Management of training to prevent occupational violence:

A case study of the Work Health and Safety Management System (WHSMS) in a hospital in Victoria

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Declaration

I, Quazi Omar Faruq, declare that the DBA thesis entitled “Management of training to prevent occupational violence: A case study of Work Health and Safety Management System (WHSMS) in a hospital in Victoria” is no more than 65,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work”.

Signature

Date

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Degree Title: **Doctor of Business Administration**

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Glossary of terms

Acronym	Description
ABS	Australian Bureau of Statistics
ANT	Actor - Network Theory
ASNZS	Australian and New Zealand standard
ASQA	Australian Skills Quality Authority
AQF	Australian Qualification Framework
BAR	behavioural assessment room
BH	BN123 Health
BOCT	Behaviour of concern training
BSI	British Standards Institution
BLS	Bureau of Labour Statistics, USA
CH group	Community Health Group
Code Grey	in Hospital, means an unarmed threat
Code black	in Hospital, means serious threats, including weapon
CpMHW	claims per million hours worked
CPTED	Crime Prevention Through Environmental Design
ECRI delete	"Emergency Care Research Institute" USA
ED	emergency departments
EHR	electronic health records
EN	Enrolled Nurse
HAN	Health Assistants in Nursing
HBR	Harvard Business Review
HLC	High Level Care staff
HLTCSD306D	A unit of TAFE "Respond effectively to behaviours of concern", in some health services (HLT07) and community services (CHC08) training package in Australia
HSAC	The Hazardous Substances Advisory Committee
ICOH	international commission on occupational health
ISC	Industry Skills Councils
LTI	lost time injury
LTIFR	lost time injury frequency rate
MTI	medical treatment injury
MIMOSA	Methodology for the Implementation and Monitoring of Occupational Safety
MOCA-REDI	Management of Clinical Aggression - Rapid Emergency Department Intervention
MSVT	Management of Violence and Aggression International Training
NAO	National Audit Office UK, '@NAOorguk.
NIOSH	National Institute of Occupational Safety and Health, USA
NORA, at NIOSH,	The National Occupational Research Agenda (NORA) is a partnership programme to stimulate innovative research and improved workplace practices. Unveiled in 1996, NORA has become a research framework for NIOSH and the nation -- https://www.cdc.gov/niosh/nora/
NRT	Nationally Recognised Training
OHS	Occupational Health and Safety
OV / WPV	Occupational Violence. In this study WPV is replaced by Occupational violence (OV)
OVAS	Occupational Violence Against Staff
PCA	Personal Care Assistant
PD	Professional development
PDSA	Plan Do Study Act
PDCA	Plan Do Check Act

Glossary of terms (continued)

Acronym	Description
RSKSOFT software	Safety data reporting system in health care
RMS	Risk Management System
RN	Registered Nurse
RTO	Registered Training Organisation
SFS	Safety Function Scale
SHS	SHS = Second Hand Smoke
SWOT	Strengths, weaknesses, opportunities and threats analysis
TC	Tobacco Control (mentioned in Figure 6)
VET	Vocational Education and Training
VHIMS	Victorian Health Incidence Management System
WHS	Work Health and Safety
WHSMS	Work Health and Safety Management System
WHSAS	Work health and safety assessment series
Workplace	is defined as “a place where an employed person is working or on duty
WRI	Workplace Related Injury
WPV	Work Place Violence. In this study workplace Violence (WPV) is replaced by OV
WRP	Work Related Violence

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Abstract

Healthcare is a complex arena of multi-skilled interaction. In recent years, it has grown extensively out of the simple act of treating the sick by a noble healer to taking measures of preventing illness not only of the clients but also of the community. It is no more a deal between two persons: the sick and the healer (like a doctor). Community healthcare is regulated by several agencies including legislative agencies (like government, international health organisations), professional bodies, industrial regulators, consumer advocates and commercial entities (such as insurance companies and pharmaceuticals). Healthcare service providers or professionals are not the sole regulators rather their actions need to balance the legal obligations to the client (such as client satisfaction), to staff (such as workplace safety) and to business (to maintain competitive advantage in the industry).

Current healthcare service provision is challenged by many factors including diversification of the task, diversity of workforce characteristics due to globalisation and increased service demand by knowledgeable customers searching proactive healthcare and not just curative care. To overcome these challenges along with maintaining quality service, organisations need skilled staff. This, however, is threatened by occupational hazards like occupational violence against staff (OVAS) which is well documented globally and across Australia.

The impact of OVAS is not limited only to disruption of service but also to the quality of service and shortage of human resources in some cases. Regulatory agencies like the Department of Health, Comcare, Safe Work Australia and Worksafe Victoria (VAGO, 2013) are providing guidelines on OVAS management.

Most healthcare providers are considering some actions, but not with any universal consensus. According to the hierarchy of control in Work Health and Safety Management System (WHSMS) a hazard could best be controlled by eliminating it, but if not then training of staff is an option. Training will always be needed whether or not other measures of hazard and risk control are implemented. This encourages research to develop effective training in terms of trainers' perspective (in delivery), learners' perspective (of appreciating the sessions) and management' perspective (of the outcome of hazard control).

Literature shows that the workforce training in hospitals to control OVAS lacks consistency and uniformity across Australian hospitals. 'Management of Violence and Aggression International Training' (MSVT) is one training programme run by the BN123 Health, Victoria, since 1990.

With that background the main aim of this qualitative case study research project was to "identify the effectiveness of the existing training programme (MSVT) in prevention of occupational violence against staff (OVAS) ". Occupational violence is a part of work health and safety issue. So, the research intended to enquire: 'Is the existing MSVT in prevention of OVAS achieving its purpose, particularly in the current WHSMS setting of the hospital?'

The literature review assisted in identifying the causes of OVAS, types, prevalence and the factors associated with it. It also helped to analyse the published incidents. Among different training evaluation methods, the Kirkpatrick's model was found most suitable to evaluate MSVT. Analysis attempted to correlate the outcome of the training against existing objectives. Limited access to information meant that I could not perform in-depth analyses, but the findings of this study are expected to guide future research on the effectiveness of MSVT at BN123 Health with more integration to the WHSMS and other safety programmes

This research used a qualitative case study with Actor-Network Theory (ANT) to fulfil the goal. The limited access to health facilities both due to obstacle in sensitive data collection and accessing busy participants of different sections of the hospital in a limited time frame.

This study explored actors related to OVAS and suggested adoption of an innovative approach to improve workplace safety through the formation of new networks. It did this by looking through the lens of Actor-Network Theory (ANT). The present vision of the government in digitalising the health sector in Australia is a prime opportunity to re-align the network in the WHSMS of the hospital for better impact of training on the OVAS situation.

Limited guidance from top management was an issue. MSVT was under the control of the Psychiatric Department at its inception but was then moved under Human Resources (HR), which seems to have reduced its importance and resource management ability. Hospitals are dominated by clinical priorities rather than HR issues.

Being a part of the general training programme administered by HR has limited the ability of MSVT as it struggled to receive funding to recruit enough full-time trainers to undertake research on OVAS incidents, promote the programme across the whole organisation, publish materials to create awareness to all staff and develop resources to help retain the knowledge of the participants in the post-training period.

Limited flow of information on OVAS was another issue. Even though BN123 Health invests in innovation like RSKSOFT, for reporting it did not purchase all the modules of that programme to improve the flow of information to the trainers of MSVT.

BN123 Health demonstrated a proactive attitude in managing OVAS by procuring and trademarking MSVT but is lacking continuity of efforts in it, maybe due to its commitment to clinical aspects of the service. This could be verified by further research.

The research identified scope for innovation. Firstly, the training programme could be strengthened by incorporating recent updates on organisational objectives and legislative changes and standardisation with industry practices. It could also be strengthened by incorporation of an improved audio-visual component, distance learning facilities for beginners and refreshers, updating resources including books and journals, inter-organisation exchange programmes and inclusion of regular research results in booklets and handouts. Targeted delivery would also assist, with constant vigilance on incidents and inclusion of vulnerable groups in training.

Another worthwhile innovation would be to change the focus from staff only programmes to involve customer or client interest. This could include arranging training for clients and carers as they are a party in the conflict. Management training would be useful to prepare resources for the population of the catchment area, bringing together all healthcare providers (including GPs) who refer clients to the hospital. Updating real-time information collection, storage and analysis by professionals as well as information access to trainers would also be a worthwhile innovation.

With the availability of mobile technology, BN123 Health has scope to improve its ability to get real-time information from the incident spot and to develop better management to control events. This could also provide arrangements for easy data entry by general staff.

Chapter 1: Aims and Context

1.1. Why this topic was chosen?

Over the last few decades' management of organisations has become more challenging due to the dynamic and complex working environment, the important factors being: altered customer behaviour, technological advances, legislative changes, and globalization (Institute of Medicine, 2000; Swuste, 2010), funding and resource constraints also come into play (Manchester, 2007). Increased complexity in the organisational workforce along with diverse service need of multi-cultural society can result in conflict. Poorly managed conflict has a negative impact on service quality and on organisational cost (Fisher, 2016). So, organisations need to focus more on hazard identification to avoid conflict and risk minimisation procedures to make the workplace safe and to provide quality service to the clients.

Occupational violence or workplace violence (OV) is an important hazard in present day healthcare organisations (Gross, 2013; Lipscomb, 2009; Papa, 2013). Increased rate of violence in hospitals is a growing concern to healthcare workers, professionals as well as policy makers (Knott, 2005; NIOSH, 2012; Rowe, 2007; Wyatt, 2016). In Australia, the Victorian parliamentary inquiry into hospital violence and security took a significant step to acknowledge the concern (Parliament of Victoria, 2011). The report of the committee proposed recommendations along with emphasis on the role of staff training in minimising the impact of occupational violence.

Healthcare delivery system has changed over the past few decades with a shift in focus from purely welfare approach or purely market approach to a mixed approach: welfare state with market component, in Australia (Willis, 2016). That changed environment required realigning the role of professionals, market and state. It creates confusion and conflict among stakeholders, particularly among those accustomed to a welfare system. Conflict is influenced by changing demands of service recipients and altered behaviours of service providers in a changed environment. Conflict could escalate by intentional rule violation or negligent conduct of service providers, particularly that of staff (Morris, 2011).

It is necessary to distinguish between conflict as a normal workplace experience and the workplace bullying as a severe stressor of life. The Safety Institute's *body of knowledge* book states conflict as: "a process in which one party perceives that its interests are being opposed or negatively affected by another party". Lower-level conflict if not managed early has the potential to escalate into bullying, and even to aggression and violence (HaSPA, 2012).

Further change in the healthcare system relates to globalisation that alters workplace interactions influenced by complex socio-cultural structure (Lee *et al.*, 2012) and also impacts the public health practice (Labonte, 2011).

In a changing environment, the performance of the workforce and prosperity of the organisation depend on the power of adaptability, which again depends on physical, mental, emotional and spiritual effort to move in any direction for the betterment of the person or organisation, compared to the existing situation (Labonte *et al.*, 2011). Power of adaptability depends on the skill to get out of the comfort zone to embrace uncomfortable situations and to face challenges. Productivity might suffer if organisations are reluctant to update the system or procedures while staff are unwilling to leave their comfort zone to upskill according to these changes (Swuste, 2010). This suggests the need of training and re-training to keep up-to-date with the changing environment.

"The most important factor in survival is neither intelligence nor strength, but adaptability."
(Darwin, 2018)
Darwinian concepts: flexibility and adaptability are important for survival of businesses in changing environment (Brown, 2009).

Extensive coverage of the work health and safety programmes has a positive influence on workplace safety, but according to reports of the Australian Bureau of Statistics (ABS, 2014), the impact on work related injury (WRI) rate reduction is not so remarkable being only from 6.4% to 4.3% in seven years from 2007 to 2014. According to the same report men still experience a higher rate of work-related injury (WRI) than women, with the maximum injury rate in males being in the Trades and that in females being in community and personal services work. By comparison, people of a higher age group (50 – 52 years) have a slightly higher WRI than those in a younger (15 – 19 years) group. As expected, the number of working hours has a bearing on WRI with working more than 50 hours a week having the highest WRI rate. Health and community service workers were in the top two sectors to experience high WRI with an injury rate of 73 per 1000 employed persons. The most common cause of WRI was lifting, pushing or pulling an object (32%). Stress (mental conditions) and fractures resulted in the maximum number of days of absence. WRI in health care workers vary from traditional musculoskeletal injuries due to manual handling hazards (Leighton & Reilly, 1995; Pheasant & Stubbs, 1992) to psychological injury due to stress, frustration and ethical conflict (LaSala, 2010).

According to WorkSafe,(Worksafe, 2015a) the quality of a workplace can be estimated by knowing the work-related injury (WRI) rate. This relates to the number of incident reports, lost time injury

(LTI), medical treatment injury (MTI) and lost time injury frequency rate (LTIFR), work injury compensation, work-cover rate and case fatality.

Concern about employee protection from dangerous workplaces led the occupational safety movement to ultimately influence the formulation of occupational safety regulations. The International Commission on Occupational Health (ICOH) was founded in 1906. Even several decades after the emergence of Work Health and Safety (WHS) regulations (NIOSH, 2009; Silverstein, 2008), the existence of a significant number of reported workplace injuries (WRI) suggests the need of further improvement to implement effective work health and safety management systems (WHSMS).

Present work health and safety (WHS) legislation in Australia (Paterson, 2012) commenced on 1 January 2012 in many states and territories to harmonise occupational health and safety (OH&S) laws across Australia. WHS legislation includes a model WHS Act, regulations, Codes of Practice and a national compliance and enforcement policy. The current WHS Act (HaSPA, 2012) is not significantly different from past occupational health & safety (OH&S) legislation of Victoria but will make it easier for businesses and workers to comply with their requirements across different states and territories. Each state and territory is responsible for regulating and enforcing WHS legislation with Safe Work Australia being the national body in charge of developing WHS and workers' compensation policy

In the twenty-first century, dynamic socio-political and economic conditions contribute to the complexity in workplaces through several factors including altered customer behaviour, technological advances and legislative changes (Swuste, 2010), funding and resource constraints. This complexity is further compounded by role change from casual to permanent and position change from staff to contractor (Mayhew & Quinlan, 2002). This complexity introduces different risk factors for work related injuries (WRI) to those from former decades. These include risk taking behaviour, intentional rule violation or negligent conduct of the staff being in the forefront. It is understandable that occupational violence against staff (OVAS) will adversely affect productivity (both individual and organizational) if organisations are reluctant to update procedures or systems and staff are unwilling to up-skill.

The quality of a workplace could be estimated by knowing the WRI rate (Worksafe, 2015a). This relates to the number of incident reports, lost time injury (LTI), medical treatment injury (MTI) and lost time injury frequency rate (LTIFR), work injury compensation, work-cover rate and case fatality. Even with these guidelines and indicators of measurement there are difficulties in getting reliable information, mostly due to misunderstandings in calculating the indicators (Maleyeff, 2003; Safework

Australia, 2012a) and due to differences in data collection and calculation methods. This suggests the need to educate both organisations and individuals to ensure consistency and uniformity in relation to indicators of performance (like, LTI, MTI). Currently, there is a gap in defining and recording OVAS of which the health system is not immune. 2011 data (Gates *et al.*, 2011b) on the effect of occupational violence on nurses showed that 94% of nurses experienced at least one post-traumatic stress disorder (PSTD) episode following a violent event. The same data also mentioned that workplace violence has an impact on the work ability of the nurse.

The existence of work health and safety management systems (WHSMS) to prevent and control WRI is documented from the early twentieth century (Jehring, 1951; LaMontagne, 2002). The journey of WHSMS in Australia is enhanced by regulations like AS/NZS 4801:2001, the WHS Act 2004. The WHS Act 2011 is a national harmonisation effort of the Federal Government (Safework Australia, 2012c). All these initiatives require the active involvement of the employer and not only the employees to ensure a safe environment (Mearns, 2003). The role of the employer in workplace safety to avoid business loss or organizational crisis due to legal liabilities is well documented (Henshaw, 2007). Even with legislative support the existence of high WRI (ABS, 2007; Silverstein, 2008) raises concerns about the effectiveness of the implementation process of the WHSMS. It is difficult to find national statistics on LTI involving casual workers (Safework Australia, 2014). Most organisations are prepared to conduct financial and social audits that assist management decision making and to gain market confidence but are insensitive to analysing the implementation of WHSMS or to finding a means of improvement as these audits lack WHS stakeholder participation. These audits are also based on confusing criteria and lack of auditor independence (Blewett & O'Keeffe, 2011). The result of this, is a gap in accurate measurement of WHSMS performance. It is a common understanding that if measurement is not sound, management will suffer (Ryan, 2009).

'Quality improvement and the management of risks in health care should be part of both strategic and operational planning in every area and service of healthcare delivery, clinical and nonclinical. Risk management and quality improvement should be considered as an integrated approach when determining clinical practice, equipment design and procurement, capital development, information technology, contractor management, workplace health and safety, workforce management, and financial planning, and all other areas of operation' (ACHS, 2013).

One important aspect of WHSMS is risk management. In Healthcare, risk management focuses on patient safety with emphasis on reduction of harm from medication, or other clinical activities. But there is another aspect of the hospital service related to employee safety regarding management of systems on transferring, caring and treatment procedures. Client behaviour could impose risk on

employees' health, similarly employee behaviour of taking risk by not performing as per guideline could result in WRI.

Safety relates to workplace behaviour. Several factors influence workplace behaviour including job design factors, organisational factors and human factors (Ryan, 2009). For effective WHSMS implementation, attitude to safety is vital (Glendon, 2000; HSE, 2002; Marsh, 1995). "Safety climate should refer to psychological characteristics of employees, corresponding to the values, attitudes, and perceptions of employees with regard to safety within an organisation" (HSE, 2005). In addition to group performance organizational safety also relates to the individual's perception or interpretation of an activity and this may contribute to 80 % of all WRI (Fleming, 1999).

Attitudes and perceptions of employees, forming the norms and values of the workplace, determine their reaction to risks and their inclination to the implementation of WHS policy and procedures (Hale, 2000; Ryan, 2009). Conflicting values and beliefs of other healthcare providers also influence workplace behaviour, but personal morale can improve individual performance (LaSala, 2010). Unfortunately, the extent of the relationship of workplace behaviour to the implementation of WHSMS in hospitals is not well addressed. This makes probing into factors that might be involved with workplace behaviour at the hospitals and how it affects the WHSMS, in relation to OVAS, worthwhile.

Work Health and Safety Training:

Knowledge gain and attitude change occurs after training (McMillan, 2005), provided the training is well planned and well presented. Effectiveness of the training also depends on the trainee's ability to apply the knowledge gained in their specific job (Nanda, 2009). Without that the training is nothing but a mere human resource (HR) exercise to spend money. The trainees' motivation to consolidate with training or to gain knowledge from training depends on their feeling how management is involved in assessing the risk and considering possible options to mitigate the hazards (Saccaro, 2015). This suggests participant's adoption of new techniques or procedures depends on support in the work environment, from colleagues or supervisor or management. Individual differences in goal orientation influences decision-making behaviours, so management need to identify factors that might influence employees to adopt innovation (Taylor & McAdam, 2004). An innovative approach helps build learner motivation to participate in an activity (Logue, 2011) but organisations need to understand how to use innovation in training. Adoption of innovative training procedures could facilitate in better understanding of the WHSMS (Sherehiy & Karwowski, 2006). The literature review could not find any effective practices to measure the impact of training on WHSMS in the hospitals of Melbourne and is particularly the case on issues like *workplace violence against staff* (OVAS). The gap identified is the need to measure the impact of training in reducing occupational

violence, in existing healthcare environments, and how innovation is utilised in improving the outcome of training.

Limited data on occupational violence (OV) related injury in the healthcare sector (Knott, 2005) encourages further research in this sector. It is important to ensure effective WHSMS in the public health sector, which is still one of the biggest contributors of work-related injury (ABS, 2007), making huge workers' compensation payments. Training is an important component of implementing any system (Nanda, 2009; Ross, 1991), so it is worth probing the effectiveness of training in implementing the WHSMS in the health sector in reference to occupational violence against staff (OVAS).

1.2. Research Question

Two decades of experience in health, mostly in community health, along with further experience in work health safety and in the teaching sector, has instigated me to evaluate the work health and safety management system (WHSMS) in healthcare, particularly in hospitals. That inquisitiveness was boosted by the recommendation of Australian Council on Healthcare Standards (ACHS, 2013) to ensure service quality. Today several regulatory obligations along with industry influence have made WHS management an integral part of quality management in the health care service, particularly in hospitals. It is common sense that a sick person can't be a good carer, for better caring service we must have healthy cheerful i.e. physically and mentally active, workers. Employee welfare could be ensured by a safe workplace, wherefrom comes the role of an effective WHSMS.

The intention of conducting this research was to explore the status of the work health and safety management system (WHSMS) in a hospital setting in Victoria. To achieve that objective my aim was to identify one of the functions of the WHSMS and then review the performance of that part. I have been in the training sector for long time, more than ten years, and wished to pick up the training component of the WHSMS. Recently violence against staff has drawn lot of attention in health services starting from floor level staff to different professionals in hospitals (Mayhew, 2000; Meyer & Hoppszallern, 2011; Saunders, 2011). My interest was to probe into the WHS related training programme addressing OVAS in a hospital environment of Victoria. In Chapter 2.3 it is mentioned that training is a part of the WHS hierarchy of control. To control a hazard 'elimination' could be the preferred option to ensure safety, but in-reality all hazards cannot be eliminated. So, organisations need to use other mechanisms of control, because with man or machine, hazard and risks are everyday accompaniment.

Hence, the main aim of this study was to answer, "**Is the existing training programme in prevention of occupational violence against staff (OVAS) achieving its purpose, in the current WHSMS setting of the research hospital?**"

This study focused on the evaluation of the training programme is a barometer to assess the WHSMS in that hospital, like a thermometer in a patient with high temperature signals some malfunction in the system though not accurately says where the problem in the body is. An extreme temperature, high or low, encourages the clinicians to investigate further for correct diagnosis. This research is not intended to put training as a control measure to fix the WHSMS issues but to use it (the training) as a performance indicator of the WHSMS. In my view "a weak training programme suggests weak WHSMS" i.e. if training against OVAS is not managed properly then there is justification to make further investigation to measure the performance of WHSMS of a hospital. As a part of the WHSMS the training programme should fulfil the objective of the WHS policy. If the training programme is not fulfilling that goal, then there is a weakness in the WHSMS of the organisation.

In effective management of a programme there are always a number of actors' influencing the process. Literature review on performance of WHSMS in the health sector and the management of training in healthcare, particularly in OVAS prevention, identified the impact of actors, both human and non-human actors. This then encouraged further examination of the situation through the lens of **Actor-Network theory** (Callon, 2007; Latour, 2005) to explain the interactions of the actors and to identify the possible ways to realign those actors for effective functioning of the training programme in line with WHS policy of the hospital. Actor-network theory (ANT) declares the world to be made up of hybrid entities containing both human and non-human elements. It was developed to analyse situations where separation of these elements is difficult and so deals with the social-technical divide by denying that purely technical or purely social relations are possible (Callon, 2007; Latour, 2005). To bring the actors in effective relationship this study also intended to review the **scope of innovation** to improve the performance of the training programme of this hospital in line with its WHS policy along with its commitment to provide quality service beyond its obligation to fulfil compliance, both regulatory and industry compliance.

Besides the main objective, stated above, this study wished to accomplish following **specific objectives** to explore the effectiveness of the present training on occupational violence at a hospital, although it might seem to the outsider it is a norm:

- The WHS situation in the hospital, in reference to hazard and risks of Occupational violence against staff (OVAS).
- Perception gap between management and staff on the issue (e.g. content selection, outcome analysis, review policy)

- Review to assess the impact of training on OVAS i.e. reviewing present training on occupational violence at a hospital.
- Evidence of assimilation of the state or national obligations e.g. standards, guidelines (like, AS/NZS4801: 2001 or OHSAS 18001 or AS/NZ4804) in OVAS training policy and in other WHSMS practices of the related to hospital.
- Evidence of assimilation of the recommendations of national bodies likes parliamentary committee on violence prevention in healthcare (Parliament of Victoria, 2011), page v); auditor general's report (VAGO, 2013, 2015).
- Human and non-human actors' interaction in workplace violence in this hospital
- Scope of training to implement the WHS policy and procedures related to occupational violence (its, objective, course curriculum, selection criteria and coverage of the programme).

To achieve these goals this research was conducted using a qualitative research method and analysing the events through the lens of Actor-Network Theory (ANT). ANT assisted to explain the interaction of actors towards the effectiveness and impact of training. The research involved interviewing the trainees and trainers of the training programme.

1.3. Contribution to knowledge (Academic Contribution)

Healthcare workers are vulnerable to work related injuries (WRI) resulting in long durations of work absence. In many countries the healthcare workers are at risk of WRI resulting from long hours, physical workload, violence, infectious diseases and hazardous chemicals (ABS, 2014; NIOSH, 2009). Also, the healthcare workers experience the largest number of non-fatal injuries and illnesses, of which female staff suffer most (Janocha, 2010).

In Australia, the incidence of serious occupational injury claims is greater in health and community services than in any other industry (ABS, 2007). It is not clearly known what factors are contributing to the WRI in Australian hospitals and how these could be minimised. The information relating to occupational violence or workplace violence (OV) is limited as the number of participating hospitals is few and there is no uniform action plan. Findings from this study would positively contribute to the body of knowledge on this topic.

Injuries relate not only to the human error but also to the working environment varying from working hours, poor physical condition of working area to unpredicted human behaviour. Findings of this research in understanding the relationship between human factors and non-human factors in adopting the WHSMS in a hospital setting would also add to knowledge on this important topic. Applying the Actor-Network Theory (ANT) to develop better network among stakeholders of training and considering innovative approach to disseminate knowledge through WHS training would help build a

better intellectual framework to adopt safe work practices and effective implementation of WHSMS (explained in Chapter 2.2).

1.4. Statement of significance (Practical contribution)

Measuring changes in employee behaviour would assist in measuring the effectiveness of a training programme, but that is often lacking in training (Burden & Proctor, 2000). It is noted that behavioural change does not occur immediately after the training but needs time and depends on other conditions as well. As behaviour is more difficult to measure than reaction and learning, the management need to develop better review mechanisms to evaluate the effect of training and find better indicators to measure impact of training on the safety culture, the ultimate goal in ensuring safety at hospitals.

Changes in human practices take place through four stages after a training session, where organisational change is the last of all and follows behavioural changes (Kirkpatrick, 1994). Occupational violence in Australian hospitals is increasing (Delaney, 2001) with an incident rate of approximately 3 per 1000 cases (Knott, 2005) but it is a concern that the rate is not an accurate reflection of the actual situation as most OV cases are not reported (Arnetz *et al.*, 2015; Darcy & Melissa, 2017; Lyneham, 2001; Mayhew, 2000).

One of the goals of this study was to understand the relationship between human and non-human factors in implementing the training on OV risk minimisation in hospitals. That would be of great significance to hospital WHSMS in relation to OV prevention.

My biggest hurdle to start the thesis work, since getting approval of the Victoria University ethics committee, was gaining access to a hospital. Perseverance was the key to get approval of one out of six hospitals approached. It was important to get the view of top management on the research topic but challenging to win an interview within my research time-frame due to their pre-occupation with day to day activity. Also, it was unfortunate that, in the approved hospital the Work Health and Safety manager left his office just before I got approval from the hospital ethics committee and the replacement came only a few days before finishing the data collection. Overcoming the confidentiality issue to access primary or secondary data relating to OVAS was difficult.

Some demographic data on occupational violence was retrieved from national data sets like the webpages of the Australian Bureau of Statistics, Worksafe Victoria, Safe Work Australia and Workplace Safety Australia. Local and international publications collected through the Victoria University (VU) Library on “occupational violence against staff” with information on training to mitigate those issues in national and international settings was also a great help

This research was approved by the ethics committee of Victoria University and that of BN123 Health.

1.5. Synopsis of all chapters

The chapters are organised as per the steps taken to complete this research:

- First, a literature review relating to key elements of the research question.
- Second, analysing the information of the literatures as per objective of the study: reviewing national, international and industry regulation (including work practices) on OVAS and actions taken on OVAS control in health sector. To identify the impact of the regulations and actions affecting the OVAS situation in hospitals.
- Third, identifying the best possible criteria of training on OVAS, selecting the right training evaluation model and review of present training (from its planning to output) against its objective to prevent workplace violence.
- Fourth, collecting information on OVAS from a hospital, primarily through interviews of trainee and trainer of OVAS training. The interviewees' identities were kept confidential by desensitising the data.
- Finally, summarising information on effectiveness of the training to manage OVAS, suggesting future directions on OVAS management.

Chapter-1, sets the scene, narrates the context, and presents the research question with its main objective and specific objectives. This section elaborates the purpose of the research, the contribution to knowledge and statement of significance.

Chapter-2, reviewed literatures relevant to the elements of this research: information on work health and safety, work place violence (occupational violence against hospital staff), factors related to implementation of training particularly in the hospital sector, factors of OV, factors in implementation of training, and effective approach to review a training program. Information was collected by reviewing different publications. An attempt was made to focus mostly on peer reviewed scientific journals of most recent articles but in some cases literature of even 1990s had to be mentioned due to its immense influence in the field. Such references include the publications of Edwards Deming 1986 on management, Donald Kirkpatrick's 1994 on training evaluation, Bruno Latour 1996 on Actor-Network Theory.

The review of publications in related fields helped me to develop a conceptual framework, to finalise the methodology and to draw conclusion on the research topic. So, this literature review chapter is further subdivided into: concept of hazard, perception of safety, work health safety management

system (WHSMS) in health sector; cause and effect of Occupational violence or workplace violence (OV), incidence of occupational violence against staff (OVAS) in health sector particularly in Australia; MSVT training conduction policies and procedures; training evaluation procedures.; and Actor-Network theory (ANT). In this chapter the words occupational violence and work place violence (OV) are used interchangeably as some literatures from Europe and USA uses OV more frequently.

Discussion on occupational violence (Chapter 2.1) includes: defining occupational violence, its types, causes of OVAS, prevalence of OVAS and its impact on workflow, OVAS in health sector globally, incidents in the Australian health sector, actors of OVAS and barriers to OVAS prevention.

Chapter 2.2 discusses the role of WHSMS to control OVAS, actors of WHSMS, safety management in hospitals, gap in WHSMS to manage OVAS at hospital, how to evaluate the work health and safety management systems of organisations.

In discussing the role of training in WHSMS to influence OVAS control (Chapter 2.3), the following issues were discussed: training on OVAS in hospitals, Training management in Australia, WHS training management in hospital, Characteristics of good training, Gap in OVAS control training. Chapter 2.4 discusses how to evaluate training (goal based or system-based evaluation).

Chapter 3 describes the approach taken to handle the research question and the methods used to perform the task. It discusses the conceptual framework guiding the search for actors and their interactions. It also justifies the use of the qualitative case study (observing a training programme titled MSVT) and how it was conducted with approval of respective authorities.

Chapter 4 presents the data collected through interviews of respondents and literature review of a large regional hospital. It then discusses the data and relates the findings to theory.

Chapter 5 draws conclusions from the data analysis and recommends future actions on this issue.

This research was approved by the ethics committee of Victoria University and that of the research organisation. All names used in the case studies of this submission are fictitious, for confidentiality purposes.

Chapter 2: Literature Review

This chapter covers the nature of occupational violence (OV) in general and in the healthcare system, with specific attention in Occupational Violence Against the Staff (OVAS) in hospitals. It then explores work health and the safety management system (WHSMS) in hospitals and investigates the role of training in WHSMS to reduce the impact of OVAS in hospital.

The Work health and safety standard AS/NZS4801:2001 (Standards, 2001) requires all organisations and businesses to focus more on the service quality related to worker's wellbeing with adequate risk minimisation effort. This initiated a broader query on work health and safety (WHS) practices in hospitals. The researcher was interested to know how the hospitals are managing the WHS issues besides patient safety related to client management. To make it manageable that broader query was narrowed down to focus on one element of the WHSMS, that is training, which is an important component of the administrative tier in the 'hierarchy of the hazard control' of risk management.

Training is important to improve the quality of the service through developing a skill set of the staff (Huang, 2006; Noe *et al.*, 2014). In the 'hierarchy of the hazard control' (Figure 4) elimination of hazard is shown as the best control measure, but its implementation is not easy be it from the administrative or financial point of view. Training is relatively easy and on the job, training is an effective way of improving employee performance and also it is a common practice in organisations and industries (Derouin, 2005; Ekhareafo & Uchenunu, 2014; Saks, 2014). In the WHS Act and Regulation emphasis is given on consulting, informing, instructing and training. The researcher's experience in training in the health sector for more than ten years is also a factor in selection of the topic.

To prevent an OV incident, information collection is not the only requirement. It is also necessary to find means of utilising the information to understand the operational status of the system at a workplace. Also, the collected information be utilised to manage future operations at the point of interest. In other words, it is important to have a mechanism for the information technology (IT) to be effectively utilised in operational aspect of the management (Bloem *et al.*, 2014). Information collection is important but incident prevention decision making process is strengthened if advanced prediction tools are utilised but that requires innovation to manage big data (Lee, 2014). It is expected that spending funds in current complex healthcare systems would involve lots of factors. So, to explain the role and interaction of different actors in OVAS prevention this research used a societal theory.

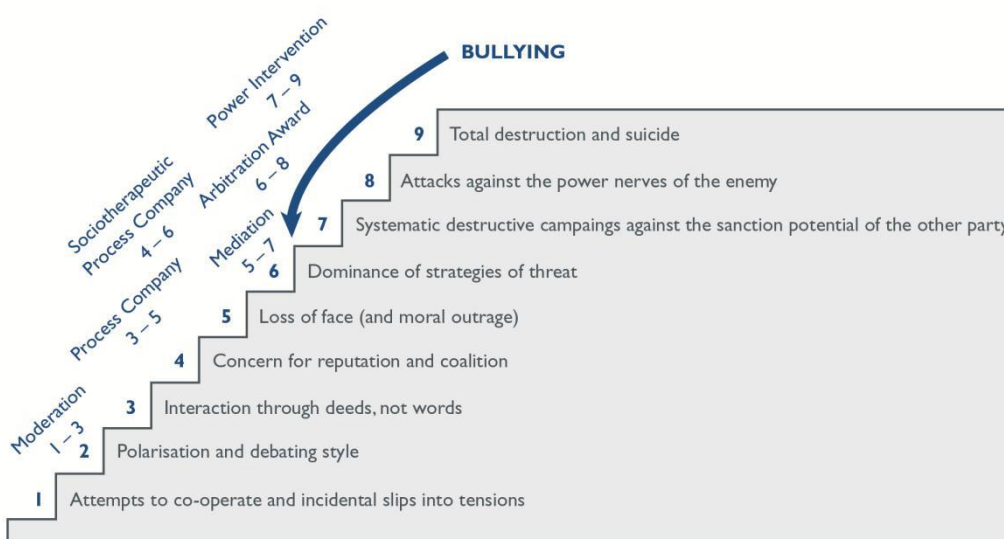
Peer-reviewed publications, as well as some national newspaper data were used as reference. The researcher's membership of the Safety Institute of Australia (SIA) and online access to WHSMS publications also assisted. Literature search guided formulating research methodology. To explain the topic and to relate the findings of observations and interviews of this study the literature review focused on the followings:

- The hazard: Occupational violence against staff (OVAS), definition, cause and impact on the work-force and service delivery.
- WHSMS: structure and function in minimising the risk of OVAS,
- Regulatory framework to support OVAS control process, in particular the reporting system.
- Training in WHSMS to control OVAS
- Evaluating the training programme and identifying better way of doing it.
- Societal Theory to explain the interaction of actors
- Innovation to improve OVAS management outcome

2.1. Conflict and Violence

Violence is one of the end results of conflict (Lancman *et al.*, 2013), so in discussion of workplace violence it is worth to have a glimpse on conflict, its origin, escalation and resolution. In a goal seeking process conflict results from incompatible goals of the parties involved and is present in every sector of life (Hayes, 2008; Melf, 2012). Conflict results when one perceives that his or her interests are being opposed or negatively affected by others (Wall, 1995).

Figure 1, Glasl's conflict escalation model (Zapf & Gross, 2001), p 501



Conflict grows to violence through different stages (HaSPA, 2012; Melf, 2012). Glasl's, conflict escalation model (Figure 1) could be used to create awareness about the conflict escalation process and in implementing intervention at proper point of time for damage control (Way, 2012).

Conflict proceeds through different stages to either escalate or deescalate and is dependent on the interaction of three elements: attitude, behaviour and content (Melf, 2012). Some attitudes can lead to conflict escalation. On the other hand de-escalating attitudes and behaviour might include: humanisation, tolerance, respect, honesty, dignity, dialogue, active listening, invitation, and conflict transformation (Melf, 2012). Such findings would encourage the management of conflict prone workplaces to develop within their workplace the attitudes suggest among clients and staff. A conflict could have a negative or positive impact at workplaces. It is negative when violence is the consequence to resolve it and is positive when a conflict encourages improvement in quality (Elbert, 2017). Conflict resolution depends on several factors including better understanding of the customer factor (such as: expectation, satisfaction), availability of the service, and quality and transparency of its delivery.

The words “occupational violence” and “workplace violence” are used interchangeably in the literature. This dissertation will use the words occupational violence (OV) to discuss issues related to violence at the work place.

OV isn't a new problem, but the difference today is the increased frequency, prevalence, and pervasiveness of the problem across most healthcare settings. OV is a WHS hazard in all industrialised and developing countries, particularly in service-sector industries (Mayhew, 2007; Rosen, 2001). Knowledge on stages of conflict will help develop the OV control programme by focusing strategies at different steps of conflict.

Before addressing the control measures it is worth looking at recognition of the hazard (OVAS). This depends on defining the OVAS and getting consensus on it. To achieve a consensus, the following points need to be considered: the perception of stakeholders (including employer and employees) on OVAS (the hazard), factors associated with it (including causes), and its impact on the workforce or on work quality and controlling measures. This encourages research to identify the status of workplace safety perception in an organisation and the gap in the existing work health and safety management system (WHSMS) in controlling OVAS.

Even when everyone expects to take measures against OV, actions taken might not satisfy all stakeholders, particularly when there is a mismatch between the workers’ perceptions of conflict and management’s narrow focus on it (Way, 2012). This is one hindrance in the effectiveness of the work health and safety management system. The extent of its (OV’s) impact is not always clearly understood due to differences of opinion in recognising OV by its occurrence, nature or severity. There may be five incidents of near miss falls in a wet toilet and one incident of unconsciousness after fall and hit on the head. In order to identify the impact of a wet floor it is not enough to only record

the incident where a head injury was sustained, but to include the severity factors of the other near miss incidents. It makes a difference in safety management if minor incidences or near misses are included in the records not just the major incidents. A definition of OVAS along with the understanding on diverse forms of it such as: assault, abuse and, harassment (Mayhew, 2007) will help planning a control measure.

OV affects all sectors and all categories of workers but the workers and professionals in the health sector are at major risk as more than half of all workers in this sector had experienced violent incidents at some point. As the large majority of the health workforce is female, 'the gender dimension of the problem' needs special consideration in all control measures (ILO. *et al.*, 2002).

One classification of OV could be intentional or unintentional OV. Unintentional OV relates to poor judgement of a psychiatric client or of an intellectually disabled person. Unintentional violence is common while caring for a dementia or acute psychiatric clients or managing a toxic/substance abuse client or attempting to cool-down a person bursting from grief or frustration (Jones, 2006; Power, 2016). Also, at the last stage of conflict a client may lose their behaviour management skills and may not realise the impact of moving body parts violently is having on others. OV varies from a non-physical to physical types, depending on circumstances (Dompierre, 2008; Steffgen, 2008). It could be classified based on the relationship of the victim to the perpetrator, as mentioned in Table 1 (Mayhew, 2007; UIIPRC, 2001).

Table 1 Classification of Workplace Violence

Relationship	Description of perpetrator
Criminal Intent	Perpetrator has no relationship to the workplace / victim but initiated violence with a criminal intent like robbery, terrorism.
Customer/client (OVAS)	Perpetrator is a customer or client or relative or friend of the client, at the workplace and becomes violent while being served by the worker/ staff
Worker-on-Worker	Employees or past employees of the workplace are the perpetrators
Personal Relationship	The perpetrator usually has a personal relationship with an employee (like domestic violence in the workplace)
Systemic / Workplace	Violence due to wider social and economic issues, like OV relating to economic constraint (resulting downsizing the organisation, work intensification, job insecurity and others)

Source: summarised from Mayhew and Chappell (2007) and UIIPRC (2001)

This study dealt with OVAS, the workplace violence related to the customer or client and their family members or friends.

2.1.A. Definition of OVAS

From Table 1 it is known that OVAS is one type of OV. So, a better understanding of OV is needed before defining OVAS. Discussion of the term 'occupational violence (OV)' deserves focus on three main points: work/employment, workplace and environment.

The concern about OV came into being following workplace incidents in which the worker (or service provider) was abused, threatened or assaulted to a minor or major degree. The following discussion also shows that the OV also involves management of challenging behaviour or behaviours of concern. The perpetrators of OV may include clients, customers, patients, people in custody, and members of the public. OV has wide variation from simple verbal abuse, bullying, throwing an object or spitting, to sexual assault even homicide at work or on duty (ABS, 2014; Gates *et al.*, 2011b; Worksafe, 2015c). Australian workplace statistics reveals OV is one of the leading causes of job-related deaths (ABS, 2014; Mayhew, 2005).

Even though physical injury is the main point of concern in discussion of OV the psychological abuse could not be omitted. According to the World Health Organisation (WHO) psychological violence gets less recognition than physical violence, and is often under-reported but can lead to serious consequences in the victims life (ILO. *et al.*, 2002).

Definition of OV varies according to the characteristics of the incident or the perpetrators, how the jurisdiction of workplace is defined (that is, what will be considered a workplace), as well as different cultural contexts (Beech, 2006). These different definitions can be an obstacle to comparing the exact rates of OV between workplaces, both national and international.

The above discussion shows there is a wide variation in the perception of OV and that variation is a hindrance in arriving at a uniform definition of the problem. Whilst this situation remains, it is difficult to prepare a uniform action plan for prevention of OV and a staff education programme to assist in this aim.

Even with those limitations, some working definitions are available. OV is defined by the European Commission as "any incident where staff are abused, threatened or assaulted in circumstances related to their work, including commuting to and from work, involving an explicit or implicit challenge to their safety, well-being or health" (EU-OSHA, 2010) page 16 section 1.3.1. Many other countries adopt their definition aligned to the European Commission's definition (Schmuckler, 2012).

The WHO World Report on Violence and Health defines violence as: “The force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, mal-development or deprivation” (Chappell, 2006) also in page 19 at section 1.3.3 of the EU-OSHA, 2010 .

Influenced by the definitions of WHO and the EU-OSHA this study defines the OVAS as “any form of abuse or attack, physical or psychological, on duty by a client or their accompaniments (family or friends) on the staff (or service provider) involved in care of a person or intending to provide help to a person seeking a service” (EU-OSHA, 2010). The incident can happen at a fixed facility or mobile work places or in any form of duty.

OVAS can occur in many industries such as hospitality, healthcare, disability, education, emergency services, police, prisons and welfare and community services (Taskforce, 2016; Worksafe, 2015b). This study focused on OVAS in hospitals.

2.1.B. Causes of OVAS

Scarcity of the data related to OVAS makes it difficult to find all the causes but results of some studies help in arriving at reasoned potential causes and these are mentioned below:

- lack of standardised measurement, reporting mechanisms, and awareness of the incidents (Gacki-Smith, 2009)
- the use of the nurse’s own judgment about the violent events based on factors like (i) perceived personalisation of the violence; (ii) presence of mitigating factors; and (iii) the reason for the presentation (Luck, 2008)
- difficulty in estimating incidents, lack of support from supervisors or managers, fear of being inefficient in the eyes of top management, etc. Past literature contains estimates that suggest almost 80% of incidents remain unreported, but also suggests that the situation has improved now due to improved reporting resulting from increased awareness of occupational violence (Mayhew & Chappell, 2001). Factors influencing the reporting are – injury severity, jurisdictional requirements, departmental and organisational responsibilities, an individual’s propensity to report, an insecure environment.
- lack of a standard hospital ‘occupational violence’ definition, perceived degree of intent of the patient, staff being accustomed to violence, peer pressure to not report episodes, gender of the victim, fear of blame, and excessive paperwork (Speroni, 2014).

Despite the rising tide of OVAS, there are considerable shortcomings in health-workers’ and health professionals' knowledge of violence mitigation strategies, their willingness to report episodes of

violence to employers, and insufficient preparedness of healthcare facilities to deal with it (Laskowski-Jones, 2017).

The above discussion supports the fact that factors related to conflict would also initiate the OVAS. Some personal attributes of the perpetrator would initiate and exacerbate the OVAS varying in different context such as interpersonal, intergroup or interdepartmental situations (Wall, 1995).

OVAS may be similar in many countries, but the incidence rate and severity vary due to diverse patterns of exposure and structural factors like level of exposure to hazard (like access to poison or firearms), organisational policies, and risk minimisation strategies (Mayhew & Chappell, 2001).

Several factors contribute to occupational violence:

- working patterns, working environment (cash handling, drug abuse), isolated areas, working hours (day or night), perception of clients about service quality, waiting time; worker's characteristics (such as females are more vulnerable) (Mayhew & Chappell, 2001).
- gender: that is, females are more likely to be subjected to verbal and sexual abuse, while males are subjected more to threats and physical violence (ABS, 2014; Jackson, 2001; Janocha, 2010).
- work sector and job characteristics (Guay, 2015)
- working environment: OVAS incidents are more common in emergency, mental health, and geriatric settings. Common factors of OVAS includes: overcrowding, staff shortages, noisy environments, emotional or psychiatric instabilities, long wait times, and misperceptions of staff as uncaring (Speroni, 2014).

The factors that initiated OVAS in hospitals were related with prolonged waiting periods, refusal of preferred services, anxiety, misconceptions due to language or cultural differences, or inadequate design of the environment (Mayhew & Chappell, 2001; Mayhew, 2007), client's perception of unwelcoming and coercive treatments, and negative staff attitudes. Some other factors may influence OVAS in hospitals: reactions to restrictions, provocations (from others), denying patients' requests, staff weakness in management practices, environmental and interpersonal factors (Beech, 2006).

2.1.C. Prevalence of OVAS and its Impact on workflow

As mentioned above the scarcity of data is a hindrance to find prevalence of OVAS at different industries. One study noted OVAS of physical aggression varied from 2% - 29% and of verbal aggression 15% - 75% (Hills, 2013). Another study found OVAS was 10% - 95% of which 20% - 40% was from relatives or patient's carers (Alexander, 2004). Such data might help in understanding the presence of OVAS but not the reveal the extent of it and not provide help on the gravity of the

incidents. This would not help greatly in setting a priority of actions in any management planning. Besides those direct assessments, some indirect estimates could be made from the number of work-place absences and work-cover compensation claims lodged. There are also some data about the psychological or stress related absence from work (ABS, 2007), which might be related to OVAS, however the data does not specifically identify this link.

In one study, compared to other OECD countries Australian data showed a higher incidence of self-harm and homicide related to OV with an annual rate of around 4.88 per 100,000 workers (Chappell, 2006). This translates to around 0.07% of all workers per annum, or approximately one person a month murdered at work (Mayhew, 2005). But it is difficult to find any comparison on OVAS data across OECD countries, mostly due to lack of uniformity in defining the OVAS. In Australia in 2016, statistics show the following industries had high numbers and rates of fatalities and/or injuries: Agriculture, Road transport, Manufacturing, Construction, Accommodation and food services, Public administration and safety, and Health care and social assistance (Safework Australia, 2016). In some other developed countries also healthcare workers are more likely to face OV compared to other industry workers (Blando, 2015).

OVAS is now getting the attention of the regulatory bodies in Australia (VAGO, 2013, 2015). Initial focus was on the cause and category of violence but now it is drawing attention to its impact not only on the victim but also on service quality.

The impact of the OVAS varies depending on the incident and its severity. An incident might entail inflicting physical injury, psychological injury and influence behavioural and personality changes of the employee particularly when subjected to prolonged exposure or repeated incidents (Way, 2012). The ultimate effect of this is a loss of interest in work participation, errors in functioning, and a decline in productivity (Hills, 2012). That means that following an incident the victimised staff member may lose confidence or enthusiasm to treat patients and his/her work performance might reduce resulting in increased errors on the job. OVAS can even result in homicide (Chappell, 2006; Mayhew, 2007).

Impact of occupational violence includes diminished productivity, higher absenteeism and turnover, and court cases (Gates *et al.*, 2011a; Gates *et al.*, 2011b). Direct costs of workplace accidents include: Employee lost time, Medical and hospital costs, Compensation and Liability claims, Legal costs, Insurance costs, Replacement costs (for equipment, products, personnel). Like other workplace accidents, indirect costs of OV could be greater than direct costs and might include: Cost of work time lost by others stopping work, Cost of first-aid, Cost of equipment damage or product loss, cost of injured employee due to income loss, and subsequent administrative costs to the management in terms

of reporting to authorities like Worksafe Victoria (Hrymak, 2007; Safework Australia, 2012b; Speroni, 2014). Responses to OV are subject to a person's own perception (even those of doctors) of experiencing aggression from each source (Hills, 2012).

Awareness of the concept of hazard stimulates peoples' understanding of the possible threat and of the need to take measures to minimise, even if appropriate management techniques are uncertain. Sometimes people expect or apprehend some hazard, but the perception of risk is not high enough to consider the need for any corrective action. People of low socio-economic status, such as the homeless or those of poor psychosocial status like drug addicts, face chronic malnutrition but many of these people would not be concerned that malnutrition will increase their proneness to infection. An individual's knowledge and level of awareness is influenced by a range of psychological, social, institutional, and cultural factors (Outreville, 2003; Slovic, 2000). People with no knowledge about toxic agent or carcinogens would not bother to take preventive measures like handling the asbestos sheets or the lead-based paints before the 1950s. Before the 14th century how many countries were concerned about sanitation, environmental hazard or ensuring supply of safe drinking water in the community? Impact of a hazard depends on several factors: awareness or knowledge of the hazard, perception or views or attitudes to the hazard and associated risks (Curcuruto, 2014) interest of the management to give value to the incidents (Swuste, 2010), participation of all stakeholders (like employer, employee, client or contractors) to implement the safety policy (Wilde, 2014). Unfortunately people accept conclusions that fit with their social attitudes and preconceptions (Wilde, 2014), no matter whether it is right or wrong from a scientific point of view. That means perception on any issue usually depends on the social attitude or belief of any group of people at the workplace. That creates a difference in 'perception of the hazard' at floor level and management level, which was overlooked by many management (Huang *et al.*, 2016; Morrow, 1998). Difference in perception allows people to take targeted risks that they feel would enable them to complete the task better, but in reality can bring severe impact on health and safety (Wilde, 2014). Such difference in perception is not helpful to create a safety culture or organisation-wide safe environment in any organisation. To reduce the impact of OVAS and for risk minimisation, developing a safety culture is more (Huang *et al.*, 2016) effective than any punitive action.

2.1.D. OVAS in Health Sector, Globally

Even though hospitals focus on quality patient-service, today there is growing concern to consider changes in the work process that can simultaneously improve both the quality of care for patients and ensure employee wellbeing through protective measures against OVAS (Lancman *et al.*, 2013)

Managing aggression in health services, with focus on OVAS, needs to identify the hazard, establish effective risk-management processes, establish effective process for consultation with stakeholders, proper documentation and its monitoring, and evaluation at regular interval (Canham, 2008)

In addition to the traditional risk factors, present day WHS risks in health care add long hours, physical workload, violence, alarm-based technology and hazardous chemicals (Keller, 2011; NIOSH, 2012). In 2007 the Australian Health and community service was in the top five sectors to embrace the rise of workplace injury (ABS, 2007). The report mentioned that manual and psychological (such as stress) hazards resulted in the greatest number of absences from work in the health sector. Others also suggested significantly a high rate of occupational violence, with higher incidence of physical assault, among healthcare workforce (Saunders, 2011).

To ensure patient safety some healthcare organisations publish annual top hazards lists. The 2011 report shows that recent technologies, while improving the quality of service, might also contribute to the WHS hazard list e.g. alarming sounds of equipment create noise pollution (ECRI, 2011; LaSala, 2010). Considering the cost of workers' compensation, it is worth improving WHSMS in order to minimise these charges. In addition, hospital staffs are also vulnerable to violence from clients and their family members, particularly in emergency departments (ED), intensive care units and psychiatric units (Lyneham, 2001; Mayhew, 2000; Mayhew & Chappell, 2001; Meyer & Hoppszallern, 2011; Parliament of Victoria, 2011; Rowe, 2007). It is important to formulate effective policies and procedures to prevent hospital violence, in addition to some initiatives that have been taken by government and organisations (Parliament of Victoria, 2011; Thomas, 2006).

In healthcare the safety culture depends on organisational factors, department or unit factors, individual factors and specific factors to the area of operation (Sinelnikov, 2015). To manage the OVAS the effort of the management is not always enough as it also needs the acceptance of the workforce to comply with the process. So, it is important to develop effective tools to understand the workforce perceptions of the existing safety culture and assess its reliability and validity (Sinelnikov, 2015).

2.1.E. OVAS in the Australian Health Sector

Hospitals are the largest employer group in the public sector. At 30 June 2013, there were 84 hospitals in Victoria employing 98 446 people. Over the past five years, the WorkCover premium paid by public hospitals totalled $387 million, $80.5 million for 2012–13 (VAGO, 2013). Incidence of OVAS in the Australian Health sector is growing at an alarming rate. Doctors in general practices are also facing violence (Parker, 2017).

To assist developing better management violence in hospitals is classified in several colour codes such as code grey, code black (StandardsAustralia, 2010), but it lacks uniformity as some hospitals are more active than others in defining it and creating new categories (Hadfield, 2014a). Usually 'code grey' denotes an unarmed threat and 'code black' means serious threats, including weapon.

Among the top ten professions that experience the highest incidence of OVAS, healthcare is one in most countries (Blando, 2015; Franche, 2010), but the correct figure is difficult to obtain. Among different factors one is inconsistency in defining and categorising the incidents. A newspaper report (Hadfield, 2014a, 2014b) on the 'code grey' calls in twenty-two hospitals of Victoria in 2012-13 and 2013-2014, showing variation in incidences, is an example of difference in classification. The graph below (Figure 2) shows highest calls in Royal Melbourne Hospital, Royal Park campus (see also, Appendix 8.0). Further data might show relationship between several factors, but confidentiality issues limit the access.

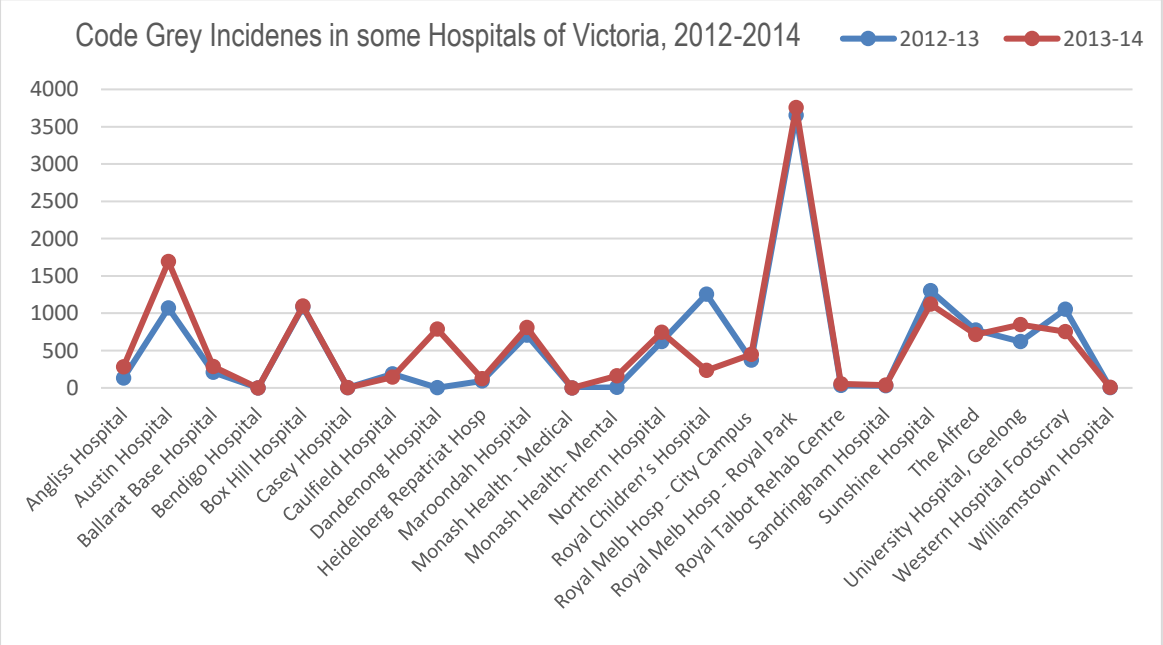


Figure 2 Code Grey Incidences in Hospitals of Victoria, 2012-2014 (Hadfield, 2014a, 2014b)

The Australian Institute of Criminology finds that the health industry is the most violent workplace in the country and hospital emergency departments are particularly at high risk with an incident rate of 3 / 1000 patient attendances at ED and 92% of the perpetrators are patients or their relatives (Mead, 2016). This submission emphasises the need for accurate baseline statistics to ascertain the true extent of the problem but raises concern over non-reporting (as it mentions 70% of the incidences were not reported by nurses to the authorities). The hindrance to non-reporting is explained by - the amount of time it takes to complete the necessary forms, an inaccessible and poorly understood reporting

mechanism, the perception that there is no real benefit from reporting incidents, concern about the perpetrators condition and considering that OVAS is a part of the job (Mead, 2016).

WHSMS has a duty of care to provide a safe place and a safe process of work for their employees. Under the OHS legislation, safety in the health industry could not be diminished by the rights of the clients or their privacy (Mayhew, 2003). This creates a scope of innovation in reporting, one solution could be the use of a mobile phone to get a snap and post it to a server to be reviewed by supervisors or other experts. There might be resistance from some privacy or confidentiality advocates but that needs to be weighed against the zero tolerance to violence, staff wellbeing and continuity of service quality.

OVAS can be controlled either by 'elimination of hazard' mentioned at the top tier of 'Hierarchy of Control' or by 'Administration and training'. The concept of 'Crime Prevention Through Environmental Design' (CPTED) is to minimise the opportunity of crime (Cozens, 2015) by eliminating or reducing all possible scope for a perpetrator to create violence. Elimination might go to the extreme like avoiding any purchase, even a furniture, unless there is evidence of best practice in terms of violence prevention (Mayhew, 2003). OVAS prevention training programmes might add that in the content to create awareness among trainees of the justification of a safe work environment.

Prevalence of OVAS varies from one workplace to another and from the views of different studies, but most studies report that it is more in the health sector (Lanctot & Guay, 2014) and it is so prevalent in the health sector that health professionals take it as a part of the job and are reluctant to discuss it or make a complaint (Geoffrion *et al.*, 2015). A national survey of workplace violence on workers from a range of Australian industries and workplaces illustrated that the Australian healthcare workforce is within the top seven industry groups exposed to workplace violence and has the second highest prevalence of physical assault, see Table 2 (Mayhew & Chappell, 2001; Mayhew, 2005).

Table 2 Workplace violence experiences of Australian workers in 2001

Workplace	**Verbal abuse**	**Bullying**	**Physical assault**
Juvenile justice	68%	12%	17%
Tertiary education	50%	65%	1%
Healthcare	**67%**	**10.5%**	**12%**
Seafaring	19%	—	1%
Long-haul transport	33%	—	1%
Fast-food	48%	—	1%
Taxis	81%	—	10%

Source (Mayhew & Chappell, 2001)

It is hard to get correct statistics on OVAS at healthcare facilities but one study estimates each year 12% of healthcare workers in Australia are assaulted, 10.5% bullied, 67% verbally abused and one person dies but only 8 – 12% formally report it (Mayhew, 2005). Doctors' also frequently experience OVAS in day to day activity (Ceramidas, 2010; Mead, 2016; Rowe, 2007).

Risk factors of OVAS in the Australian healthcare sector are not much different than others mentioned before. The following are a few: working in low socio-economic areas, accident and emergency situations, primary health care settings, and caring for psychologically disturbed individuals including people with mental illness, and developmental disability (Mead, 2016)

OVAS could be related to psychological status of a person, like the patient's illness (and its severity) creating negative emotions, staff having poor communication skills, poor medical management and limit setting that compels patients to abide by something even though they don't like it (Ilkiw-Lavalle, 2003). In addition to violence inflicted by people of average intellectual status, OVAS can also result from people of poor intellectual status experiencing uncomfortable feelings. OVAS could be related to degenerative diseases, like Dementia, where the lack of a familiar environment, and a poor understanding of the disease process by the caring staff, can make the patient aggressive and violent (Jones, 2006).

2.1.F. Actors of OVAS

Medical professionals deal with complex interactions with service recipients, their accompaniments (relatives or carers) and others as needed for the job. Medicine is a 'social enterprise' and engaging with people in different situations (or environmental conditions) who are distressed with their conditions or circumstances (and experiencing an altered level of cognition, affect or arousal) could be stressful (Hills, 2013). A customer or patient reacts at a facility based on their level of anxiety, pain, communication, attendance of a service provider (nurse, doctor or others) and the relationship that is built at the interaction (Ware, 2017). On the other side the way a service is delivered to the customer depends on the providers' (doctor, nurse and others) perception of the process based on their clinical training or service guidelines. But to avoid a conflict the providers need to adjust their position (perception, attitude, routine and others) depending on the complexity of customer need (Berman *et al.*, 2017; Darcy & Melissa, 2017). Besides these people attributes (customer or provider) it is worth explaining the conflict in medical settings through a broader social context, where the interaction is not dependent only on human behaviours but also on the context of the environment and other non-human elements (Miettinen, 1999; Young, 2010).

There are different social theories to explain the interaction between factors of a system, but this research wanted to investigate heterogeneous elements of the interaction, not just the homogenous human factors. As mentioned in Table 2 an incident of OVAS in a healthcare setting does not only relate to human interaction but also involves the environment, culture and other non-human factors.

To develop an OVAS prevention strategy, hospitals (and other healthcare organisations) need to identify actors, understand the process and level of interaction of the actors and develop a strategy to manage the actors. Reviewing the cause and risk factors of OVAS, four types of actors are identified: the patient-based actors, staff-based actors, organisation-based actors and service providing environment-based actors.

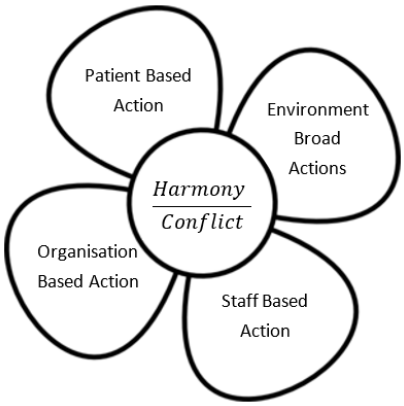


Figure 3 Actors of OVAS

Ref: This hypothetical diagram is drawn by the researcher based on the literature review.

Collecting accurate real time-based information (Figure- 3 above) can help formulating a strategy of the interaction of actors in influencing the state of harmony or the conflict minimisation environment in hospitals. This figure could also be included in the training content to improve awareness of the staff about conflict resolution processes. Based on literature review the actors of OVAS are presented in table 3.

Table 3 Actors of OVAS

Type	Description
a) Customer based actors	Perception, attitude, behaviour, service need, urgency, transparency, satisfaction. The perception of the customer /patient and their accompaniments about the service expectation, the physical condition (acute or chronic) requiring them to seek the service, the psychological state (being referred to the hospital by a mismanaged GP or other service provider), psychiatric (mental) illness, influence of substance abuse.
b) Staff based actors	Personal attributes, stress management skill, work load, experience of OVAS. Personal attributes of a staff includes attitude or culture of providing service, inexperienced staff (lack of judgement to recognised clients stress, lack of understanding how to avoid conflict, young or immature staff, international medical graduate (IMG) unaware of the local culture, unable to respond to health service seeking behaviour of the population or unable to identify the entitlements of the customer), disproportionate gender distribution (female staff in aggravated male customer area),

Table 3 (Continued)

Type	Description
c) Organisation based actors	Resource management, communication, priority setting. Under staffing, specific culture of work practices, poor communication across management and staff (lack of effort to inform staff about working procedure, service delivery, referral procedure), poor training facility to upskill staff, lack of staff support (like counselling properly in post exposure period), lack of stress level assessment,
d) Environmental actors	Work environment, community acceptance, security. Isolation of the workplace, time of work (night time), ownership of facility (public or private ownership), type of service (acute, chronic, psychiatry, children), area of service (like, emergency department or mental health units), level of security present, customer demographic influencing attitude to health service (age, gender, cultural, regional, cosmopolitan),

Source: Based on literature review and on Figure 3 this summary drawn by researcher

The above Table (Table 3) helps formulate the interaction of actors in influencing the state of harmony or conflict in hospitals. The list in this table is not an exhaustive one. It can vary depending on the organisational structure and operational policy and procedures.

2.1.G. Barriers to Violence Prevention Programmes

There is insufficient information on OVAS from the health care facilities including hospitals (Blando, 2015; Wyatt, 2016) which is the main barrier to formulating and implementing an OVAS prevention programme in many countries, including Australia.

One research group classified the barriers to effective implementation of workplace violence programs into seven themes that includes: “a lack of action despite reporting; varying perceptions of violence; bullying; profit-driven management models; lack of management accountability; a focus on customer service; and weak social service and law enforcement approaches to mentally ill patients” (Blando, 2015). Lack of leadership commitment to OVAS control programmes (Sinelnikov, 2015) is another factor, that hinders the identification and implementation of leading indicators of the effectiveness of a programme.

Development of an effective OVAS prevention programme faces some major obstacles in the healthcare sector: awareness of the workforce about OVAS and its impact, lack of initiative by management to detect warning signs of OVAS, and trivialisation of OVAS that is accepting it as a part of the job and being scared to discuss or complain for fear of being disadvantaged by being considered as incompetent (Dompierre, 2008; Geoffrion *et al.*, 2015). Even if reporting exists there is

confusion about defining OVAS, how to report, lack of time to complete reports, and lack of feedback from management about the reported event.

2.2. Work Health and Safety Management System (WHSMS)

Expectation of a better workplace environment is always a priority for all workers. In the past employees would have been lucky to get some compensation for work place injury (WRI) and in general, workplace safety was considered a responsibility of the employees only (Jehring, 1951). Efforts to improve workface safety was not taken seriously as Heinrich's safety pyramid, mentioned in 1931, demonstrated a ratio of near-miss: minor: major incidents (300:29:1). It could be interpreted as meaning that before a major or fatal accident 300 near misses had already happened. It was considered by most employers that accidents are not an everyday event and even if they happen, in most cases (approximately 88% of accidents) they were caused by the unsafe acts of people (Rebbitt, 2014). This provided employers more opportunity to escape their role in safety. Over time it has been understood that reduction of minor injuries improve the safety but this doesn't reduce the number of major incidents proportionately (Rebbitt, 2014). Heinrich's 'safety pyramid model' looked in the workplace safety from a worker-centred perspective but today it is recognised that the assurance of workplace safety needs an industry-centred approach as well (Jehring, 1951; Robson, 2007).

With the intervention of the regulatory bodies in workplace injury, it is now emphasised that discussion on workplace safety needs to involve hazards, employee health, safety and welfare in the workplace (VAGO, 2013) besides other management issues. This then requires involvement of all stakeholders related to the cause and effect of the hazard, not only workers, but also those in the management to determine the evaluation process. Evaluation of a process needs the use of proper tools to measure against set goals. To control the hazards the discussion then needs to include employees, their representatives, the employers, the representatives of statutory bodies, the service providers and safety technology (Hiel, 2000) along with the customers and their beneficiaries. Involvement of so many stakeholders in the management of the hazards then needs a system approach not just an isolated action to control one parameter. Such broader thinking assisted the development of the work-health and safety management system (WHSMS) and at present is the point of discussion both at the national and international level of workplace safety. Along with the changes in the concept on workplace safety management, the governance style of the issues also changed, supported by legislation.

In Australia the Safety, Rehabilitation and Compensation Act 1988 (SRC Act), OHS Act 2004, Safe Work Australia Act 2008, and the new WHS Act 2011, influence the proper functioning of the

WHSMS. Under the guidance of this legislation the efforts of national and local statutory bodies like COMCARE, Safe Work Australia and state authority like Worksafe Victoria, attempt to regulate the WHS issues in industries including workers' compensation, WHS education, assurance and enforcement of employee and workplace safety (FSU, 2012; SafeworkAustralia, 2014a; Worksafe, 2017).

There are different definitions of WHSMS available at the national and international level. The International Labour Office (ILO) defines WHSMS ‘‘A set of interrelated or interacting elements to establish OSH policy and objectives, and to achieve those objectives’’(ILO. *et al.*, 2002).

Worksafe Victoria describes the WHSMS as a coordinated and systematic approach to help organisation continually improve safety performance and compliance to health and safety legislation and standards by establishing safer working environments that protect people at work through eliminating, or better managing the hazards (Worksafe, 2015a).

The WHSMS of any organisation collects information on health and safety risks and helps in planning, implementation and review of the system aligned to national or international guidelines or standards. It attempts to manage hazards (accidents or occupational diseases) using relevant general and specific measures (Hiel, 2000) guided by legislative framework or other industry guidelines.

So, WHSMS is a systemic approach to manage workplace safety through planning, implementation and review with coordination among inter-related bodies and aligned to WHS legislation.

Proper functioning of WHSMS needs attention on some elements: WHS goals, policy and procedures, hazard control system, preventive and corrective action system, communication system, management commitment to it, allocation of adequate resources, employee participation, performance measurement, training and evaluation (Robson, 2007). Today with the availability of better digitalisation and broadband network the health sector has a scope to improve the communication and reporting system. WHSMS also need to consider better management of cognitive level and behavioural level of the people, internal environment (workplace) and external environment (Hsu, 2007) along with attention to technical factors (Hale, 2003).

Reviewing the management of epidemics of some recent conditions, like severe acute respiratory syndrome (SARS), it was evident that effective communication with the target population has a role in controlling occurrences or episodes of attack, and reducing fatalities (Fleck, 2003) The case fatality was reduced by rapid dissemination of knowledge, through mass media, to the population about preventive measures, that is, limiting interaction with the sick person and maintaining personal

hygiene (O'Malley *et al.*, 2009; Simon *et al.*, 2005). Such evidence points to the role of information management and workforce training to improve awareness and the perception of risk in the target population. But before creating an awareness, it is important to identify the hazard, analyse its nature, point of occurrence, actors, classification, severity and control.

Since the realisation of the systemic approach of risk management the 'hierarchy of control of hazards and risks' was adopted as an important strategy in WHSMS (NIOSH, 2015; SafeworkAustralia, 2017). In this model, (Figure 4), higher level control (like, elimination) is given priority if the opportunity exists, but is in most cases expensive and needs stronger commitment from top management. Use of lower level control appeared cheaper but needs more supervision and more participation of the stakeholders to control the hazards and manage the risks. Choice of 'control level' depends on the severity of the risk, virulence of the hazard and management decision. To control a hazard with potential risk of death or fatal injury, 'elimination' could be the preferred choice of action but depending on the commitment of the management and the availability of resources while waiting for the implementation of level one control other levels could be initiated as an interim measure.

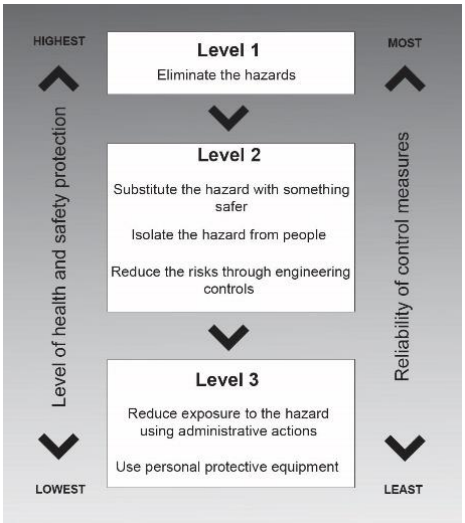


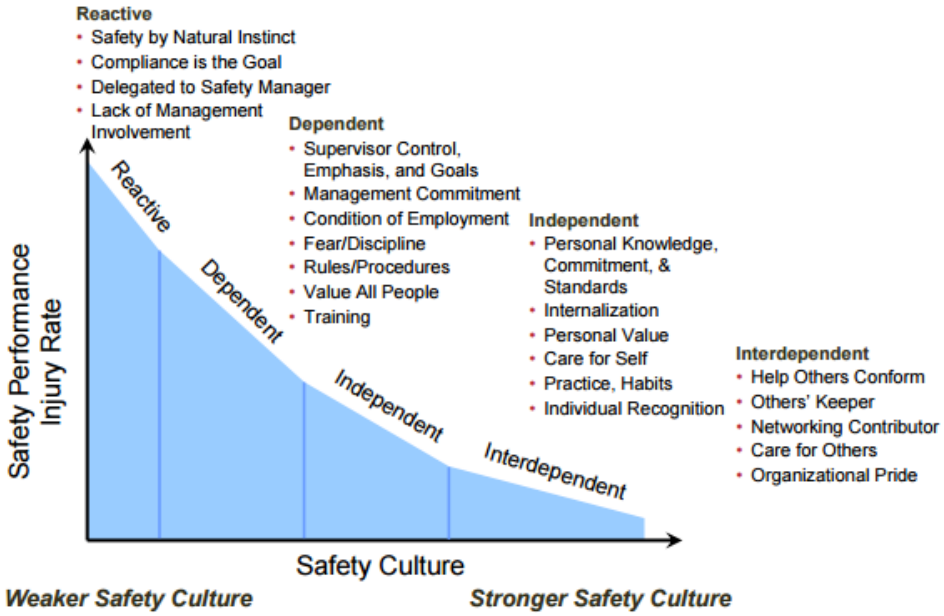
Figure 4 Hierarchy of controlling the hazard (SafeworkAustralia, 2017)

Showing the relationship between level of protection and reliability of control measures

Further research has moved WHSMS strategies from the traditional hierarchy of control model, Figure 4, due to its narrow focus of avoiding hazard or risks with cause and effect analysis. A more effective system is proposed to include interaction of multiple factors related to safety (Fan *et al.*, 2015). That multi-factorial concept moves WHSMS to be a proactive system encompassing a broader view of safety including personal safety, process safety, safety culture and safety climate (Hopkins, 2015; Knegtering & Pasman, 2009). The concept of safety culture or safety climate (Olive *et al.*, 2006; Richter, 2004) intends WHSMS to involve the whole organisation in the safety management rather than only employee or a limited group.

The safety culture model expects that a reduction in the incidence rate to the bare minimum will occur if safety becomes a concern of all members, including management taking proactive individual responsibility and helping each other to maintain safety (Hopkins, 2015; Olive *et al.*, 2006). Among those safety culture models the 'DuPont Bradley Curve' (Filho & Waterson, 2018), in Figure 5, explains the stages that an organisation passes through to achieve the highest level of safety.

Figure 5 DuPont Safety Culture curve



In the reactive stage the commitment is low, considering accidents as a natural event, in the dependent stage management commitment is greater but safety is limited to complying with the legislation. In the independent stage people value safety and show interest in developing a safety habit under the guidance of management, and lastly in the interdependent stage safety is everyone's business with deeper commitment at an individual level with little dependence on others to complete the risk minimisation task. In this last stage all members of the organisation, including management, work as a team. Instead of leaving a task for others they all support each other in getting it right and do not like unsafe work.

Such a concept broadens the idea of passive participation by simply avoiding hazards to active involvement in rigorous scrutiny of minor details of the work process to avoid any risks. It then assists in ensuring the development of the WHSMS from a personal safety to a process safety level (Hopkins, 2015; Knegtering & Pasman, 2009; Shell, 2015).

Gradually the WHSMS is widening up its scope from a single hazard risk minimisation to overall attention to all hazards to improve the quality of service of an organisation (Sinelnikov, 2015). Such aspiration in risk minimisation processes outdates the Heinrich's Pyramid model or by DuPont

Bradley Curve as being simplistic. This new aspiration then needs to consider other elements of risk management not just the human factor but also the social, environmental and other aspects of incidents. Implementation of such WHSMS requires the management to shift the traditional 'blaming the worker' attitude to the broader organisational context with inclusion of knowledge gain and training in internal and external factors and human and non-human factors that influences the safety climate (Hofmann, 2017). My research intends to focus on the social aspect of risk management.

A broader focus of WHSMS from its simple hazard control to ensuring total quality of service drives organisations to implement new international standards like ISO45001:2016 to provide the best possible working conditions to meet legal, industry and customer requirements (Darabont *et al.*, 2017; Kleinova & Szaryszova, 2014).

To ensure effective functioning of the WHSMS the strong commitment of senior management to safety in all situations is important. That means allocation of an appropriate budget for health and safety, encouraging easy communication on safety across the organisation, ensuring proper safety training, providing support to implement safety tasks, and engaging work health and safety specialists as an when needed (HSE, 2005).

2.2.A. Actors of WHSMS

As per AS/NZS 4801:2001 (Standards, 2001), elements of WHSMS are: goal setting, policy development, organising, planning, implementing, audit for performance measuring and reviewing, taking corrective actions, goal review.

Methodology for the **I**mplementation and **M**onitoring of **O**ccupational **SA**fety (MIMOSA), shown in Appendix 22, is a framework to evaluate the WHSMS of an organisation (Saracino, 2015). It is an initiative of the European Occupational Safety and Health Agency (EU-OSHA). It has six key elements through which any organisation can self-assess their priority areas to manage the WHSMS. These six key elements are:

1. Coherence with targets and Leadership
2. Risk reduction and protection of people in compliance with the law
3. Involvement and development of personal education
4. Innovation continual improvement
5. General compliance, formal compliance
6. Social responsibility (EU-OSHA, 2010)

Each key element has some themes and performance indicators. The themes of the second key element (Orientation to risk reduction and people protection in compliance with the law) are of interest for my research those are: education, training and information (6th theme) and the safety climate (15th theme). It is therefore important to note that if we check the performance of the organisation against these themes then it can give an idea whether the WHSMS of the organisation is working well or not.

Other important elements include (Yazdani, 2013): identification of hazard, assessment of risk, determination of controls, roles, resources, responsibilities, authority and accountability, awareness and training, communication, competence, consultation and participation, operational control, documentation, monitoring and performance measurement, evaluation of compliance, internal audit, review by management.

Among these elements of WHSMS the following are the actors, due to their deep impact on OVAS:

- management style (compliance or, improvement)
- management involvement (active participation, commitment, delegation, empowerment),
- employee participation (scope and encouragement),
- legislative support to WHSMS (role of national, international or other regulations or standards)
- system management (plan to check and act),
- performance indicators,
- communication and training system,

2.2.B. Safety Management at Hospitals including Australia

In hospital, the word safety encompasses four broad aspects: patient safety (Rivard *et al.*, 2006; Xie *et al.*, 2017), employee safety or WHS (Nahrgang *et al.*, 2011; Singer, 2007), safety of property, safety of information (Kakouros, 2013). Most of these publications relate to patient safety. Management are more concerned to ensure patient safety which is considered as the best indicator of hospital performance (Gates *et al.*, 2011a; Stock & McFadden, 2017).

Safety culture related to WHS is a non-health sector concept (Berman *et al.*, 2017) gaining attention since the last decade particularly after strong voices from nursing and other healthcare workers (Anderson, 2011) and after involvement of legislative bodies (Parliament of Victoria, 2011). Gradually health care organisations are realising that there is a relationship between employee safety and patient safety (Berman *et al.*, 2017; Momani & Mumani, 2017).

Hazard identification and risk minimisation is the basic task of the WHSMS (Ericson, 2015; Fan *et al.*, 2015). After identifying the hazard the next important task is to create awareness about it in the population (Taskforce, 2016). The impact of any hazard depends on the level of awareness of the

hazard and the level of risk taking behaviour of the individual (Papa, 2013; Thompson, 2014). The present trend of using digital record keeping reduces cost of information flow and storage with improved data safety and outcome with convenience to share information among professionals (Kakouros, 2013).

Top management need to be actively involved in OVAS control programmes like: zero tolerance to violence, appropriate physical design of the workplace, staff training, accurate reporting of violence, review of current punitive actions against perpetrators (Mead, 2016). Effective WHSMS needs a multidisciplinary and multifaceted approach (Mehra, 2012), with attention to the input, process, output and outcome. Such efforts could not be completed without the active involvement of top management.

2.2.C. Gap in the WHSMS to manage OVAS at hospital

In the last decade, progress has been made in the design and use of WHSMSs but still the main barriers to safety include a splintered safety culture, that is there is no uniformity in the safety culture across the health sector (Dergurahian, 2008; Richter, 2004). No uniform OVAS control programme is noted across Victorian hospitals. BN123 Health uses MSVT with a focus on physical action as well as awareness creation among participants (Appendix 5.1), Monash Health uses the MOCA-REDI programme to create awareness on OVAS among employees (Appendix 8.0), others have different ideas. That fragmented approach and difference in agreement on a uniform action is a hindrance to develop an effective OVAS prevention programme. There is also evidence of lack of senior management's commitment, effective workforce involvement, programme integration, inappropriate application of audit tools to ensure compliance, and the weakness in managing contractors, the part-time and temporary workforce (Gallagher, 2003)

There is also a gap in the WHS related information collection and reporting. VHIMS, is the reporting format to the Department of Health from all hospitals but has limited scope to enter the data on OVAS (VHIMS, 2017), inconsistency exists in the reports of some hospitals (VAGO, 2013).

One important hurdle to create uniformity in the OVAS prevention training is the difference in characteristics of the participants. Managing human resources is an important part of the WHSMS. Some systems achieve success by improving the cognitive level of people, that is affecting their knowledge and awareness level for a better outcome, whereas others gain by managing the behavioural aspect to affect the action (Hsu, 2007). Management need to select an action plan depending on the characteristics of the human resource, along with other components. This also suggests that copying a programme from other industries or from other organisations does not bring

the same results. But organisations operating under certain organisational, functional and environment attributes could create a common programme. The framework mentioned in MIMOSA (Saracino, 2015) could be a guide in that regard.

2.2.D. Evaluating the WHSMS of an organisation

It is important to evaluate the WHSMS to ensure that the organisation is fulfilling its obligations mentioned in the OHS policy (Lingard, 2011). The Australian Standard on occupational health and safety management systems, AS/NZS 4801:2001, clearly states that hazard identification, risk assessment and control measures should be regularly evaluated (VAGO, 2013). To measure the performance of a management system it is better to identify the core competencies of the system and to select proper tools to evaluate those competencies or functions (Amaratunga, 2001).

The performance of a system is better evaluated by measuring some indicators. Over time an indicator may form part of lagging or leading metrics for benchmarking performance of WHSMS, as it depends on the advancement of the technology of measurement. Today the case fatality or injury rates are lagging indicators as they are failure focused measures and considered less useful for continuous improvement. Leading indicators (like employee hazard awareness, benchmarking or tolerance level) provide early warning signs of potential failure and enable us to identify and take corrective actions before damage or injury happens (Sinelnikov, 2015). At systems level, leading indicators are helpful to flag potential problems well ahead of any incident allowing opportunity for corrective actions. Leading indicators are intended to support a proactive role in maintaining workplace safety, or in other words to ensure maintaining safety culture. Leading indicators may be obtained by behaviour-based survey or safety perception survey, WHS meeting and WHS training (Sinelnikov, 2015). Real time information collection systems, with access to all employees for data visibility, can help better to monitor the leading indicators and strengthen employee engagement (Sinelnikov, 2015).

To evaluate the effectiveness of a WHSMS it is required: to monitor the impact of the actors on the hazard and risks in the current management system, to identify the regulatory context that guides the system and to determine the gap in safety compliance (Griffina, 2014).

Evaluating the performance of WHSMS could be done by survey, direct observation at work places and investigating performance against set indicators like staff absenteeism, productivity or reduction of quality of service (Paterson, 2012), measuring the traditional indicators (incident rate, compensation claims) (Heinrich, 1959) or other indicators like Positive Performance Indicators (PPIs) and safety climate survey (Lingard, 2011) based on workplace or industry standards .

It is needed to understand whether the WHSMS is working or not. The organisation might not have any agreement among industry, government, unions, regulators and other stakeholders on OHS management issues. Also, the OHS decision making could be limited to top management with little focus on risk minimisation effort ignoring employee expectation. This drives researchers to find leading and lagging indicators of WHSMS performance management. Some of the important leading indicators are - presence of OHS system, management commitment and OHS training; and lagging indicators are lost time, near misses, work-cover claims (Cieri, 2015; Sinelnikov, 2015).

Under the initiative of the EU-OSHA the MIMOSA framework (see Appendix 22) was developed to measure the effectiveness of WHSMS of an organisation. Before using that framework it is better to understand the intention of the WHSMS of the organisations and to identify its position among the three categories (Saracino, 2015) that is: using WHSMS for mandatory compliance with law, or, using it for continuous improvement as mentioned in the new ISO45001 or, using it only to avoid liability or crime prevention.

Due to the lack of information about BN123 Health's intention of running WHSMS, my research was interested to focus on the second key element of MIMOSA, which is 'orientation to risk reduction and people protection in compliance with the law' and have picked up the 6th theme of that element, that is 'education, training and information'. It was expected that if the performance of the system on this key element appears good, then WHSMS of the BN123 Health could be considered good.

2.3. Role of training in WHSMS

The need for training in work health and safety management is well emphasised in the WHS Act, Regulation and in the publications of the other regulatory bodies (SafeworkAustralia, 2017). Research on WHS and OVAS prevention has also demonstrated that training improves the hazard identification, categorisation, risk minimisation process (Mayhew, 2005; McPhaul, 2013). In situations where the top three measures of control (that is: elimination, substitution and modification or engineering control), in hierarchy of control of WHSMS, are not a reality then training is a very important tool to implement safety at workplace (Mayhew, 2005).

Sections 19, 27, 49, 72 of WHS Act 2011, mention the training requirement to manage WHS issues in an organisation. Training helps to create a shared core value among participants and also promotes institutional goals (Berman *et al.*, 2017). To create a culture of safety in an organization inclusion of all staff is a priority (Beech, 2006). OVAS prevention training is important and needs continuous analysis of information by WHSMS authority and feeding that information to training department helps improving employee knowledge in risk management.

As mentioned above one of the functions of the WHSMS is to identify the hazard and determine the appropriate control measures. It was also mentioned that one aspect of human resource management is to manage the behaviour. Table 3 shows attitude and behaviour of the customer and of the staff that might spark OVAS. Even though organisations identify actions that to avoid the risk of accident, still some people do not avoid the actors of OVAS or do not refrain from risky work practices. Risky work practices influenced by risk taking behaviour of a person depend on many factors: poor perception of the danger related to hazard or to a particular act (Arezes & Miguel, 2008), attitude of short cut approach to save time in a time constrained environment or a cultural background unfamiliar with certain norms of a workplace or a community or customers (Targoutzidis, 2010), individual differences in risk-related attitude (Mishra & Novakowski, 2016) or ignorance of consequences of an action. Communication through training would attempt to increase the awareness about the risk, and the consequences of certain actions of a service provider. If any programme can increase the level of awareness 'about the outcome of a behaviour', then it would encourage individuals to maintain the good practice or behaviour in the post-training period (Henderson, 2016). Properly organised training can improve the personal attitude and hence the behaviour of the people. Training would be able to empower participants to better manage relationships with customers or their accompaniments and also to cope with the aggression and violent behaviour (Milczarek, 2010).

Information about an event and observing the cause and effect related to it, provides better understanding and to improve knowledge (Bellamy *et al.*, 2018). That is no different in WHS. Providing information on incidents and its analysis (like, hazard analysis) would enrich the perception and knowledge of participants and encourage them more to adopt safety measures. People learn in different ways, one of which is graphical presentation of the information (Bellamy *et al.*, 2018). WHS training programmes need to consider different presentation formats, particularly the current multi-media tools that attract the participants. Better realistic presentation with analysis of the situation against the WHS policy and procedures leaves a long-term impression on the participants.

Some guidelines are available to develop a OVAS prevention training programmes in Australia, these include: creating awareness among participants, inclusion of online training module, maintain standards, a framework to evaluate the training, involving managers for post-incident support (Taskforce, 2016):

2.3.A. Training on OVAS risk management, particularly in a hospital setting

Training improves organisational performance through better knowledge and skill of the workforce and successful organisations' emphasise on training and re-training of the employees (Mayhew & Quinlan, 2002). Repeated training on a topic not only improves the knowledge but also influences the attitude and working behaviour of the participants in a desired aspect and helps improving work performance (Noe *et al.*, 2014; Swuste, 2010). It is expected that this would also be true for WHS issues where training not only would raise awareness on safety issues but also change attitude and motivate participants to adopt positive safety behaviour or better work practice. A change in perception on hazard and risk is an important achievement towards developing positive safety culture. Training helps developing a positive perception on the WHS issues and results in reduction of adverse events (Xie *et al.*, 2017).

Management involved in WHSMS should develop a training package to explain the safety management process and deliver it to all employees involved in providing the desired service (Safework Australia, 2012c). It is important to develop a framework for OVAS prevention training with identification of appropriate organisation specific contents and priority settings. It should ensure the accessibility of all concerned. As per WHS regulation there should be universal coverage of the training programme so opportunity should exist for mobile learning using IT, even cloud computing and cloud environment with 3D interactive technologies (Auer, 2015).

A positive relationship between patient and service providers (doctor, nurse and others) is important for quality patient care (Strandås & Bondas, 2018). This requires avoidance of any conflict and distancing of the service providers from the patient. To avoid any conflict particularly any abuse to service providers from patients or their accompaniments the same hierarchy of control principles (mentioned in Figure 2) could be applied. But in healthcare it is not an ethical option to eliminate the contact with the patient. Service providers can't serve like a bank tailor sitting on the other side of the glass wall. Elimination of the patient relatives or other accompaniments have been tried in some facilities, with zero tolerance policy in place, but that didn't show significant improvement in OVAS incidents (Darcy & Melissa, 2017). Instead of elimination it is possible to modify certain work practices to reduce the OVAS incidents (Mayhew, 2005) like: stay away from the path of potential direct heat to avoid direct thrust like standing to a side after knocking on the door, maintaining face to face eye contact from a fair distance, never turn back in close proximity, never put a name badge or key ring in a strong string around the neck, carry a handy mobile phone with a panic button to seek help in emergency, and similar features. Organisations need to identify their own depending on the type and level of service provisions.

Risk identification, assessment and working according to control framework is most appropriate to prevent OVAS at health workplaces. This requires recognition of early warning signs of aggressive behaviour, de-escalation (or diffusion or talkdown) skill development to respond to an aggressive or stressed client (Dompierre, 2008; Sinelnikov, 2015).

Increased awareness on a hazard and risk helps reducing incidences. Study of MOCA-REDI (Thompson 2014, Gerdtz 2011) has shown a significant positive swing of the staff perception on OVAS following training (as measured by the programme managers).

The Victorian Auditor General's report (VAGO, 2013) mentioned that most (>80%) health services in Victoria provide training relating to occupational violence management. Some offer regular training, every two to three years, with annual refreshers and monthly and weekly tutorials and debriefing. The training is mandatory for security staff and staff in mental health and emergency departments. Sometimes it is extended to other health services staff as well. Two health services provide online training and face-to-face courses of between two hours and two days duration. They each have a suite of programmes including general online information, courses in managing aggression, and training for home visit risk assessment and 'Code Grey' response. They also provide training targeted at specific groups including doctors, dental services, 'hospital in the home', aged care and mental health services.

To structure a course and to develop better contents of the OVAS prevention training it might be helpful to look at other countries or industries that already have training programmes on OPV prevention.

The Canadian Centre for Occupational Health and Safety (CCOHS, 2017) and Canadian Safety Council (CSC, 2017) provide support to develop the workplace violence prevention programme in compliance with the Canada Labour Code. In US the National Institute for Occupational Safety and Health (NIOSH) runs a free interactive web-based programme 'Workplace Violence Prevention for Nurses' ((CDC, 2016), Appendix 22). The programme has several modules; each with a set time period to complete. A mixture of text and interactive video presentation attempts to capture participants' attention. They need to score 100% in a post-test and then receive their certificate. Target audience for the course includes clinical and non-clinical persons. This programme was reviewed and approved by the proper authority related to continuing education. Participants get accreditation points (CME points) according on their job description (Appendix 6). Such structure of the course to include flexibility, interactive module (where participants need to do some activity, not just watching it),

incentive to gain certain credit that could be utilised across the industry would be beneficial for OVAS training developers.

OVAS prevention training should not only be focused on the employees, but rather include managers and give them the foresight to apprehend the situation and develop policies to manage the risks. Contents of the senior management training could include policy communication training, stress management training, negative behaviour awareness training (Milczarek, 2010).

Contents of an OVAS prevention training for all staff might vary depending on the individual organisations need but the following could be considered: understanding OVAS prevention policy and procedures, aggression and violence prediction factors, characteristics of aggressive and violent patients (Peek-Asa *et al.*, 2009), understanding ques or early signs, avoiding conflicting situations (Keely, 2002), following early intervention policy and procedures, diffusing aggressive behaviour (verbally and physically), resources available for victims and post-exposure consultation facilities. Contents should also include obtaining assistance, use of security devices, incident reporting and documentation (Keely, 2002). Availability of any alert system could also be included (Kling *et al.*, 2011) in the training content, to allow the participants to know its operational procedures.

Training should caution the participants to avoid any biasness about customers on the basis of their demographic or other factors and also to avoid pre-emptive or anticipative actions based on some indicators described in any literature read in the course (Keely, 2002). Poor communications skill of the staff is an attribute of OVAS. To avoid OVAS enough guidance and training is needed for staff to understand the patients' perspectives and their level of perceptions of the management (Ilkiw-Lavalle, 2003; Jones, 2006).

2.3.B. Characteristics of Good Training programme

To improve the performance of an organisation this human resource needs to be developed through innovative training.

There are different training programmes available both nationally and internationally but there is always a question about the selection of best practice. Good training should include research-based knowledge concerning the causes and escalating nature of OVAS. Interventions put forward for the participants should have enough evidence to fit proper situation analysis or risk assessment, in other words all interventions be tailored to respond to the problems and needs of specific work place or individuals. Training must ensure evidence that there is commitment of management to the aims and implementation of the interventions mentioned in the session (Milczarek, 2010).

OVAS prevention training needs to have contents and practices to disseminate knowledge and to provide confidence to the participants to work in a complex environment (Huang, 2003; Law, 2006). Training needs to create a sense of belonging among employees to their environment and demonstrate the benefit of the new skills to enable them to continue their good work without fear (Vassie, 2001).

Delivery of the training should be flexible to allow equal opportunity to access all staff (permanent or casual, at the main campus or in isolated satellite campus). Hindrance to attending training will put the disadvantaged ones at risk (Papadopoulos, 2010).

Three approaches could be taken to prevent occupational violence: 'Preventive approach (Reducing exposure to violence), Protective approach (appropriate behaviour of staff when violence occurs), and Treatment approach (diminishing the impact following violence)' (Mayhew & Chappell, 2001). Depending on the organisation's management, decision training is needed to adjust its content and practice guidelines accordingly.

Training sessions should be appealing to the participants with inclusion of multi-media, 3D interactive technologies, and to include access for all there should be mobile learning using IT, even cloud computing and cloud environments (Auer, 2015).

Like any other management, this training programme management should also follow either PDCA or PDSA or DMAIC procedures. PDSA (modified from PDCA) meaning Plan, Do, Study and Act (PDSA) is a simple concept of continuous improvement processes. The DMAIC (Define, Measure, Act, Improve and Control) model of quality management is a systematic, and fact-based approach providing a framework of results-oriented project management (Nicolay, 2011; Sokovic, 2010). This will allow training departments to make quality programmes which would be easy to evaluate against their goal and to match against organisational policy.

There are different approaches to including trainers in the programme. The selection of trainers and their skill development programme is important to manage a quality training team. As behaviour management is involved in this OVAS prevention, so inclusion of psychiatric department staff in safety committee would bring benefit (Peek-Asa *et al.*, 2009).

A training method needs to consider the duration of post-training retention of knowledge and skill. The concept of memory retention curve or sleep memory explains that people can retain their memory for a certain time and a refreshing or re-memorising process can improve the retention (Murre & Dros, 2015). Considering that along with the updates of the legislation or industry policy organisation

their needs to develop a time frame for main training and refresher training to maintain the knowledge and skill of the participants.

Besides that, frequency of training learning method of the participants should also be considered. It is known that retrieval-based learning supported by group discussions or other methods with opportunities of reconstructing one's knowledge helps better learning (Karpicke 2012). Trainers should consider this to provide such facilities to the participants. People differ in their learning pattern, some learn better from words and pictures than words alone (Moulton, 2014). A training session that require individuals to recall information is more effective than those that that do not (Moulton, 2014). This is why training organisers need to develop the content in different formats of presentation.

Participants' learning also depends on the ease of understanding. Some learn better with enough information on cause and effect relationships (Moulton, 2014). So, every opportunity to demonstrate the cause and effect should be taken to improve the learning, which would then help retaining the knowledge for longer period. Those issues are important to develop training material and selecting a mode of delivery to influence trainees learning.

A good training on OVAS prevention in hospitals needs to assist trainees to understand: risk factors OVAS (clinical and non-clinical), OVAS prevention policies and procedures, the employee rights (Worksafe, 2015b), identifying the signs of escalation and imminent violence, de-escalation techniques (like, preventive measures, effective communication strategies) and post-incident responses and support like counselling (CDC, 2016).

'Learning' reflects a heterogeneity of possible changes, from changes in knowledge and behaviour to changes in values and preferences (Moulton, 2014). To understand the level of learning it is needed to measure the changes in knowledge, preferences, values and changes in behaviour. This then requires pre-training and post-training assessment. The results of the two assessments needs analysis to understand the adjustments needed in the training content, mode of delivery or other factors.

Like other WHS issues knowledge on OVAS (a hazard) requires an understanding of its cause and effect, the role of WHSMS in risk minimisation of OVAS incidents, and the actors with their networks to influence the control measures. This knowledge is important to formulate the course curriculum of a training programme and in formulating an evaluation process of the training programme.

Human resources need to be upskilled and updated with the inclusion of new regulations and to manage new incidences. Knowledge of addressing recent challenges makes everyone aware of something happening to be alert and about with proper preparedness to handle it to avoid interruption of service. Improvement of the WHS situation requires updating the system with changes in the characteristic of the hazards and risks, current knowledge and legislative updates. In such situations, it is important to adopt new technologies, but this can only be done by updated the training programme.

2.3.C. Actors of training

The literature review and the above discussion suggest that the following actors could represent an initial list of those involved in training, as they seem to play the most influential role in its success or failure:

a. Trainers
b. Trainees
c. Goal of the training
d. Content of training
e. Relevance of training to work process
f. Environment of training session
g. Communication (mode and medium) of training
h. Interaction in training sessions – examples discussed
i. Supportive documents (training resource, post training knowledge retainers)

This list of actors will be reviewed later in the thesis to see if some are not significant, then some actors may be removed and or others need to be added, according to the findings of this research.

2.3.D. Aggression and Behaviour of concern training (BOCT)

To address the workplace violence different training programmes have been organised in Victoria:

1. MSVT – Management of Violence and Aggression International Training
2. St Vincent's hospital- staff training on responding to Code Grey (Walby, 2015)
3. Ballarat Hospital's - Patient awareness campaign at Emergency Department (Catterson, 2015)
3. Monash Health - Management of Clinical Aggression - Rapid Emergency Department Intervention (MOCA-REDI) (Thompson, 2014).
4. Unit of competency in several TAFE courses: Several TAFE level courses has a unit 'HLTCSD306D - Respond effectively to behaviours of concern' to discuss the issues related to challenging behaviour of Concern and its management. (Training.gov)
5. Behaviour Support and Management (BSaM), Professional Assault Response Training (PART)

Some training programmes are developed and governed by individual organisations to meet their specific needs. They lack uniformity and do not seem to relate to any national or regional data-set on the incidence of OVAS. Due to growing concern in relation to OVAS, it appears to be important to develop a training programme with some uniformity, at least in some modular form, from which each organisation could select modules that best serve their purpose and employees obtain credit when they move from one centre or hospital to another.

Management of Clinical Aggression - Rapid Emergency Department Intervention (MOCA-REDI) programme showed success in improving perception of staff on OVAS (Thompson, 2014). A validated measurement tool, The Management of Aggression and Violence Attitude Scale (MAVAS) was utilised in this study. There is evidence to demonstrate that the MOCAREDI programme significantly modified general nursing staffs' attitudes towards the prevention of patient aggression using the MAVAS.

Presently public hospitals are using RSKSOFT software to assist in the risk identification and risk management process, but this is focused on patient safety. It is important to know whether staff are well conversant to use RSKSOFT and are prepared to enter data immediately after an OVAS incident.

The post-training assessment conducted by most of the training organisers collect limited information on participants view on prevention of aggression strategies at respective workplaces and how to incorporate that in training (VAGO, 2015).

2.3.E. MSVT, the OVAS prevention training at BN123 Health

The features of BN123 Health (in their 2010-11 annual report) (BarwonHealth, 2010-11) are:

- Victoria's largest regional health service, serving up-to 500,000 people in the BN123 South Western Region
- More than 6,000 staff in 21 sites, with one main public hospital and 16 community-based sites. Inpatient attendees (inpatient separations) more than 68,000 per year.
- Total beds 1,029, with 432 acute beds, 32 acute mental health beds, 411 aged residential care beds.
- 24-hour emergency department, with more than 56,000 attendees per year.

The hospital is now called 'the University Hospital Geelong' following on from its collaboration with Deakin University, Geelong.

To increase the skill levels of its staff in the management of OVAS, BN123 Health runs a training programme titled MSVT. It was procured from one UK health service unit where it was used in the psychiatry unit and it was initially intended to be used in the psychiatry unit of Geelong Hospital. Every hospital has its own working culture and procedure, but with necessary modification an intervention from others could be utilised effectively (De Beijer, 2016). This training is now the trademark of BN123 Health Australia. The staff in the hospital and in some selected sites are encouraged to participate in the training, at least once in their working tenure at the BN123 Health.

Details of the OVAS training activity are mentioned in Appendices 5 and 10.

2.3.F. Gap in OVAS control training

The role of WHS training in communicating the policies and procedures is reflected in several studies (Huang *et al.*, 2006; Law, 2006; Lin & Mills, 2001; Vassie, 2001) but there are gaps in explaining the achievements of the training. The gaps include:

- Inability to assess the extent of changes achieved in the perception of participants, after the training.
- Absence of effective tools to assess employer perception of the training success.
- Difficulty to measure the changes in learners' perception, commitment and skill influenced by training by a single or easy tool.

The focus of current training programmes is either on compliance or on a goal-based reward of 'acceptable injury levels'. According to the DuPont curve (Figure 5) this type of training is supporting only the 'reaction' or 'dependent' stage. But to develop an independent stage of development of a safety culture, an organisation needs active participation of all members of the organisation. That part is lacking in the present training system.

There is a lack of information about the actual rate of OPV or OVAS as mentioned by different researchers (Collie *et al.*, 2016; Mayhew, 2000; Mayhew, 2003). This creates a lack of awareness among everyone in hospitals including the top management of hospitals about the extent of OVAS risk. Such unawareness is definitely impacting the management of training; particularly in approving OVAS control training, resource allocation and encouraging staff to attend that training. Currently it is a compliance issue for management to satisfy just the regulatory requirement, and such training arrangement is not intending to bring any difference in service.

Among several factors to be considered for OVAS risk minimisation in the healthcare sector, executive commitment, proactive actions through policy and procedures, system design and training are important strategies to consider (Saunders, 2011).

The MOCA-REDI programme is focused on increasing the awareness of the staff on OVAS but it does not look in the evaluation of the training relating to its objective, content and effectiveness to fulfil the objective. It also does not describe any adjustments needed to meet the new legislative and industry expectations, how the changes in attitude are impacting the rate of OVAS in the operational areas and whether any changes are needed in the reporting arrangements for OVAS incidents.
So, there is a gap in understanding the relationship of the top management in planning and evaluating the training programmes in OVAS risk minimisation.

As we know with the shifting of nursing training from individual hospital control to the teaching institutions (TAFE and university) in 20th century and reviewing them regularly under the AQF it would be reasonable to consider such options for this OVAS training as well. Today AQF is doing well to synchronise the trainings from the very beginning Certificate One to university level (Level 10). Argument from hospitals might be the floor specific or department specific need requiring special training.

Whatever might be the decision the trainings definitely need more review to match current need (business need, regulatory need), industry practice, and matching the outcome. The staff attending the training should also be rewarded by established methods like CME points or credit in the performance appraisal etc.

It is not sure how many of the OVAS training programmes inform employees of their rights of reporting and seeking compensation, as it is a requirement of the regulatory bodies such as the Victorian Government. It is required that employees be aware to claim compensation and to report the assault to management or regulatory bodies, as per policy and procedures. The guideline also suggests following the occupational violence post incident response hierarchy.

None of the training programmes consider the on-job stress level of the workers due to long hours, work load, complexity of the service delivery process. All programmes give value to clients over the staff and that reduces the quality of the OVAS training programmes (Hayes, 2008; VAGO, 2015).

There is a gap in formulating a uniform effective training on OVAS prevention in all hospitals. Evidence of effective interventions is limited. Three main types of interventions have been tested so far: Administrative and behavioural interventions, Environmental interventions, Organizational policy

interventions (Collie *et al.*, 2016). Given multiple contributing factors multicomponent intervention is required.

2.4. Evaluating Training

Increasing legal obligation and competitive environment influences organisations to arrange training on different hazards and satisfy the requirement that something is done to minimise the risk. The training is expected to improve performance of the workforce through an improved knowledge and skill set, but how much actually happens at the workplace, needs assessment (King, 2001). If the outcome of the training influences the willingness of the trainees to work efficiently in managing the task, problem solving, or decision making and improving organisational performance, then it would be considered successful training (Burden & Proctor, 2000).

Some steps need to be considered before arranging a training: the goal, the target population or participants, the content, the characteristics of the trainer, resource need, method to measure the outcome, how to record it and any scope to improve (Saccaro, 2015; Worksafe, 2017c). Without knowing the characteristic of the OVAS incidents in a particular workplace and what is expected by the employee, employer and other stakeholders (if any) to minimise risk, a goal cannot be set. It is important to identify some indicators or tools to measure the outcome of the training against the goal. Those indicators could be: level of awareness among the staff on OVAS (Thompson, 2014) or measuring the impact on the incident rate (that is decreasing trend in the trained staff area), the level of confidence gained, level of improvement in attitude, skills and knowledge about the risk factors and to minimise the risk (Heckemann *et al.*, 2015). Unfortunately, there is no single tool to evaluate this. A 'Safety function scale (SFS)' can help develop and evaluate a training curriculum by assessing the learner's perception of the functions of a WHS job like, inspection and research, regulatory tasks, emergency procedures and settlement of damage, management and financial, culture change, developing and implementing solutions, problem identification and analysis, knowledge management, training and communications (Wu, 2010).

2.4.A. How to evaluate training

How well the participants will perform after the training would depend on the quality of the training. Evaluation might start with the question: 'is the training able to minimise the risk either by reducing the number of incidents or by minimising the risk of hazard?' It is better to have a pre-training and a post-training evaluation of the participants (Worksafe, 2017c).

Well defined training can improve the quality of the service (Nanda, 2009), and this applies to the OVAS prevention programme also, as all concerned be adequately skilled to perform their jobs in accordance to the set policies and procedures.

To assure the training quality it is important to evaluate the training on a regular basis. Evaluation starts from the planning stage by noting the content, structure, quality of the staff, resources and purpose. Immediately after the training, participant feedback through verbal or written and post training performance measurement helps measuring the success criteria (Alexandrov & Sancho, 2017).

A training programme evaluation needs the following information: objective or goal, indicators of performance measurement, indicators to measure the achievement, target population, participation process or access, matching content with objective, inclusion of current standard practices, acceptance of the delivery method, trainer's quality and experience, training session duration, knowledge dissemination method, post-training knowledge retention measures (Alexandrov & Sancho, 2017; Worksafe, 2017c). Many training evaluation models are in use in the industry; however, the model that is the most widely adopted was first proposed by Kirkpatrick in 1959 (Alexandrov & Sancho, 2017; Hung, 2010; Nanda, 2009).

Depending on the objective of evaluation, different evaluation models could be used: goal-based, process or system-based and outcome-based evaluation methods (Zinovieff & Rotem, 2008).

- Goal-based evaluations are evaluating the extent to which programmes are meeting pre-determined goals or objectives.
- Process-based evaluations are needed to understand how a programme works, how it produces the results that it does. This is useful if programme managers receive a large number of complaints from stakeholders or there appear to be large inefficiencies in delivering the programme.
- Outcome based evaluation wishes to understand the outcome that is affecting the clients. It might be important to evaluate the knowledge and attitude of nurses in administering a medicine to a client.

The objective of this study is to evaluate MSVT's goal. How MSVT is performing against its main objective. So, a goal-based evaluation is most effective for this study.

2.4.B. Objective/ goal-based evaluation method

Objective or goal-based evaluation methods are: 2.4.B.(i) Donald Kirkpatrick's evaluation model; 2.4.B.(ii) Jack Phillips Return on investment (ROI) model and 2.4.B.(iii) Hamblin's evaluation.

2.4.B.(i) Donald Kirkpatrick's model

Since 1957 this model gained popularity for training evaluation (Alexandrov & Sancho, 2017; Yardley & Dornan, 2012). Kirkpatrick described four levels of training evaluation (Kirkpatrick, 1994, 2006): reaction, learning, behaviour and results. Four levels identified are:

Reaction – measuring satisfaction of the trainees (thinking and feeling) about the training. It assesses immediate subjective opinion about the training course, but it might not reflect the level of learning. *Learning* – measuring knowledge gain and skill development. Ideally it should be done by pre and post training tests with objective assessment of each learner. It is hard to measure, but is mostly done by the 'end of course tests';

Behaviour –measuring changes in the attitude at work (working as shown in training) or whether there is a change in the perception. This is difficult and depends on the availability of a positive environment, support from supervisors and culture of the workforce or peers.

Results –measuring the effects on the organisation or its environment by the staff performance influenced by the training.

- Reaction and learning performs formative evaluation and behaviour and results performs summative evaluation.
- Reaction and learning evaluations alone could not provide correct evaluation of the training as it might not reflect the relationship between participants' feelings about the training and improved individual and organisational performance.
- Behaviour evaluation can be used to refine the training provided, as it provides information on changes in behaviour to impact individual and organisational performance. Evaluation of the results could help determining the value of the training, as it helps identify how much improvement is achieved at workplace to reach the pre-determined goal. It is not necessary to conduct all four levels of evaluation by an organisation, it will depend on the purpose of the evaluation (Hung, 2010).

Evaluating the reaction is the most commonly used method of evaluation and gets quick feedback about the training, even though it might give a false sense of quality of the training. Everyone is

interested to just fill-up a post-test feedback form set in a Likert-type numeric scale (Mikasa *et al.*, 2013).

Evaluating the learning and skill development becomes reliable when pre- and post- evaluations are utilised. Evaluating behaviour is difficult and might need to identify the better indicators of behaviour outcome. Evaluating results would be easier if there is a pre-determined well-set goal against which the outcome would be measured.

Many organisations including healthcare organisations are not motivated to perform programme evaluation (VAGO, 2013, 2015). This is a danger for the quality of training, as the full reflection of the participant is not being properly captured by that tool.

The Kirkpatrick model is used to evaluate training in many cases, but the criticism to it is the lack of enough evidence to link between learning and behaviour change (Alvarez *et al.*, 2004; Yardley & Dornan, 2012). Just because a participant learned something does not mean that anything will be done with the learning. That encourages them to look for other evaluation methods to assess behaviour change following the training. This model is also limited to point out how to improve future training, but that could be achieved if managers use the evaluation as a continuous process and compare the results of successive trainings carefully against the objective of the training and performance output of the trainees (Hung, 2010).

2.4.B.(ii) Phillips' Return on Investment (ROI)

Besides the Kirkpatrick's four level evaluation model, another level of evaluation is proposed by Phillips, that is the measurement of ROTI (Zinovieff & Rotem, 2008). This relates to justification of the cost of training based on the return on investment and its impact on the organisation or the extent to which the training program objective was achieved and is demonstrated by changed workplace behaviour and metrics. This type of evaluation has more focus on organisational performance based on cost-benefit ratio. The modern evaluators have consequently recommended adding the ROI as the fifth level evaluation to Kirkpatrick's model. This requires converting the results to monetary values, and then comparing the results with the cost of the training.

2.4.B.(iii) Hamblin's 5 levels

Hamblin modified Kirkpatrick's model by splitting the final level (of Kirkpatrick) into two: organisation and ultimate value (Zinovieff & Rotem, 2008). Hamblin's five-level model is therefore: *Level 1*: Reactions, *Level 2*: Learning, *Level 3*: Job behaviour, *Level 4*: Organization – the effects on the organization, from participant's job to performance changes, *Level 5*: Ultimate value – the financial effects, both on the organization and the economy.

2.4.C. Systems-based evaluation method

System based evaluation methods include: Context, Input, Process, Product method (CIPP), Input, Process, Output method (IPO) and Training Valuation System (TVS) models (Zinovieff & Rotem, 2008).

2.4.C.(i) CIPP (Context, Input, Process, Product)

The core parts of this evaluation model are context, input, process, and product evaluation (Stufflebeam, 2003). The four types of evaluation include: *Context evaluation* to plan and develop objectives, *Input evaluation* to determine the design by examining capability, resources and different strategies, *Process evaluation* to control the operations by providing on-going feedback, *Product evaluation* to judge and react to the programme attainments in terms of outputs and outcomes.
The product evaluation part is divided into impact, effectiveness, sustainability, and transportability evaluations.

2.4.C.(ii) IPO (Input, Process, Output)

The core parts of the evaluation model are input, process, output (IPO) which focuses more on the inputs to training (Bushnell, 1990). This model helps to monitor employee progress by setting performance indicators at each of the following stages: *Input stage relating to* the instructor experience, trainee qualifications, resources, *Process stage relating to* the plan, design, development and delivery of the training. *Output stage relating to* the trainees' reactions, knowledge and skills gained and improved job performance. *Outcome stage relating to the* profits, customer satisfaction and productivity.

2.4.C.(iii) Warr, Bird and Rackham's CIRO

This focuses on Context, Input, Reaction, and Outcome evaluation of the training (Burden & Proctor, 2000). Here the outcome is divided into three stages: immediate, intermediate and ultimate outcome. Immediate outcome looks at the gain immediately after training (in attitude and skill or performance), intermediate outcome looks at the performance at the work and ultimate outcome measures the changes in the organisation against the objective of the training.

Existing Training evaluation practices in Australia

Even though many health services in Victoria are providing training on occupational violence management, evidence is limited whether those are evaluated against the objective particularly gaining skills and confidence by employees to manage OVAS or minimise risk of injury.

It was found (VAGO, 2015) that:
a) training duration was reduced without much evidence to support the change
b) none of the health services evaluated whether their training-built staff competency and capacity to manage OVAS
c) lack of effort to explore further training needs
d) cost of running such training is not considered worth compared to other clinical activities (VAGO, 2015).

The Victorian Auditor General's report acknowledges the challenge of evaluating the effectiveness of such trainings. Such findings also recognise a lack of leadership and consensus on any guideline to manage OVAS in hospitals.

2.4.D. Training Evaluation Method appropriate for this research

Each of the above models have some limitations in evaluating a training programme so an integrated approach could give better evaluation, but that needs a considerable amount of time and resources. Considering the limited time frame and limited scope to access participants, one method was deemed enough. Finding that this study will evaluate whether MSVT is fulfilling its goal this study selected the Kirkpatrick's model, which is mainly goal-based evaluation, and also this model is most familiar in the industry, so it is justified to use here.

Chapter 3: Approach and Methodology

This research was initiated with a broad query: 'Is WHS getting proper attention in the healthcare system, particularly in hospitals', but due to limited time and resources, the scope was reduced to only one key element of the WHSMS: 'Training on WHS issues under the administrative management of the hierarchy of hazard control'. Instead of considering all training it was decided to look only at the training related to prevention or control of one hazard, 'Occupational violence against staff (OVAS)'. So, the research question or the main objective of this research was: 'Is the existing occupational violence prevention training programme achieving its purpose, particularly in the current WHSMS setting of the hospital (selected hospital)?'

Training is one of the important components of WHSMS. As per the MIMOSA (Methodology for the Implementation and Monitoring of Occupational Safety), in Appendix 22, the measurement of an organisation's WHSMS performance includes the assessment of the quality of its training programme, mentioned in the 6th theme of the second element of the MIMOSA (Saracino, 2015, 2012). So, evaluation of the performance of a training programme related to WHS can provide partial evidence of the performance of WHSMS in a hospital.

Organisation-wide risk minimisation programmes need availability of a supportive environment, awareness and acceptance of safety among all stakeholders (Curcuruto *et al.*, 2015; Curcuruto, 2014) which in other words could be mentioned as safety capability (Curcuruto *et al.*, 2016; Wagner, 2010) of the organisation. It is explained more in DuPont curve (Figure 5). Review of 'Safety Capability' (SC) is needed before formulating policy and to take administrative actions including training to operate safely. This SC depends on the interaction of human capital, social capital and organisational capital, as expressed in the 'fitness-to-operate' model of the 'Centre for Safety, the University of Western Australia' (Griffina, 2014). The model mentions that development of human capital needs effort on safety skills and expertise, and also on personal skills (Griffina, 2014).

This discussion and the findings of the literature review identifies the presence of some actors to influence the safety capability of an organisation. The actors of OVAS (mentioned in Section 2.1.F), the actors of WHSMS (mentioned in Section 2.2.A) and actors of training (mentioned in Section 2.3.C). To understand the interaction of those actors in maintaining the safety capability of the hospital regarding OVAS a societal theory is better positioned at this point. So, this study selected the Actor-Network Theory to explain the issue.

3.1. Actor-Network Theory (ANT) and Adoption of Innovation

3.1.1. Role of ANT to explain OVAS

An incident is not just the result of human or technological error but due to other factors including weakness of a system (Paterson, 2012) and the interactions of all of these factors. The discussion on the causes, types, incidences and prevention strategies of OVAS in the literature review helped identifying factors contributing to OVAS.

Literature on incidences of violence against different staff in hospitals adds more to the understanding of the interaction of actors. Key elements and themes of MIMOSA (Saracino, 2015, 2012), guide us to consider clusters of actors of OVAS and to understand the management of interactions even better. Among those factors some would be of such strength that they would influence the interaction among others to maintain a network. These are called as actors.

With the increasing complexity of sociotechnical systems, modern technology has changed the nature of human work from mainly manual tasks to predominantly knowledge intensive activities and cognitive tasks (Fan *et al.*, 2015). This influences the development of a framework to consider the behaviour of human–machine systems in the context of the environment in which work takes place. According to the resource-based view (RBV) the competitive advantage of an organisation depends on the systematic management of its resources to gain cost-wise or, product-wise or, service-wised advantage (Ismail, 2011). In service-based action better performance is important.

Perception of hazard and risk depends on individual, community or organisations level of understanding on what is normal and what is disaster (Cardona, 2013). So what policy would be formulated and what would be adopted by the community and the organisation depends on the level of perception about a hazard. People working in a hazardous environment don't consider anything as hazardous or to be cautious of. For example, traditionally a soldier was considered ready for a war if they fulfilled the age criteria or gender or showed the courage and learned the skill to use weapon. Question of death was not much important to the soldier as they considered it as a part of war. The invention of protective gear (Guyker, 2013) has encouraged leaders to include as an important resource to gain competitive advantage, but it requires extra fund and further training. This protective gear is a new non-human actor and affects how the new generation soldiers react, how it affects the national budget. Similarly in law enforcers (Geoffrion *et al.*, 2015) and in hospital staff (Jessica, 2011) occupational violence is not considered as a risk as many considers it as a part of the job and doesn't report.

Perceptions of safety and the adoption of OVAS management policy and procedures depend on the analysis of the interaction of different actors (Thompson, 2014). Raising the level of awareness is an important function to improve the level of perception among all workforces including management.

This study attempted to understand the adequacy of the training to fulfil its role supporting the risk minimisation effort of the WHSMS of the hospital. In doing so it attempts to understand the actors related to success of the training impacted by innovation and its outcome to match the target. The study also wished to suggest improvement by adoption of innovations.

Increasing presence of tools, technology and other non-human objects or machines in the work place it is not sufficient to understand the human attributes only to manage the performance. Today human and non-human factors are equally important, intermingled and indispensable to one another, for efficiency. Perception, a social factor, and technical knowhow determines the proper use of the tools or techniques. To manage that it is important to use sociotechnical approach (Booth *et al.*, 2016). ANT is a conceptual lens and is an innovative perspective to examine that interaction. ANT is complimentary to content analysis as it applies a social view on the interaction rather than considering the performance only of the human and that of the non-human artefacts. It is suggested that a merger of ANT ideals and perspectives with traditional research methods be considered (Booth *et al.*, 2016).

Actor-Network Theory (ANT) suggests that the performance of any activity relates to human and hon-human elements of a network (Latour, 1996). These non-human elements could include technology, programmes, environmental factors and others that influence the events.

Understanding complex interplay of issues like regulatory compliance, organisational culture, innovation in training, adoption of the message in the work practice and measuring the performance of the WHSMS requires a socioecological approach (Young, 2010). Issues like violence in the workplace particularly by patients or their relatives or friends are also complex. This shows a need to understand not only the act of violence at the point of crisis but also the characteristics of the perpetrator, the environmental factors, the activity of the staff at that point and the system of service delivery or management decisions. All these could be addressed by Actor-Network Theory.

ANT emphasises that ‘social interaction’ depends on the material and natural world which is missing in most social theories but is very important in studying the organising process of organisations (Latour, 2005). ANT differs from any social network conceptions demonstrated in sociology in that this theory emphasises that the networking is through linkages of human and non-human actors where all actors are in relationships to achieve a common goal, maintaining their individual aims or interests,

but are unable to exist independently. In an organisation heterogeneous actors like social and technical issues come to play in a relatively stable alliance (Law, 1991a).

A factor or an element can't be considered as an actor if it does not have any influence on the network either integrating or dis-integrating the system to form a new network (Callon, 1986). So, an actor is not only a part but an active element to maintain the relationship or to move it to the next level.

In ANT, the human and non-human (or artefact) actors have equal weight in maintaining the network but in conventional sociology the actors are usually defined as 'discrete individual, corporate, or collective social units' (Wasserman & Faust, 1994). The proponents of ANT mention that social relations are not independent of inanimate factors (programme, system, material, plant, machine, weather, and germs) but rather have equal value to the human actors (Callon, 1986; Whittle, 2008). Review of the literature suggests that Actor-Network Theory revolves around the concepts of actors, black boxes, networks, inscriptions, intermediaries and translation.

Many studies have used ANT as a science-based innovation process to analyse the actors' roles in an event or behaviour or act (Young, 2010). The concept of ANT is well utilised to explain the interactions of regulations, machines, workers and inspectors in workplace safety management (Gherardi, 2000). So, ANT was the appropriate choice to explain the OVAS control measures including success of the training.

The use of ANT in this research was further justified by examining the success of an anti-smoking campaign through the reform of networks of actors in a complex smoking culture and inclusion of policy innovation for better outcome (Young, 2010). Referring to Latour (2000), figure 6.0 explains how the actors are linked by knots in the black-box to maintain the network in a culture and how the actors shift the position to bring changes. This figure explains in that anti-smoking campaign changes happened through four stages to shift the actors from previous bonding to a new network. Figure 6.0 explains how reform of a system worked, that is implementing the smoke-free policy, through some key stages: mobilisation of instruments (and establishing the concept in the community), establishing the issue or the problem (called autonomisation in ANT terms), developing preferred solutions, contesting solutions against other views, institutionalising (implementing and refining) the preferred solution, alliance building and wining social acceptance (Young, 2010). Once the actors are identified ANT provides a theoretical framework for understanding, and guides to bring change in complex systems through innovation, like policy innovation. Innovation might result from role changes of the actors and formation of new networks towards change.

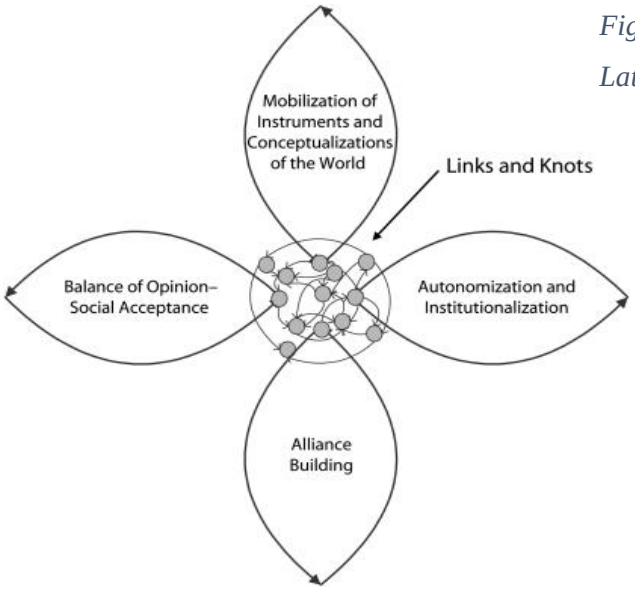


Figure 6, Implementing anti-smoking policy Latour's model of ANT (Young 2005, Fig 1)

The actors in that anti-smoking campaign included people, research evidence, technologies, financial resources, institutions and regulation (Young, 2010). Application of ANT helped the translation of the new solution among actors to influence the formation of a new network to influence changes in the smoking behaviour even quitting smoking. The new anti-smoking policy became the preferred solution, which stimulated the formation of new anti-smoking network. In ANT this is termed as 'problematisation' which means 'identifying the nature of the problem' (Callon, 1986; Fenwick, 2012). It also needed new alliance formation by institutional endorsement, public support and accumulating tangible and intangible resources. The **balance of opinion** loop (in the figure 6.0) means gaining the acceptance of individuals potentially affected.

The non-human actors (in figure 6) that contributed to the innovation in that anti-smoking campaign were (Young, 2010): intangible resources (e.g. scientific evidence and supporting theories) and tangible resources (e.g. technologies, money, and venues). In changing the past practice (that is smoking habit) to non-smoking the key resources were: knowledge gain about the problem through scientific evidence, theories that make sense of the evidence and technologies used to assess or solve the problems. The evidence and the theories (or ideas) that were mobilized ultimately reflected the interests of those engaged by an issue and were mobilized to serve their values and priorities.

ANT also discusses the scope of innovation in an evolving new network within the existing programme to gain competitive advantage in a complex environment. The role of actors in influencing the adoption of innovation could well be explained through ANT (Latour, 2005).

The literature review (chap 2.1.F) showed that occupational violence involves the interaction of human and non-human actors. The association of these actors can be explained by Actor-Network

Theory which is better positioned to map the relationship between material (things) and semiotic (concepts) actors (Callon, 1986; Latour, 1996; Law, 1987). This theory assumes that innovators attempt to create a forum, a central network in which all the actors agree that the network is worth building and defending. This theory does not differentiate between human and non-human elements of the network. As per this, an actor is any entity (human or non-human) that can make its presence individually felt by other actors (Law, 1991a). ANT will help an understanding of how and why some knowledge or practices are adopted in any organisation while others are not and will help to explain how a practice or innovation may be adopted by actors (in this study the employer or employee). There could be some moderators: type of hospital (high volume, acute or chronic care), customer demographic (age, sex, attitude to health service), work practices in the hospital, training of staff, counselling of staff or stress level.

To gain competitive advantage organisations attempt incorporation of innovative ideas. Literature suggests that management should understand the organisational behaviour while adopting an innovation (Belanger, 2002; De Dreu, 2008). A new idea or technology once introduced may or may not be adopted or may only be adopted in part. Just because the new idea or technology exists is no guarantee that it will be accepted and adopted by all. This needs to be understood by management and passed to trainers so that training sessions don't demand too fast implementation of any idea or knowledge.

Organisation can stimulate people or facilitate through right environment to develop work specific innovative ideas in house. Innovation results from the application of knowledge in developing new ideas, products or services and this in turn assists overcoming challenges (Thompson, 1965) thus benefiting the organisation and its stakeholders (Baregheh, 2009). An organisation can be a generator of innovation or an adopter of it, influenced by many factors such as environment or culture. Trainers can play an important role in such activities, provided management cater for it. In other words, 'a training' is not just demonstrating a few old tricks but to encourage people to come up with new ideas to overcome the challenges.

Knowledge management require opportunity for creation, guidance to overcome the challenges using that knowledge and controlling the flow of knowledge for the benefit of the organisation (Darroch, 2002). No matter whether the knowledge is explicit or implicit, its value depends on the accessibility and applicability at the right time, right place and for the right people.

Values, symbols and rituals shared by its members develop an organisational culture that becomes a powerful determinant of innovation (Dasgupta, 2009). On the other hand, negative perception of the people about any issue are the main barriers in knowledge management due to inhibition in

knowledge sharing and even, lack of interest in management or in leadership. These need consideration in developing a training plan and to achieve a positive outcome of it.

3.1.2. Scope of an ANT approach in hospital safety management

The development of a OVAS prevention strategy needs to consider host, vehicle, agent/vector, and environment (Gates *et al.*, 2011b). After having the knowledge on the actors of OVAS, the actors of WHSMS and the actors of training it is needed to link those in a meaningful way to build a system that would help minimising the risk of OVAS and its impact. In an OVAS incident at the hospital the host is the health care worker who is susceptible to physical and psychological injury, the vehicle is the inflicting object or act (bullying), the vector or agent is the patient or their accompaniment, and the environment might be one or more of the followings: the physical environment, the social environment and / or organisational factor.

In this century hospitals in most developed countries are managed with business strategy rather than welfare strategy alone. The Australian health sector is following a mix of business and welfare strategy. A business model brings market logic and drives everyone including professionals to work on better utilisation of funds even for healthcare of acute service provisions (Blomgren, 2015; Willis, 2016). Some clients or their accompaniments shows dissatisfaction as it is causing reduced hospital-stay and continuum of service through General Practitioner (GP) and other primary healthcare service providers. One of the actors of violence is patient dissatisfaction. So, any issues related to satisfaction levels needs attention. Better communication strategy among healthcare professionals, supporting services and patients, along with better opportunity for patients to raise their concern about the outcome of treatment or other health management can reduce many conflicts (Liu, 2016).

Technology (either information technology or automation technology) is becoming an important non-human actor in the hospital management. Wide acceptance of information communication technology, the internet or Wi-Fi networks, mobile devices, or robotics, and office automation are paving the way to reduce the physical contact of the medical staff with the clients. Pre-admission telephone interviews and interactive webpages are also of great help not only to hospital staff but also to patients and their carers to give more preferences. IT hubs to store all data of the above sectors and allow participating members (like GP practices or hospitals) to share the data as deemed practicable under privacy and confidentiality regulations, and support secure messaging among its members (Kakouros, 2013). This creates dynamism in the referral process and easy sharing of the information to manage the multi-party responsibility (Faruq, 2016). This could be one of the tools to reduce conflict.

Certain preconceived ideas among the potential clients and their families about the healthcare facility might ignite the conflict, arising either from previous media reports or casualty arising from the facility. Potential clients have certain expectations about the centre or about the service: what is going to happen, do they have any choice, how they will be discharged, would anyone listen to their concerns, respect, privacy (Keely, 2002). To reduce conflict those queries need answering by other actors either through well documented institutional resources or briefing by enrolment staff. People need to have easy access to information about the availability of the service and its schedule. A person well informed about the procedure or waiting time would face less stress to be involved in OVAS. The management should have a programme to educate clients and the general community about the steps of service delivery. Clients and their carers need to be informed about the information flow and how to access relevant information affecting their circumstances. Community consultation is also important to understand the preferences based on socio-cultural factors. This is another important actor and will allow increased freedom to clients to select the preferred services, but hospitals must fulfil their commitment made to the community. Stress management of everyone in the hospital settings, be it client or carer or staff, should get priority, as it is an important indicator of conflict.

In safety management, elimination of hazard is the best option. Use of technology might provide opportunity in health care to reduce contact with patients to minimise OVAS risk, but management need regular review of the policy to ensure patients' right and privacy are not compromised (VAGO, 2015). There is the scope of ANT to re-think options and select the best management approach.

3.2. Benefit of using Actor-Network Theory

Many sociological theories can explain the causation of an event but are more concerned with human to human interaction. To understand the research question of this thesis, in a complex hospital environment, it is imperative to think beyond human factors to manage incidents. Particularly as the literature review identified a mix of human, technology and environment to interact in the events of violence and also identified the role of WHSMS and training in minimising the risk of OVAS. The proponents of ANT mention that at any point of time any of those, that is people, technology and natural phenomena, can compete to be a decisive actor to control the event (Asdal, 2007).

Actor-Network theory adopts an anti-essentialist position in which it rejects there being some difference between humans and nonhumans (Tatnall, 2003). In other words, ANT doesn't consider there is a difference in the interaction of human, society or non-human factors (technology, system, idea, practice or others) to initiate or control an event. This is an important aspect in understanding the impact of a new thing or idea or practice in the service delivery process. Whenever new things are introduced people don't adopt them in their life or in work practices just because of one attractive

aspect of the new one, but by a cumulative outcome that might bring to the individual and other members of the society, convenience and other factors (Keong, 2010). The WHSMS and the trainers need to consider this in introducing new approaches or practices or tools in workplace.

In healthcare, human actions do not only depend on human characteristics but also depend on non-human actors including the environment and climate. Compared to other social theories like diffusion of innovation theory (Rogers, 2003), behaviour changing models, social adaptation theory in customer behaviour, concept of adaptation in climate change, Actor-Network theory is better placed to explain why an act happens in a particular way and, the interaction of human and non-human factors in evolution of the behavioural change in innovation adoption (Young, 2010). So, the use of ANT would be effective in explaining how the actors are considered in training of OVAS risk minimisation.

The adoption of electronic records in hospitals as a part of the information communication technology (ICT) mass rollout across all healthcare facilities in Australia was possible due to support from all actors and the perception of benefit (like accuracy, completeness, easy sharing) by all users. This is an example of the adoption of an innovation due to perception of benefit by users and also influenced by the internal factors (Perez, 2016).

According to ANT all elements of an act or an innovation are primarily heterogeneous. “Unlike other approaches ANT maps the act or innovation process from genesis to implementation, with focus on relationship between the evidence and the networks employing the evidence” (Young, 2010). At a point of time the elements under the influence of some actors remain aligned in a network. But a new impulse (like a concept or idea or product) might play a major actor role and destabilise the existing subsystems or components of the network to encourage forming a new network to bring about the change. Such formation and reformation of networks depends on the influence of the actors which play two roles: intermediary and mediator (Bleakley, 2014; Muller, 2016). Organisations are a network of heterogeneous actors (social, technical, textual, naturally occurring and others) brought together into stable associations or alliances at different stages or periods of their lifecycle (Callon, 2007; Law, 1991b). Stability of this actor-network depends on the dominance of one or more actors also on the inclination or loyalty of the human and nonhuman to the network (Whittle, 2008).

Intermediaries make connections while mediators translate the connections into a form which builds the network into an object. Mediators are actors with the capacity to translate within the subsystems of a network what they transport, with agreement or disagreement. This helps the researcher to separate the actors into their role and then re-group them as needed. Interaction of intermediaries and then mediators to form the network is an important assertion of ANT. After several transformations a

network stabilisation occurs which might be long term or short term depending on interaction of actors (Bleakley, 2014).

Discussion on adoption of innovation also needs the inclusion of human and non-human actors as people do not only consider whether technology is better, but also consider how the technology is perceived by family members, peers, colleagues and even by the larger community (Keong, 2010). Adoption also depends on the convenience of use of the technology, its cost-effectiveness, social value or image, and availability of a network to support its operation (Wong, 2009).

To study the impact of training it is also necessary to observe the actors that influence the adoption of the ideas or technologies that are discussed in the training classroom. ANT is best suited to explain the interaction of the actors (particularly the non-human actors) within the hospital and beyond to help in developing a direction to find the best approach of implementing the message delivered through training. Suitability of ANT in the discussion of training in the health sector lies in the complex nature of the environment created by its position (at campuses or facilities) to deliver the service, the dynamic nature of training with changes in mode of delivery from fixed classroom-based to learners' convenience-based with the inclusion of technology, and also changes in its scope from group training to an individual focus.

This study wanted to identify the actors that are intermediaries or moderators to influence the OVAS situation and effectiveness of the MSVT in the research hospital (BN123 Health). This was a qualitative case study looking through the lenses of Actor-Network Theory to explain the interaction of factors in improving the performance with the scope of inclusion and adoption of innovation.

The **specific objectives** were to gain information about -

- The relevance of the MSVT programme to the existing WHS legislation of Victoria.
- An organisation's goal in WHSMS in relation to occupational violence, during the study period
- The incidence rate of hazard, that is the annual rate of Occupational Violence Related Injury (OVAS).
- The relationship of the prevention programme (i.e. MSVT) to the hazard (i.e. occupational violence), in relation to updated hazard register and risk management plan for occupational violence.
- The existence of performance indicators (e.g. reducing the LTI per year from violence)
- A review of MSVT aligned to the WHSMS goal
- The post training evaluation procedure and its coverage
- The existence of workplace observation after the training (e.g. after 6 months)

- Perception difference between employer and employee, about the outcome of training (e.g. work environment complying with the statements of the training, or resources available), and
- Awareness/ acquaintance about the MSVT in the hospital (among stakeholders)

3.3. Conceptual framework to manage OVAS in Victorian Hospitals

Deming's 'Plan: Do, Check and Act' (PDCA) model is well regarded in quality improvement effort to gain competitive advantage (Robson, 2007). This is modified by some researchers as Plan, Do, Study and Act (Moen, 2006) to fit it more for management of the health sector. It is expected that identification of hazard and risk minimisation strategy would be considered in the planning phase, implementation phase (do the job) will adopt an appropriate work process or system (mentioned in plan). Next study (or check) would be conducted to determine the effect of the process or system to achieve the goal (or, reduce risks). Finally work out (or Act) on whether to continue the actions taken in the last planning, or to review these in the next planning. This study considers that the WHS management system (WHSMS) should be vigilant on the PDSA cycle to ensure smooth running of all stages.

Some policy analysts have sliced occupational safety into several elements like, the key elements and themes of the MIMOSA system (Saracino et.al 2015), mentioned in Table 3.1. By modifying that table, evaluation of the WHSMS of an organisation could be based on measuring the performance of six elements (shown in Table 4 below) and their determining factors.

Anyone interested to test the proper functioning of the WHSMS can test any of those elements. So, this study was concerned to check the functioning of those elements. It is expected that the organisation should be reviewing the WHS risk management system, identifying the contributing factors of risks and disseminating the knowledge to employers and employees to take corrective measures. This brings training into the loop i.e. the management of training in disseminating the knowledge on gravity of the risk, preventive steps needed, crisis point actions, post-incident efforts etc.

It is well known that to improve the functioning of an organisation, system design is important (Ericson, 2015). In doing so organisations might construct nice premises, bring new legislation etc. but the human beings need to be trained, either at pre-selection or post-selection stage, to acquaint them with the system design.

Table 4 Measuring performance of WHSMS, of an organisation

Key element	Determining factors
1-Leadership and coherence with targets	1-Responsibility organisation and structure 2-Direct involvement in the management 3-Management of economic resources
2-Orientation to risk reduction and people protection in compliance with the law	1-Risk assessment 2-Measures of prevention and protection 3-**Education, training and information** 4-Risk monitoring 5-Events monitoring 6-**Safety climate**
3-Involvement, learning and development of personal education	1-Risk perception 2-Control system
4-Continuous improvement and innovation	1-Compliance with formal requirements of sector
5-Formal and general compliance	1-Recording system 2-Human resources 3-Ethical and institutional aspects
6-Social responsibility	1-Environment

Table 4 explains that training is an important element of WHSMS and supports that the impact of the training programme would depend on the performance of the WHSMS of an organisation. If the management does not provide enough importance to the training programme, the right information cannot be disseminated across the organisation and WHS control measures will not be implemented successfully (Loosemore, 2007). An effective training programme needs not only the effort of the quality trainer but also the commitment of the top management in safety (Gallagher, 2003; Hsu, 2007).

Compliance to safe work practices depends on safety knowledge and motivation to perform the right tasks and this could be achieved through proper training (Vinodkumar, 2010). To achieve better outcomes the top management and the training department need to identify indicators of quality training. Kirkpatrick's Four-Level Training Evaluation Model is best suited to evaluate such training, even though it was first published in 1959 and then updated in 1975 and 1994 (Kirkpatrick, 2006; Yardley & Dornan, 2012). It identified four levels or elements of training: the reaction, learning, behaviour and results of training. It suggests examining those four elements of training could help evaluating the performance of the training. The First level requires measuring the reaction of trainees about the instructor, topic, material, presentation and venue. The Second level requires measuring the

learning i.e. how much impact the training has on knowledge, skill or attitude. The Third level requires understanding the changes in behaviour, particularly how the trainees apply the information gained in the training session. This is sometimes difficult to measure if the trainees don't have a scope to apply their knowledge or skill in their respective work environment. The Fourth level measures the result of the training: that is outcome. Has the organisation or department benefited from this training by doing the job as desired before training or doing things differently to improve the safety?

This concept of levels of measurement then dictates that before formulating a training programme the training department should develop the content based on the incidences and existing level of performance or skill of the workforce. Then identify the goal to be achieved by the training.

The literature review in Chapter 2.0 assisted identifying the actors related to the OVAS and its relationship with the effective management of the training. The actors influencing the effective management of the training on OVAS are located at five levels: in the management particularly in top management, in the training department (and associated departments like recruitment, finance, and others), in participants or workforce, in organisational culture (Figure 5, DuPont Bradley Curve) and in outer environment.

As shown in the diagram (Figure 9, in appendix) and in Table 3 the training should be managed according to the PDSA process with two driving forces, one in the core (the inner circle) and the other in periphery (outer circle). The core consisting of top management is the main driving force. If the core is not active, then the periphery will not be functioning properly. Each component of the PDSA has respective actors to complete the task. The core should take the initiative in setting the goal, approving the plan, resource allocation, delegation of authority to implement it and actively review it regularly. At the periphery the training department has a role to review risk minimisation procedures, identify training needs through research and inter-departmental discussion, deal with the organisation's culture, ensure acceptance of the training to the workforce and management, proper delivery of the knowledge, evaluation of the training and review of the impact of training on OVAS.

Outside the periphery there is the environment which represents the external actors to influence the training e.g. national legislations, industry practices, community influence, etc. There is a difference in the service needs of the regional community compared to that in a metropolitan city, which can influence the characteristics of the OVAS and its management.

Figure 8 (in Appendix 3.0 and Table 5) explains the three main elements influencing the training that needs to be managed according to the PDSA process. Elements in the core (the inner circle) represents

top management, the next circle represents the training department. Outside the second circle are the external actors that influence the whole organisation. These include national legislations, industry policy and practices, community culture and needs. In most cases the core is the main driving force. Each component of the PDSA has respective actors to complete the task. The core takes the initiative in setting the goal, approving the plan, resource allocation and delegation of authority to trainers. The training department implements the management decisions. But for a system to work properly the core should also review or monitor the programme actively. The training department should collect information on risk minimisation, identify training needs through research and inter-departmental discussion, find means of adopting OVAS prevention procedures within the organisation's culture, ensure acceptance of the training to the workforce and management, and information management to assist top management in evaluation of the training and review of the impact of training on OVAS.

Table 5 Actors needing attention for training management, in PDSA cycle.

(developed by Quazi Faruq, modified from PDSA cycle)

Actors	Task / Role	Involvement in the process
Top management – includes CEO and Board of Management	P – Approve plan	Goal setting, Setting the culture Approving training framework including Training Method Approving selection criteria for trainer and participants Approval of training department activity
	D- Participation	Attend meeting
	S - Evaluation	Setting indicators of performance, Review reports
	A – Act at point of need	Take immediate action to keep the programme on track by detecting weaknesses, ensuring resource management, amending procedures in response to external actors or as proposed by training department
Training department	P - Prepare plan	Research on OVAS Hazard identification, specific for the organisation Risk assessment, Goal selection Identifying delivery framework (to be approved by top management) Session plan / prepare schedule, Trainer selection criteria Participant selection criteria – internal or external Meet the accreditation requirement, including Australian standards and ISO credibility Identify resource need and procurement method

Table 5 (Continued)

Actors	Task / Role	Involvement in the process
Training department	Do-	Testing course content, Evaluating course content Running session as planned / as per schedule Getting feedback on training – from trainer and trainees Third party feedback, if needed Update the course as needed
	Study-	Observe participants at work places Get feedback from participants about training, both after the session and post-training period Ensure effectiveness of the feedback from trainees and supervisors of the trainees. Check incident reports from all areas – to identify training needs of the specific area and to evaluate the effectiveness of the training Ensure reliable information flow from floor to the data management system. Identify if the data entry process is easy for trainees. Identify special needs Ensure reliable feedback from patients on the issue Measure or evaluate the impact of training
	A - Act	Compare outcome with goal Appropriateness of the training to work place Effectiveness of the skills, in terms of acceptance by trainee, improvement of the working process Complexity to work flow with new skills Collect information on industry practices Get feedback from third party, if needed Identify the gap Get external review, if needed, Explore opportunity Review the plan
Actors	**Task / Role**	**Involvement in the process**
External actors- Agencies like - Safe work Australia, Worksafe Vic Patient lobby grp	Plan	Review Legal or Regulatory requirement, update organisational plan accordingly
	Do	Compliance check
	Study	Feedback from environment about Work practice plan
	Act	Modify Service delivery as needed

See Figure 9, in Appendix -9 for 'Interaction of Training department with top management and external factors' (developed by Quazi Faruq, modified from PDSA cycle)

Most literature suggests top management sitting in the core is the main moderator to OVAS risk minimisation effort through its role to (Mayhew & Chappell, 2001; Mayhew, 2007; McPhaul, 2013): review the plan prepared by the training department, approve it, allocate resource, delegate authority to recruit human and non-human resources (like training facilities), and to set review processes. But any of the actors in the PDSA cycle can play a mediator role to form a new network for OVAS risk creation or minimisation.

3.4. Research Design

The following steps were taken to complete this research:

- Literature review on key elements of the research.
- Review of the existing national, international and industry regulations and standard procedures on OVAS risk minimisation and training of staff on this issue with particular focus in hospitals.
- Selecting the right training evaluation model.
- Finally, a case study was conducted in a hospital of Victoria, comprising qualitative interviews to identity the impact of the training on workforce knowledge and skill and the outcome relating to OVAS. The interviewees' identities were kept confidential by desensitising the data

To answer that research question the following key issues of the research hospital were considered to be reviewed: the nature of the hazard (that is the characteristics of OVAS) and its risk of injury in this hospital, identifying the actors relating to OVAS and their interaction, societal theory to explain the interaction of actors in developing a safety culture, adoption of innovations to minimise the risk, structure of the OVAS training programme, quality of the training to prevent OVAS or risk minimisation and its role to influence the adoption of the innovation in that regard, the level of incorporation of that training in the work health and safety management system (WHSMS) of the hospital and the level of commitment of the top management to improve the training.

This study wished to evaluate the training function, a key element of the WHSMS of the study hospital, and the impact of training on the system. The literature review found the Kirkpatrick Model (Kirkpatrick, 2006) to be best suited for this study. That model focuses on four key areas of the training: reaction, learning, behaviour, and results. The effectiveness of training not only depends on the content and mode of delivery but also on the culture of the organisation (Erickson, 2000; Vecchio-Sadus, 2004).

To explore this topic different methods could be used but a qualitative method was used due to following factors: limited access to data (past or present data), limited opportunity to influence other

hospitals in Melbourne to undertake a longitudinal study (quantitative or qualitative) or a cross sectional study among different hospitals or healthcare facilities and there was no numerical data available. This study intended to understand participants concept about the 'hazard' (OVAS) and 'outcome of training'. Qualitative methodology is better to study the 'meaning' and 'concept' of the study population (Iniguez, 2009) and is helpful to establish dialogue between ideas and observations, between theory and data, between interpretation and action (Ezzy, 2002). Also, for research with limited access to participants and a limited time factor qualitative is a better option (Flin, 2007). Qualitative research aims to understand rather than measure a phenomenon and focuses on naturalism; reflexivity, a focus on meeting and understanding (Green & Thorogood, 2018).

"A case study is an empirical inquiry to investigate a contemporary phenomenon in depth and within its real-life context, when the boundaries between phenomenon and context are not clearly evident" (Crowe *et al.*, 2011; Yin, 2009). It is also useful to obtain an in-depth appreciation of an issue in a natural context and is better than experimental design if manipulation of variable is not required (Crowe *et al.*, 2011). Case study is chosen when main aim is how or why, researcher has little or no control on behavioural events and the focus of study is a contemporary phenomenon (that is a case) rather than entirely historical phenomenon. Such as organisational and managerial processes, neighbourhood change, school performance (Yin, 2018). After approaching all public hospitals in Melbourne only BN123 Health hospital granted limited access to MSVT at BN123 Health. Limited access to the OVAS data was related to perceived sensitivity to disclosure. A case study was considered as the preferred method to complete this research due to

- limited access that is inability to include many hospitals in Victoria.
- limited time frame, not enough time to interview many participants.
- limited facilities providing training on OVAS in Victorian health sector.
- Management of violence and aggression international training (MSVT) is the trade mark of BN123 Health (Appendix-3)

So, a qualitative case study at one hospital in Victoria was the preferred method for this study.

Why use Kirkpatrick's method to evaluate training?

Out of several methods described in the literature review (Section 2.4.B) Kirkpatrick's model was used to evaluate the MSVT. The rational of selecting that evaluation model is:

It is an objective or goal-based model, which fits the purpose of this study.

It has the ability to look at two important issues of the training: the improvement in skill appropriate to the job (or objective of the organisation), and impact on the job (or any effect on the targeted performance). This is achieved by following the steps mentioned in level 3 (assessing behaviour) and level 4 (evaluating results) of this model.

It is a renowned and applied evaluation model, used by many programmes as mentioned in literature review.

This model evaluates the training by examining four components of it: reaction, learning, behaviour and results. Most organisations are happy to focus on participants' reaction and learning level which can easily be achieved through some pre and post-test questionnaires. But the training can't fulfil its objective unless someone or some process can measure the application of the skill (delivered at training) at the job and its impact on the job or on the organisation after training the people.

Justification to use the Kirkpatrick's model was also related to its ability to measure behaviour and results of a training programme, the 3rd and 4th components of the evaluation process. The first two components of Kirkpatrick's model: measuring reaction (trainees' perception about the training) and measuring learning (what knowledge gain happened from this training), are easy to evaluate and are commonly used.

3.5. Methods and Sampling

The objective of the study was achieved by:

1. observing the training sessions of MSVT
2. semi-structured interviews of staff and trainers.
3. quantitative analysis of the demographic data of the respondents
4. review of the research organisation's portfolio, that is annual report;

A convenience sampling method was used by interviewing any volunteer among the trainees before participation in a training session. There was no pre-determined number for this case study. It was open for participation to allow maximum no of response for the training. Three trainers were actively involved and were available for interview during the period of data collection, so all were included. Among trainees of the day randomly selected volunteers were included in the interview.

Strength and Limitation of this sampling method:

An important strength of this study was the inclusion of participants from a diverse work area of this hospital. This included new staff of the organisation who attended for the first time in this training, old staff who participated more than once in this training as well as participants from high risk areas (like emergency) and low risk areas like radiology. Participants were staff at radiology, aged care, emergency, and working in clinical areas (like, registered nurse, enrolled nurse) and non-clinical areas like radiology.

The most important limitation is that the survey sample was small and used convenience sampling (that is whoever consented to participate). Survey participants were not randomly selected, so this does not necessarily accurately represent all staff of the BN123 Health.

As this was an exploratory research, convenience sampling is acceptable. Non-random sampling procedures are commonly used in exploratory research on issues that are poorly understood (Sinelnikov et.al. 2015). It is unlikely however, that these limitations have notably compromised the overall quality of the research.

3.6. Data collection and Analysis

Use of ANT with the human and non-human actors identified from the literature review (Chapter 2.1.F, 2.2.A, 2.3.C) helped me develop semi-structured lead questions as an information collection tool during interview of the participants. After receiving approval of the research committee of the BN123 Health a staff interview schedule was prepared to evaluate: 'MSVT (Management of Violence and Aggression International Training)', the OVAS training programme of BN123 Health.

Data was generated through interviews with 21 staff, and 3 trainers (by convenience sampling, that is whoever consented to participate). Those 24 people were interviewed at a mutually agreed time and place. Semi-structured interview questions used as a guide to maintain the discussion are shown in Appendix-1. Interviews intended to collect information on four aspects of the training – Learning, Behaviour, Result and Reaction (as per Kirkpatrick's training evaluation model). Participant's statements were manually categorised into four main themes to assist analysis. Participant's demographic data was quantitatively analysed.

The data collected during interviews was transcribed and analysed using a content analysis and categorization process. Actors were identified to explain the situation using Actor- Network Theory as a lens. The results were used to understand the role of innovation in improving the training and its impact on effective implementation of WHSMS. The study identified the interaction between actors to implement WHSMS and the impact of actors on implementation.

3.7. Ethical Approval

As per regulation this thesis work needed approval from two ethics committees one at Victoria University and another at BN123 Health (University Hospital of Geelong). At both institutions the project was approved as a low risk research programme. All respondents were informed about the purpose of the research and the method of conducting it through written documents. All of them were

provided with a written consent form with the option to withdraw from the participation without any obligation.

3.8. Summary of Methodology:

This study was a qualitative case study in a hospital at Victoria. Based on the literature review, information about BN123 Health and MSVT (the OVAS management training) was collected by review of documents (like annual reports) and short interviews of MSVT trainees.

To collect information from trainees, semi-structured interview sessions were designed to collect information on the four main themes: **LEARNING, BEHAVIOUR, RESULT** and **REACTION** as per Kirkpatrick's model effective to evaluate training (Burden & Proctor, 2000; Kirkpatrick, 2006). To guide the interview those four themes were expanded into six by dividing '**Learning**' into three components: 'Mode of delivery', 'Content of training' and 'influence of training on knowledge'. Based on those six themes a 'topic list' (number 10 to 68) was prepared. Interview sessions were guided by those topics and were initiated with open-ended questions to lead the discussion. The response to those topics were sub-divided into six themes (Table 18 to 23 in Appendix 11.0). Participant's responses were recorded as response number (R no) in Tables 18 – 23. Audio recording of interview sessions was made with the participants' consent.

Data was analysed using the summarised response to those six themes and the interaction of the actors were explained through the lens of the Actor-Network theory. To deal with the agency researchers focus on naturality, sociality, semeiotic construction and relate agency with building of meaning. Some research methods lack the power to differentiate and link among those factors or resources which is attempted by Actor-Network theory. ANT attempts construction of entities for the attribution of nature, society and meaning (Latour, 1996). This approach assisted to rebuild network to pursue the goal of the training programme by identifying the dominant actors and suggesting remodelling the action in appropriate way.

Chapter 4: Data presentation and Discussion

BN123 Health is committed to employee wellbeing by reducing stress level at workplaces and adopting a 'zero tolerance to violence against staff' policy to ensure a vibrant workforce (Harty, 2012). Towards that endeavour it maintains an effort to ensure workplace safety including training on WHS. In terms of adopting the training on 'occupational violence prevention' this health service has played a leading role in the Victorian Health Service by procuring MSVT from the UK, adapting it to the Australian context and enlisting it as a copyright programme of BN123 Health. Like MSVT no other branded OHS programme has been running so long in Australian Healthcare. BN123 Health's interest in a Work Health and Safety Management System (WHSMS) is expressed further by its approval of the present study when other health services in Victoria were reluctant to allow such research.

This study collected information from three sources: interviews of staff and trainers in 2014, past data on MSVT (2011 data obtained from HR), and BN123 Health online resources (annual reports from 2010 to 2015, and strategic plans of 2012). Based on the collected information, the following discussion was attempted to identify the performance of MSVT and relate it with work health and safety management practices of the BN123 Health.

Discussion refers to data of two time-lines: (a) 2011 training participants list and incident report (referred as 2011 data) and (b) 2014 interview of participants and trainers (referred as 2014 data). Distribution of '2011 participants of MSVT training; is shown in Table 15 and Appendix 10.0 and the 'incident of occupational violence' in 2011 is shown in Table 4.2. 2014 data: collected by interviewing two trainers of MSVT and 21 staff (who volunteered to participate during the training session at McKellar Centre, North Geelong, training centre of MSVT) representing different facilities of BN123 Health. This is presented in Tables 4.3 – 4.7 and in Appendix 12.0 – 18.0.

To ensure privacy and confidentiality the identification of the participant is coded by replacing it with number and by generic title like 'Trainer X' or 'Trainer Y'.

Objective of MSVT:

The review of MSVT literature (Appendix 5.0) and **interview of the trainers** suggested this programme was introduced in BN123 Health to minimise the risk of violence against staff initially at the psychiatric unit, through the employment of non-violent techniques. The programme later trained staff at other facilities to develop confidence and skill of staff to manage violent and aggressive incidents, initiated by patients.

Trainer X *said "It is here to promote a reduction in restrictive interventions, through non-violent actions. ... it's not just around techniques, it's around looking at communications, looking at around people's ability to assess risk and looking at their ability to plan strategies that don't involve the use of physical force. ... overall our aim is we need to continue to work with our clients and we can't keep matching force with force, … not an acceptable way of dealing with aggressive situations".*

Trainers' opined that MSVT encourages trainees to improve ability to plan strategies in assessing risk and, handling the aggressor through better communication, but not to use the physical force.

4.1. Evaluation based on Participation in MSVT

Data of both the periods (2011 and 2014) suggests MSVT encouraged participation of all employees across the BN123 Health Service, except the clinical professionals.

In 2011 a total of 301 employees participated in MSVT Module A (Appendix- 10.0). Analysis of the list of MSVT participants of 2011 shows participants didn't come only from high risk clinical areas but also from non-clinical areas including BN123 Health Accounts. Participants also came from community health (CH) groups like CH Dental clinics (18.9%) and CH domiciliary nursing (8.9%). It was interesting to know participation from high risk areas like emergency was not proportionately high, only 17.3% (Appendix 10.0).

It is good to involve all departments as it helps create awareness on OVAS across the organisation. Involving the top management and finance department facilitates decision making and improvement of the training programme. It was beyond the scope of this study to find details of the selection criteria of the participants, but it shows MSVT provides access to staff of all areas of the organisation.

Opinion about the enrolment process (topic 10 and 11, in Appendix 11.0) shed some light on the participant selection process for MSVT. All responses could be summarised by the followings as some are similar in expression but of different sentencing (1) "My supervisor advised me to put my name in the training portal for this and then I received confirmation from MSVT" and (2) "I was looking for professional development (PD) sessions and found MSVT". (3) "I have to do something so selected this one, considered this will be a stress-free day", (4) "We have to do it annually".

Those statements indicated a mixed method of participant selection: compulsory and optional. In some workplaces it is compulsory and in others it is optional and an individual choice. Limited data

and short interview time could not explore details. Further study with greater access to the relevant information can point out the awareness level across BN123 Health about MSVT.

MSVT is listed in the training portal along with many other programmes of BN123 Health. Participants have the option to choose MSVT, unless in a workplace where it is mandatory, but it does not give much information about its implication at the workplace and value against other programmes in the portal. Being a non-clinical subject, it does not encourage clinical staff who are inclined to select a clinical training for PD. Creating more awareness on the usefulness of the 'conflict resolution skill' would make a difference in preference. In other words, if there is more emphasis on the OVAS incidents, their severity and impact on work practices then staff could weigh the value of this training. The present study couldn't review the presentation of the training programmes in the training portal and compare the impact on selecting the MSVT as PD for skill development.

Discussion on enrolment (topic 10 and 11, in Appendix 11), also demonstrated the lower level of awareness of employees about the existence and functionality of MSVT. One third (33%) of the respondents (7/21) expressed being unaware of the existence of this programme, another 33% of staff expressed that they just enrolled in a session to fulfil their PD obligation not having any knowledge about MSVT or its benefit. Some suggested "more advertisements needed for the course", that is more promotional activity for MSVT is needed.

Lack of awareness of the staff about the MSVT is further supported by the response of Trainer X and Trainer Y that the participants are directed, by the respective supervisors, to attend the training as opposed to individual interest to attend this training. On submission of their interest in the training portal to gain professional development (PD) points, sometimes staff don't enquire much about impact. This could be a hindrance for the MSVT trainers to judge the level of awareness of the programme (MSVT) across this organisation.

Limited data of 2011 (Table-15. Appendix- 10) shows maximum participation was from emergency, domiciliary care nursing, mental health and allied health. It is well supported by the literature that violence occurs more in emergency and mental health areas of hospitals (Lyneham, 2001; Mayhew & Chappell, 2001; Meyer & Hoppszallern, 2011; Parliament of Victoria, 2011; Rowe, 2007; Worksafe, 2017c). Selection of participants in MSVT from those high-risk areas suggests the training department was on the right track to focus on priority areas. But there was a lack of incident data to show whether there was any correlation between 'area of risk' and the selection of participants. That means not enough evidence was available to show that the training had any impact on the incident of OVAS in the trained participant's workplace in the post-training period. Further probing might explore it.

Table 6 Breakup of participants according to Programmes of BN123 Health on 2011

Programme Description	No	%	Description of the service
Community Health & Rehab	112	37.2	Executive Director CH&R (Admin, CH HARP, CH Primary Care Team, **Dental Clinics**, **Domiciliary care**, Immunisation, Rehabilitation Community, Sub Acute Services)
Medical Services	104	34.5	**Allied Health**, Medicine, **Emergency Services**, Women & Child (Maternity, Paediatric) Imaging, Medical Wards, Renal
Mental Health	31	10.3	Acute Treatment MH, MH Adult MHT, **Youth service**, Drug treatment, Eating disorder, **Administration MH**,
Nursing	42	14.0	Access and Patient Flow, Residential Aged Care (Wards, Hostels)
Finance	1	0.3	Finance - Performance Planning &Resource
Surgical Services	11	3.7	Intensive care, Operating Theatre, Surgical ward,
	301	100.0	

(Details breakup is in Appendix 5.0).

Group data was available to show distribution of participants by working area or programme (Table 6). It does not explain why in 2011 more participants (37.2%) were from community health and rehab, compared to emergency or mental health. Participation from the mental health sector was only 10.3%. Details of breakup of participation are in Appendix 10.0.

Quarterly data analysis (Table.7), shows there were a total of six hundred and sixty-one (661) incidents of violence, of which only four (4) were of severe grade (code black, armed). According to the 'Training officer X', MSVT gets information (on incident of OVAS) in a tabulated report generated by RSKSOFT, a safety data computer-based reporting system in health care (see Appendix 20) . Reports from RSKSOFT, maintained by a specific team outside the MSVT team, not first-hand raw data directly from the point of occurrence. The staff member involved in the OVAS incident writes a report to the supervisor. At a time of convenience, the supervisor submits input in the RSKSOFT whatever deems appropriate. There are three important issues. First there is no instant data entry or recording system to capture the fact of the incident. The victim or nominee submits an incident report which is translated by the supervisor or data input person as per their own explanation. Secondly the RSKSOFT is a text-based qualitative reporting software (see Appendix 20.0) limited in providing origin specific and incident specific quantitative analytic information. Third the 'Training Department' is not the recipient of first-hand reports. Incident data is available through the assigned manager, who receives manually entered data by floor supervisors, at their convenience. This creates

delay in communication with the training department. The following table shows incidence of violence in 2011:

Table 7 Incident data at BN123 Health (January to December 2011)

Emergency Code	Jan-Mar	Apr-Jun		Jul-Sep	Oct-Dec	Total
Black (armed)	1	1		1	1	4
Grey (unarmed)	178	194		136	149	657

Data (Table 7) was presented in two broad categories. Such fixed format data has limited value to update the training programme and to identify the vulnerable staff and the specific-skill updating programme. It would be of great help to the training department if data were available to review the prevalence of OVAS under different sub-classifications for analysis. The above data on OVAS only mentions a few categories of violence (Code Grey and Black) but not on the actors of violence mentioned in Table 3. To run an effective training programme information is needed on all actors of violence.

Staff in some areas face a lot of bullying which might create high stress levels among staff (Geoffrion *et al.*, 2015), but supervisors or managers would not be able to identify those stress levels from this fixed format data. Also, this information gathering process is time consuming as it depends on the front-line staffs' ability to write the incident in proper sentencing and the availability of the assigned supervisor to put the data in the system. It would be better if an instant data entry process was available. Accurate and live information flow to the trainers of MSVT would be more effective to update the training programme than the current third hand (first supervisors' judgement of putting the incidence in the system, second RSKSOFT data analysers' view) report. From an Actor-Network point of view the patient or their accompaniment, the environment, the service delivery polity and procedure, the role of the staff, all form a system or a network. Which part of that network acts as a moderator to spark a conflict and lead to violence needs analysis. It can only be done effectively if the incidence is accurately presented to the trainers. Safety analysis depends on knowing, understanding and appropriately choosing the risk free or minimum risk task (Ericson, 2015).

To understand the outcome of a training session the easiest way would be to observe the occurrence and management of OVAS incidence of events among the trained and non-trained staff. It would have been better if the analysis of the incidences of OVAS (in Table 7) were made against the staff training of the corresponding areas of incidence (from Table 6). Lack of information in Table 7 about the location of the incidence could not help this any risk analysis. It is hoped that BN123 Health would do that analysis to find out the effectiveness of the training.

So, there is scope of further improvement of the WHSMS of BN123 Health to identify hotspots of OVAS and provide administrative support to focus MSVT training activity on those areas with higher OVAS incident or with less motivation of staff to follow OVAS prevention policy. This also requires commitment from management to develop an efficient OVAS information collection system and review information communication technology (ICT). A good networking system would have a strong positive impact on effectiveness of the MSVT to develop workplace specific training, which in turn would improve the performance of the WHSMS of BN123 Health.

Workplace violence has a negative impact on the performance of staff by increasing the errors on duty and reducing self-esteem ultimately reducing productivity including a lower level of care to patients (Chapman, 2009). To measure such impact the BN123 Health should empower MSVT to utilise an innovative tool (that is ICT) to generate regular analysis on the impact of OVAS at different workplaces. There are occupational violence training programmes like Workplace Violence Prevention for Nurses, a Web-based programme of the Centre for Disease Control and Prevention (CDC) USA, which assessed the psychological status of the staff in post-exposure period and arrange post-exposure counselling of the victim (Appendix 6.0).

4.2. Evaluation based on current participants opinion (2014 data)

In 2014 two trainers (of MSVT) and twenty-one trainees were interviewed. Participation in the interview was voluntary. Participants were randomly selected among the staff attending the MSVT training session on three dates. Informed consent was obtained after a briefing about the intention of the research and providing supporting documents both from Victoria University and from the Ethics Committee of BN123 Health. Each participant recorded their age group (not exact age), gender, job title (like personal carer, nurse), and workplace in the consent form. Their identification was desensitised by allocating each participant a random number. The interview record was marked only by that number instead of any real ID.

The semi-structured interview sessions were designed to collect information on the six themes: ‘Mode of delivery’, ‘Content of training’ and ‘influence of training on knowledge’, ‘Result’ and ‘Reaction’. To guide the interview a ‘topic list’ (number 10 to 68) was prepared and then re-organised into those six themes (Table 18 to 23 in Appendix 11.0). Interview sessions were guided by open-ended questions. Participant’s responses were recorded as response number (R no) in Tables 18 – 23. So, each table from Table 18 to Table 23 has a topic list (10 – 68) on the left side and response no (R10 to R140) next to it.

The participants view on **LEARNING** from this training is discussed under three sub-headings: the delivery process of the training (Table 18. with topics 10 – 16), the content of the training (Table 19 with topics 20 to 24) and 'knowledge and skill development' (Table 20 with topic 30 to 37). Data on this issue can be seen in Appendix 13 to 15.

There are different tools to study the **BEHAVIOUR** of staff in the post-training period with theoretical and practical assessment, which was beyond the scope of this short case study. To understand the impact of the training on the behaviour of the staff to manage OVAS, I used discussion only. It was focused on 'understanding trainees willingness to change work practice' after training and related issues. Topics 40 to 48 in Table 21 guided that discussion. Related data is presented in Appendix 16 and 17.

Information on **RESULT** was collected by topic 50 to 57 in Table 22. Data is presented in Appendix 18. It was intended to know whether the trainees feel that this training would bring a reduction in OVAS incidence or have any evidence towards that and also attempted to find any evidence of performance measurement.

The theme **REACTION** was intended to collect information on the feelings of the participants about the training itself: is it worth having such training, is it important, overall is the time better utilised? Topic 60 to 68 in Table 23 was used for this. Data on this issue is available in Appendix 19.

4.2.1. Evaluation of MSVT on Learning

People can learn three things from a training session: knowledge, skills and attitudes (Burden & Proctor, 2000; Kirkpatrick, 2006). Success of a training to transfer knowledge depends on several factors including learner characteristics, design and delivery of intervention, work environment (Burke, 2007) and training delivery process (Wong, 2009).
In the following paragraphs the trainees' responses are reviewed under three aspects of the training: the 'delivery process' (4.2.1.A, data in Appendix 14), the 'content' (4.2.1.B, data in Appendix 15) and the 'knowledge and skill development' (4.2.1.C, data in Appendix 16).

4.2.1.A. 'Delivery process' of Training

The trainees' opinion on 'training delivery process' was collected under seven sub-headings (Table 9): enrolment in training session (10), pre-requisite to enrol (11), delivery process (12), session schedule (13), frequency (14), grading (15), and accreditation (16).

Discussion finds a simple enrolment process. All permanent staff are entitled to enrol, staff of some areas need to do it annually and others have an option to enrol to fulfil their professional development (PD). Only 9% staff enrolled for PD. According to trainers none of the doctors or specialists need to enrol for this training. Enrolment was through a learning portal of the BN123 Health, where staff put their name to be included in the upcoming session. Table 8 displays the opinion of the trainees on the 'delivery process' of the MSVT. Details of the data are in Appendix 14.0.

'Trainer X' said they encourage all mental health staff, community staff like 'hospice at home', aged care staff and front office staff at the administrative area to attend the programme, but it is the respective manager's responsibility to enforce and ensure participation. At some work areas of BN123 Health, it is mandatory for all staff to attend this training (like mental health staff, code grey team members) but trainers are not sure which other areas have that policy.

Trainers mentioned that besides BN123 Health other organisations request the MSVT team to train their staff, which is not a regular event. This includes: 'Department of Human Services (DHS) including disability services', 'drug and alcohol services', Department of Education for some special schools in Geelong (with aggressive and difficult to manage students), metropolitan and rural community houses, and some interstate facilities.

Trainers were concerned that it is not a mandatory training in many areas of BN123 Health, but incidents are occurring in many places and could at any point of time be serious. Trainers think knowing the techniques of MSVT might not avoid the incidents, but the outcome might be different, particularly to the staff wellbeing. So, trainers feel all work areas of BN123 Health should come regularly in training to develop the confidence in handing aggressive situations and having the right skill to defuse it.

The researcher considers this as a lack of safety perception among BN123 Health management.

Table 8 Response on the Delivery Process of MSVT (N= 21)

No	Topic	Comment
10	**Enrolment**: R50, R51, R53	Majority (71%) are enrolled as directed by supervisors. 43% know that it is in organisational policy, only (9%) enrolled for professional development (PD) by own choice
		81% did not have any concern about enrolment. 33% were not aware of MSVT and 19% believe it needs more publicity to make all staff aware of MSVT.
11	**Pre-requisite to enrol**	81% never heard of any pre-requisite but think only permanent staff come here.
12	**Delivery process**:	Only face to face. None heard of any other mode of delivery. 9% said some part of training could be done online and can reduce the length of stay in classroom and can give flexibility in date and time.
13	**Session schedule**: R56	71% were not aware of any fixed date or time of MSVT but know sessions happen every year. They get information either by email or visiting training portal. 19% were concerned about longer class time
14	**Frequency**: R54	Most (71%) staff knew they have to do it annually. 48% did it more than once, 9% did only once, 19% didn't know how frequently they have to do it.
15	**Grading**: R55	57% knew there are different types but only 29% said there are: short (few hours), one day and three-days programme.
16	**Accreditation**: R90,R91	48% know this training is counted in their annual performance appraisal but never heard of any accreditation, counts for PD but no score and no accumulative credit for doing it every year.

Not all participants were aware of the grading or level of the MSVT training and less than half (43%) of participants said there are short course and long course. The majority (86%) had no concern about the session design (R54). Only 14% said it is a long day but 5% said a long day is necessary to cover all issues.

There is no pre-requisite to be enrolled in the training for BN123 Health, except being a permanent staff member, but doctors and specialists have not yet enrolled in the programme. For external training programmes, it is the respective organisation's choice to enrol their trainees. This needs further study to assess the return on investment (ROI) aspect of the training by analysing *effect of enrolment* in MSVT training *on conflict resolution* at different workplaces in BN123 Health.

Discussion with the trainers and observation of the sessions by the researcher found 'face to face delivery' is the only mode of delivery. Both trainers said it was the preferred mode since MSVTs inception. In 1999, leadership of MSVT was entrusted in the clinical (Psychiatric department)

department but from 2010 it shifted to non-clinical management and is now managed by the Human Resource department. During the transitions, at some point service was interrupted for a couple of years. Change in leadership from the clinical to non-clinical side has shifted the focus of training from primarily mental health staff to all staff across BN123 Health. Trainer X, the longest serving trainer at MSVT, said "before 2010, it was running well". This trainer also mentioned that "there was an ad hoc quality assessment process but no quality assessment body (composed of professionals like doctor or nurse) was formed to regularly review the performance of the MSVT". It gives an impression to the researcher that the shift from clinical to non-clinical aspects might have impacted the funding arrangement, resulting in interruption of service for some time. Also, this programme was unable to draw the attention of top management to get better value in the BN123 Health service delivery process.

Discussion with staff shows only 29% participants had an interest to gain some knowledge from this training (R50), the rest just came as it is an obligation (they have to participate as a part of their job). Most (71%) of them were comfortable with the present frequency (annual update) 48% did it more than once, and only 9% said it should be more frequent may be twice in a year. 19% didn't know how frequently they have to do it.

4.2.1.B. 'Content' of Training

Participants' opinion on 'content' is discussed under five sub-headings in Table 9: theory content of the training (20), practical content of the training (21), work specific discussion in the training (22), reality that is training focused on real life evidence not hypothetical (23), and regular update of the content to match work environment or work practice (24). More data in Appendix 15.0.

Besides interviewing the participants, the researcher attended the sessions and observed the activities. Observation of the MSVT found it is divided into theory and practice sessions. In a practice session, the common issues (decided by trainers) related to OVAS was demonstrated by trainers and every participant was engaged to practice the skill. The participants were encouraged to share their own workplace experiences. Some (19%) participants expressed concern about the trainer's skill saying, 'one trainer appeared out of context … not good … not explaining anything'.

Content of the training could not yet cover all workplaces as evident by the comment of some (27%) of participants '… not applicable in my workplace scenario'. When asked about their suggestion to improve the programme they end up saying '… don't know which one is right'. Irrespective of the level of discontent (not fully satisfied with the content), all participants agreed that the OVAS is growing, so better to participate in the present training.

Trainers mentioned that the contents are related to providing skill to analyse the situation, protect the staff themselves and avoid conflict without using any force against the offender.

***Trainer X** said, 'It is not to … keep matching force with force, ….'.*

Table 9 Response on the content of the training (N = 21)

No	Topic	**Comment**
20	Content, Theory: R55	Most participants had no comment about the content but 29% (6 / 21) said more practical expected. No particular theory was discussed to justify the use of MSVT techniques. Trainers' emphasised to report all incidences even near misses instead of ignoring the abuse and considering it a part of the job.
21	Content, Practical: R56	All participants said it is a form of self-defence training. 52% are satisfied with the content and find different way of presentation than previous session. But 48% (10/21) expected updated contents, related to advances in technology.
22	Work specific: R61	43% (9/21) were seeking more practical related to their specific work area problem. Inclusion of your workplace in the content. Do you feel that the knowledge and skill relate to the context of your workplace? Or, incidences or experience at your place were included in the session or have your concerns been addressed in the session? How?
23	Aligned to reality: R62	43% didn't have any comment on this issue. Other 43% said yes MSVT provided evidence from real life. But 14% didn't agree, their concern the session deals with mentally stable people who listen to commands, rather than mentally unstable aggressive clients in dementia unit or community care setting as well as aggressive family members with substance abuse.
24	Update: R56	Among the participants who came in multiple sessions one third (3/9) noticed update in terms of sessions being longer and more engaging. Others (6/9) said it is the same content and want to see updated techniques but don't know what.

Trainers' advised everyone to report the incidences and consider risk minimisation through a pro-active non-violent approach. They want to build staff confidence in handling aggressive incidences with minimum injury.

Trainers encouraged all incidents be reported but didn't mention any reporting techniques or improvement or alteration in the current reporting system. Present manual paper-based reporting needs staff to write the incidence and leave it with the supervisor to investigate and enter the information in text format in the RSKSOFT (reporting software) on the intranet. Entry of information in RSKSOFT is only accessible to limited staff, which is a concern about the accuracy and real-time review of the issues related to it.

RSKSOFT (in Appendix 20) is a complex programme with options to enter OVAS information along with other purposes like clinical safety of the client in the hospital. Today there are many technologies available to post the information immediately from the point of incidence to improve the reporting.

According to the trainers' description, before 2010 MSVT used to run level-3 (5-days) training sessions besides the present sessions of 2-hour, 4-hour, 8-hour, level-1 basic and level-2 (3 days). Exact causes were not available but lack of trainer availability along with changes to certain work practices are the contributors. It is expected that changes in a set programme would be backed by review. No such document (review or evaluation) was available to justify the need of eliminating level-3 session. It raises concern about the value of the programme (MSVT) to the work health and safety management of the organisation.

4.2.1.C. 'Knowledge and Skill development' from training

Trainers mentioned that MSVT sessions were developed considering the varied needs of the target group: front-line staff, code grey team, age-care staff, community (hospice at home) staff and, mental health staff. Before 2000 the main focus of MSVT was the mental health staff. Today the sessions are of different duration (from 2 hours to 3 days) to cater for the need of different groups of staff (Appendix 5.0). Besides, BN123 Health staff, MSVT also provides training to external clients.

Table 10 Knowledge and Skill Development opportunity (N= 21)

No	Topic	Comment
30	**Exposure** to OVAS: R60	Majority (86%) had either experienced OVAS by themselves or watched incident with other staff at workplaces.
31	Consistency in Theory and practice: R116	Everyone agreed the whole training is on OVAS and 43% feels that the benefits of the practical parts are not much explained in theory. Theory deals more with the causes and incidence reports but not with appropriateness of the techniques in different circumstances.
32	Acceptability of solutions: R63	19% didn't agree that all solutions are applicable in their workplace. 5% wished the trainers attend their workplace for specific solutions. 48% accepted the solutions and 33% didn't comment.
33	Resolving differences: R64	Everyone received feedback from trainers and were happy with the session but 9% were not totally convinced on solutions. 48% (10/21) didn't make any comment.
34	Applicability: R65	Only 24% clearly expressed the skills gained at MOVIAT are applicable at their workplace. 14% didn't think it is the right tool for their workplace. 52% didn't comment.
35	Post-training support expected -R66, R74	No such commitment was made to the participants that the trainers would be available on a regular basis to provide support at the point of need. No communication channel or support material was referred to consult after leaving the training session. Only 29% (6/21) expected to receive post training support at the work place from the peers or managers.
36	**Tools** / Guidelines: R70, R71, R72, R73	To retain knowledge of MSVT skills no guidelines were provided. 33% of participants believe providing a flow chart like, hand-washing or reference card to display at a strategic point could help retain the memory, which needs to be updated over time.
37	Knowledge gain: Knowledge sharing: Creates awareness: R111, R112, R113	52% agreed MSVT brought new ideas or doing things differently than before. 33% (7) said no, possibly they did this course before. 57% (12) said the session helped gaining knowledge not only from trainers but also by sharing others experience on OVAS

Trainers' interviews, and observation of the training sessions revealed hands-on demonstration of the self-protection skills after a theory lecture. The lecture deliberates the incidences of violence and its severity.

Opinion about the 'knowledge and skill development' aspect of MSVT is discussed under the following headings in Table 10: previous exposure to OVAS (30), consistency in theory and practice

(31), acceptability (32), resolving differences (33), applicability at workplace (34), post-training support (35) tools or guidelines (36) and knowledge gain (37). More data is in Appendix 16.0.

Most (86%) staff had direct or indirect **experience of OVAS** (Table 10, no-30) at their workplaces but, details were not available about the incidences due to time constraints. The knowledge and skill gain from the session was appreciated by the majority. The presentation on the solutions to prevent OVAS in this training are acceptable to the majority but 19% differ to that. In terms of resolution of differences 38% of participants were satisfied with the explanation but 9% were not totally convinced.

Discussing **applicability** (no-32) of the OVAS prevention skills at the work place 24% of staff agreed it could be used at their workplace but another 24% said they are not totally sure. Interestingly 43% did not make any comment on this issue. One participant said "the training is very generic and may not apply to every aspect of BN123 Health. The technique learned can help but sometimes the OVAS can be completely unexpected and unavoidable". Another staff member said "Very difficult to apply this training to high care like Dementia who are very resistive. MSVT practice is better than nothing but some activity (or, smart moves) should be directed to aged care, particularly Dementia residents".

The overall view of the participants about learning from MSVT was good even though there were concerns that the content is too general and needs to do more to include specific workplace issues. There was some concern about the mode of delivery, of not including an online mode and no flexibility in date and time. There should have been some reference on justifying the rationale of doing things in the present way. In terms of knowledge and skill gain opinion differs in including all workplace and the applicability.

4.2.2. Evaluation of its ability to influence 'job behaviour'

In work health and safety, it is well known that behaviour-based safety management is most effective to prevent accidents (Diamantidis, **2014;** Kaila, 2014). Behaviour change is influenced by knowledge, skills, attitude, motivation, confidence and self-efficacy (Beech, 2006) and by environment (Simonet, 2010).

Motivation is an important factor to influence behaviour (Cox, 2004) and to improve the performance of the workforce (Porritt, 2005) towards safety culture. To understand how the participants would behave after receiving the training it is important to assess their level of motivation to use the knowledge and skill gained.

Changes in ‘Behaviour’ following a training is related to an opportunity to practice the skills in the post training period (Cox, 2004; Kirkpatrick, 2006) including a supportive environment. Adaptation to environment is a normal phenomenon, for example, in a quite or silent environment (like a library) people talk in a low tone but in a crowded market the same person talks loudly.

Following a training it is important to know whether the participants would behave differently based on the new knowledge or skill gain (Kirkpatrick, 2006). If the post-test after each session shows changes in perception of the trainees on the topic, then a change in attitude (to work differently) could be expected. To have a sustained effect of the training it is important to retain the knowledge for the long term. Retaining the knowledge for a long term is best achieved by an ‘active retrieval process’ that could be practiced by group discussions and questioning such as asking quizzes, and integrating questions within discussions (Karpicke, 2012). To hold the knowledge for a long time some tools might help like encouraging group discussion in the post-training period initiated by display posters or key-ring cards with steps of OVAS prevention techniques printed on them.

Change in behaviour is also related to the reward and punishment process tagged to an activity (Cox, 2004; Kirkpatrick, 2006). Knowing the existence of a performance appraisal and reward/remuneration system influences employees’ performance (Antwi, 2016). Inclusion of the level of participation in MSVT as an indicator of skilled staff in the performance appraisal system would encourage more staff to participate in MSVT. Such inclusion in the performance appraisal system would also suggest commitment of the top management to control the OVAS incidence.

Table 11 'Post training support': to practice MSVT skills. (N= 21)

No	Topic	Comment
40	**Refreshing activity**: R72	57% participants said they didn't receive any memory retainer or tool or written Guideline or Workflow chart. 29% proposed to have something like a hand washing poster that could be displayed in the wall or on desktop. Or, it could be a reference card to carry.
41	**Attitude**: R73, R80	Most (62%) didn't comment on level of comfort to use MSVT skill or how much likely using the skill at workplace. 52% consider this is essential to counter OVAS. Only 19% expressed confidence to practice the techniques at workplace.
42	**Peer support**: R74	29% expect support from co-workers to apply the skills at workplace. 14% didn't expect that and 57% didn't comment.
43	**Supervisor support**: working environment? R75, R92	29% were confident to get support from supervisors to apply the knowledge at the workplace. 71% didn't comment on supervisor support. 33% know that supervisors ask questions on use of MSVT techniques at workplace.
44	**Workplace readiness**: R76, R77, R78	29% know that their workplace is set up to practice the skill, no need to setup the facility. 71% didn't comment on the issue. 9% said supervisors have no time to enquire or discuss about MSVT skills. 9% said environment is over-crowded to have the scope to implement the skill. 5% said there is lack of awareness among supervisors, 5% don't have anyone to discuss the skill.
45	**in Annual performance measurement** (PM): R90, R91	86% were aware of an 'annual performance assessment process' at their workplace and 48% know that participation in MSVT is included in the 'employee performance assessment process'. 24% were not aware of such inclusion.

Interviews for this research were conducted to collect opinion of the participants about their understanding on the knowledge gained or level of motivation to apply the skills learned at MSVT and what factors would influence them to implement it at the respective workplace (Table 11). More data is presented in Appendix 17. The 2014 participants' opinion on 'behaviour' is discussed in Table 11, under the following headings: refreshing activity (40), attitude (41), peer support (42), supervisor support or other support at work place (43), workplace readiness (44), inclusion of MSVT in annual performance measurement.

Discussion on supportive workplaces to influence change in workplace behaviour didn't reveal much information. Only 29% of staff said they feel support is there.14% said no support and their comments included "management has no time for staff", "environment is overcrowded not conductive to safe practice". The majority (57%) didn't respond to this question suggesting they have no idea about the

support available or that they are new staff, or they never faced any incident of OVAS requiring help. Further in-depth study might explore the issue.

For the query about the 'post-training support from MSVT to influence the supportive work environment or resources to practice MSVT skills and knowledge' 62% participants had nothing to say but comments of 38% of participants included: "staff of certain areas are all required to attend the MSVT, but no follow-up about actual use, is it working, or any modification needed or not". "I work in low care and MSVT moves are not used there every day, so I forget it". Most (57%) participants mentioned the need of a tool to refresh the memory like reference cards or, posters.

Overall view of the participants on job behaviour: the majority (57%) did not show any strong attitude to practice MSVT knowledge and skills at the workplace. They pointed to the absence of memory retainer tools or guidelines and also the lack of knowledge of the post-training support. There was also lack of response from the majority on key issues. These do not support the expectation of a change in job behaviour after the training

4.2.3. RESULT: Evaluation by its impact on OVAS reduction

Results of any training can be measured or evaluated by noticing changes in the working habit or work practices, improvement in quality of work and impact on the output (Kirkpatrick, 2006).

Table 12 Understanding of the participants on the Result of MSVT at workplace (N=21)

No	Topic	Comment
50	**Confidence** build up: R84	Only 14% were confident to use the MSVT skill at their own. 38% were not confident and 43% (9) didn't comment on this
51	**Risk minimisation** effect: R82	Only 19% agreed that this MSVT skills has an effect to reduce the injury of staff but 81% didn't comment on this.
56	**Reporting OVAS:** R93	Majority (52%) were aware to report OVAS but 38% were not aware how to report.
57	**Data entry**: R94	Most reporting is by manual filling of forms, only 14% knew about RSKSOFT software. Most (74%) staff do not enter the information into any computer system or any other device.
53	**Quality** improvement: R83	33% consider MSVT is helping to improve quality of the service by reducing OVAS, but none have any statistics to say much this training is helping in that regard. 47% didn't respond to this question.

Table 12 (Continued)

51	**Benefit achieved**: R81 Level of **significance** to you: R85	62% said the workplace gets benefit by staff participation in MSVT, 9% don't agree, but none of them have any statistics on how many incidences were defused by using MSVT techniques. 3 (14%) think it is mainly management's interest to run this programme. 52% believe level of significance of MSVT is management's interest, staff don't get any evidence or statistics on risk minimisation or quality improvement. As an employee, they (29%) just get confidence to manage OVAS.

No data was available to compare the past and present OVAS situation at BN123 Health, but indirect evidence was collected by knowing the effectiveness of the training to improve the staff 'confidence and skill' to manage the OVAS incidences, and 'reporting skills'. There is a designated person to enter the information on OVAS using the RSKSOFT software. Most staff are not sure whether data is entered on the same day. Only a few (5%) staff members suggested that they have accessibility to enter data in the system. None of the staff know how many OVAS cases are happening in their area and how many reported or how many actions are taken by managers. The discussion with the participants on this issue is described (in Table 12). Data is in Appendix 18.

Overall findings on result: The MSVT intends to help building confidence among staff to handle OVAS incidence but only 14% of the interviewed staff members were confident to have that skill and only 19% consider they have developed the risk minimisation skill. The programme didn't focus on reporting skill development or data entry skill. Staff didn't have any information on the effect of MSVT in quality improvement or any evidence on benefit achieved in the respective workplace. For effective evaluation of MSVT it is better to have some reporting system to show the level of reduction of the OVAS incidences or project the future expectation of reduction.

4.2.4. Evaluation by REACTION:

Reaction intends to measure participant's feeling about the value of the course. Reaction might not reflect the level of learning achieved but the level of satisfaction.

Table 13 Reaction of the participants on the MSVT. (N= 21)

No	Topic	Comment
60	**Goal**: personal R50	29% attended the session with a goal to learn details about the OVAS management, 67% didn't mention about any goal just attended as they have to do it. Staff outside the aged care or community didn't feel that the session was much helpful to them. They expected more discussion on patients with delirium, hyperactivity, dementia, Employee safety.
61	**Objective of MSVT**: R100	71% were happy to know that the MSVT intends to raise awareness about OVAS and to minimise the injury. 19% didn't have much information about MSVT as they were new staff.
62	**Conflict:** between views R60, R61, R114	Majority (52%) were satisfied with the training except 9% whose concern was that MSVT not included their unique workplace environment. Some of the issues were resolved on sharing knowledge at practice session.
63	**Effect on workplace** R115	Discussion about the rate of OVAS incidence in the work place and how many were diffused by using MSVT didn't find any answer. 52% didn't have any knowledge on it and 48% didn't answer the question.
64	**Effect on workflow**:	52% said MSVT techniques don't interfere with their workflow, except 3 (14%), who considers OVAS interfering normal work flow or speed
65	**Beneficial**: R118, R119, R132	Almost all (95%) expects MSVT to be beneficial but no official statistics to show how much benefit MSVT brings every year. 52% think it creates awareness among staff no matter how much benefit it brings in statistics.
66	**Enjoyable part**: R120, R131	Practical session was enjoyable to most (57%). Morning session to meet with others over a cup of tea was enjoyable (48%), but better morning tea is expected by one third (33%). There is a mixed view about the inclusion of fire training in the same day. Most (67%) staff are alright or have no comment but one third 33% feel unjust.
67	**Suggestions to improve**: R140	14% think trainer should visit their workplace to assess the risk and develop specific skills on that perspective. 9% feel the need to review the training content and improve presentation as they are coming every year. Another 14% said trainers should be well prepared before presentation. 9 (42%) said real-life statistics would be better to understand how the programme is benefitting us.

For a successful training, it is important that trainees react favourably to the session and to the content as a whole (Kirkpatrick, 2006).

A person's reaction to a programme depends on the person's knowledge of the issue (either by attending training, visiting web, reading text or discussing with others), compliance (DHS Victoria, 2012; Saracino, 2015), workplace culture (Cox, 2004), and personal belief (Tatnall, 2003b).

52% said, at the end of a session that trainees were requested to fill up a ‘course evaluation’ form, as an optional activity. There were some open question and some Yes/ No options. There was no post-session (after a month or year) evaluation or feedback form.

Effectiveness of a training session depends on the trainee’s perception or reaction about it (De Beijer, 2016; Santos, 2003; Von Treuer, 2013). Do they like it or consider it beneficial for their work or personal gain? More positive image accelerates better knowledge gain to the trainee.

Understanding trainees’ reaction helps identifying their attitude and preparedness to embrace the new skills at work (Ghahramani, 2016; Warmerdam, 2018). It also provides feedback to trainers to identify the weakness of the programme and triggers initiatives for corrective actions or improvement activities. A positive reaction towards a training would encourage utilising the skills and discussing with peers and supervisors for better implementation of the programme. Most participants (86%) expressed that this training is to assist them understand the OVAS and learn the techniques to avoid injury from the aggressive client. “Advice on priority setting in a conflict like, looking after ourselves first”.

Participants put some suggestions to improve the MSVTs acceptance and better implementation at workplaces: “Change delivery format or presentation to make it more interactive and entertaining”, “A reference card or guideline be provided by trainers, to use in post training period”, “tailored to other workplaces need”, “Improve trainer skills”, “It would be beneficial if trainers visit workplaces to incorporate specific workplace issues with emphasis on difficult residents and visitors”, “Wider publicity needed to inform all staff of BN123 Health to participate”, “On-line facilities be there with interactive materials to allow flexibility of participation and better explanation of the key points”.

Trainers expressed that MSVT was procured by BN123 Health in 1990 as a training package. But their expression didn’t suggest any changes in the content of the training though a few changes had been made in the session plan. BN123 Health functionality has widened by embracing new services in the surrounding environment. To improve the relevance to the ongoing changes in service some dynamic mechanism needs to be developed.

One suggestion could be uplifting the value of the MSVT training team in the BN123 Health management hierarchy. The training team should have more permanent members than existing casuals, with focus on ongoing data analysis of the incidents and near misses, review of training content or methods in the context of national and international development in the subject (occupational violence), collect feedback from supervisors and trainees of all area of the BN123

Health, collect feedback from clients and their carers as well as community advocates on client service to understand the impact of staff work practices on the service and customer satisfaction.

Contradicting staff morale or ethics on human rights with the forceful restrain or depriving client's right of equal access to service (by putting the client away from service through a wall or partition) can reduce service integrity (Afifah, 2015). Staff might not provide the correct service to a client due to his or her own conflict with the service delivery process. Those staff need more training or counselling.

Overall reaction: 71% (15/21) expressed a positive reaction to MSVT and 42.9% (9/21) were confident to use the skills as they attended multiple sessions during their service time. Still 33% (3/9) of the multi-attendants were not totally happy as the skills do not cover their specific work areas.

There is some discrepancy in OVAS data (R60) where all male (8/8) staff faced OVAS but only 76.9% (10/13) female staff faced that. It happened as two females were working as lifestyle coordinator and physiotherapist, not directly related to caring clients, and one staff was new, it was not known how many days and in what workplace she was working.

4.2.5. Evaluation of MSVT by Training schedule and content

The MSVT follows a training schedule and according to trainers it is distributed to potential departments to inform the trainees (Table 13 and Figure 10 in Appendix-5), as soon as it is published every year.

Discussion with trainers revealed that MSVT was introduced in this hospital under the leadership of the psychiatry departmental head. Initially it was only for the psychiatric nurses requiring restraining the violent patients. At that time trainers where getting better wages and working conditions. Over time MSVTs management was shifted to WHS manager, then Human resource (or Peoples' development and training) department. This change shifted the capacity and working style of the team, as is evident by the response of the trainers: "The programme was on hold for one year, as clear instruction was lacking" also "lack of fulltime trainer and other resources reduced the operational capability of the training".

It started operating with three levels of training, but since 2008 Level 3 training is withdrawn. According to trainers the decision to modify the schedule was based mostly on the training officer's

proposal due to human resource constraints. All but one is a casual trainer limiting the ability to run enough sessions. Decision of the training officer was approved by the management without any further review to find options to keep level 3 alive.

If this training would of greater value to management then at least two actions should be taken. A return on investment (ROI) to investigate the impact of removing Level 3 training on the OVAS incidences. Secondly, other ways of retaining trainers for level 3 training, not discontinuing one type of training just due to lack of resources.

Current leadership status and the modification of the programme without much review suggests WHS is not of much importance to hospital management and that relates to the findings of the auditor general's report (VAGO, 2013, 2015).

To evaluate a training in an economic climate it is important to consider 'cost, benefit and return on investment' issues (Phillips, 2016). No such information was available either from trainees or from trainers that BN123 Health has done any study in that regard.

In summary the opinion of the 2014 participants stated that:

- In **learning**: it is weak content quality, relevance to workplace, mode of delivery. Present content is not able to attract more participants across the organisation and it is also unable to put weight on the topic compared to clinical subjects. Its mode of delivery is traditional classroom based, which needs considering for online or web-based participation.

  Lack of influence to encourage **behaviour** change as it is not focusing on diverse work places. Participants out of emergency or aged care are not convinced that this training will bring any change in the OVAS incident in their environment.

- **Result** of the training was not measurable as no information was available to compare number of OVAS incidents before and after training in any workplace. Participants did not mention any convincing evidence that by learning OVAS they were successful in avoiding or counter-acting any incidence. Existing training programme does not teach how to report incidence and how to maintain reliability of the information.

Only few participants showed positive **reaction** to the training's outcome. Some participants said it is just a day to see the activity but not much to take to the workplace. Most participants said they did not have much information about the outcome of the training and its impact on the organisation.

4.3. Evaluation by OVAS prevention activity

Limited data provided some light on the OVAS prevention programme in 2012. BN123 Health deserves admiration to introduce an OVAS prevention training programme in their management system to create awareness of the staff on occupational violence and to develop skill of the work force to face the problem. But the following points find some sluggish response to the dynamic OVAS environment and this is not much different than other health facilities in Australia, particularly in Victoria.

To manage a dynamic environment, the responsible officer or team should have a real-time information gathering system. Data entry on OVAS incidence is not a real-time event. After submission of a report by floor level staff an assigned supervisor enters data in text format in reporting software RSKSOFT. On request the training officer of MSVT gets a fixed format report.

Interviews with trainers revealed that there is no regular analysis of the data (OVAS incidence, cause and effect, consequences of OVAS to employee and to client service during or after exposure). Trainers said, “Training officer receives report from RSKSOFT in a fixed format more like a summary sheet”. Such a report is less interactive to analyse the impact of training to a specific work area, as it does not have an option to re-arrange the data to collect further information like impact of training (number of staff trained versus the incidence rate in a particular area). Such a fixed format report also has limitations to follow-up the consequence of incidence to employee, client and service delivery perspective. This could be considered as a limitation in management of the OVAS situation at BN123 Health.

Another limitation of my study is that it couldn’t reveal whether trainers or training officer have regular meetings (monthly or yearly) with the top management (like CEO, deputy CEO or OHS manager), to discuss the strategy (like learning objective, delivery mode, curriculum development, resource allocation and outcome of the training on OVAS incidence). No evidence was available in that line, like any meeting minutes or reports with top management to discuss any review.

Further interviews with the trainers, review of the RSKSOFT report and review of the Annual Report of BN123 Health identified that BN123 Health has more focus on Clinical safety than on OVAS in Work Health and Safety. The modules of RSKSOFT used by BN123 Health are more supportive in that direction (patient safety).

The data analysis and report generated by RSKSOFT is not regularly shared with the training officer in charge. According to the 'management of RSKSOFT software package' the ability to access and distribute the report generated by this software depends on the number of modules purchased by the hospital. The purchase of more modules depends on the priority setting by hospital management.

Trainees working at the emergency department mentioned that their performance (like isolating the aggressive clients) is intervened by clinical professionals (like doctors) considering it as inhumane.

Neither the trainers nor the trainees mentioned any arrangement of post-incident professional counselling to support the victims (staff) to reduce stress and maintain quality of service.

Also, there is not much awareness about MSVT among all staff of BN123 Health except some facilities like aged care, community care.

The enrolment process allows anyone of the permanent workforce to enrol. There is no priority setting depending on the length of service or task in the organisation. There is no encouragement for doctors and other specialists to enrol in the course. Most possibly none of those professional groups are even aware of the existence of this MSVT.

Code Grey Incidences in Hospitals of Victoria, 2012-2014 (Figure 2), demonstrates the increasing trend of OVAS in Victorian Health Services. OVAS is not limited to nursing staff, it can affect anyone in hospital including doctors and specialists and even GPs (Hills, 2012; Parker, 2017; Rowe, 2007). Newspaper articles describe attacks on a Cardiologist punched to death (in 2017), stabbing of a Neurosurgeon (in 17 December 2014) and, stabbing of a female Psychiatrist (in 2009), all in hospital premises in Melbourne (see Appendix 21). So, there is no reason why those professionals could not be included in the MSVT trainee list.

Focus of WHSMS in this hospital in relation to OVAS prevention is limited as suggested by the reporting mechanism. Real-time information generation is not there, modules of RSKSOFT used by this hospital are more to support clinical safety rather than analysis of OVAS risks (Appendix 20.2)

Reviewing the causes of OVAS (in Chapter 2.1.3.B) it is important that the training content should highlight the following issues: enough work space to ensure safe distance from aggressors, reducing isolation, reducing blind spots, providing instructions to clients and their family or friends to avoid violence, supervising floor level staff in performing MSVT skills, random review of staff wellbeing to minimise the risk of poor service delivery impacted by OVAS on staff performance, follow up of indirect evidence of that like unusual leave of absence, frequent medical consultation, general

reluctance of staff to avoid working in a particular area. This is not found in MSVT (Table 9 and Chapter 4.2.1.B. ‘Content of training’).

My study couldn’t find any committee to review the curriculum of the training. Interviews of the trainers suggest some components were taken from the old plan that used to serve the forensic psychiatric unit and some by the education unit to develop the best learning tools and some by the work health and safety management to incorporate the regulations, compliance issues and quality control.

Weakness in the commitment of the top management is evidenced by: the change in leadership from higher ranking clinical (Psychiatry) unit to a comparatively lower ranking department, not opening easy access to data and its analysis by trainers, not appointing enough quality trainers, not performing regular evaluation by checking goal and outcome or doing any analysis like cost benefit analysis or return of investment (ROI) or others. Also, trainers’ professional or skill development aspect is absent.

Trainers are concerned that the remuneration system downgrades them from previous years, even though they have the potential to increase the income of BN123 Health by consultancy services to other organisations. The trainers are confident that more human resource would allow them to conduct research and develop workplace specific training, which would improve the quality of the service within BN123 Health.

4.4. Evaluation by OVAS Reporting Process

Currently all hospitals in Victoria need to submit information as per Victorian Health Incidence Management System (VHIMS) guidelines (VAGO, 2013). VHIMS a standardised process for the collection, classification and notification of clinical incidents, occupational health and safety incidents and consumer feedback. This hospital uses RSKSOFT reporting software to collect and report all incidences, not specifically WHS issues. According to ‘Trainer X’ the use of RSKSOFT is related to its compatibility to VHIMS reporting format.

RSKSOFT has different modules (Appendix 20) but hospitals use mostly those modules that focuses on patient safety. Those modules don’t have any specific term OVAS but have space to record the events in text. As the RSKSOFT is a text-based reporting format there is not scope for the reported incident to be immediately categorised in different types of OVAS. It is subjected to inter-observer variation as the victim might not have the opportunity to enter the information directly in the system.

The victim usually writes a paper-based report and the responsible person reviews it and writes text in the system. Reporting to top managers or the training department depends on the skill and interest of the person preparing the final summary of all reports collected.

In the present reporting system, incidences are reported in text format. There is no categorisation of the ‘occupational violence events’ like a coding of the ‘diagnosis of disease’. That leaves a margin of error from ‘observer biasness’, that means the same incidence could be viewed by one staff member as minimal risk but serious to other member, resulting in different gravity or weight of the incidences. The current reporting system doesn’t help the training department or the top management to prepare an effective plan of skill development.

There is inconsistency in defining define Code Grey among hospitals in Victoria (Hadfield, 2014a; VAGO, 2015). More discussion is needed among reporting staff, trainers of MSVT and management to have a consensus on the categorisation and developing proper action plans for knowledge dissemination and skill development in defining OVAS incidence, reporting and in adopting risk minimisation action.

Due to limitation of time my study could not focus more on the strength, weakness or performance of RSKSOFT from the universal accessibility of all staff, reporting format and comparison with other software.

Further studies might reveal how much encouragement the staff receive from management to record all incidence including near misses. Also, how the use of innovation improves the OVAS reporting.

4.5. Evaluation based on Innovation and its adoption in this hospital

Inclusion of an OVAS prevention training in the organisation is definitely an innovative idea.
The separation of the MSVT from the boundaries of psychiatry is also an innovation. The inclusion of RSKSOFT reporting tool is also an innovative approach.

But those lack to meet current legislative requirements, competitive environments for quality service needing retention of quality staff, avoidances of conflict in the first place than waiting for resolution.

Interviews of the trainers and staff mentioned that floor level staff write a report about the incident to the supervisor, who then enters the data in the system at their convenience. Even though the software is capable at feeding a lot of information into the system its use is limited to a few, also its access is limited to few staff.

The biggest challenge yet is to make the software more user-friendly for floor level staff and to improve the efficiency of the data analysis to assist management in decision making.

I had the opportunity to attend a one-day workshop on RSKSOFT but have not been able to discuss with staff in any hospital issues like user-friendliness of the software in data entry and characteristics of the manager or staff having access to it. This is a reporting software, not a database, and uses a prefixed format to display information.

Acceptance of an innovation depends on attitude of the people or management, compatibility with values (personal and organisational) and perceived needs (Bosch *et al.*, 2016). It is time for MSVT to survey across the organisation on those issues before developing any content for the next training.

4.5.1. Scope to use Tools for OVAS prevention

In management information, flow is important (Lee, 2014). Reliable and live information supports quality management. Literature suggests there is a concern about under-reporting OVAS incidence (VAGO, 2015). One of the important tools to prevent OVAS is the rapid and systematic information flow from all targeted areas of the organisation to the action centre including the MSVT. Technology has brought the opportunity to capture the reliable information at any point of time and from any site of the organisation, be it isolated or crowded. The following are some examples to resolve the information collection issue. This might need to satisfy the ethics, privacy and confidentiality issue.

4.5.1. A. Lone Worker Protection Device

Different type of buzzers varying from manual press system, auto-alarm following a blow or fall

4.51.B. Body Camera

Another device could be used to record the event as it happened, if the coverage of the CCTV or other security camera is out of range. These cameras are worn by the staff and are deposited at the docking station (or nurses' station) where data is automatically loaded to a server for analysis by experts. The camera then can be used by other staff.

4.5.1.C. Paperless data entry system

Staff can report the incident by 3G or 4G mobile, if the hospital develops its network appropriately. Some health centres already implemented it to ensure reporting from the point of origin instantly. This

is important to ensure reporting, which is usually omitted if a staff member has to go to the reporting desk and write a report.

4.6. Analysing findings in light of ANT

This MSVT could be evaluated by its performance on two main outcomes: (1) success to avoid or minimise conflict from the beginning and (2) reduction of the impact of OVAS to staff and client, work flow and work environment.

The literature review and the discussion chapter identified the following actors as the determinant of MSVT's outcome:

The management: as it controls the empowerment of the MSVT staff and policy making.

The trainers: as they need to deliver quality training, ensure achieving the goal and evaluate it.

The trainees: their preparedness to accept and adopt the knowledge in practice.

The workplace design

The regulation, policy and procedures

The supervisors of the trainees, whose decisions influence the work process, workplace design and opportunity for trainees to implement their skill.

Working procedure to increase the risk of conflict or OVAS

Working environment to increase the risk of OVAS

Regulatory mechanisms to take action against perpetrators

Action against perpetrators of violence

The Education Portal: providing information to potential participants and prioritisation of staff on OVAS risk level.

The training place – physical structure

Access to training - The mode of training – classroom based, web-based

Reporting procedure, tools, report analysis

Chapter 5: Conclusion and Recommendation

MSVT's goal is to reduce workplace injuries from OVAS incidences by improving skill of human resources in non-violent techniques (Appendix 5.0). This evaluation attempted to understand the performance of MSVT to achieve that goal through the opinion of the trainers and trainees. It also attempted to explain the involvement of the WHSMS in assisting the achievement of that goal, even though there was only limited access to data of a limited time period.

After the review of documents available at BN123 Health and interviews of the MSVT trainees and trainers this study comes to the following conclusion about the MSVT and the WHSMS of BN123 Health.

5.1. Evaluation of MSVT

This section highlights the findings on MSVT regarding participation, learning, changing participants' job behaviour, and outcome on the OVAS situation at BN123 Health.

Participation in MSVT is open to all staff across BN123 Health by enrolling through a training portal, but data shows participation is not representative of areas of potentially high-risk (Table 6, Table 15), with limited accessibility to data of certain periods. That means there should have been more participants coming from high risk areas than from other areas. There could be several reasons for that. Some participants mentioned about being unaware of the existence of this MSVT (Table 8). Also, one trainer said if all staff at BN123 Health attended this training then the incidence of OVAS might not reduce but the outcome of the event could be different, particularly in the perspective of staff health and wellbeing (Section 4.2.1). Further study with larger data might explore whether there is a lack of promotional activity across the organisation to encourage more participation in MSVT.

In hospitals, staff are inclined to participate in activities to build their career in different health sectors. Encouragement to participate in non-clinical activities like OVAS needs to project the benefit against other competing factors. Some of which could be related to confidence gain, stress relief, leadership gain, avoiding litigation or other tangential incentives. None of the trainees were aware of any evidence to demonstrate the success of the MSVT or to demonstrate the relationship between staff training and the incidences (in quantity or in severity) in each area where from the staff were selected. No display chart or report was presented to the trainees even in the training session. Such efforts are effective to create a positive impression about the training to the participants (Atabekova, 2016).

It is important to understand the agreement and disagreement about cultural expectation about health care among professionals (doctor, nurse and others), management (people in administration, managing responsibilities) and users (patients and carers) of the service (Iniguez, 2009). Experts or professionals consider some hazard as high risk but the community might not agree with that even though they say there is a problem with that hazard (Coward, 2009). Such information to identify perception of the community can help the organisation to develop a service delivery process and develop the skill of staff to manage disagreements, which in turn can minimise the risk of OVAS.

Harmony in the healthcare service depends on the positive interaction among professionals, management (people in administration, managing responsibilities or complying regulations) and users (patients, others seeking healthcare advice, carers and others).

Learning doesn't finish only in the session period but includes an ability to long-term retention, understanding, and transfer of knowledge in changing behaviour towards new sets of values and preferences to perform a task (Moulton, 2014). If MSVT wants that type of learning then there should be certain mechanisms to retain that knowledge in the post-training period, but no such effort exists (Table 10).

Trainings could be pro-active or reactive, that it could be "designed primarily to respond to gaps in knowledge (proactive approach) or to target high-risk groups or areas (reactive approach)" (Vecchio-Sadus, 2004). Participants want to learn when it relates to their own circumstances. If the content of the training does not fulfil that criteria, then proper attention might not be drawn, and it will merely be the physical presence without any gain in knowledge. Participants opinion on Item 22 (work specific) and Item 23 (aligned to reality) in Table 9 and Item 32 (acceptability of solutions) and Item 34 (applicability) in Table 10 suggests the content of the training doesn't satisfy all participant's needs. This suggests MSVT trainers need to analyse the workplaces to prepare more work specific training. That effort might also encourage more participants to the session.

The sessions should be based on adult learning principles as this is a training for adult learners (Vecchio-Sadus, 2004) so opportunities to discuss workplace specific issues, engaging participants to find solutions, investigate its applicability in line with organisational policy or other regulatory needs and then selecting the best possible ones would encourage everyone's participation. It can also create more awareness among participants about their responsibilities in preventing incidents, and control mechanisms might be more effective in the long run.

To increase the participation in the training it is important to introduce online sessions with a few hours of classroom session (Gillespie, 2014). Such arrangement allows participants to complete certain modules online at their own pace and then participate in classroom if required.

To develop a pro-active training session employees' needs should be identified by suitable means, for example survey or focus group discussion or analysis of the incident reports. This requires detailed information on every incident at the earliest possible time and options for the trainers to engage in analysing the event in relation to customers, workers, environmental and working procedure or policy perspectives. That part is missing at BN123 Health as the trainers are not getting much analysis about the OVAS incidences in terms of environmental factors, or interactions at the point of time. Trainers usually get periodic group data generated by RSKSOFT reporting software (Appendix 20.1, 20.2) with no other information to compare the performance of MSVT over the time period (Table 7). Also limited skilled workforce in the training session along with lack of proper incentive acts to deter from such activity. One trainer says, "when under Psychiatric department hourly rate was better than now". This trainer also said the training schedule was modified by eliminating certain modules but didn't say whether it was based on enough evidence to justify the action.

Post-training evaluation of the workplaces is important to identify whether participants are applying the skill or have any confusion in implementation at their workplaces. It is possible despite training, that participants remain undecided if prescribed solutions from the training would work (Gerdtz, 2013). They would be benefitted by getting skilled staff by their side at the workplaces.

Assisting participants to retain the knowledge in the post-training period is a characteristic of a good training, mentioned in Chapter 2.3.B, (Alexandrov & Sancho, 2017; Murre & Dros, 2015). Retention could be assisted by some tools like memory flash card. Participants mentioned the lack of such memory retention tools (Table 11).

Limited access to information could not reveal whether MSVT faces any regular review in terms of fulfilling its goal like raising awareness among staff or reducing the incidence of OVAS in the hospital by top management. Literature suggests only a few are evaluated in terms of general or systematic outcomes (Gerdtz, 2013; Peek-Asa *et al.*, 2009).

MSVT focused training only on nursing and certain caring staff, but the above discussion on the causes and prevalence of OVAS suggests the scope of MSVT should encompass all staff of BN123 Health including Doctors and other top management as well who are also vulnerable to OVAS.

5.2. Role of Innovation to stimulate WHSMS at BN123 Health:

Reduction of OVAS incidents could be more efficiently done by better management of information, which needs selection and adoption of appropriate innovative tools fitting the BN123 Health's objective, information management regulation and fund availability.

Proactivity is vital to innovative changes in the workplace. To bring innovative changes at the workplace people should take responsibility for their actions and show proactive behaviour with trust in management (Lee, 2016).

The literature review suggests there is weakness in getting current information about OVAS due to lack of awareness, different attitude about the OVAS hazard (considering it as a part of the trade) and also lack of consensus about recording and reporting of the hazard (Chapter 2.1.8). To improve the communication across the health facilities, some IT software could be used. This software should have the capacity to report WHS hazards including OVAS and risks, be provided in modular packages, and fitting organisations' need. It is the organisation's choice to select the module or whole package for its use. Information collection system need to have flexibility to analyse the data as per MSVT team's interest to assist in developing course content and equip the participants with proper tools to prevent future incidents.

BN123 Health commits to incorporate innovation to improve service access, service quality and to enhance the patient experience (Harty, 2012). It has introduced RSKSOFT software in the system but didn't purchase all the modules to facilitate the WHS reporting. Most possibly it is still patient safety concerned rather than staff safety.

For the innovation to be effectively implemented, the organisational fitness or readiness and its ability to be aligned in the right course of adoption are important. This is the responsibility of the management.

Using Innovation could be related to an object or product or to a process. It has an economic, bearing that is it comes at a cost and needs the support of appropriate tools and techniques to incorporate into a system. "Innovation … the element need not be entirely novel or unfamiliar to members of the unit, but it must involve some discernible change or challenge to the status quo." (Taylor & McAdam, 2004). An organisation's maturity determines the type of innovation to adopt. Innovation might bring added value to the organisation through new or changed product, process or procedure. Adoption process includes 'Initiation and Implementation', where initiation includes awareness of innovation,

formation of an attitude towards it and its evaluation from an organisational standpoint, and implementation includes the decision to adopt, trial implementation and sustained implementation (Taylor & McAdam, 2004).

It will be beneficial if BN123 Health can review its MSVT on the following issues:
Incorporating the recent findings of different committees of Ministry, Auditor General's Office, industry findings (that is publication of other hospital committees or arranging conference on the issue with other hospitals), WHS Act, Regulation, guidelines, standards or code of conduct.

One simple idea for reducing the OVAS is the reduction of doctor-patient or staff-patient interaction. The less time a patient or their relative need to be in contact with the doctor or the other professionals the less conflict is likely to happen. This would be ideal according to the hierarchy of control (Figure 2.2 in Chapter 2.1.3.E), as elimination of hazard is the best approach, but its appropriateness needs detail discussion with the medical professionals. This leaves room for innovation.

Today there is technology to reduce the one-on-one contact to collect reliable information, some of the technologies provide opportunity to collect vivid or in-detailed information in a short span of time and in everyone's own time. For example, the 'Holter monitor' to record 24 hours blood pressure of a person has been in use for more than a decade. Digital snap shot by a mobile camera and sending that to an assigned server is also not new. Such images can save detailed write up and time.

One way of reducing the contact is to delegate the responsibility of the healthcare team to the client, for example requesting the clients to manage their own investigation using quick test machines like glucose test machine for diabetes. Clients can perform those tests before visiting a doctor and sometimes don't even need to visit the doctor physically as a phone call might maintain the monitoring of chronic diseases. It needs to consider how much freedom the clients might have in performing and recording their investigation either at their own cost or subsidised by government, or how much technological assistance can be achieved to support client need. Today readymade investigation kits can provide a lot of the biometry or even some genetic profile tests. Technology is evolving at a rapid pace to even allow people to take an X-ray at an automated booth (like a telephone booth). Patients can have their regular consultation with several professionals at a time by sitting at their home in front of a smart phone or tablet.

5.3. Empowering the Training Department

Trainers' need to review the course content and identify the appropriateness of the training through needs analysis and evaluation of the outcome, as mentioned in the literature review. To perform those responsibilities it is important that opportunity exists for the trainers to enhance the professional evaluation capabilities and have the empowerment to solve problems they face (Hung, 2010). With increased empowerment their professional growth and remuneration needs to be considered.

It would be much better if MSVT trainers have direct access to the raw data of incidents, not just a tabulated report sheet, to analyse the data against training contents and update it according to specific area need. To improve the quality of the MSVT and to have currency it is better to have:

- access to the incident reports with systems that maintain client's or victim's privacy and confidentiality
- access to different workplaces to observe participants interaction in different situations to identify work specific procedures of action to avoid violence
- access to channels to provide support at the point of need. This would enrich the training by incorporating current and problem-based solutions.
- analysis of data on effectiveness of the training through access to information on OVAS incidence e.g. rate on trained and non-trained areas, lowering frequency and severity of workplace violence
- evaluation of the violence prevention program to determine strengths, weaknesses, opportunities and threat (SWOT) analysis.
- incorporation of regulatory measures (e.g. WHS regulation, patient safety regulation) in the training
- to keep records of all training programs for future reference
- to communicate with top management at set intervals e.g. quarterly to review training needs, funding, resource allocation (both human and non-human), work load, etc.
- to communicate with other organisations in the industry to standardise the training methods and develop a uniform approach across the industry.

On the above issues BN123 Health is maintaining most of the training policy except not having pre-test resources to inform participants about the issues to be discussed in the session, post-training resources to retain the training knowledge and access of participants to provide feedback to trainers about the limitations to implement the knowledge.

Following issues in the structure and functioning of the training department needs review to improve quality and effectiveness to fulfil its goal:

a. insufficient staff, particularly dedicated staff (most staff are on loan and casual from other departments). This limits ability to focus on updating the training curriculum, prepare training resources and update the training with regulatory changes.
b. insufficient resources to make the training enjoyable to the participants. Most participants expressed that it is a boring session. Some commented on the weakness of the trainers (who are casual) and this is often due to those trainers not having sufficient time to prepare for the session.
c. no access to incidence data except a rigid report (see Appendix 20.1, 20.2, report sample from RSKSOFT), which does not give sufficient opportunity to evaluate the situations in different places or to look into the incidence of work specific conflict. This limits the ability of the training department to incorporate the dynamic environment, as the health sector always faces different challenges due to hundreds of variations in human and non-human interaction.
d. no access to channels (or webpages) to communicate with trainees on post-training issues.
e. not enough opportunity to visit workplaces or attend the post-incidence counselling or review sessions with staff, supervisor or management.
f. not enough opportunity to communicate with other organisations in creating uniformity across the industry.

It is important to set tools to predict the incidents accurately and feed that data to the training department to identify priorities in terms of the target group of staff for training and for course curriculum development.

5.4. How use of Actor-Network Theory can improve the situation of OVAS training

As mentioned in the literature review several actors are involved in the OVAS incident (Section 2.1.F), WHSMS (Sections 2.2.A) and in training (Sections 2.3.c). It is important to analyse the role of each actor and find out which one is dominant to influence the outcome. Current evaluation of the actors suggests poor strength of the training department hinders the positive outcome in OVAS situation at BN123 Health.

Use of RSKSOFT software for reporting also suggests BN123 Health has less priority for OVAS prevention than ensuring patient safety. Questions may be raised for future analysis of whether the

concept of safety be unified by including patient safety, staff safety and property safety under a quality improvement heading?

To reduce the OVAS incidence effort shouldn't only be on the skill development of the staff at the point of conflict but long before that, in fact from the point of admission of the patient or customers. Analysis of the information should enable the supervisors of the floor as well as the trainers of MSVT to classify the customers according to their need or other characteristics and then identify the best way of creating a positive or welcoming relationship with each group of the customers. Evidence suggest a better relationship might reduce the risk of OVAS (Do Byon, 2017).

For this, a change of focus from only following management decisions to flexibility to accommodate customer need is important. Empowerment of the training department with inclusion of a skilled person to conduct research and remodelling the training sessions would be needed. This would require a shift in decision making authority and resource allocation too.

MSVT as it appeared in 2012 was in a leadership crisis and still weak in future focus.
It is encouraging that BN123 Health attempted to engage it from a limited focus in the Psychiatric ward to broader areas in emergency and aged care but to focus on quality of service through WHS legislative requirement it needs reviewing the goal and operational strategy. Also, there is a competing actor in healthcare particularly in the hospital sector, that is quality through patient safety, and also a minor actor compared to patient safety and safe work culture is the safety of the property. So, there needs to be a balance or a joint strategy to address those goals with minimum duplication or overlapping of the actions.

According to the present information, management is the main actor to decide the operation of MSVT as they decide how many staff to work and where to locate the office. But for better function the MSVT department needs empowerment to decide its structure and operation with assistance from top management Top management should not take any more role than to decide goal and evaluation strategy.

The present fragmented approach to deal with the OVAS needs review. Considering the impact of OVAS on outcome of the service it is time to develop professionalism on this topic besides developing suitable infrastructure. This may include real time information flow to the training and research unit and involving top management to integrate the process across all professionals and all units in the organisation. There should be a unified standard formulation across all healthcare facilities in Australia regarding training guidelines on OVAS, for efficient response to crisis like the management of disaster situation (Herrgard, 2016).

In ANT the dominant actors play a role to form a stable network called a Blackbox. The stability of an actor-network can be challenged or compromised at any time, depending on the inscription process, that is changes in the wishes or reactions of the various actors or changes in the meaning of the system, and reform in different patterns.(Booth *et al.*, 2016). In this study the researcher observed the need shift the Blackbox, that is to reform the current training programme model, in the context of following issues:

Increasing disappointment from participants about the ill-fit of the training to their respective work environment (table 13). Participants were not confident about reporting the OVAS incident (table 12).

Participants lack memory retainer to refresh their memory in the post training period (table 11).

The training needs to widen its scope at all levels of the organisation and include both professionals and managers, particularly in the context of assault of doctors in some workplaces (Hadfield, 2014b; Mead, 2016; Parker, 2017).

It is important to develop correct training material to improve the service delivery approach among all to avoid OVAS (Berman *et al.*, 2017). Training on OVAS need to consider ways to make staff aware of the surroundings and identify patients and visitors who may be disposed toward violent behaviour (Gacki-Smith, 2009).

Therefore, management need to explore position of the WHSMS in risk minimisation role, structure or the training team, and appropriateness of the training to meet participants need as well as organisational need by more in depth analysis of the information.

5.5. Limitations of this study

I am grateful to BN123 Health for allowing me to observe their training programme (MSVT) with approval of their ethics committee.

The following limitations are worth mentioning:

Approval time: Even with the support of the research and ethics department I had to wait a considerable time to start my data collection due to changes in the OHS management position of BN123 Health. It was unfortunate that, in the approved hospital, the Work Health and Safety manager left his office just before I got approval from the hospital ethics committee, and the replacement came only a few days before finishing my research data collection.

Collecting management opinion: It was important to get the view of top management on the research topic but challenging to win an interview within my research time-frame due to their pre-occupation with day to day activities and the absence of OHS manager required cut short approach.

Accessing information: Overcoming the confidentiality issue to access primary or secondary data relating to OVAS was difficult, so some analysis could not be done. For example: 'the effectiveness of the MSVT in influencing the OVAS incidence' could not be analysed. That analysis needed review of data on OVAS incidence and presence of MSVT trained staff at that point of time in that section of the workplace. Such information for a minimum of six months would have improved the value.

5.6. Contribution of the study

This study identified some of the issues that needs attention from WHS manager and top management (see section 5.3)
It would encourage management and MSVT trainers to develop the list of actors and to analyse the role of dominant one to improve the outcome (see section 5.4).

5.7. Further Research

This snap shot of 'BN123 Health's training management on OVAS' raised questions about some issues in hospital management particularly in WHS. So, it suggests further in-depth research on the followings in Health Services in Australia, particularly in WHSMS:

Readiness of the Hospitals to accept the value of WHSMS besides its patient safety focus? Importance of such research: WHSMS came into being to improve service through less employee casualty, less working hour lost and less compensation claim. Hospital and health services are also dealing with loss of staff particularly trained staff and injury compensation claim. Why should the WHSMS not be incorporated more from the planning stage.

Should OVAS prevention training be an isolated entity or be brought under broader safety training encompassing WHS, patient safety and property safety and security? The importance of such research: Issue of safety overlaps on people management, system management and service management. There is scope for involving all the segmented policy and procedures under a single management even though the execution of each component be by different steps or human resource. It can remove the conflict that arises when a MSVT trained staff is managing a violent person, but the clinicians or others might resist such action.

Quality of the Hospital: should staff wellness be a part besides patient service? Importance of such research: Hospitals need to satisfy the customers in a business model. But staff professional development and retention of quality staff need not be compromised.

Best hospital award: should it add staff wellness and ISO 45001 besides patient service? Importance of such research: different quality management indicators make the industries run more humanely than just only making a profit. Such initiative to implement ISO 45001 could be considered when giving best award to a Hospital.

How to balance between patient rights and staff rights for a quality hospital in a current business model? Importance of such research: Staff has a right to get less abuse, but the customers of a hospital are not always getting it. If a staff gets counselling in a post-incident period should that be offered to a customer as well?. Currently physical or chemical restrains are not promoted. What about then reducing isolation of customers and also educating them for more supportive behaviour to cooperate with the hospital staff?

5.8. In Summary

MSVT is a training programme to help prevent OVAS through non-violence skill development of the staff, stated by trainers. As per Section 2.3.A 'Training in OVAS risk management' and 2.3.B 'Characteristics of good training' of this thesis, its (MSVT's) scope should include:

i) Collection of information on conflict, its cause, effect, potential aggressor, hazardous environment and its correction or modification,
ii) Design of the best possible way to disseminate knowledge to all participants, at all workplaces, and be it with easy access or at distant places.
iii) Collect feedback from participants about the effectiveness of the training
iv) Review workplaces in consultation with supervisors to enable trainees to implement their knowledge and skill.
v) Ensure commitment and involvement of top management in planning and evaluation of MSVT. There should be documented evidence on the top management's involvement.
vi) MSVT's scope should be widened to all staff, both clinical and non-clinical staff
vii) Also, there should be an effort to identify the complaints of the patients and all customers to improve service delivery. Among the different causes of conflict, mistrust, misconception and 'difference in perception related to cultural difference' are important (CPP, 2008; Ilkiw-Lavalle, 2003; Tyler, 1995). This suggests, the abuser also needs support from hospital

management as the conflict might have resulted from the misconception or mismatched perception on any issue. The discussion with the abuser might help to identify the cause of conflict and take actions to prevent future OVAS events, but no literature was found to support such effort.

viii) Post-conflict stress management strategy: Post-conflict stress can deteriorate the work performance (Chapman, 2009) and needs proper counselling to maintain staff morale and performance of the team (CDC, 2016).

ix) There should be a research team to analyse every conflict situation across BN123 Health to identify the actors related to the conflict and re-examine the service delivery process for better management of the actors to reduce OVAS.

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An extract of

"BN123 Health service plan & model of care 2012"

-- Published on 19 December 2012,
(Source: http://www.BN123health.org.au/service-plan/52-BN123-health-service-plan/file)

See also 2015-20 Strategic Plan visiting following webpage –
https://www.BN123health.org.au/strategic-plans/83-strategic-plan-2015-2020/file

It (this service plan and care model) builds on BN123 Health's Strategic Plan released in 2010 and focuses on ***what*** services need to be delivered and ***how*** services need to be delivered to meet significant increases in expected demand.
These challenges will require innovative and flexible approaches to improve service access, service quality and to enhance the patient experience.
The plan is consistent with and supports the Victorian Health Priorities Framework and contains a number of exciting initiatives that will consolidate and develop health services in the region.

An innovative approach (page 4 of 7):

A significant feature of the plan has been incorporation of innovative ways of delivering health services using specialist outreach and new technologies. This envisages:

The future use of monitoring equipment in people's homes;
Videoconferencing across and within services;
Better management of elderly patients within the hospital; and
A vibrant workforce to deliver services.

BN123 Health in the future will support not just the local Geelong community but will operate as the major regional service for people living across south-west Victoria.

How BN123 Health will get there –

It plans to reach the target through proper utilisation of People, Partners, Infrastructure, Teaching, training and research.

BN123 wishes to have a thriving, collaborative and highly skilled workforce. Most important **drivers** to change the workforce are - the ageing of the workforce and the higher rate of replacement of the nursing workforce, Secondly, the demand for specialised nursing and allied health staff in the region due to significant expansion of private acute and sub-acute services in Greater Geelong area.

Teaching, training

Three strategic priorities are to:

• Develop a recognised niche teaching/training role in general medicine and general surgery;
• Consolidate and extend the partnership with Deakin University; and
• Develop infrastructure and ICT to enhance clinical training including a dedicated in-house education centre at Geelong Hospital with high quality 'tele-presence' technology and extensive network to enable virtual teaching and training to be undertaken from almost any setting

Appendix 2.0

PDSA cycle modified by Moen and Norman, 2006

By Ćukušić,M., Alfirević, N., Granić, A., Garača, Z.,(2010),

Ref: Ćukušić,M., Alfirević, N., Granić, A., Garača, Z.,(2010), "**e-Learning process management and the e-learning performance: Results of a European empirical study**", Computers & Education, Volume 55, Issue 2, September 2010, Pages 554–565; ISSN-0360-1315; EISSN-1873-782X; DOI- 10.1016/j.compedu.2010.02.017 ; Elsevier B.V., Elsevier Ltd.

This PDSA cycle is used in this study as the basis to develop the conceptual framework, refer to Figure 3 interaction of actors to manage training.

Three stages of the e-learning process management model can be identified as planning, organizing/implementing and controlling the e-learning process. Such a generic model could be, like most management processes, aligned with the iterative Deming's Plan-Do-Check-Act (PDCA) or Plan-Do-Study-Act (PDSA) process (Moen & Norman, 2006). Just as in the PDSA cycle, the e-learning process progresses through the following stages (in Fig. 1, we detail out every stage):

1. Planning (development of operating plans and e-learning scenarios),
2. Organization/implementation of e-learning (implementation of e-learning scenarios in realistic settings),
3. Controlling (evaluation of various aspects of the process and its performance), and
4. Improving the process and the platform.

The basic principle of this process is iteration – once initial assumptions are validated (or rejected) in the controlling stage, the cycle is repeated, and improvement applied.

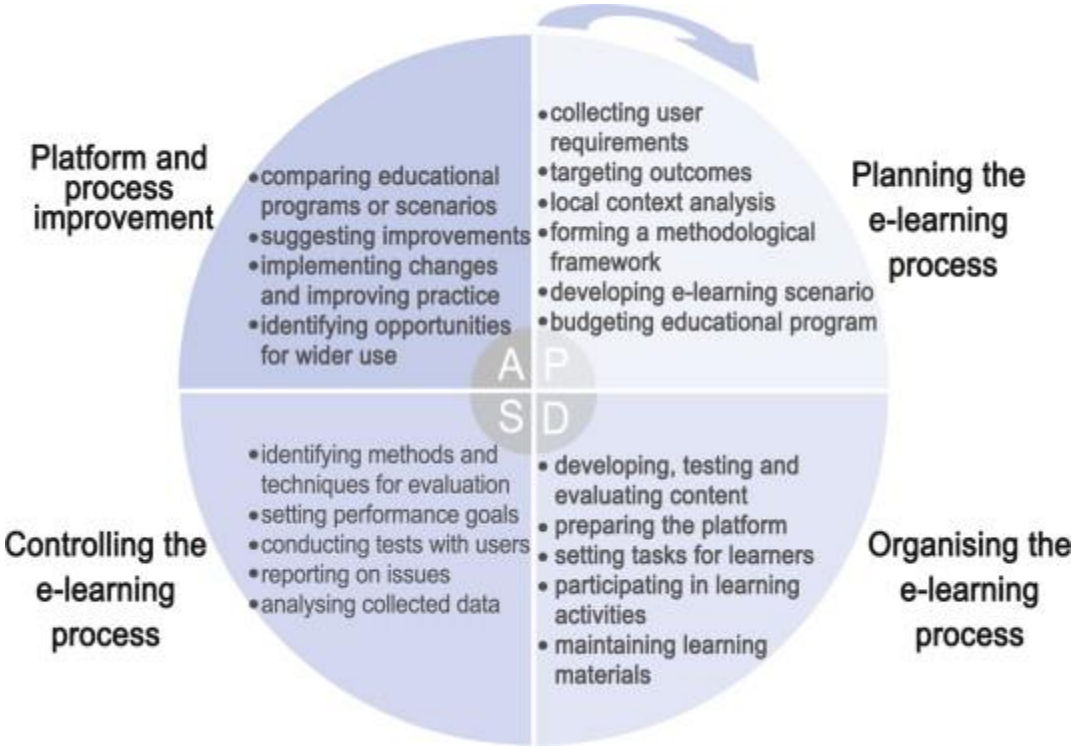

Figure 7 PDSA cycle of Moen and Norman, 2006

Appendix 3.0

Proposed relationship between top management and training department to manage the training

(This figure developed and drawn by Quazi, modified from PDSA cycle in Appendix-2)

The diagram describes how the training programme should be managed at any organisation having a training department. Role of top management (Top M) is shown in the inner circle as: Approve plan, arranging Feedback meeting, Review Report on performance of training, Endorse or Reform the programme for continuation based on the review report. The role of training department in each phase of the training is mentioned in the outer circle of Plan, Do, Study and Act phases. It is also mentioned that the whole organisation need to review the external factors e.g. law (national or state regulation), Industry standards etc.

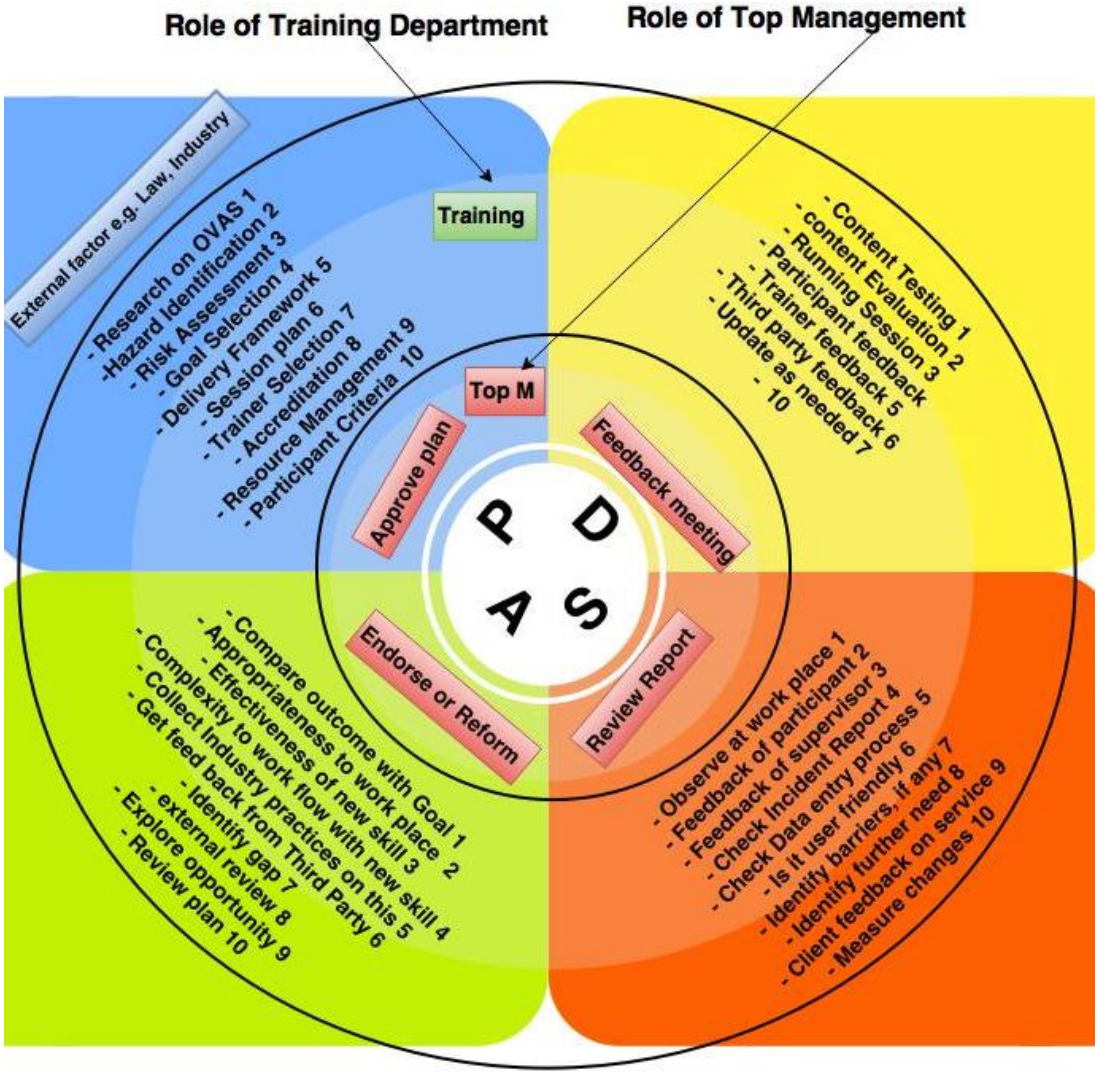

Figure 8 Interaction of Training department with top management and external factors

Appendix 4.0

Table 14 Code Black and Code Grey incidences in Melbourne Hospitals 2012- 2014.

Main Healthcare facility	2012-13	2012-13	2013-14	2013-14	Diff	%	Diff	%
	Black	Grey	Black	Grey	Black	Black	Grey	Grey
Angliss Hospital	5	133	0	283	-5	-100.0%	150	112.8%
Austin Hospital	15	1070	11	1694	-4	-26.7%	624	58.3%
Ballarat Base Hospital	0	207	2	287	2		80	38.7%
Bendigo Hospital	124		87 (2)		-37	-29.8%		
Box Hill Hospital	18	1085	14	1097	-4	-22%	12	1.1%
Casey Hospital	0	1	2	4	2		3	300.0%
Caulfield Hospital	0	187	1	142	1		-45	-24.1%
Dandenong Hospital	0	2	3	789 (1)	3		787	
Heidelberg Repatriation Hospital	0	93	0	123	0		30	32.3%
Maroondah Hospital	6	705	11	807	5	83.3%	102	14.5%
Monash Health - Medical Centre	2		3		1	50.0%		
Monash Health- Mental Health facilities	2	7	3	162 (1)	1	50.0%	155	
Northern Hospital	8	619	6	746	-2	-25.0%	127	20.5%
Royal Children's Hospital	8	1255	12	236	4	50.0%	-1019	-81.2%
Royal Melbourne Hospital - City Campus (includes planned code greys)	8	373	11	449	3	37.5%	76	20.4%
Royal Melbourne Hospital - Royal Park Campus (includes planned code grey)	1	3652	0	3757	-1	-100.0%	105	2.9%
Royal Talbot Rehabilitation Centre	1	31	3	55	2	200.0%	24	77.4%
Sandringham Hospital	0	30	0	38	0		8	26.7%
Sunshine Hospital	8	1301	9	1124	1	12.5%	-177	-13.6%
The Alfred		775		714	0		-61	-7.9%
University Hospital, Geelong		622		848	0		226	36.3%
Western Hospital Footscray	6	1054	5	755	-1	-100.0%	-299	-28.4%
Williamstown Hospital	0	2	1	8	3	37.5%	6	300.0%

Reference of this table: (Hadfield, 2014a, 2014b)

DURESS ALARM (treated as code grey/code black) -

* Definitions for code greys and code blacks vary from hospital to hospital. In most cases a code grey is for an unarmed threat, including actual or potential aggression or violence. Some use it as a pre-emptive strike. Code blacks are serious threats, including those involving weapons.

(1) Monash introduced a new code grey protocol - as an early intervention/de-escalation measure to potential aggression.

(2) Bendigo Health is yet to implement a code grey alert system. Its code blacks are for incidents involving a personal threat or violent patient with or without a weapon.

Healthcare workers have higher rate of work related injury in most countries (Franche et.al. 2010).

Appendix 05.0

MSVT

(Management Of Violence and Aggression International Training)
programme of BN123 Health

MSVT is a registered training programme of BN123 Health (trademark number 865197) with the following criteria -

- To assist clients/organisations to reduce workplace injuries as a result of violence and aggression.
- Through the employment of non-violent techniques to deliver an effective training program which is not reliant on fitness, stature or strength.
- To provide a quality service, which can be benchmarked to healthcare and aligned industry standards.
- To ensure that professional standards are maintained, and effective and safe training techniques are employed through an intensive quality assurance program.

MSVT has already established a reputation in the UK as a high-quality program that provides a comprehensive, practical course for workers needing to deal with violent and aggressive behaviours.

Programme developers mention that staff trained in MSVT will acquire the skills to confidently manage violent and aggressive incidents. The main focus is on identification and prevention of violence and aggression by using strategies to ensure this remains the focus of Humanity, Caution and Prudence. This requires minimal staff to implement and is extremely effective in dealing with the causative person while ensuring dignity is maintained and reducing the risk of injury to all involved.

The course is tailored to suit the needs of the organisation to range from 4-hour programs to 3-week train-the-trainer programs.

Table 15 Initial training schedule of MSVT

Stages of training	Duration	Target group
Level 1 Basic	1 day	Theory, role play and practical self-defence
Module A	4 hrs	New BN123 Health (BH) staff or BH staff not attended training in previous 2 years
Mod B	2 hr	Mechanical restraint
Med C	8 hr -	Aged care staff's competency day – - includes Fire safety training
MSVT, Smart Moves		Abolished
Mod D & E	4 hrs	New community-based staff
MSVT Practical	2 hr	for staff with prior MSVT training
Level-2	3 days	Level 1 and further skill development on body language, understanding on taking care of self, client and the organisation Skill development for MH acute staff, ED PSA's Code Grey/Black response team
Level 3	5 days	Level 1 & 2, and additional practical approach on team work and maintaining dignity to all concerned.

Appendix 5.1

MSVT levels explained further

Level 1 Basic 1-Day course

Combining theory, role-play and practical self-defence.
Designed to encourage participants to evaluate intervention strategies, enhance their knowledge of the causative factors of violence and aggression, develop communication and listening skills, seek measures to prevent or reduce violent acts and to understand their responsibility and accountability at the practice level.

Level 2 Basic 3-Day Course

Includes the Level 1, 1-Day session.
The additional practical components are designed to give the participant physical skills and techniques to enhance their self-confidence, be aware of body language and to effectively breakaway from an incident with focus on care of self, client and the organisation.

Level 3 Basic 5-Day Course

Includes Level 1 and Level 2.
The additional practical component of dealing with violence and aggression using the team work approach, with the addition of a safe method of control and restraint, maintaining a high level of care safety, and dignity to all those concerned.

Participants were interviewed at the MSVT training centre as per following schedule, in 2014. Randomly selected participants were interviewed.

Appendix 5.2 (Contd)

Figure 9 MSVT training schedule of 2014

FIRE TRAINING AND [redacted] **July - September**

FIRE TRAINING Level 1 & 2 (1 hour)		[redacted]	
BOOKINGS ESSENTIAL: Bookings can be made on The Learning Portal. Accessed through the BH applications screen - The Learning Portal Icon or https://learning [redacted]		**BOOKINGS ESSENTIAL: Bookings can be made on The Learning Portal. Accessed through the BH applications screen - The Learning Portal Icon or https://learning** [redacted]	
VENUE (Listed Below)	**DATE AND TIME : Duration 1 hour**	**VENUE:** [redacted] **CENTRE** [redacted] **GYM**	
[redacted] **HOSPITAL: L1** [redacted]**LL THEATRE**	**July 17th 2pm** **August 8th 2pm**	**MODULE A: (4 hours)** New BH staff or BH staff not attended training in previous 2 yrs.	**July 30th 830am** **August 20th 830am** **September 16th 830am**
[redacted] **Centre: L1** [redacted] **Gym**	**July 25th 230pm** **September 8th 10.30am**	**MODULE B: (2 hours) Mechanical Restraint**	**July 25th 9am**
[redacted] **HOSPITAL L2** **Wardens (1 hour) JLT**	**September 8th 2pm**	**MODULE C: (8am to 430pm)** Aged Care Staff Competency Day (Includes Fire,MOVAIT, Smart Moves) Refresher	**July 31st** **August 7th & 19th** **September 4th**
[redacted] **Centre L2** **Warden(1 hour)** [redacted] **Gym**	**August 13th 230pm**	**MODULE D & E: (4 hours)** New Community – based staff	**August 13th 830am**
All Staff - Fire Training Level 1 Online	**Please note that you can complete Fire L1 Online or Face to Face**	[redacted] **-Practical Only (2hours)** Staff with prior [redacted] Module training	**July 30th 2pm** **August 20th 2pm** **September 16th 2pm**
Bookings essential for all Non Clinical Training through https://learning. [redacted]	**These options are available through The Learning Portal, which can be accessed on BH applications screen - The Learning Portal Icon or https://learning.** [redacted]	**LEVEL 2 (3 DAYS):** MH Acute staff, ED PSA's, Code Grey/Black Response Team.	**September 10th – 12th** **8.30 – 16.30**

Training will be advertised quarterly. Enquiries Phone ext – Please ensure mandatory training attendance is planned and distributed throughout the year to maximise training availability to all staff

Appendix 6.0

"Workplace Violence Prevention, Training for Nurses"

CDC Course No. WB1865 - NIOSH Pub. No. 2013-155, **USA**
Online: https://www.cdc.gov/niosh/topics/violence/training_nurses.html
(Ref: CDC 2016)

Course modules: There are 13 modules, and each module takes approximately 15 minutes to complete.

- Unit 1 -- Definitions, Types, & Prevalence ---------- 10 minutes
- Unit 2 – Workplace Violence Consequences ---------- 15 minutes
- Unit 3 - Risk Factors for Type 2 Violence –---------- 12 minutes
- http://wwwn.cdc.gov/wpvhc/Course.aspx/Slide/Unit3_3
- Unit 4: Risk Factors for Type 3 Violence –---------- 10 minutes
- Unit 5: Prevention Strategies for Organizations ----------– 15 minutes
- Unit 6: Prevention Strategies for Nurses ---------- 15 minutes
  (Tool – Triage tool, Danger Assessment Tool)
- Unit 7: Intervention Strategies ---------- 15 minutes
- Unit 8: Post-Event Response -- ---------- 10 minutes
- Unit 9: Introduction to **Case Studies** and Case Study 1: Emergency Department Psych Patient
- Unit 10: **Case Study** 2: An Aggressive Visitor
- Unit 11: **Case Study** 3: Home Care Threat
- Unit 12: **Case Study** 4: Long-Term Care
- Unit 13: **Case Study** 5: A Sexual Advance
- Course Evaluation questionnaire
- Post-test Questionnaire

By completing the course, healthcare workers will be able to:

- Identify institutional, environmental, and policy risk factors for workplace violence
- Recognize behavioural warning signs of violence in individuals
- Employ communication and teamwork skills to prevent and manage violence
- Identify appropriate resources to support injured healthcare workers
- Take steps to implement a comprehensive workplace violence prevention program

Learning objectives: Upon completion of this course, the learner will be able to:

- Identify institutional, environmental and policy risk factors for workplace violence;
- Recognize behavioural warning signs of violence in individuals;
- Employ communication and teamwork skills to prevent and manage violence;
- Identify appropriate resources to support injured nurses;
- Take steps to implement a comprehensive workplace violence prevention program.

This program was reviewed and approved by the AAVSB/RACE program for continuing education. Participants get **accreditation (CME)** depending on their job description: 2.6 CNE (for nurses), 0.3 CEU (for other professionals), 2.5 CHES (for certified health education specialists), 3.0 AAVSB (for veterinarians), Audit (0.0). For details on those CME abbreviations a person can visit the CDC webpage. This CME points gives some attraction to the participants to attend the course.

Appendix 7.0

Workplace violence prevention program -- supported by
The **Canadian Centre** for Occupational Health and Safety (CCOHS)
(https://www.ccohs.ca/products/courses/fed_prevent_violence/)

Many people picture violence as being a physical act. However, workplace violence is a much broader problem. It is any act in which a person is abused, threatened, intimidated or assaulted in his or her employment, and can range from verbal abuse to harassment to threatening behaviours. Learners of this course will gain the necessary knowledge and have the right tools to take action to eliminate or minimize the potential for workplace violence, and to establish a program in compliance with the *Canada Labour Code, Part II* requirements. Average time to complete this course is approximately **90 minutes**.

Topics include:

Defining the scope of workplace violence Legal obligations, Workplace violence prevention policy, Hazard assessment, developing preventive measures, Reporting and investigating, Emergency response planning, Victim assistance, Incident follow-up, Training and education, Program review

Upon completion of this course the participant will be able to:

- Identify the components of a workplace violence prevention policy
- Identify requirements for implementing and maintaining a workplace violence prevention program under the *Canada Labour Code, Part II*
- Assess your workplace for violence hazards
- Identify violence prevention measures
- Identify incidents of workplace violence
- Know workplace violence response procedures

Target Audience: Managers, supervisors and workers at federally-regulated business and organizations who are involved in the development or implementation of a workplace violence prevention policy.
Prerequisite: None
Cost: CCOHS membership is 100 Canadian Dollar (CAD) and 64 CAD fees for the course.

Delivery Method

This course is delivered as an on-line e-learning course. All you need is a computer, access to the Internet - and you are ready to go! This e-learning course is designed to help you learn at your own pace and in your own environment at your own convenience.

Registration for this course is provided online, or by contacting Client Services or calling 1-800-668-4284.

Review Process

CCOHS courses are unique in that they are developed by subject specialists in the field, and reviewed by representatives from labour, employers and government to ensure the content and approach are unbiased and credible.
We partnered with **Vubiz** - an international leader in e-learning development - to create this e-course.
The related course Workplace Violence in the Canadian Federal Jurisdiction: Recognize the Risk and Take Action helps frontline supervisors and workers in federally-regulated businesses and organizations develop a clear understanding of what workplace violence is, what preventive measures can be taken and the importance of reporting incidents.

Available resource from CCOHS

"signs of Violence at your workplace" a poster available from CCOHS. Display this poster to remind your workers of the many kinds of behaviours that can be considered workplace violence, and that if they are taking place, should be reported to a designated authority in your workplace, supervisor, union representative, or someone who can help.
This poster is printed double-sided, with **English** on one side and **French** on the other.

There is also another programme "Workplace Violence and Harassment Training Course "run by Canadian Safety Council, who's programme takes 50 minutes and needs payment.

Appendix 8.0

Management of Clinical Aggression, Rapid Emergency Department Intervention (**MOCA-REDI**):

Management of Clinical Aggression - Rapid Emergency Department Intervention (MOCA-REDI): developed by Melbourne Health in partnership with The University of Melbourne and The Victorian Department of Health to support existing, locally based, violence prevention and management programs and to link the core knowledge and skills required to prevent clinical aggression

Target: Only emergency department

Thompson, Rebecca (2014); "Occupational violence: can training pack a punch? A review of the effectiveness of the MOCA-REDI program in an acute general health setting"
2014; Monash University Theses http://arrow.monash.edu.au/hdl/1959.1/1152214
ethesis-20150331-100944 monash:152574
Contributor -- Principal Supervisor: Jennifer Newton
http://arrow.monash.edu/vital/access/manager/Repository/monash:152574;jsessionid=1AFAB1D8FDDE4F70B846B94643518ADF?exact=sm_subject%3A%22Occupational+violence%22

Extract from text:
Workplace violence is internationally recognized as a major issue for many organizations and employees however the issue is more prominent in healthcare settings (Oostrom and Mierlo 2008).
The Department of Health, Victoria requires that all levels of healthcare staff be educated about how to prevent, manage and report violence and aggression in the workplace. Education should be actively and openly supported by senior management and should be part of the induction program for all new staff in operational healthcare.

This project used an experimental, pre-test post-test survey design to examine the relationship between acute general healthcare nurses' attitude to aggression and the management of aggression. A validated measurement tool, The Management of Aggression and Violence Attitude Scale (MAVAS) was utilised in this study. This project sought to evaluate whether the introduction of the MOCA-REDI has the potential to affect general acute healthcare nurses' attitudes towards reasons for patient aggression and management of patients' aggression in an acute general health care setting. Fifty-three acute care general nurses completed the survey pre-test and post-test intervention. There were statistically significant shifts on fourteen of the twenty-seven items (Wilcoxon Signed Ranked Test: p :5 0.001). There was concurrence from all participants that the training raised awareness about the environmental (external subscale) concerns in relation to violence and aggression within the workplace.

Gerdtz MF., Daniel C., and Dearie V. (2011); "The Management of Clinical Aggression-Rapid Emergency Department Intervention "MOCA-REDI": An outcome evaluation", Australasian Emergency Nursing Journal; Volume 14, Supplement 1, 2011, Pages S12

Extract from text:
MOCA-REDI is an evidence-based train-the-trainer program that was developed by Melbourne Health in partnership with The University of Melbourne and The Victorian Department of Health to support existing, locally based, violence prevention and management programs and to link the core knowledge and skills required to prevent clinical aggression.

This evaluation was conducted to: 1. Determine the applicability of the MOCA-REDI program to other Victorian emergency departments. 2. Measure the impact of the program on emergency department staff attitudes to the prevention and early management of clinical aggression. 3. Identify the strengths and limitations of the program according to Key Stakeholders

We measured participants' attitudes about the causes and the current approaches used to manage clinical aggression
(Management of Aggression and Violence Attitude Scale: MAVAS) immediately prior to, and 6–8 weeks following exposure to MOCA-REDI.
Conclusions: The MOCA-REDI program was found to be a valid and reliable method for training in the prevention and early management of clinical aggression. The program produced significant shifts in nurses' attitudes toward the prevention and management of clinical aggression in over one quarter of the variables that were tested.

My Comment: Comparison of Thompson's study (2014) to Faruq's study (2018):
Faruq's study has limited sample size compared to those two studies. But my study had broader scope than those two studies that are limited to ascertain the level of awareness about OVAS. My study attempted to determine the participants' aspect (that is, level of satisfaction on the content), trainers aspect (that is delivery process, currency of the content, frequency of training), management aspect (that is, scope of implementing the training knowledge at own work place, impact on the incidence of OVAS, understand the level of involvement of the top management). To ensure currency of the training programme it should include information (data) from internal (i.e. from within the BN123 Health departments) and external sources (e.g. exchange of information from other hospitals in Victoria or from other states of Australia or countries)

Those studies (on MOCA-Ready) assessed the level of awareness among participants but further study needs to focus on the actual impact on the incidence level of the organisations. Study need to identify is the change in attitude is reflected in the work practice and ultimately translated into positive outcome of reducing the incidence of OVAS or reducing the impact of the incidence, in terms of staff morale, clients' satisfaction level, service quality and compensation claims,

In any conflict the impact does not limit only on the victim but on the offender as well as on the overall environment. Right now, focus is more on the hospital staff as most studies are guided by healthcare organisations but to have an effective conflict resolution system all actors need to be in the discussion table. The **actors** are the client, client's accompaniments (family, friends, carers, well-wishers), environment (limited illumination of the area, hindrance to comply with directions given to either party), service delivery process (long waiting time, visible inadequacy of service provision, inconsistency in the process or preferential treatment to some etc).

Appendix 9.0

Worksafe suggested content of training and level of training (2008)

Ref: Worksafe (2008) "A handbook for workplaces - Prevention and management of aggression in health services"; Worksafe Victoria, Edition 1, June 2008 (https://www.worksafe.vic.gov.au/__data/assets/pdf_file/0012/10209/Aggression_in_health_care.pdf)

WorkSafe Victoria (Worksafe) funded Melbourne Health and Northeast Health Wangaratta's Aggression Prevention and Management Project through its Safety Development Fund. The three-year project was aimed at developing a sustainable and integrated system for managing occupational violence risks in the health services industry. This handbook is the project's main outcome.
Broad industry consultation was undertaken throughout the project through an Industry Reference Group that represented many organisations including BN123 Health.
The table below is one example of content that would build in a tiered approach.

Table 16 Indicators of sustainable and integrated approach of violence prevention

Content	Level 1	Level 2	Level 3	Response team member	Manager
OHS duties of employers and employees (OHS Act 2004)	✓	✓	✓	✓	✓
Reporting mechanisms for incidents and near misses	✓	✓	✓	✓	✓
Policy framework related to client-initiated occupational violence	✓	✓	✓	✓	✓
Definition of client-initiated aggression and violence	✓	✓	✓	✓	✓
Policies, practices and procedures – emergency codes	✓	✓	✓	✓	✓
Patient rights and responsibilities bill/charter	✓	✓	✓	✓	✓
Identification of triggers to aggression and violence		✓	✓	✓	✓
Recognition of signs of escalating aggressive behaviour		✓	✓	✓	✓
Environmental scanning for actual or potential hazards and exit points		✓	✓	✓	✓
Management of an aggressive situation, including de-escalation/diffusion		✓	✓	✓	✓
Negotiation skills			✓	✓	✓
Evasive self-defence, including use of reasonable force			✓	✓	✓
Restraint techniques, use of mechanical and other forms of restraint			✓	✓	✓
Risks of restraint to the client (e.g. positional asphyxia			✓	✓	✓
Roles and responsibilities of clinical staff			✓	✓	✓
Roles and responsibilities of response team members, including team leadership				✓	✓
Incident management					✓
Implementation of staff support during recovery phase of an incident					✓
Conducting systemic investigations following an incident					✓

Appendix 10.0

Distribution of participants by workplace, trained by MSVT in 2011

In 2011 a total of 301employees were trained in MSVT module A. The following tables (classified in three categories) demonstrate the extent of coverage of the training across the BN123 Health Service.

Table 17 List of MSVT participants of 2011, by employee service description

	By Employee Service Description	No	%	Subtotal	
1	Finance – Chief Financial Officer – Planning	1	0.33%		
2	Admin	16	5.32%		
3	Executive Director CH&R -- Includes – CH HARP, Primary Care, Dental clinics, Domiciliary care,	93	30.90%		30.90%
4	Access and Patient Flow	22	7.31%		
5	Emergency Services	52	17.28%		17.28%
6	Acute Treatment MH	2	0.66%	All MH	
7	MH Community Mental Health- Drug treatment	1	0.33%	16	5.32%
8	Mental Health Eating Disorders	1	0.33%		
9	Mental Health – Youth service	9	2.99%		
10	MH Adult MHT	3	1.00%		
11	Cardiac Services	9	2.99%		
12	Women's and Children's – Maternity	1	0.33%	11	3.65%
13	Women's and Children's – Obstetrics	5	1.66%		
14	Women's and Children's – Paediatric	5	1.66%		
15	Medical Imaging	2	0.66%		
16	Medical Wards	11	3.65%		
17	Renal	2	0.66%		
18	Pharmacy	1	0.33%		
19	Operating Theatre	4	1.33%		
20	Surgical Wards - Intensive care, Surgical wards	7	2.33%		
21	Aged Care Wards	14	4.65%	20	6.64%
22	Hostels	6	1.99%		
23	Rehabilitation	11	3.65%		
24	Allied Health	16	5.32%		
25	Immunisation	7	2.33%		
		301	100%		

(No = Number of Participants)

Appendix 11.0

Interview session (2014): guiding topics

Twenty-one trainees were randomly selected among the BN123 Health staffs attending the MSVT training sessions. Their views on four aspects of the training (**learning**, **behaviour change**, **result** and **reaction**), were collected by face to face interview. Following tables from 1.1 to 1.6 presents the topics discussed with the trainees.

LEARNING" from MSVT
Information on "level of Learning" from MSVT was obtained by discussion on three issues: (i) 'Mode of **Delivery**' of the training, (ii) '**Content**' of the training and (iii) '**Influence** of the training on knowledge and skill of OVAS'.
MSVT trainers run a post-test to understand the level of feedback of the trainees at the end of each session, but that one is voluntary so not everyone returned their feedback form.

Table 18 Response about 'Mode of Delivery' was obtained by the following leads

No	Guiding question for the topic	Q.no
10	**Enrolment**: How did you enrol in the course?	5.1
11	**Pre-requisite to enrol**: permanent or casual staff,	5.1
12	**Delivery process**: In class / Distance (Online):	None
13	**Schedule**: Flexibility: only on day	5.4
14	**Frequency**: How many times staff has to attend training on MSVT? Why it is so	5.2, 5.3,
15	**Grading**: is there any level like beginners, intermediate or others	5.3
16	**Accreditation:** Is there any credit point or professional development score **Answer:** No. It counts for PD but no accumulative credit for doing it every year.	9.0, 9.1

Table 19 Response on 'Content of training' was received by following leads

No	Guiding question for the topic	Q.no
20	Content, Theory: No specific theory but provides statistical information on OVAS	5.5
21	Content, Practical: some self-defence skills demonstrated, almost same every year	5.6
22	**Work specific:** Inclusion of your workplace in the content. Do you feel that the knowledge and skill relate to the context of your workplace? Or, incidences or experience at your place were included in the session or have your concerns been addressed in the session? How?	6.1
23	**Aligned to reality**: Real life experience in OVAS been addressed in training?	6.2
24	**Updating content and resource**: Any change in the contents or resources or in the mode of delivery is noted: on discussion with peers or supervisors or by multiple participation? One participant said – content same as last time but presentation different, more engaging the participants, asking them to contribute, Presentation should be more interactive	5.6

Table 20 Response on knowledge and skill development on OVAS. Data in appendix 12.

No	Guiding question for the topic	Q.no
30	Exposure to OVAS: What level of experience do you have about "OVAS" in health care service? Did you face any or observed any incidence? How do you feel?	6.0
31	Theory and practice: easy to remember: Is there a balance in theoretical and practical demonstration to manage OVAS?	11.6
32	Acceptability of solutions: Procedures or steps advised in the session to prevent OVAS, are acceptable to you? Have any conflict with your belief, ethics or culture?	6.3
33	Resolving differences: Received sufficient feedback, to minimise differences in opinion	6.4
34	Applicability: is it possible to implement the procedures or steps of MSVT at your workplace? Do you have any information on this issue, like work culture, admin support?	6.5
35	Support at the workplace by supervisors--- post-training / Behaviour	6.6
36	Tools / Guidelines: How to remember what you learned at training session? Any summary sheet or cheat sheet or basic step guides presented in the session? Tool updated: when was it last update - (dd/mm/yyyy)? Is it user friendly or easy to follow?	7.0 7.1, 7.2, 7.3
37	Knowledge gain: do you feel it brought new ideas, or doing things differently Knowledge sharing: The session helped share others experience on OVAS Creates awareness: Were you aware of the OVAS before coming to this session. How does this session help you on your understanding on OVAS?	11.1, 11.2, 11.3

Behaviour change:
In work health and safety it is well known that behaviour based safety management is most effective to prevent accident (Kaila, 2014; Diamantidis & Chatzoglou , 2014). Behaviour change is influenced by knowledge, skills, attitude, motivation, confidence and self-efficacy (Beech & Leather, 2006) and by environment (Simonet G, 2010).

Effect on learning impacts on behaviour change after training (Kirkpatrick 2006, p 48). If the post-test after each session shows changes in perception of the trainees on the topic, then a change in attitude (to work differently) could be expected. To have a sustained effect of the training it is important to retain the knowledge for long term (Ref: sustaining memory).
Retaining the knowledge for long term is best achieved by 'active retrieval process' that could be practiced by group discussions and questioning such as asking quizzes and integrating questions within discussions (Karpicke JD. 2012). To hold the knowledge for long time some tools might help like encouraging group discussion in the post-training period initiated by display posters or key-ring cards with steps of OVAS prevention techniques printed on it.

Changes in '**Behaviour**' following a training is related to an opportunity to do so (Kirkpatrick 2006, p 52). That means trainees should have opportunity to apply their knowledge or skill at respective workplaces it includes post-training support. Adaptation to environment is a normal phenomenon, for example, in a quite or silent environment (like a library) people talk in low tone but in a crowded market same person talks loudly.
Change in behaviour is also related to reward and punishment process tagged to an activity (Kirkpatrick 2006, p 52; Cox S. Jones B., Rycraft H. 2004). Besides the training and motivation, performance appraisal and reward/remuneration system influences employees' performance (Antwi, Opoku, Seth, and Margaret, 2016)

To understand the impact of training on behaviour change it was important to collect information on the availability of memory retainer's tools, refreshing activities. the scope to practice MSVT skills at workplaces and post-training support from supervisors and peers.

Table 21 Information on 'Post training support': to practice MSVT skills. Data in appendix 13.

No	Guiding question for the topic	Q.no
40	**Refreshing activity**: any takeaway tool ("written Guideline/ Workflow chart": like hand washing poster) provided, that could be displayed in the wall or on desktop. Comment by 06 lifestyles – a simple picture form to refresh memory will be good, I work in low care MSVT moves not needed usually	7.2
41	**Attitude**: What do feel about using this skill at your workplace? **Change in practice**: Do you think you will practice the techniques at workplace? Explain?	7.3
42	**Peer support:** Do you get/ expect support from colleagues / co-workers to follow the steps/ procedures	7.4
43	**Supervisor support**: Are you aware that staffs receive opportunity or support from supervisors to apply the knowledge gained from MSVT at the working environment?	7.5
44	**Full support expected**: workplace ready with this programme; new programme will be developed to fit these techniques (of MSVT)	7.6
45	**Any lacking**: If not, what is lacking to support the implementation? (e.g. motivation, fund, etc) **Not sure**, need improvement: Other Comment	7.7, 7.8
46	**Annual performance measurement (PM)**: Are you aware of an "annual performance assessment process", in your organisation? ---- part of behaviour ---	9.0
47	MSVT relates to **Performance measurement**: Does the "employee performance assessment process" include the reference to MSVT? (That is it relates **to what extent staff follow the procedures** mentioned in MSVT or **apply the learning** from the most recent training to prevent occupational violence.) ---- part of behaviour ---	9.1
48	**Supervisors assess** you: Supervisors ask questions on use of MSVT techniques at workplace ---- part of behaviour ---	9.2

Result of training

Result of any training can be measured or evaluated by noticing changes in the working habit or work practices, improvement in quality of work and impact on the output (Kirkpatrick 2006, p 63). In case of OVAS the result of the MSVT could be evaluated by information on: changes in working practices of the trainee, improvement of the quality of work, increased level of confidence in managing the conflicts, ability to contribute in making risk minimisation plan, ability to follow the plan, improvement in the quality of reduction of the incident rate. See data on result in appendix 14.

Table 22 Participants response on the Result of MSVT at workplace

No	Guiding question for the topic	Q.no
50	**How much relevant**: to your current responsibility?	8.0
51	**Benefit achieved**: your workplace gets benefit by staff participation in MSVT?	8.1
52	**Risk minimisation** effect: This training has any relation to risk minimisation, any evidence.	8.2
53	**Quality improvement**: How it affects quality improvement of service	8.3
54	**Confidence build up**: This training has any effect on building confidence, how?	8.4
55	**Level of significance to you**: Didn't notice any effect on risk minimisation or quality improvement	8.5
56	**Reporting OVAS**: How would you report OVAS (after training)? Are you aware of any reporting procedure on OVAS incidence at your workplace?	9.3
57	**Data entry**: Do you enter the information into any computer system or mobile device? Who enters the information on OVAS incident in the system? Is it entered on the same day? Does it tell how to report OVAS incidence? One participant said - Need more specific form to report OVAS and accessible to all staff.	9.4

Effectiveness of a training depends on the trainee's perception or reaction about it. Do they like it or consider it beneficial for their work or personal gain? The more positive image it creates to the trainee the better knowledge gain happens. Following discussion assisted to understand the feelings of the trainees about the programme. See data on reaction in appendix 15.

Table 23 Participants Reaction about MSVT

No	Guiding question for the topic	Q.no
60	**Goal**: What makes you to come to this training session? What was your objective	5.0
61	**Objective of MSVT**: do you know the purpose / objective of MSVT?	10.0
62	**Conflict:** Do you differ on the OVAS management discussed in the session. What are your views?	11.4
63	**Appropriateness:** How does it fit in your workplace? Will you be able to apply it?	11.5
64	**Effect on workflow**: Will it interfere with normal work flow or speed of work?	11.7
65	**Beneficial**: Is it beneficial for health care workers? **Routine exercise**: Is it just another training to satisfy management obligations to comply regulation or not. Not much effective in risk minimisation but management wishes to keep it running **Overall impact on the system**: in risk minimisation and quality improvement of health care service	11.8, 11.9, 13.2,
66	**Enjoyable part**: Which part of the training is most useful or most interesting to you? **Overall Helpful or disturbing**: Is it helpful to prevent OVAS in health care sector Is it effective in risk minimisation and improve employee confidence at work place?	12.0, 13.1,
67	**Suggestions to improve:** Do you have any suggestions to improve MSVT, e.g. for user friendliness or wide applicability ---- (Comment by 05 RN) It is good except when reading out the slides by some trainer., need focus on dementia. It is improved from last time. It is annual Comment by 06 lifestyles – provide nice morning tea	14.0
68	**Post-exposure support**: What support available to staff after exposure to OVAS	

Understanding trainees' reaction helps identifying their attitude and preparedness to change in work place behaviour. This in turn will determine success in implementing the training.

It also provides feedback to trainers to identify the weakness and triggers initiative for corrective actions or improvement activities.

Appendix 12

A total of 21 participants were available in three weeks to respond on the OVAS:

Table 24 Demography of participants interviewed for this thesis

Participants demographics		Participants	
		Number	Percentage
Gender	Female	8	38.1%
	Male	13	61.9%
Level	Allied Health (Physiotherapist + Radiographer + Sonographer)	3	14.3%
	Registered nurse	3	14.3%
	Enrolled nurse	5	23.8%
	HAN (Health Assistant in Nursing)	1	4.8%
	PSA (personal services assistant)	4	19.0%
	Lifestyle worker	1	4.8%
	New staff, unknown designation	4	19.0%
Work areas	Emergency department	5	23.8%
	Radiographer + Cardiac Sonographer	2	9.5%
	Aged care	6	28.6%
	Aged care, Dementia	3	14.3%
	Physiotherapist	1	4.8%
	Unknown	4	19.0%
Educational level	Bachelor's degree (RN + Allied Health)	6	28.6%
	Hospital-based diploma (Lifestyle + EN + HAN +Aged Care)	11	52.4%
	Unknown	4	19.0%

Code of the participants' job:

EN = Enrolled Nurse

HLC = High Level Care staff

HAN = Health Assistants in Nursing

PSA = Patient Services Assistant

RN = Registered Nurse

Appendix 13.0

Table 25 Codes used to interpret the participants opinion

Code	Meaning of the code
99	Abstain or Did not answer or Said don't know or Said not applicable in my case
A01=	Need more advertisement / Awareness of MSVT course not very high
A0102	Both A1 & A2
A02 =	Should be done frequently
AC / Access	Small number of stats provided @ staff meeting; but more statistics or greater access to RSKSOFT would be nice
All	These sessions should be available to all
AM	Management of violence & Aggression in workplace
An	Annually
B01=	Lack of awareness of techniques
Bn - BiAnnu	Better to be arranged twice in a year
CAT	A compulsory annual training, nothing more than that
CeD	Continued education
CNG1 - Change	Good idea but needs improvement, change delivery or format. Same training for last three years, boring, needs change of trainer, not engaging or interactive / Poster or visible trigger needed to remind staff about steps. No training guideline available
CNS - ConP	Content same but presentation different. More engaging than last time, encouraging to share own experience, putting people in a circle and asking them to contribute
ConP - CNS	Content same but presentation different. More engaging than last time, encouraging to share own experience, putting people in a circle and asking them to contribute
DD - DifDm	Very difficult to apply (this training) to high care like Dementia who are very resistive/ Good refresher of theory & MSVT practice, Better than nothing Some activity (smart moves) should be directed to aged care, particularly Dementia residents
DS - Discus	Open discussion to get views of others
EHD - EsHD	It is essential particularly in high care dementia unit
ELV- Enliv - Enliven	make it more lively, interesting, appealing, entertaining, -- For self-preservation, safety minimise risk. Not to take aggression & bullying in workplace
EN =	Enrolled nurse, New = unknown (didn't write their designation, said they just joined)
Enliv - Enliven	make it more lively, interesting, appealing, entertaining, -- For self-preservation, safety minimise risk. Not to take aggression & bullying in workplace
Env - EnvN	Environment is overcrowded not conductive to safe practice
ES - ESSN	Essential
EsAw	Essential to work with violent patient, sometimes need for it /It has increased my awareness
EsHD	Essential - It is essential particularly in high care dementia unit
EVN - EnvN	Environment is overcrowded not conductive to safe practice
FRT - FireT	Would like to see fire training done in area that we work
FST - First	The reminder to look after ourselves in a conflict. We are often forgotten and placing residents first
GD1 - GrpD	More group discussions. This year was improved by more of this. It does not focus on Dementia specific problem. / Needs to provide easy to read & understand pamphlet with guidelines. There is no MSVT input for OVAS in reporting/ Workplace behaviours -- training -- need a more engaging person. I know this is a hard, boring subject though
GOut	Some ideas are great but needs more specialised class/ the way to avoid injury and get out of holds
GT	Some ideas are great but needs more specialised class the way to avoid injury and get out of holds

Appendix 13.0 (Contd.)

Code	Meaning of the code
HAN =	Health Assistants in Nursing (nursing assistant)
Hapy	OVAS risk is minimised as staff gets training & day is paid
HB	The technique learn can help but sometimes the OVAS can be completely unexpected and unavoidable
HB /HB2/ HB3	The meaning is very generic and may not apply to every aspect of BN123 Health/ MSVT helps some but not in my work/ I work in lifestyle & is more concerned with clients' activities and performance
HLC =	High Level Care staff
HS1 - HDmS	MSVT is very useful but it just needs a section that addresses solutions we face in high care dementia / Would like a flow chart of possible MSVT moves. These are easy to forget
HT - HDT	have to do it, part of job
Input	in MSVT – Content, Review, Evaluation,
Input	Delivery, Resource allocation
JD - JustD	Some theory / principles difficult to apply in Dementia --- Where residents have high level of resistiveness & aggression
Knowledge -	about MSVT – Objective of MSVT, its scope i.e. (who to train)
Ln = LnN	Long day includes other elements e.g. Fire / A lot of theory could be done on line- but necessary
Long	Long day, but necessary
MNT	Management has no time or motivation for staff
MOT - Mit Othr	Meet with other staff working in this field, in this occasion
MRT - MoreT	More education on how to manage aggressive residents & visitors. Methods that might actually work / Community rehabilitation.
MWN - MyOwn	Like to learn how to manage a situation of aggression with reference to my own workplace. I think a half day is adequate. Prefer face-to-face not online
NA =	Not applicable in my situation / Other
NHT1 - NHT2	never heard about MSVT, never requested for it - have to do it, a part of employment
NNd	It is a concern that staff of certain area are all required to attend the MSVT, but no followup whether they need to use it, or do they be called for refresher or not It is to be reviewed whether training to those places (not ever needing its implementation) be included in future training -- to save time and money; I work in low care and MSVT moves are not used every day; So, I have no use for practising. However, some of the info very relevant
No = None	the participant has no concern - no response
NR	Not really / not totally agree
NSF	Need more selective form of report only on OVAS and be accessible to all stall
NSP	Not applicable to some places
On	Once during the whole employment term
OnLn	Long day includes other elements e.g. Fire; A lot of theory could be done on line
Ot =	Don't like to say yes / no, but don't feel comfortable and not sure what is right either
Output	Delivery, Resource allocation, Output measurement from MSVT– content. Review of content, Evaluation,
P01 =Safety / OHS	To improve safety or work health and safety at the workplace
Policy =	According to my department/ organisations policy I have to do it, no choice. It's a part of job.
Poor	Instructor didn't know the content she was supposed to be teaching
PSA =	Patient Services Assistant
PsR	Posters and reminders for operation with update date will be good

Appendix 13.0 (Contd.)

Code	Meaning of the code
R01=	All of it/everything
RAM - RiskAM	Practical demonstration on Risk minimisation & Aggression Management Techniques. Risk minimisation & aggression management technique
Reaction	of MSVT -- how the WHS system is shaping itself or the organisation based on output
RfC = - RefC	Reference card - Need Reference card to carry at work place, to help remind the techniques or process
RN =	Registered Nurse
RskNT	RSKSOFT often not filled up because of time constraint
RV / Relvn	Relevant to the work
S01= S02= S03=	Frequent updates / Getting more information/ More refresher courses
SGEV1 - SeatG	Change presentation to more interactive, animated, interesting and make session enlivening. A simple picture form to remind me the basic moves/ Change seating arrangement to circular instead of rows, / MSVT is too general. I would like one tailored to Lifestyle (my work area)
SM	Some or, Helpful but limited amount
SPC - Specific	Need to be specific for areas that create problem, more emphasis on difficult residents
SRM	Discussing aggression management for patients with delirium, hyperactivity, dementia. (patients who are displaying aggression) / Employee safety, Minimise effect of violence, Risk Management
Thr / Theor /Theory	Sessions are more theoretical than practical or hands on aggression management in my field of work. in MSVT / Some of the theories & principles are used & applied e.g. walking a resistive resident
TM =	It gives us a tool to prevent risks and injuries at work
TRC - TrainCm	It would be beneficial if trainers come to the ward to address individual issues when necessary
Un =	Unsure about the content
Upd=	Training update
UR =	Concentrates on able & cooperative people management, which is not the case in real scenario just joined)
VRL1 - VariAll	It need to cover a variety of situation. It is setup for all employees within BN123 Health / It gives a sense of team with understanding of work environments others face.
YeP	Yes partly; the participant has some concern but unable to specify or express what is it.
Yes=	Have concern about it, - the participant has a concern about the session / why is it, never heard it
YRsk	Yes, RSKSOFT software

Appendix 14.0

Table 26 Discussion on DELIVERY process of MSVT (in 2014), N= 21

Gender	Designation	Q050	Q051	Q052	Q053	Q054	Q055	Q056	Q090	Q091
F	Card. Sonographer	Yes	No	An	99	99	99	Bn	Yes	Yes
F	EN	No	Yes	An	Policy	Yes	No	Poor	Yes	Yes
F	EN	No	No	An	Policy	Yes	Yes	99	Yes	Yes
M	EN	Ot	Ot	An	Policy	Ot	99	Ln	Yes	Yes
M	EN	No	Yes	An	Policy	No	No	99	Yes	Yes
F	EN	No	No	An	Policy	Yes	No	Theory	Yes	Yes
M	HAN	No	No	On	NA	99	Yes	A01,A02	No	99
F	Lifestyle	99	Yes	An	99	No	99	CNS	Yes	No
F	New	Yes	No	An	99	99	NA	NHT	Yes	No
F	New	Yes	No	An	99	99	No	NHT	Yes	No
F	New	Yes	No	An	99	99	No	NHT	Yes	No
F	New	Yes	No	An	99	99	No	NHT	Yes	No
F	Physiotherapist	No	UN	NA	NA	99	99	99	Yes	Yes
M	PSA	No	No	NA	NA	99	Yes	99	No	99
F	PSA	No	No	NA	NA	No	Yes	A03	Yes	Yes
M	PSA	No	No	On	NA	99	Yes	99	No	99
M	PSA / CPO	No	No	NA	NA	No	Yes	A01,A02	Yes	99
M	Radiographer	No	No	An	Policy	99	99	99	Yes	Yes
M	RN, Div 1	LnN	No	An	Policy	No	No	99	Yes	Yes
F	RN, Div 1	No	Yes	An	Policy	No	No	UR	Yes	99
F	RN, Div 1	No	No	An	Policy	99	99	SRM	Yes	99
	Yes+LnN	5+1	4	An=15 On=2	P= 9	3	6	14	18	10
	No+UN	14	16+1	NA= 4	NA= 6	7	9		3	5
	99	1			6	11	6	7		6

All codes used in data analysis are in Appendix 13. Specific codes used in this table are as follows:

A01 = Need more advertisement	NHT = never heard about MSVT, never requested for it have to do it, a part of employment
A02 = Should be done frequently	On = Once during the whole employment term
A03 = Awareness of MSVT course not very high	Policy = According to my department/ organisations policy I have to do it, no choice. It's a part of job.
An = Annually	SRM = Discussing aggression management for patients with delirium, hyperactivity, dementia
CNS= Content same but presentation different. More engaging than last time, encouraging to share own experience	Theory = Sessions are more theoretical than practical or hands on aggression management in my field of work.
Ln = Long day, includes other elements e.g. Fire / A lot of theory could be done on line	Un = Unsure about the content
LnN = Long day, but necessary	UR = Concentrates on able & cooperative people management, which is not the case in real scenario just joined)

Appendix 14.1

Analysis of participants' response (in Appendix 14.0) on delivery process of MSVT

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Table 27 Analysis of participants' response (in Appendix 14.0) on delivery process of MSVT

T no	Summary of the respondent's opinion on delivery and content of MSVT
050	Most participants (15/21) have no concern about the training. Only (6 / 21) participant expressed some concern about training sessions. Only 1/21 concerned about the length of session but have no alternative suggestion.
051	Most participants (19/21) have no concern about the content of the training sessions. Only (4/21) participants have some concern about the content
052	Most participants (15/21) mentioned that this training is an annual event. Some (4/21) said multiple participation is not applicable for them. Only (2/21) said receiving this training once in their tenure of service, it is not known about their employment status i.e. casual or permanent also their roster or shift of duty.
053	On the question of multiple session participation staff were not very sure. The scope of this interview was limited mostly due to time constraint to probe further why is it the case? It might be lack of awareness of the job description or professional development opportunities. Some (9/21) said it is a policy of the organisation that they should participate in the training more than once. Some (6/21) participants were not aware whether they need to participate in multiple sessions. Their employment status shows they all are new employee. So unawareness about their skill development programme might be an issue. Some (6/21) participants said participation in multiple session is not applicable for them.
054	Among the participants who came in multiple sessions only one third (3/9) said they noticed changes in delivery of the training. The session being longer and more engaging. But most (6/9) didn't notice any changes. Again the scope of this interview sessions were limited to explore further.
055	(8/21) said there is no difference in participants (7/21) made no comment on the question of grading of the participants (6/21) participants said there is grading in the training sessions. Some for beginners, refreshers son on
056	(14/21) participants made some remark about the content or delivery of the training. (3/21) said the training should be arranged more than once in a year. 1/21 said it is too long, but didn't mention what is the optimum duration 7/21 said they didn't know about the existence of this programme and suggests promotion or more advertisement of the programme across BN123 Health staff. 1/21 appreciated that the training discusses about aggression management in delirium & dementia 2/21 said the training is more theoretical and does not focus on the problem related to their workplace

Appendix 15.0

Table 28 Discussion on CONTENT of MSVT in 2014, N = 21

Gender	Designation	Q055	Q056	T060	T061	T062	T063
F	Card. Sonographer	99	Bn	Yes	99	99	99
F	EN	No	Poor	Yes	No	No	No
F	EN	Yes	99	Yes	YeP	YeP	YeP
M	EN	99	Ln	Yes	No	Yes	No
M	EN	No	99	Yes	No	No	No
F	EN	No	Theory	Yes	No	Yes	No
M	HAN	Yes	A01, A02	Yes	Yes	Yes	Yes
F	Lifestyle	99	CNS	No	99	Yes	Yes
F	New	NA	NHT	Yes	99	99	99
F	New	No	NHT	99	99	99	99
F	New	No	NHT	Yes	99	99	99
F	New	No	NHT	Yes	99	99	99
F	Physiotherapist	99	99	No	99	99	99
M	PSA	Yes	99	Yes	Yes	Yes	Yes
F	PSA	Yes	A03	Yes	Yes	Yes	Yes
M	PSA	Yes	99	Yes	Yes	Yes	Yes
M	PSA / CPO	Yes	A01, A02	Yes	Yes	Yes	Yes
M	Radiographer	99	99	Yes	99	99	99
M	RN, Div 1	No	99	Yes	Yes	NR/no	Yes
F	RN, Div 1	No	UR	Yes	No	Yes	YeP
F	RN, Div 1	99	SRM	Yes	Ot/ no	Ot/no	Ot/no
	Yes	6	14	18	7	10	9
	No	8		2	6	4	5
	99 / NA	7	7	1	8	7	7

All codes used in data analysis are in Appendix 13. Specific codes used in this table are as follows:

A01 = Need more advertisement	NR = Not really / not totally agree
A02 = Should be done frequently	Poor = Instructor didn't know the content she was talking different than what supposed to be teaching
Bn = Better to be arranged twice in a year	SRM = Discussing aggression management for patients with delirium, hyperactivity, dementia
Ln = Long day, includes other elements e.g. Fire / A lot of theory could be done on line	Theory = Sessions are more theoretical than practical or hands on aggression management in my field of work.
NHT = never heard about MSVT, never requested for it have to do it, a part of employment	UR = Concentrates on able & cooperative people management, which is not the case in real scenario just joined)

Appendix 16.0

Table 29 Participants' response on Knowledge and Skill development by MSVT on OVAS

Gen	Designation	R060	R063	R064	R065	R066	R070	T071	T072	T073	T111	T112	R113	R116
F	C. Sonographer	Yes	99	99	99	99	No	99	99	99	Yes	Yes	No	No
F	EN	Yes	No	No	Yes	99	No	99	99	99	No	99	Yes	Yes
F	EN	Yes	YeP	Yes	Yes	99	No	No	No	No	No	Yes	Yes	No
M	EN	Yes	No	Ot/N	Ot/N	DD	No	NA	NA	NA	No	Yes	Yes	NA
M	EN	Yes	No	No	Yes	99	No	99	99	99	No	Yes	Yes	Yes
F	EN	Yes	No	Yes	No	99	No	99	99	99	No	Yes	No	No
M	HAN	Yes	Yes	Yes	No	99	NA	NA	NA	NA	Yes	Yes	No	No
F	Lifestyle	No	Yes	Yes	99	99	No	99	99	99	No	99	99	Yes
F	New	Yes	99	99	99	99	No	99	99	99	Yes	Yes	99	99
F	New	99	99	99	99	99	No	99	99	99	99	99	Yes	99
F	New	Yes	99	99	99	99	No	99	99	99	99	Yes	99	99
F	New	Yes	99	99	99	99	No	99	99	99	Yes	99	99	99
F	Physiotherapist	No	99	99	99	99	Un	99	99	99	99	99	99	99
M	PSA	Yes	Yes	Yes	Yes	99	Yes	NA	NA	NA	Yes	Yes	Yes	Yes
F	PSA	Yes	Yes	Yes	No	99	NA	NA	NA	NA	Yes	Yes	No	No
M	PSA	Yes	Yes	Yes	Yes	99	Yes	Yes	99	Yes	Yes	99	99	99
M	PSA / CPO	Yes	Yes	Yes	No	99	NA	NA	NA	NA	Yes	Yes	No	No
M	Radiographer	Yes	99	99	99	99	No	99	99	99	Yes	Yes	No	No
M	RN, Div 1	Yes	Yes	Yes	No	HB	No	No	No	None	Yes	Yes	NR	No
F	RN, Div 1	Yes	YeP	99	99	DD	No	99	99	99	No	Yes	No	Yes
F	RN, Div 1	Yes	Ot	Ot/N	Ot/N	Ot/N	Ot/N	99	99	99	Yes	Yes	No	No
	Yes	18	10	9	5	3	2	1	0	1	11	15	6	5
	No	2	1	4		1	19	7	7	7	7	0	9	10
	99	1	10	8	9	17	0	13	14	13	3	6	6	6

All codes used in data analysis are in Appendix 13. Specific codes used in this table are as follows:

99 = didn't answer that question	No = the participant has **no** concern
DD – DifDm = Very difficult to apply (this training) to high care like Dementia who are very resistive / Some activity (smart moves) should be directed to other areas, like Dementia residents	New = unknown (didn't write their designation, said they just joined)
HB = Technique can help but sometimes OVAS come completely unexpected and unavoidable/ It helps some but not in my work	None – no response
EN = Enrolled nurse,	Ot / N = Don't like to say yes / no, but don't feel comfortable and not sure what is right either
HAN = Health assistant (nursing assistant)	Yep = the participant has some concern
NA = Not applicable in my situation	Yes = the participant has a concern about it

Appendix 17.0

Table 30 Discussion on impact of MSVT on participants 'BEHAVIOUR

Gen	Designation	T070	T071	T072	T073	T074	T075	T076	T077	T078	Q090	Q091	Q092
F	Card. Sonographer	No	99	99	99	99	99	99	99	99	Yes	Yes	99
F	EN	No	99	99	99	No	99	99	99	EVN	Yes	Yes	99
F	EN	No	No	No	No	Yes	Yes	PR	99	99	Yes	Yes	Sm
M	EN	No	NA	NA	NA	Yes	99	99	99	Thr	Yes	Yes	AC
M	EN	No	99	99	99	No	99	99	MNT	99	Yes	Yes	99
F	EN	No	99	99	99	No	99	99	MNT	EVN	Yes	Yes	99
M	HAN	NA	NA	NA	NA	Yes	Yes	Yes	99	99	No	99	99
F	Lifestyle	No	99	99	99	99	99	99	99	NNd	Yes	No	99
F	New	No	99	99	99	99	99	99	99	99	Yes	No	HT
F	New	No	99	99	99	99	99	99	99	99	Yes	No	HT
F	New	No	99	99	99	99	99	99	99	99	Yes	No	HT
F	New	No	99	99	99	99	99	99	99	99	Yes	No	HT
F	Physiotherapist	Un	99	99	99	99	99	99	99	99	Yes	Yes	99
M	PSA	Yes	NA	NA	NA	Yes	Yes	Yes	NA	99	No	99	99
F	PSA	NA	NA	NA	NA	Yes	Yes	Yes	NA	B01	Yes	Yes	99
M	PSA	Yes	Yes	99	Yes	99	99	99	99	99	No	99	99
M	PSA / CPO	NA	NA	NA	NA	Yes	Yes	Yes	NA	99	Yes	99	99
M	Radiographer	No	99	99	99	99	99	99	99	99	Yes	Yes	99
M	RN, Div 1	No	No	No	None	99	Yes	PS	99	PsR	Yes	Yes	99
F	RN, Div 1	No	99	99	99	99	99	99	99	NSP	Yes	99	HT
F	RN, Div 1	Ot	99	99	99	99	99	99	99	99	Yes	99	99

All codes used in data analysis are in Appendix 13. Specific codes used in this table are as follows:

AC =	PR
BO1 =	PS
EVN =	PsR
	Sm =
HT =	Theory = Sessions are more theoretical than practical or hands on aggression management in my field of work.
MNT =	Thr =
No = the participant has **no** concern	Un = Unsure about the content
NNd =	Yep = the participant has some concern
NSP =	Yes = the participant has a concern about the session

Appendix 18.0

Table 31 Participants' perception about the RESULT of MSVT at workplace

Gen	Designation	Q080	Q081	Q083	Q084	Q085	Q093	Q094			
F	Card. Sonographer	RV	99	99	99	99	Ot	Ot			
F	EN	JD	No	99	99	99	No	No			
F	EN	Sm	Yes	Yes	Yes	Yes	Yes	No			
M	EN	JD	Yes	NA	NA	Yes	Yes	No			
M	EN	RV	No	99	99	99	Yes	Yes			
F	EN	RV	Yes	No	No	Yes	No	No			
M	HAN	RV	Yes	No	No	No	No	No			
F	Lifestyle	RV	Yes	Yes	No	Yes	No	No			
F	New	RV	99	99	99	99	yes	No			
F	New	RV	99	99	99	99	Yes	No			
F	New	RV	99	99	99	99	Yes	99			
F	New	RV	99	99	99	99	Yes	99			
F	Physiotherapist	RV	Yes	99	yes	99	Yes	Yes			
M	PSA	99	Yes	No	No	Yes	No	No			
F	PSA	Es	Yes	Yes	No	No	Yes	No			
M	PSA	Es	Yes	Yes	No	No	Yes	No			
M	PSA / CPO	Es	Yes	Yes	No	No	Yes	Yes			
M	Radiographer	Es	Yes	Yes	99	99	No	No			
M	RN, Div 1	EHD	Yes	NR	NR	NR	RSM	NSF			
F	RN, Div 1	Es	Yes	99	Yes	99	No	No			
F	RN, Div 1	RV	99	99	99	99	No	No			

All codes used in data analysis are in Appendix 13. Specific codes used in this table are as follows:

EHD - It is important for high care dementia unit	On = Once during the whole employment term
ES = It is essential	Ot = Don't like to say yes / no, but don't feel comfortable and not sure what is right either
JD = Some activity difficult to apply in Dementia - Where residents have high level of resistiveness & aggression	RSM = Risk minimisation & aggression management technique
NR = Not really / not totally agree	RV = Relevant to the work
NSF = Need more selective form of report only on OVAS and be accessible to all stall	Yep = the participant has some concern
No = the participant has no concern	Yes = the participant has a concern about it

Appendix 19.0

Table 32 Discussion on the overall REACTION of the participants about MSVT

Gen	Designation	Q050		T100	T114	T115	T117	T118	T119	T120	T131	T140
F	Card. Sonographer	Yes		SRM	No	No	No	Yes	Yes	99	No	All
F	EN	No		Ced	No	Yes	No	Yes	No	FRT	Yes	MrT
F	EN	No		CAT	Yes	No	No	Sm	Sm	Fst	Yes	SGEV
M	EN	Ot		AM	NA	No	No	Yes	Yes	DS	99	CNG
M	EN	No		AM	99	Yes	Yes	YeP	YeP	Mot	Yes	FRT
F	EN	No		AM	No	No	Yes	Yes	Yes	Thr	Yes	TrC
M	HAN	No		P01	No	No	No	Yes	Yes	99	No	GD
F	Lifestyle	99		ELV	No	No	No	Yes	99	Sm	99	SGEV
F	New	Yes		99	99	99	Yes	Yes	Yes	99	99	RfC
F	New	Yes		99	Yes	Yes	99	Yes	Yes	99	Yes	RfC
F	New	Yes		99	99	99	99	Yes	Yes	Upd	99	RfC
F	New	Yes		AM	99	99	99	Yes	Yes	99	99	RfC
F	Physiotherapist	No		SRM	99	99	99	99	99	99	99	MwN
M	PSA	No		P01	Yes	Yes	No	Yes	Yes	R01	Yes	99
F	PSA	No		P01	No	No	NA	Yes	Yes	R01	No	S03
M	PSA	No		P01	99	99	99	Yes	Yes	R01	99	99
M	PSA / CPO	No		P01	No	No	NA	Yes	99	99	No	S01, S02
M	Radiographer	No		AM	No	No	No	Yes	Yes	RAM	No	VRL
M	RN, Div 1	LnN		TM	No	NR	No	Yes	Yes	GT	No	HS
F	RN, Div 1	No		AM	No	Yes	No	Yes	Yes	99	99	Spc
F	RN, Div 1	No		SRM	No	No	No	Yes	Yes	99	No	99

All codes used in data analysis are in Appendix 13. Specific codes used in this table are as follows:

All = These sessions should be available to all	MwN = Like to learn how to manage a situation of aggression with reference to my own workplace
AM = Management of violence & Aggression in workplace	NHT = never heard about MSVT, never requested for it have to do it, a part of employment
CAT = A compulsory annual training, nothing more than that	NR = Not really / not totally agree
Ced = Continued education	PO1 = To improve safety or work health and safety at the workplace
CNG = Good idea but needs improvement, change delivery or format	RAM = Practical demonstration on Risk minimisation & Aggression Management Techniques.
DS = Open discussion to get views of others	RfC = Need Reference card to carry at work place, to help remind the techniques or process
ELV = Need to make it more lively, interesting, appealing, entertaining	SGEV = Change presentation to more interactive, animated, interesting. A simple picture form to remind me the basic moves
FRT = Would like to see fire training done in area that we work	SO1 SO2/ SO3== Frequent updates/ more refresher courses
Fst = The reminder to look after ourselves in a conflict. We are often forgotten and placing residents first	Spc = Need to be specific for areas that create problem, more emphasis on difficult residents
GD = Needs to provide easy to read & understand pamphlet with guidelines / need a more engaging person	SRM = Discussing aggression management for patients with delirium, hyperactivity, dementia
GT = Some ideas are great but needs more specialised class the way to avoid injury and get out of holds	Theory = Sessions are more theoretical than practical
HS = Would like a flow chart of possible MSVT moves. These are easy to forget	TrC = It would be beneficial if trainers come to the ward to address individual issues when necessary
Mot = Opportunity to meet other staff working in this field	Upd = Training needs update, looks same as last time
MRT = More education to manage aggressive residents and visitors in various situations like community rehabilitation.	VRL = It need to cover a variety of situation / workplaces

Appendix 20.0

RSKSOFT – The Reporting and Data Management Software used by BN123 Health

Like many public hospitals the reporting on safety issues (clinical safety and WHS) is managed by a software named RSKSOFT. Following text is an extract from the literature of RSKSOFT product. (Ref: http://www.RSKSOFT.net.au/Company-Profile/About-Us).

RSKSOFT International Pty Ltd (RMI) is a privately owned Australian Company. Development of the Risk Management System commenced in early 2000 in collaboration with the Victorian Managed Insurance Authority (VMIA) and several Pilot healthcare services within Victoria. RSKSOFT.Net is supporting beyond the acute care sector, into several Government Departments including: Victoria - Department of Health, ACT - ACT Health, ACT - Disability ACT, South Australia - Department of Communities for Social Inclusion, Northern Territory - Department of Health, Northern Territory - Department of Children and Communities
Today RSKSOFT.Net can be found in a variety of organisations such as aged care, ambulance services, charitable and crisis accommodation providers, and pathology services, where it is used as both a quality management tool and an occupational health and safety tool.
BN123 Health is more focused to set it as the clinical safety management tool, rather than on WHS
It has four basic functions: Alert, Analysis, Workflow, Technical requirements.
Alerts: a sub-system monitors all Notifications for any "trigger condition" or combination of conditions, which may be created from any field in the RSKSOFT dataset.

The Alerts sub-system may also be interfaced with other systems, such as specialist application databases, pager systems or SMS gateways. SMS Alerts can be used instead of, or in addition to, the emails send to users when creating an Alert. Alerts sub-system is integrated with all the RSKSOFT Modules, including: Incidents, Risk Register, Feedback, Quality Improvement and Custom Modules or Infinity Framework modules.
Analysis suite: it provides a comprehensive reporting and analysis suite, which presents data in real time, at differing levels of detail – from high level Executive Indicators, through to Summary reports and charts, to detailed comprehensive reports of individual notifications. It includes - Suite of Analysis Tools, Multiple Charts and Views, Traffic Light thresholds, Self-service reports, Real-time data

It provides executive monitoring using Indicator set, built over any component of the RSKSOFT feature set.

Typical Indicators may include such items as: OH&S Indicators tracking areas such as rates of Lost Time Injuries, Specific counts such as incidence of Back Injuries, Consumer Feedback performance indicators, such as Average Response of Closure Intervals. Individual Indicators can be configured with "traffic light" flags, highlighting threshold limits – Green for Acceptable, Amber for Concern, and Red for Unacceptable

(it compiles data in a group or category and then reports it with comparison against any set value, considered as an indicator for that function. So, in one sense it is not a real time data presentation like statistical software).

RSKSOFT software is said to support workflow within the Incident and Risk Management System. It allows direct reporting of hazards, adverse events, and complaints from anywhere in the organisation through: Online Event Notification & Review, Delegation and Escalation, Inbuilt Reminder Process, Ad-hoc Distribution Lists, Assignment of Actions. These notifications flow through the organisation in real-time, where they can be reviewed and edited by senior management or risk management staff.

RSKSOFT software needs to be run in physical machine and needs web server & database server. It needs Windows 2003 server or later, Microsoft .NET 4.0 or later. Microsoft Internet explorer v6.0 or higher, Adobe Acrobat (PDF) Reader. (The Vertical Matters need only the mobile phone and Google access)

The software package has four basic modules **(**Incidents, Risk Register, Feedback, and Quality improvement) and some additional Modules (Adverse Drug Reaction Module, Compliance module, Documents module, Investigation module, Material Safety Data Sheets, OHS Inspection, Workplace Claims, Personal Register, Contract Management). (BN123 Health is more inclined on this additional one)

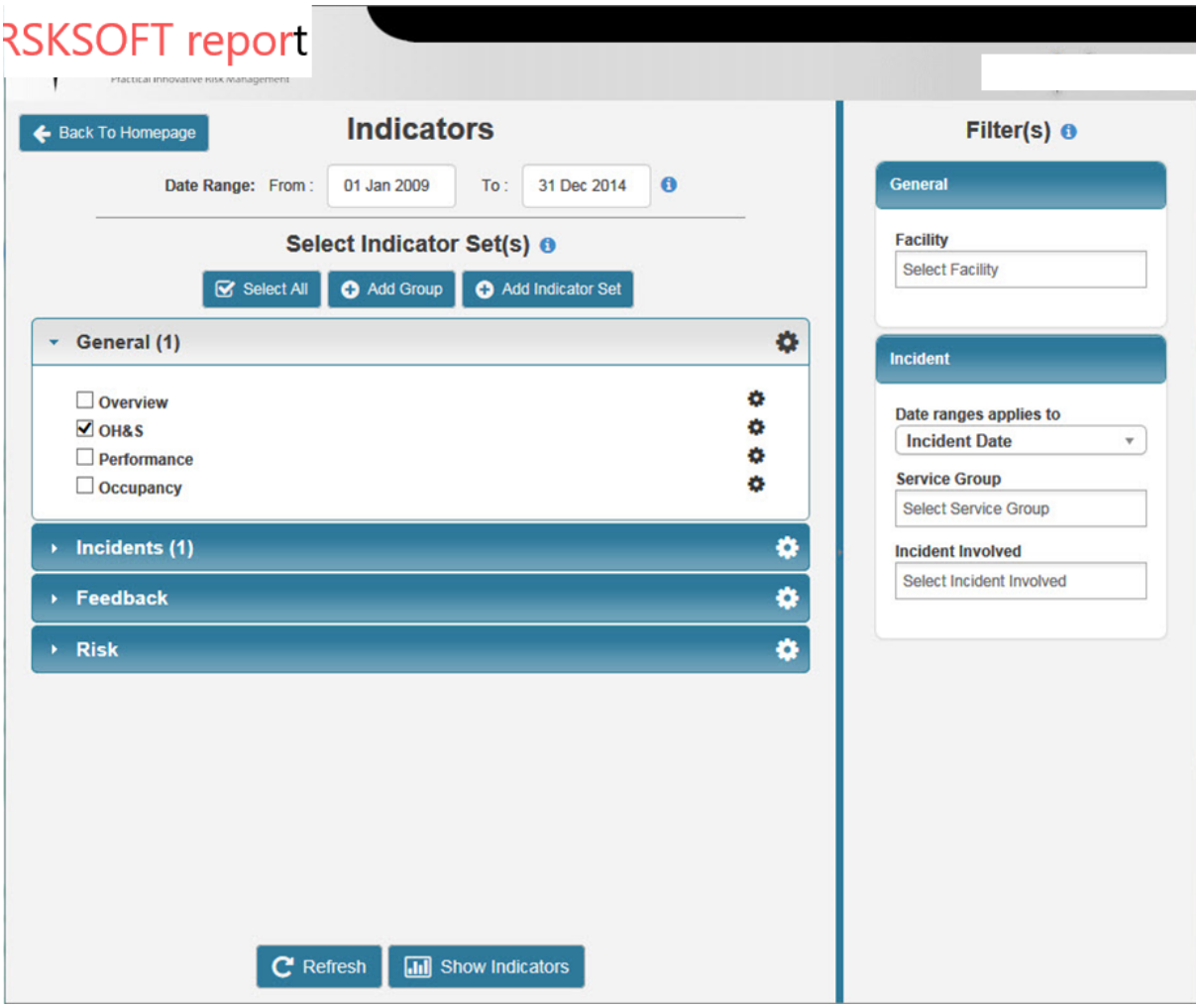
This software company claims that their product RSKSOFT Infinity is their best product as a Total Information Management solution with a flexible framework that allows users to manage, monitor and analyse any information that is important to any organisation.

The company claims the modules most frequently used by different users include: - Audits, Claims (Workplace), Compliance, Contract Management, Documents/Policies, Expenses, Equipment/Assets, Fraud Management, Immunisation, Legal, Minutes/Meetings, MET Calls, Personnel, Return to Work/Rehabilitation, Training.

The company also claims their software can assist in clinical audit by: Bedside Audit, Admission Screening, Blood stream infection, Cardiac rehabilitation, ED MEWS, Environmental Safety, Falls, Hospital Documentation, Infection, Maternity MEWS, Medication Safety, MET/Code Blue, Occupational exposure, Physio Documentation, Post Discharge, Vital Signs MEWS. (BN123 Health is more inclined to use it for the clinical audit)

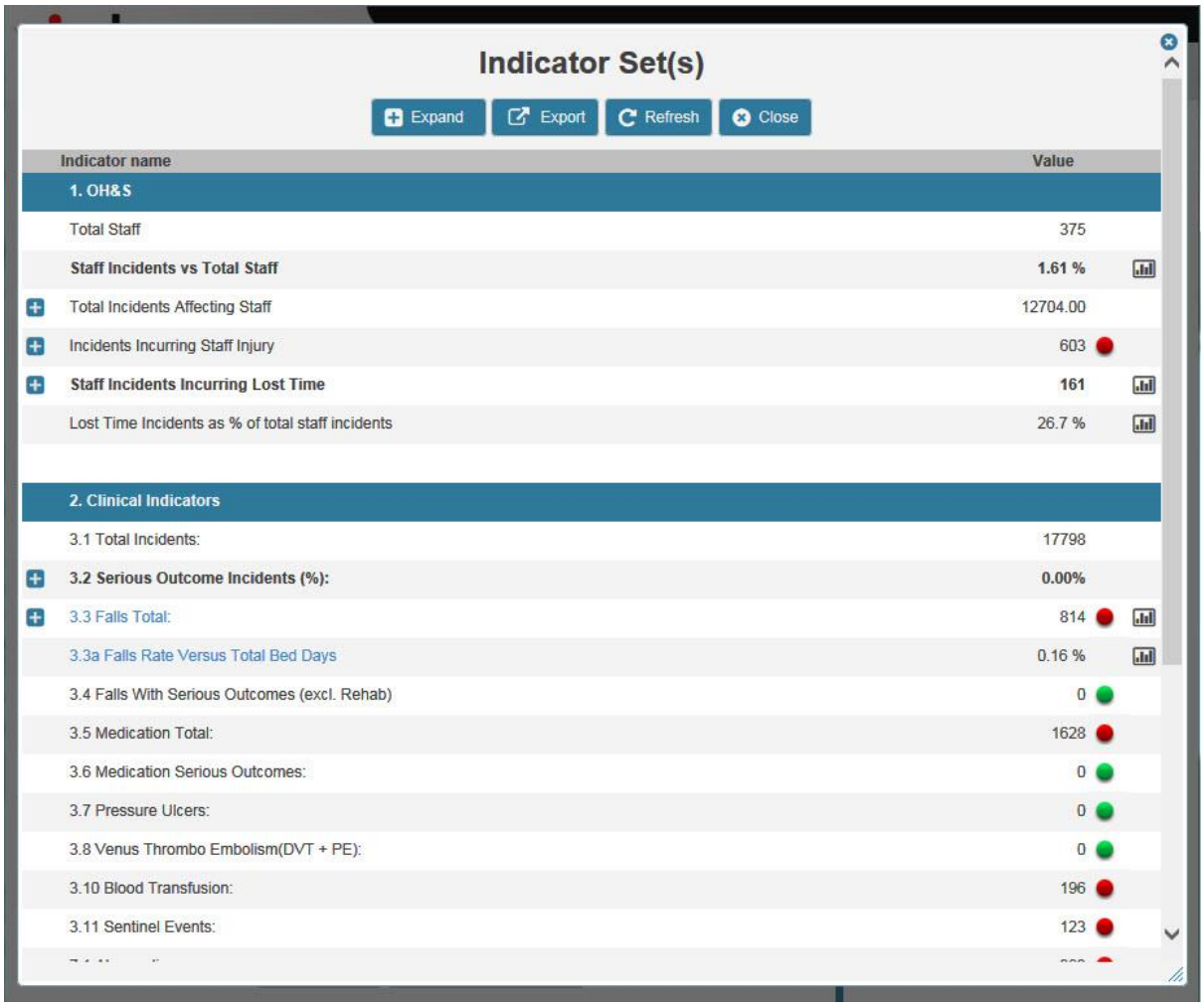
Appendix 20.1

RSKSOFT software generated Report (sample 1)



Appendix 20.2

RSKSOFT software generated Report (sample 2)



Indicator Set(s)

Expand | Export | Refresh | Close

Indicator name	Value
1. OH&S	
Total Staff	375
Staff Incidents vs Total Staff	**1.61 %**
Total Incidents Affecting Staff	12704.00
Incidents Incurring Staff Injury	603
Staff Incidents Incurring Lost Time	**161**
Lost Time Incidents as % of total staff incidents	26.7 %
2. Clinical Indicators	
3.1 Total Incidents:	17798
3.2 Serious Outcome Incidents (%):	**0.00%**
3.3 Falls Total:	814
3.3a Falls Rate Versus Total Bed Days	0.16 %
3.4 Falls With Serious Outcomes (excl. Rehab)	0
3.5 Medication Total:	1628
3.6 Medication Serious Outcomes:	0
3.7 Pressure Ulcers:	0
3.8 Venus Thrombo Embolism(DVT + PE):	0
3.10 Blood Transfusion:	196
3.11 Sentinel Events:	123

Appendix 20.3

Entering an Incident in RSKSOFT

Steps of reporting an incident using RSKSOFT software: (source: anonymous)

- Access to the Incident Entry page is via the menu option – My Workspace → New → Incident
- Move between data fields using the mouse, TAB or SHIFT TAB keys
- DO NOT enter data with CAPS LOCK on.
- Complete all fields/buttons that are displayed YELLOW.
  The incident cannot be saved unless these fields are completed
- Tool tips may appear when you hover your mouse over some of the fields to assist you with entering the incident
- Policy Links may appear next to specific fields providing you with additional information that may assist you in entering the incident
- Be objective. Rather than using real names use generic titles e.g.: Nurse found, Doctor said; Client did
- Field contents can be deleted by highlighting the contents in a field and pressing the DELETE key.
- Press Submit after you have completed the incident

Appendix 21

OVAS Case studies – National and Global

Important OV incidence in US

Case study 1 ---

In USA a doctor was hit on head in an emergency, by a patient
The American Medical Association awarded Dr. Paul Matera the "Medal of Valor of 1998" for his courage in the emergency room at a District Providence Hospital, USA, in 1996 in which he was brutally bashed by an injured young patient whom Dr Matera was serving (Gribbin, 2002). Such non-war time incidence requires management to protect staff against violence

Case study 2 –

There are court cases in USA, regarding sexual harassment of nurses by able bodied as well as by disabled customers.

Important OV incidence in Australia

-- Australian Case – 1 --

The news in Inner West Courier (Herbertson, 2016) that a police officer and a security officer were shot by a patient under the influence of ice in an incident at a western Sydney Hospital, is the latest OVAS in NSW. The security officers at Royal Prince Alfred Hospital in Camperdown, NSW believe that it may take a death before NSW Health officials make any changes to protect security workers' safety. But Mr Dansie said the problems faced at hospitals like RPA were that not only do security guards have no power to do anything if a patient is affected by ice, but they also are extremely understaffed.

Australian Case – 2

'Magistrate frustrated by delay in 'straightforward, tragic' neurosurgeon attempted murder case'. (The age, 2014 December 17)

http://drmwong.com/2014/12/17/the-age-magistrate-frustrated-by-delay-in-straightforward-tragic-neurosurgeon-attempted-murder-case/

Dr Wong, head of Neurosurgery, was stabbed by a customer in the Western Hospital's main entrance at about 8.30am on February 28, 2014, as the neurosurgeon arrived for work. During trial at one stage the Magistrate said, "It's a very straightforward and tragic case," but needs to follow the legal procedure. During the trail perpetrator was in custody at the Thomas Embling Hospital, the state's only secure mental health centre to treat mentally ill people and he appeared at the Melbourne Magistrates Court via video-link, supported by Iraqi interpreter. After returning to work Dr. Wong pursued management to promote increased hospital security to protect the health care workforce.

The post-incident interview to media, after returning to work, by the victimised surgeon and the hospital management revealed a gap in the perception of the OV management. The victim wants more security measures whereas management does not agree, as evident from the following (Hagan K. 2014):

Dr Wong, neurosurgeon, said he was unaware of any major changes made in Victorian hospitals since the attack, which had highlighted security failings.

Mr Wong said secure entrances for hospital staff, restricted access to wards and regular security patrols of public areas were some of the measures needed to prevent repeat attacks.

Western Health chief executive Alex Cockram told ABC radio last month that the attack on Mr Wong was "an extraordinarily tragic event, out of any comprehension and understanding".

"It's difficult to see how any level of security changes would make a difference, except to have everyone searched like an airport coming through the front door, which is very difficult in a hospital environment," she said.

But Mr Wong said the suggestion that no security measure could have prevented him being attacked was "a bit like saying, 'Do whatever you want, we surrender' ".

"There has to be improvement," he said. "The next doctor who gets stabbed is not going to be as lucky as me. The next doctor will be dead with a widow and kids, who will never see their father again."

Mr Wong's call for action ahead of November's state election is echoed by doctors and nurses who say violence is a major and growing problem in Victoria's public hospitals.

Australian case- 3 –

"A female doctor was stabbed by a patient, Huan Yun Xiang, inside the high-security psychiatric hospital in Melbourne's inner-north…. Thomas Embling Hospital in Fairfield…. after 10am on Tuesday …. in the same forensic unit where inmate …. killed two roommates with a carving knife in 2009. … attack has fuelled fresh concern for staff safety in the high-risk workplace, with the Health and Community Services Union demanding a full-scale review.

In 2002, Huan Yun Xiang (then 38-years-old) opened fire during a tutorial at Monash University's Clayton campus killing two and injuring five people. One of those injured was lecturer Lee Gordon-Brown. After the killings at Monash, Xiang was found not guilty of murder due to mental impairment but was sentenced to 25 years in a high-security psychiatric hospital. He was moved to the low security Jardine unit in the last six months.

Lloyd Williams, the union's state secretary ... called for an investigation into the incident and an immediate increase in staff numbers at Thomas Embling Hospital, prioritising its Jardine and Daintree units. ... an unacceptable increase of violence and assaults toward staff ... "We need a review of what happens when people are assaulted in forensic services, with changes to make sure patients who assault staff are removed to police or prison custody, charged and processed in the normal way… "The culture of patients assaulting staff with impunity has to cease." … Williams said the hospital was stretched to the limit, and inadequate security screening procedures were adding to staff concerns. A spokesman for ... Hospital, which is managed by Forensicare, confirmed that the doctor involved was a psychiatrist and the attack occurred in the Jardine unit. … psychiatrist activated the emergency response systems and the patient was safely detained within minutes … (Toscano, 2015)

Australian case – 4

On Monday 2nd July 2001 afternoon when police issued an apprehended violence order against Victor Roy Trimarchi, 33, of Stuarts Point, following a domestic violence incident he voluntarily admitted himself to the hospital for treatment in the psychiatric ward of Kempsey District hospital. On that night (i.e. around 3 am on 3rd July 2001) he assaulted one nurse after accusing her of letting someone into his ward while he was showering. A second nurse who came to help her was then assaulted. He then locked himself inside a ward where Ms. Eunice Benedek, a 72-year-old woman, was asleep in her bed.

He struck Mrs Benedek's head with a coffee table or chair which resulted her death in the emergency department. Kempsey Local Area Commander Inspector Bruce Simons said it appeared the Mrs Benedek died from severe head trauma as a result of the assault. People said she was a harmless but slightly eccentric woman. Trimarchi, was charged with Mrs Benedek's murder and assaulting two other nurses, aged 52 and 61 and aggravated break at Kempsey District Hospital. MID North Coast Area Health Service boss Terry Clout began an immediate review of security in Kempsey District Hospital. There were just four beds available for mental health patients at Kempsey and all were situated within the hospital's general wards. NSW Health Minister Craig Knowles visited the hospital late yesterday and said the government would consider stationing at least one security guard at each NSW hospital. However, the government would await the outcome of the police investigation before making any moves. Mr Knowles agreed violence was on the rise in hospitals, particularly in mental health units (Smith, 2001),

Australian case – 5 (Ref: ABC news, The Age)

The incidence of death of a cardiologist at the Epworth Hospital, Melbourne, in June 2017 is an example of environmental factor contributing to OVAS. If that cardiologist didn't intervene alone to the smoking incidence in the no-smoking zone the fatality could be averted. The influence of environment, physical and mental stress, other people's apathetic action is best explained by Actor-Network theory (ANT), a suitable one to explain the OVAS situation through non-human actors in the causation of the event.

Appendix -22

Elements and themes of WHSMS used in MIMOSA System

Selective key elements and themes of WHSMS used in MIMOSA System (Saracino, 2015) are in table 33.

MIMOSA (Methodology for the Implementation and Monitoring of Occupational SAfety), a framework to evaluate the WHSMS of an organisation was used by the European Occupational Safety and Health Agency's (EU-OSHA).

Table 33 Key elements and themes of WHSMS used in MIMOSA System

Key element	Theme	Check-lists	Indicators
1-Leadership and coherence with targets	1-Responsibility organisation and structure		
	2-Direct involvement in the management		
	3-Management of economic resources		
2-Orientation to risk reduction and people protection in compliance with the law	4-Risk assessment		
	5-Mesuares of prevention and protection		
	6-Education, training and information		
	7-… (intentionally kept empty)		
	8-Risk monitoring		
	9-Events monitoring		
	10-Health surveillance		
	11-Emergencies		
	12-… (intentionally kept empty)		
	13-Safety levels improving		
	14-Vigilance at work		
	15-Safety climate		
3-Involvement, learning and development of personal education	16-Risk perception		
	17-… (intentionally kept empty)		
	18-… (intentionally kept empty)		
	19-Control system		
4-Continuous improvement and innovation	21-Compliance with formal requirements of sector		
	22-… (intentionally kept empty)		
5-Formal and general compliance	23-Recording system		
	24-Human resources		
	25-Etical and institutional aspects		
	26-… (intentionally kept empty)		
6-Social responsibility	27-Environment		