical abuse
- bullying and harassment
- exposure to dangerous substances and infectious agents, including pandemics
- traumatic stress
- shift work
- work-related psychosocial risk factors such as high job demand, low job control, lack of social support, and effort-reward imbalance.

Once the current pandemic has been contained, through a widespread vaccination programme or other means, health care and social assistance workers will continue to be exposed to these risk factors. For some workers their exposure to risks is elevated due to their age, gender, ethnicity, migrant status and what is their employment status.

Exposure to these risks results in harm to both the physical and psychological wellbeing of health care and social assistance workers. For example, a musculoskeletal disorder may mean the worker has a reduced capacity to work and has to take an early retirement, psychosocial harm such as burn out or post-traumatic stress can also be career ending. As such, within the health care and social services sector there is a population of workers experiencing types of work-related harm that may have ongoing impacts on their quality of life.

# Appendix

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Notes

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