



LAUREA
UNIVERSITY OF APPLIED SCIENCES
Together we are stronger

Developing operating models for severe violent attacks in emergency hospital environment

Partanen, Henna

2017 Leppävaara

Laurea University of Applied Sciences
Leppävaara

Developing operating models for severe violent attacks
in emergency hospital environment

Henna Partanen
Degree Programme in Security
Management
Bachelor's Thesis
March, 2017

Henna Partanen

Developing operating models for severe violent attacks in emergency hospital environment

Year	2017	Pages	30
------	------	-------	----

This thesis and development project of facing severe acts of violence in emergency hospital environment has been made in cooperation with the Helsinki and Uusimaa Hospital District. The intention of this thesis was to develop approaches for facing severe violent attack in emergency hospital environment. Because already existing guidelines wanted to be clarified and developed, one approach was chosen for the thesis, which is suitable for most acts and by this decreases the number of guidelines and simplify actions during the attack. The subject is relatively marginally studied in Finland and most of the used guidelines and existing studies concern mental and minor physical violence facing hospital personnel, which is very widely recognized both in Finland and globally.

The theoretical background is limited to only particularly severe acts of violence, which may result in loss of life or interruption of the operation. Such acts may be, for example active shooter or bomb attacks. Practically the work was limited to consider only emergency hospitals, which constitutionally everyone has the right of access. By this was achieved diverse operating environment, which still has similar features, and selected approach is jointly suitable for all environments. The methods used were literature review and expert interviews. The literature review materials were mainly foreign research articles of severe violence in hospital environment and articles based on the chosen approach. Finnish literature studies of the general workplace violence as well as safety culture and security management literature and studies were used. Expert interviews were carried out in interface of open and theme interview, to get as much as possible authority point of view for the selected approach and development proposals for the development of hospital safety and security. The theme interview frame was formed by the chosen approach and the end was carried out as an open interview.

The study indicates that, even though physical and mental violence towards hospital personnel is generally known, the threat of severe violence is still marginally researched presumably because it has hardly taken place in Finland. However, specialists familiar with the subject are aware of the possibility and acknowledge the need to develop operational models. Clear operating procedures, which are suitable for more than one possible situation, are easy to understand for layman and minimize the possibility of incorrect operation. Safety and security management, training, as well as communication and information are methods to develop hospitals safety and security in order to maintain the target level of safety, and to improve the safety culture.

Keywords: hospital safety, safety at work, preparedness, security management, safety culture

Henna Partanen

Toimintamallien kehittäminen vakaviin väkivallan tekoihin päivystyssairaala ympäristössä

Vuosi 2017

Sivumäärä 30

Tämä selvitys ja kehitystyö vakavan väkivallan tekojen kohtaamiseen päivystyssairaala ympäristössä on tehty yhteistyössä Helsingin ja Uudenmaan sairaanhoitopiirin kanssa. Työn tarkoituksen on kehittää toimintamalleja vakavan väkivallan tekojen kohtaamiseen päivystyssairaala ympäristössä. Koska käytössä olevia toimintamalleja haluttiin selkeyttää ja kehittää, valittiin selvitykseen yksi toimintamalli, joka sopii useimpiin mahdollisiin tapahtumiin ja näin ollen vähentää erilaisten ohjeistusten olemassa oloa ja helpottaa toimintaa tilanteessa. Aihe on Suomessa verrattain vähän tutkittu ja suurin osa käytössä olevista toimintamalleista ja olemassa olevista tutkimuksista koskee sairaalahenkilökunnan kohtaamaa henkistä ja lievää fyysistä väkivaltaa, joka on erittäin laajasti tiedostettu niin Suomessa kuin maailmalla.

Teoreettinen viitekehys työssä rajoittuu koskemaan ainoastaan erityisen vakavia väkivallan tekoja, joiden seurauksena voi olla ihmishenkien menetys tai toiminnan keskeytyminen. Tällaisia tekoja voi olla esimerkiksi ammuskelut tai pommi-iskut. Käytännössä työ rajattiin koskemaan ainoastaan päivystyssairaaloita, joihin perustuslaillisesti jokaisella on pääsyoikeus. Näin saatiin aikaan moninainen toimintaympäristö, jossa on kuitenkin tietyiltä osin samoja piirteitä ja valittu toimintamalli soveltuu yhteisesti kaikkiin ympäristöihin. Tutkimusmenetelminä työssä käytettiin kirjallisuuskatsausta sekä asiantuntija haastattelua. Kirjallisuuskatsauksen aineisto oli pääasiassa ulkomaisia tutkimusartikkeleja vakavasta väkivallasta sairaalaympäristössä sekä toimintamalliin perustuvia artikkeleja. Suomalaisesta kirjallisuudesta käytettiin yleistä työpaikkaväkivaltaa koskevia tutkimuksia sekä turvallisuuskulttuurin ja johtamisen kirjallisuutta ja tutkimuksia. Asiantuntija haastattelu toteutettiin avoimen ja teemahaastattelun rajapinnassa, jotta saatiin mahdollisimman paljon viranomaisnäkökulmaa valitulle toimintamallille ja kehitysehdotuksia sairaalaturvallisuuden kehittämiseksi. Haastattelun rungon muodosti valittu toimintamalli ja loppu haastattelu toteutettiin avoimena.

Selvityksen tuloksena oli, että vaikka Suomessa sairaalahenkilökunnan kohtaama henkinen ja fyysinen väkivalta on yleisesti tiedossa, vakavan väkivallan uhka on vielä vähän tutkittua, todennäköisesti koska sitä ei ole vielä Suomessa juurikaan tapahtunut. Asiaan perehtyneet henkilöt ovat kuitenkin tietoisia sen mahdollisuudesta ja tiedostavat kehitystarpeen toimintamalleille. Selkeät toimintamallit, jotka sopivat useampaan kuin yhteen mahdolliseen tilanteeseen, ovat maallikoille helppo ymmärtää ja minimoivat virheellisen toiminnan mahdollisuuden. Turvallisuus johtamisella, henkilöstön kouluttamisella sekä viestinnällä ja tiedottamisella voidaan kehittää sairaaloiden turvallisuutta, ylläpitää tavoiteltua turvallisuustasoa sekä parantaa turvallisuuskulttuuria.

Avainsanat: sairaalaturvallisuus, työturvallisuus, varautuminen, turvallisuusjohtaminen, turvallisuuskulttuuri

Table of contents

1	Introduction	6
2	Theoretical background	6
	2.1 Operating environment	8
	2.2 Existing operating model/guide	9
	2.3 Cooperating organization	9
	2.4 Research question and objectives	9
3	Theory	10
	3.1 Hospital safety and security	11
	3.2 Severe violence in hospitals	12
	3.3 Safety culture	13
4	Methodology	14
	4.1 Literature review	15
	4.2 Interview	18
5	Results	20
	5.1 Operating model	20
	5.2 Development methods for hospital safety and security	22
	5.2.1 Security management	23
	5.2.2 Training	23
	5.2.3 Communication	25
6	Conclusion	26
	References	28
	Figures	31

1 Introduction

Workplace violence is the second most common in social and health care sector, right after security sector (Statistics Finland). Mild violence, especially threats and verbal abuse is common in hospitals and health centers. Severe acts of violence or threat of them is still rare in Finland, but even last year these threats were made to hospitals around Finland. Because workplace violence that health care professionals are facing has been extensively discussed in the media, organizations have started to invest in its prevention. A number of studies and operating models has been done regarding the subject, mainly considering mild violence. This thesis focuses only on particularly severe violence and its encounter.

General security management in hospitals, legislation and safety culture formed the main theoretical concepts of this thesis. Especially development of safety culture and communications rose as important preparedness methods. While the legal requirement for this subject remain low. However, a good security management motivates personnel to take into account the security requirements the above law.

The probability of severe violent attack to a hospital in Finland is so far minor, but its consequences even more crucial. Serious violence in this thesis refers to the kind of violence that could results in a loss of life or business interruption. The study has been limited to consider only emergency hospitals, so that the operating environment remains fairly similar. Hospitals as part of the critical infrastructure and preparedness as part of good security management set the foundation for this thesis.

The objective of this thesis is to develop operating model for hospitals encountering severe acts of violence through literature review and interview methods. The results obtained from the study also created potential development proposals to improve hospital safety and security.

2 Theoretical background

The theoretical background of this thesis is formed in interface of legislation, safety culture and security management. Legislation defines the basis by establishing the limits and minimum requirements for safety and security. Even though legislation requirements are fairly low for surprising and unpredictable events, changes in society and public pressure on safety and security of hospital personnel set security management and safety culture development on a spotlight.

Occupational Safety and Health Act (2002/738) and Rescue Act (2011/379) create the basis for this thesis. According to the Occupational Safety and Health Act employer is required to prevent the possibility of violence at work and threat of it as far as the threat is obvious. Occupational Safety and Health Act, in addition to preventive work, requires employer to draw operating models for situation management. One of the main responsibilities of the employer is to assess the occupational hazards. This creates the very base of this thesis and its objectives. Even though the focus of this thesis is not on preventive work, its importance cannot be ignored when talking about. Occupational Safety and Health Act also set responsibilities for employees. Employee is responsible to report any grievance to the employer and remove it if possible. This kind of reporting may partly prevent severe violent situations, but its implementation requires a good safety culture in an organization.

Rescue Act (379/2011), “the owner and occupants of a building and the business and industrial operators shall for their part... take measures to ensure safe exit during fires and in other dangerous situations and to facilitate rescue operations”. In this thesis emergency exits, and their availability, are especially in a key role. The owner and occupants of a building and business and industrial operators should ensure the efficient availability of emergency exits. They should be kept free at all times and not be used for storage of any good. If necessary emergency exits should be properly indicated and lit.

Occupational Health Care Act (1383/2001) promotes health and safety of the work and the working environment. Occupational health services also assess the threat of violence as well as presents and monitors the implementation of the draft measures against it. Other legislation workplaces from the personal safety point of view are The Criminal Code of Finland (39/1889), The Public Order Act (612/2003) and Coercive Measures Act (450/1987).

Assessment of motives behind severe violent attacks towards hospitals, or generally, has been various. Finnish study “Why youth kill?” (Mankkinen etc., 2002) researched structured homicides done by juvenile over ten years. The study found that substance abuse, victim and offender relations and exclusion or other mental health problems in many cases are at least one of the triggers. These triggers have not been found to change in other studies as the age of the offender changes. Only this assertion shows that motivation is widely diverse in severe acts of violence, which creates a problem in prevention of these acts. This difficulty of prevention lays the foundation for this thesis and development of operating model for hospitals facing severe acts of violence.

Safety and security, and its expertise, is comprehensive through the entire organization’s activity. Responsibility for the safety and security is not only on the shoulders of the designated safety organization. Security management is organizational systematic preventive work to

protect people, the environment, property, information and reputation aimed damage. Security management is strongly linked to the organization's strategy and operational activities. It has to always reflect the organization's own strategy, operations and objectives, although there are several general guidelines. Security management should be proactive and reactive. (Lanne 2016.) Creating safety culture is part of well-organized security management. Safety culture is reflected in the organization's basic values, norms, assumptions and expectations (Työsuojelu webpage, 2017). Safety culture has also a substantial impact on the organization's corporate safety image. Security image influence is haphazard. Only by conscientious actions and communication created safety image is not credible. Therefore, the generation and development of a safety culture is important in order to service users to obtain genuine safety image on the organization. (Hjelt-Putilin 2005, 16-17.)

The following chapters will present how the operating environment was delimited on this thesis, what the already existing guide includes and how this thesis aims to develop it.

2.1 Operating environment

The NATO uses definition that critical infrastructure consists of those instruments and equipment, services and information systems, which are so vital to the nations that their incapacity or destruction would have a debilitating impact on national security, the efficient functioning of the economy, public health and safety, as well as the state administration. Hospitals, healthcare centers and other healthcare facilities are part of critical infrastructure, and should be able to ensure their most critical operations and be able to restore quickly even after disturbance.

Finnish constitution (731/1999) determines that every citizen has equally legitimate right to sufficient social security and health care. Because this thesis is limited to emergency hospitals only, this constitutional fact compounds them together. All the hospitals have the same fundamental necessity to treat any patient. These together create diverse operating environment, which yet has enough similarities and same the operating model can be implemented to each.

Emergency hospitals are a challenging environment in terms of safety and security. And as a part of critical infrastructure, preparedness and preventive work is crucial to part of the safety and security strategy.

2.2 Existing operating model/guide

This thesis was originated from the client's, HUS, desire to develop and create operational models for severe violent attacks in emergency hospitals. Hospitals are diverse and challenging environment in terms of safety and security. HUS has been developing and improving their guidelines and operating models through the years for workplace violence. They already have an existing guide and operating model for encountering and prevention of workplace violence.

The existing guide/operating model is very comprehensive and versatile. It includes legislation, statistics, practice from situation to aftercare, reporting and plenty of other useful information. In that guide the focus is more on the actual facing of the violent attacker or receiving a threat on individual level and therefore the focus of this thesis is more comprehensive, where the operating model is intended to influence the entire ward/hospital facing the attack.

2.3 Cooperating organization

The main cooperating organization on this thesis is the Hospital District of Helsinki and Uusimaa. HUS is a hospital district formed by 24 municipalities in Uusimaa province in Southern Finland. HUS provides access to specialized medical care to over 1,6 million (2015) citizens of these municipalities. Also as a part of HUS is Helsinki University Hospital which is responsible for treating severe and rare illnesses nationally.

HUS has been divided into five hospital areas; Porvoo, Lohja, Hyvinkää, Länsi-Uusimaa and Helsinki University Central Hospital. Most of the HUS hospitals are located in Helsinki area, mainly in Meilahti. In 2015 HUS had nearly 500 000 individual patients and over 20 000 professional as employees taking care of them. Almost 85% (2015) of the employees are women. (HUS webpage 2016)

HUS has several subsidiaries taking care of supporting services for the hospitals. HUS Real Estate Ltd. is centrally responsible for providing security services for the district. (HUS Real Estate Ltd. webpage 2016)

2.4 Research question and objectives

This thesis was originated from clients, Helsinki and Uusimaa Hospital District, need to develop and generate new approaches for facing severe violent attacks at emergency hospital environment. Finland has been for years among the top countries in several studies for the world's safest country. The objective of Finland's internal security strategy is to be the

world's safest country to live, entrepreneur and work. But if Finland has already reached recognition for its safety as a nation, why does it need developing? Preventive work and preparedness are key elements for reaching and obtaining certain level of total safety and security.

Severe acts of violence in hospital environment have mostly remained on threat level in Finland so far, but internationally in The United States and elsewhere in Europe these incidents have already taken place, for example twice in Germany in Lörrach 2010 and Berlin 2016. Preparedness and developing safety and security are part of well-organized security management.

For previously mentioned reasons in this chapter, the objective of this thesis is to generate and develop functioning approach methods for facing severe acts of violence in emergency hospitals. The objective of this thesis is to develop the already existing guide for encountering and prevention of violence at work to reach severe violent attacks as well. The existing guide focuses on the threat of violence in its minor forms and more on individual level. The objective of this thesis is to develop an operational model for the severe violence. This model also aims to be more concerned throughout the hospital or department activities rather than focusing on individuals. This thesis presents the operating model and development methods for hospital safety and security considering severe violence. The result of the thesis presents the chosen operating model and its practices. At the end of the thesis pondering of the possible ways to improve hospital safety and security more generally through security management, safety culture, as well as communication.

This thesis does not take a position on how violence can be prevented. The final result is a purely operational model for situations that are already in progress. The starting point for this thesis at the beginning, however, was preparedness and needs assessment for this type of operating model to be implemented into the hospital environment.

3 Theory

Following chapters will go through basic theoretical concepts of this thesis. All these concepts are linked to the subject and support the results. First concept presents the extent of comprehensive hospital safety and security. How many sections it consists of and how they are linked together. Even though this thesis only consider parts of that whole field. Second concept goes through severe violence and the meaning of it in this process. It separates the minor violence that is extensively in the media nowadays from the extreme severe violence, which has remained rare so far. Last chapter will explain the idea of safety culture and how crucial it is in order to gain absolute or desirable safety and security level.

3.1 Hospital safety and security

In HUS's annual report 2012 security manager Aaro Toivonen has said, "safety and security is an absolute requirement for hospital operations". In the same report he also said that security guards should not be the first and only solution to solve complications. Hospital safety and security is large complex with number of different areas that should work together. Safety and security is everyone's business.

Confederation of Finnish Industries has published "a corporate security pie" (figure below modeled by EK's). It presents all the areas of corporate security and how they intertwine. Risk management is surrounding the entire field of corporate security. These measures are aimed to protect the organization's personnel, reputation, information, property and the environment. Recognizing threats, estimating risks and preparedness are key elements to a well-planned corporate security. (EK webpage 2016)



Figure 1: Corporate Security (modeled after EK)

From the figure above the smaller circles physical security, preparedness and crisis management, rescue safety, personnel safety, work safety and production and operational safety are at the main focus on this thesis and its results.

Physical security aims is to create interference free and safe working environment, as well as prevent the organization's valuable information or material from theft. With preparedness and crisis management organization aims to identify and anticipate the unexpected situations and to protect from them as efficiently as possible. This is strongly linked to the planning of business continuity and security of supply. Rescue safety refers to the prevention of fires or other accidents, as well as the rapid and proper response in case of an accident. Personnel safety is designed to ensure the security and resilience of the people by protecting them from crime and accidents. In addition, safeguard the organization's human resources that are critical to the operations. The objective of occupational safety is secure work, the welfare of employees and through that formed good and responsible corporate image. Occupational safety is regulated through legislation. Objective of production and operational safety is to ensure safe products and services. (EK webpage 2016)

All together hospital safety and security, like any other corporate security, is extensive field, which require expertise in total safety and security. Well-planned strategy and risk management, together with security management create the base and guidelines for hospital safety and security. By creating safety culture and having everyone committed to these guidelines is crucial in order to gain business continuity, total safety and security and compliance, which are all major areas in hospital industry. Purpose-built security management and training methods are methods to increase hospital safety and security (Komokallio, interview).

3.2 Severe violence in hospitals

In this thesis severe violence refers to the kind of violence, which could result in loss of life and disruption of business. Violence may be carried out by a patient, relative, employee, or by any other person. Violence can be aimed to a particular person or on the entire organization. Implementation of the violence does not matter. However, it is good to take into account that method of implementation may affect the operation over the situation.

In recent years, Finland has been publishing reports about a number of threats or threatening situations in hospitals. For example gunman at emergency room in Jorvi, Espoo (Dec. 2011), bomb threats by telephone in Satakunta, Turku, Oulu, Tampere, Harjavalta and Eura (Aug. 2016). All these cases stayed on a threat level, but launched actions in all hospitals.

Instead, for example, in Germany there at have been at least two (Lörrach 2010 and Berlin 2016) fatal serious act of violence in hospitals in recent history. In Berlin, a patient shot his doctor and himself. In this case the act may be considered targeted. Motive not known. In Lörrach, the shooting was triggered from family dispute. Women shot two people on her way

to the hospital and one inside the hospital. Police shot the women. Even in this case, the motif is not known, nor was the hospital as a target for some reason or random attack.

Serious violence, in particular, is therefore difficult to predict. Of course, as with all other violence faced by hospital personnel, there are also cases that are predictable and therefore can be prevented. It requires communication and functional reporting model. For violent behavior there are many predisposing factors. Such factors may be for example the biological foundation, personality and mental health disorders, life conditions, jealousy or substance abuse. Violence occurs in all social classes. (Etelä-Pohjanmaa hospital district and The Family Federation of Finland webpages.) For the above-mentioned reasons, the violent person and the triggering cause can be difficult to predict. All do not respond to these stress factors in the same way.

3.3 Safety culture

Safety culture is a phenomenon. Organizational processes, social processes and psychological experiences through those processes create safety culture. (Reiman etc. 2008, 3.) This is one way to define safety culture among others.

In social and health care safety culture can be considered as follows, among the members of the organization's safety is truly valued, risks related to the operation are actively understood and prevented as possible. Security and safety are understood to be a comprehensive systemic of the organization. It is important to experience the effect of the ability and responsibility in the development of safety and security. (Pietikäinen etc. 2008, 3)

Hospital operations are part of critical infrastructure and disturbances to their business continuity might have severe consequences. This is why safety culture is important at organizations such as hospitals. Safety culture is also a separate subject from common safety and security and also sense of safety/security. Organizations may have good organizational safety and security but lack in safety culture and the other way around. In both cases it is possible to retain certain level of safety and security, but in the long run it fails to the lack of collaboration of these two. Sense or feeling of safety/security is fundamentally a good thing, but false or pretended sense of these may cause carelessness, which is bad for safety culture and may cause relapses on organizational safety and security. (Reiman etc. 2008, 82-84)

From the point of view of safety culture it is important to understand who in the organization is responsible for the safety and security. (Reiman etc. 2008, 84.) It should not be just the management or administration level. They plan, create and develop the guidelines for the

organization, but safety culture is part of developing and retaining the level of safety and security that has been reached.

In other words safety culture is observing and paying attention to you surroundings and work environment, and communication.

4 Methodology

The following chapter will go through the idea on how this thesis is approached and what is the outcome of the process. It will also present the used methods and why they were used. Chapters will go through the implementation, processing and outcome of the empirical data collection.

This thesis has been made at the interface of functional and a research thesis. The aim of this thesis is the development of already existing guide, which makes it functional thesis. But the used research methods for the empirical data collection are research thesis based. Research data collection method is more qualitative than quantitative.

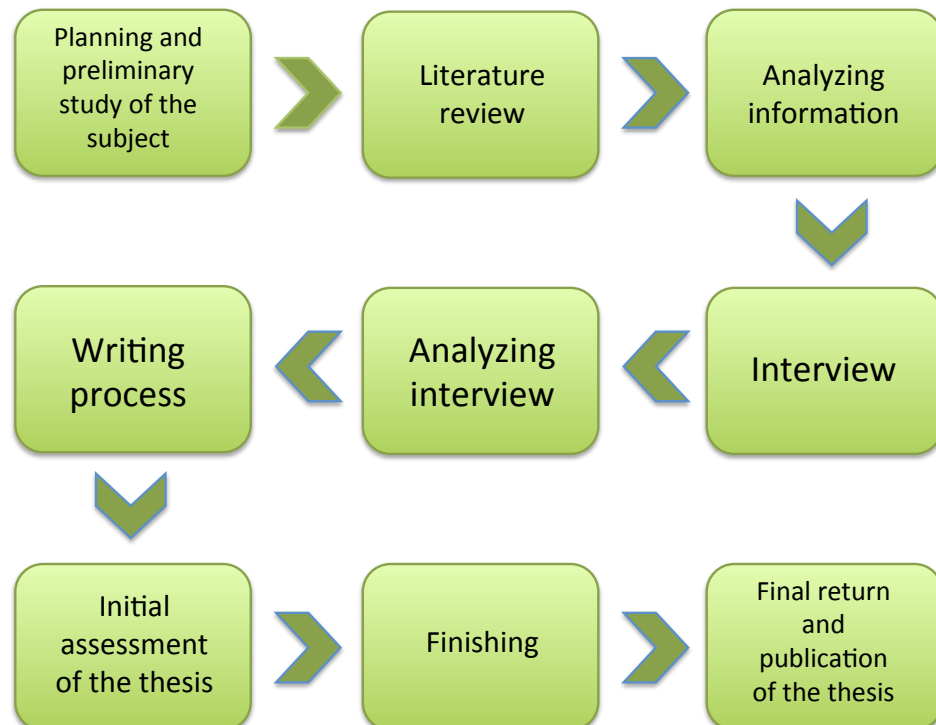


Figure 2: A process diagram

Two different methods, literature review and interview, were used for the empirical data collection of this thesis. The main method was literature review. This review gave a thorough view of the current state of preparedness for severe violence in hospitals. Most of the used articles are not Finnish articles, mainly for the reason that specialists in Finland haven't studied this problem as much. The U.S. and British experts are more familiar and specialized in this field. Also they, sadly, have more practical knowledge, since these types of incidents have happened globally.

For the reason mentioned in previous chapter, that Finns are not specialized on this field yet, data collection only included one interview. This interviewee was chosen for his knowledge on hospital security and authorities. The idea of the interview was to understand the needs for smooth cooperation between hospitals and authorities in severe violent attacks.

The next chapters present in detail the used methods of this thesis. It will explain how the data were collected through literature and interview, and how the received data and knowledge were analyzed.

4.1 Literature review

Literature review creates the theoretical basis of the thesis. The idea is to present the point of view and how the subject has previously been studied, as well as how this research intertwines with the previous studies. Literature review must seek to bring out the main points of view, methodological solutions, main research findings and leading researcher names. (Hirsjärvi etc. 2004, 111-113.)

Literature sources were aimed to gather from a very wide range of studies, guides, books and articles. Literature was selected from publications in many fields, however, that the information was felt to be appropriate or applicable to hospital environment as a part of the critical infrastructure of society. Next is presented the main sources of literature and information obtained from them. These three sources gave the most basic knowledge needed for this thesis.

Turvallisuutta kaikkien parhaaksi - toimintamalli työpaikkaväkivallan ehkäisyyn ja kohtaamiseen (HUS, 2010)

This original guide for preventing and facing violence at work by HUS can be considered as the most important literature source for this thesis. The guide was published in 2010 and is written fully in Finnish.

This guide gave through view of the current used approaches at the client's use. It is very clear guide for what purpose it was developed and on which basis. This guide helped to understand the development needs and requirements for different approach methods. Since the original guide is aimed for more minor violence and actually being face to face with it, this thesis focuses more on the comprehensive actions during the attack.

The guide goes through legislation rather thoroughly, which gave this thesis a good starting point to look at the subject from legislative point of view. The guide gave a good view of the legislative requirements, or the lack of them, considering the subject. The legislation read from the guide and further reading about the legislation considering occupational safety gave a strong basis for the whole process and part of the theoretical background.

Sisälle suojautuminen oppilaitoksissa (Ranta, Tiina & Martikainen, Soili (2016) Laurea University of Applied Sciences)

This guide was recently published by Laurea University of Applied Sciences and is written by the safety director of Laurea Tiina Ranta and her colleague Soili Martikainen. The guide is written fully in Finnish. The guide is written for educational institutions for indoor sheltering in dangerous situations. The guide is targeted to a very different environment than what this thesis deals with, but it still has some basic ideas about human behavior in stressful situations, risk-based thinking and the needs for indoor sheltering.

Because the guide is written to be compatible in educational institutes, it is not completely consistent with the philosophy of this thesis. However, this source gave very useful information into the need for indoor sheltering, as well as human behavior in stressful situations.

Guide considers indoor sheltering more from the point of view accidents, for example, fires or dangerous substances and touches only a slight threat of violence as the reason for indoor sheltering. The basic idea of the need for indoor sheltering, however, is a good herein. The indoor sheltering should never happen for no reason or if exit or escape is possible. Always, if possible, exiting away from the threat or danger.

The beginning of the guide also went through human behavior under stressful conditions, and in particular elements that control escape route selection. People have been found to use the same routes in case of emergency as they have coming to the building. Ignorance of the emergency exits creates fundamental problem in an emergency for the right kind of operation.

Turvallisuutta viestinnällä (Hjelt-Putilin Paula (2005) Helsinki. Edita.)

A number of literary sources, as well as an interview for this thesis gave the thought of the importance of communication. Communications and its implementation will affect almost all that this study concerns. This book is written about communication in challenging customer service situations. It's written fully in Finnish.

Although the book subheading could give the understanding that it is aimed only to communication in service situations, in reality, it produces a much wider picture. Paper runs through communication broader on security management perspective to challenging customer situations at the individual level. Book discusses the importance of communication for the organization's security from different angles, such as security image or motivation and commitment.

The sixth paragraph of this study goes through communication further from the perspective of the development of safety and security at hospitals.

For the operating model development, the most important literature source was the NCPP webpage. This UK based website and their "Stay Safe" program offers general guidance for firearms and weapons attacks. The website has a significant amount of videos, posters, and reports about the operating model. The site uses precisely the same operating model as in this thesis.

Other literature sources were narrower news about severe violence in hospitals, safety culture articles and studies, security management literature. Also reviewing of guides, teaching materials and videos about the operating model for emergency situations, especially considering violent attacks. Legislation is an important foundation for this work, and to create a framework for the thesis the following laws were studied:

- The Constitution of Finland (1999/731)
- Occupational Safety and Health Act (2002/738)
- Rescue Act (2011/379)
- Occupational Health Care Act (2001/1383)
- The Criminal Code of Finland (1889/39)
- Coercive Measures Act (2011/806)
- Public Order Act (2003/612)

4.2 Interview

Researcher role while doing the interview is to convey the interviewee's own thoughts, perceptions, experiences and feelings of the subject. The simplest way to determine the interview is to name it a conversation with a pre-determined purpose. An interview aims to gather information and is therefore a pre-planned goal-oriented activity. (Hirsjärvi & Hurme 2000, 41-43.)

Research interview differences arise mainly from the degree of structuring. How closely the questions are formulated and the extent to which the interviewer parses the situation. Interview excluding formal interview (formal or fully structured interview) can be roughly classified as a semi-structured or unstructured interview. Unstructured interview is used to open-ended questions and the interview's course is influenced by the interviewee's answers. Interviewees are not chosen randomly, but based on their expertise. In a semi-structured interview, the question frame is planned, but the questions are not tied to certain responses. (Hirsjärvi & Hurme 2000, 43-48.)

The interview for this thesis was implemented as a focused interview, which is a form of semi-structured interview (Hirsjärvi & Hurme 2000, 47). The interview also includes elements of unstructured interview as the interview might differ considerably from the frame depending on the interviewee's answer to the question. This method was chosen because of the only one interviewee on this thesis and the aim to get as much information as he knew. The purpose of this interview on this thesis process is more qualitative. The interview was done on May 3rd 2016.

One interviewee was chosen for this thesis for his knowledge on hospital security and authorities. He currently works at the Eastern Uusimaa Police Department as a sergeant and specialist. Previously he has done a fixed-term at Tampere University Hospital as a security manager. Before he took a break from his job at the police he was chosen as the police officer of the year 2002. He had been developing operational management at the police.

The basis for the interview frame was formed from the following elements:

- The chosen operating model
 - Practical point of view
 - The situation management
 - Co-operation with the authorities
- Communications
- Safety and security development methods

The data were analyzed at the interview stage, in order to strengthen and clarify the interpretation of the interview. Afterwards the gained material was transcribed in spoken language. This material was analyzed theme based and after observation the following themes were found to be essential:

- Situation assessment
- Layman-oriented thinking
- The (situation) management
- Training

Layman-oriented thinking rose as a very strong theme throughout the interview. It is good to remember that these people who are supposed to use the planned operating models are health care professionals, not security professionals. First thing that rose to the conversation about this subject was usage of codes and periphrases, instead of actual speaking. A complex set of codes can cause confusion for the layman and raise the possibility of incorrect operation. Prefer to talk with the actual meaningful words.

Other important thought considering layman during the interview was the amount of different operating models and guidelines. Clearly and visibly presented operating guidelines, which can be read quickly by browsing. Minimum number of guidelines that are written in brief and plain language.

A critical assessment of the initial situation. In each threatening situation of violence should be able to make the initial assessment of the criticality of the situation. Based on this assessment determine which operating model will work. Often severe violence situations are very time-critical and there is no time to waste. Accurate, detailed and timely information is critical for authorities. Assessment of the situation at the beginning is also essential in order to avoid unnecessary actions and ensure business continuity without unnecessary disruptions. Evacuation facing away from threat and out of the building using emergency exits is always preferred approach, but especially in a hospital setting unnecessary evacuation is transmitted. Indoor sheltering is the option for exiting when safe evacuation is not possible.

The situation management in the end is with the police, but the police are rarely there at the initial situation. Then situation management is required at the location. Chapter six of this thesis will present more specifically the points considering security organization development and training in hospitals that came up at this interview.

As a conclusion for the interview, it gave a perspective on the practical issues regarding the operating model and the development of hospital safety and security.

5 Results

The following chapter will go through the findings of this thesis. The operating models and the theory and practice of it. Discussion of the usage of the operating model follows the actual presentation of it. It will also present the possible development methods that arose during this thesis process.

5.1 Operating model

“What is meant operating model? Operating model is the human internalize overall collection of rules or guidelines, which allow to predict, interpret, explain, communicate and behave in accordance with the obtained information.” (Hjelt-Putilin 2005, 48.)

There are several methods to encounter extreme severe violence in hospitals. In this chapter is presented the one that was chosen as the most suitable method for Finnish emergency hospital environment.

The method was chosen for its suitability for most cases of severe violent attacks, which decreases the number of different instructions. It is also protean in a way that it gives options depending on the situation during the attack. Phrase “less is more” apply to this scenario as well. Operating model is designed to be simple, but comprehensive.

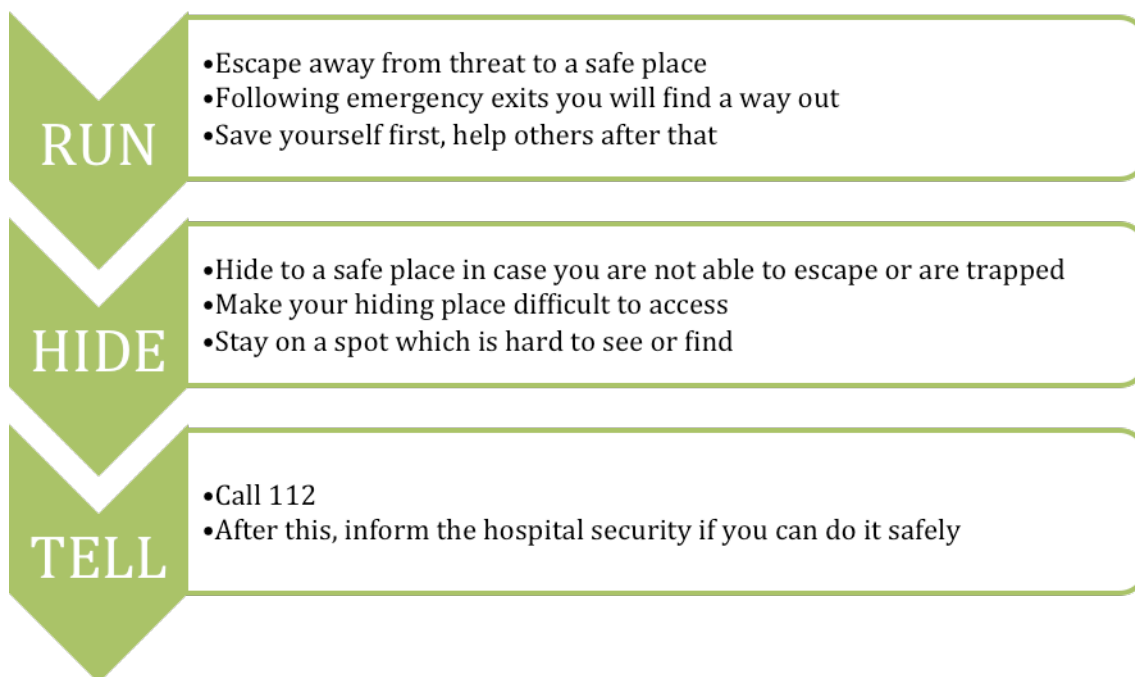


Figure 3: Run - Hide - Tell model

The figure above presents the model called Run Hide Tell. It is a very commonly used model around the globe, especially in the UK. The National Police Chief's Council in the UK has presented Stay Safe program for firearms and weapons attacks, which includes this model if facing the attack. (NPCC web page.) The following chapters present all the phases of the model in detail based on the theme interview and discussions with hospital security specialist.

First phase of the model is run. It literally means to retreat from attack. According to the specialist interviewed for this thesis the safest instruction is to always retreat away from the danger and using emergency exits if possible. It is important to get yourself into a safe place first and then helping other if possible. Directing and instructing mobile individuals is recommendable, but immobilized and stagnant individuals should be left behind at this point. (NPCC webpage 2017.) At this stage, natural human behavior and escape route selection becomes the challenge. In escape situation, the decisions of the close intimate group or the majority of masses impacts the human choice of route. Also the stress and panic can weaken the ability of human perception in such a situation. Studies show that in emergency situations people usually choose the route that they are already accustomed to using, for example, the main door, even if it is not sensible or safest choice. (Ranta & Martikainen 2016, 11-14)

Second phase is supposed to be, in most cases, an option for "running", if person is not able to safely retreat away from the attack. At this point hiding is the second best option what to do. The hiding place should be somewhere not easily accessible. Locking the door behind, moving heavy furniture in front of the door or blocking the door with a stick; anything that

will slowdown the attacker at the door. If it is a non-targeted, random attack, the attacker will not take the time to break through. While hiding, remaining hidden is important. Covering bedridden patients with blanket, putting mobile patients and yourself away from windows or any other line of sight. (NPCC webpage.) As stated in the first paragraph of this chapter, the basic problem of human behavior creates challenge for this phase also. People may shelter indoors unnecessary only because they are not capable of choosing secure escape route even if it is available.

Emergency call should be made to an emergency call center first. It is important to get the authorities notified on the situation as soon as possible. The people in the attack area have the most knowledge and exact timely information that is crucial for the authorities. After the emergency call, if it is safe to notify the security at the hospital, it should be done. Doing the previous phone calls in another order slows down the process of getting help. (Komokallio, interview.)

The hospital security department, together with authorities, will start the necessary processes from here on. Full or dynamic lockdown and evacuation are possible actions depending on the type and location of the attack. (NPCC webpage.)

However, it is good to mention with the words of Ranta and Martikainen (2016, 7) that in the most extreme acts of violence there is no one approach, but one single principle: always away from the threat.

This operating model is aimed to be used at emergency hospital environment. It is developed to save lives and enable business continuity even after the initial attack. In addition to this approach hospitals would be advisable to examine their own physical security solutions, for example, in order to prevent the movement of the attacker by dynamic lockdown would be possible in all departments.

This operating models does not take into account the actual facing of the attacker. HUS already has a instruction for it (in the existing guide). Even in this circumstance, the first objective is to escape away from the attacker. In this situation human would have to be able to choose the right methods to obtain the objective.

5.2 Development methods for hospital safety and security

These following chapters will go through the possible improvement methods for hospital safety and security by pondering. All of these methods are very ordinary methods in process of improving security in corporations in general. The methods are explained here based on the

operating environment, hospitals. The knowledge of these methods and their improvement effect on safety and security are based on the expert interview done for this thesis and other discussions on this subject and corporate safety and security improvement in general. All of these methods have effect on several sectors of corporate security and organizational levels. They are naturally all linked to together and present their maximum effect only if all the sectors are developed.

Even though the actual purpose of this thesis is not to take position on the prevention of violence in any way, because of it's remarkably multifaceted backgrounds, some general and preventive issues of hospital safety and security stood out during the process that should be brought up in order to gain widest possible usage for the thesis. No operating model in the world is so good, that it would act in the desired manner without the successful practical implementation of the desired environment. For this reason is presented the following development proposals that specifically support the practical implementation of the business model and motivation of employees to commit to the instructions created.

5.2.1 Security management

Security management is a comprehensive and goal-oriented work to maintain and improve the safety and health at work, working conditions and working environment. Security management is like business continuity planning. It targets to prevention and harm minimization.

The main factors of security management are organizing and implementing security management in the organization. It is also generating and maintaining security policies and processes. Legislation (Occupational Safety and Health Act 2002/738) determines the minimum for security management.

Preparedness in order to obtain the objected level of safety and security as well as for the possible threats and dangerous situations is considered as wise and realistic attitude. As part of this, security management communications should be multi-dimensional and not just one-way. (Hjelt-Putilin 2005, 15-16) Safety and security is everyone's issue through the organization chart.

5.2.2 Training

Ensuring excellence at work is part of security management and training is part of ensuring it. Assessments of the compatibility and good safety culture are essential to functioning working community, but implementing and training the used procedures and instructions are the only key to real learning.

In large organization, such as HUS, where the number on personnel is close to the population of small municipality, it gets difficult to train and maintain the skills on face-to-face training. This was one of the challenges of this thesis, how to implement the produced guide to personnel. Expert interviews and other discussions with people in the field gave ideas of how the training could be implemented in large organizations.

Motivated and safety and security orientated personnel is a channel to improved safety culture and to maintain the intended level of safety and security at work. If every department/unit in every shift had on person “in charge of safety and security” that could be more trained to the subject than others. The person would not have to be superior to the other in any way, but someone who is motivated to maintain, improve and develop the safety and security at that department/unit. For example on cruise ships there are usually regular personnel trained for specific tasks to assure the security and safety during the cruise and they are alerted if they are needed. Of course the actual help is closer at hospitals than on cruise ships, but the person could help with general understanding of the guidelines, communication and development proposals to take forward.

That still leaves a large number of personnel untrained. And those few people in charge of safety and security in their own department/unit cannot train the rest of the personnel. Online training could be useful tool to train and update the training for large organizations. Of course everything cannot be trained remotely, which is why face-to-face training should be arranged for the entire personnel, but online training could give tools to deepen and maintain the learned skills.

All in all basic face-to-face training for the entire personnel, which would review general safety and security guidelines and processes. Then the chosen voluntary personnel in charge of safety and security at their own department/unit would receive advanced training on maintaining and developing security and safety at work. This training would be updated yearly or even more often if possible. All personnel would receive advanced and updated training regularly through the online training system.

In large organizations even the above explained training system is not easily implemented, but it is still easier than face-to-face training and would get personnel more motivated and aware of safety and security at work.

5.2.3 Communication

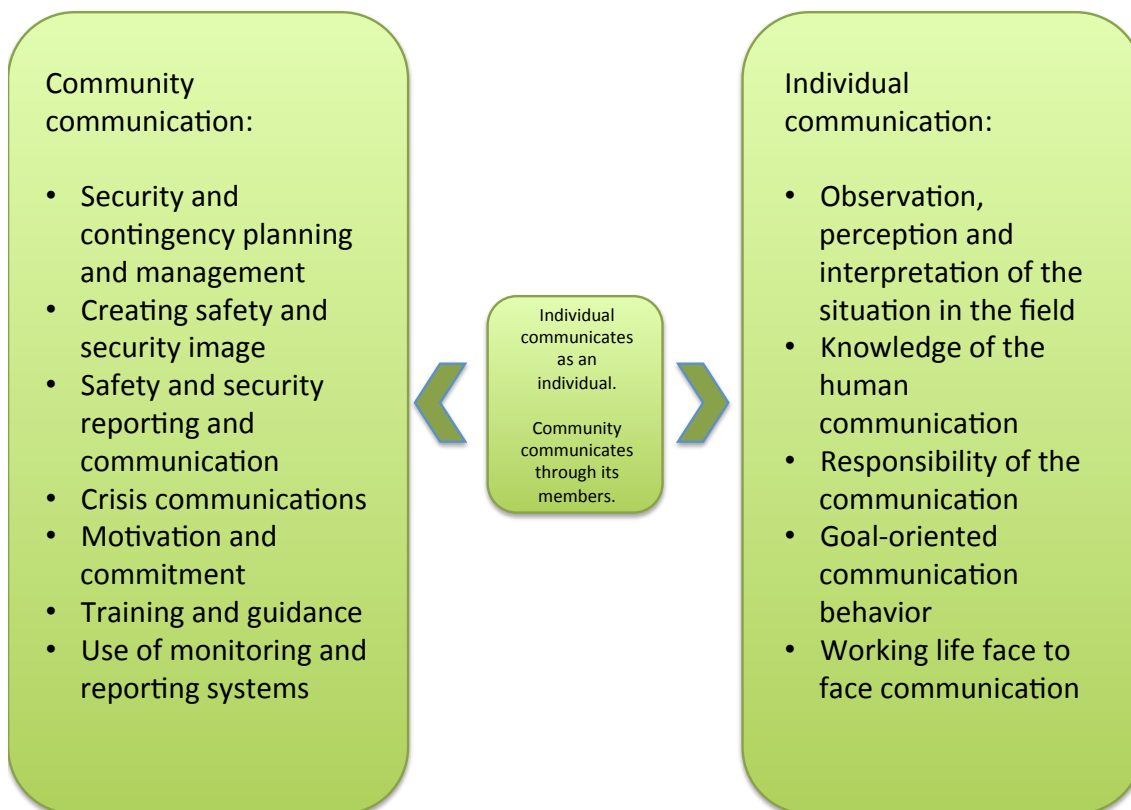


Figure 4: Communication diagram (modeled after Hjelt-Putilin)

The above-presented figure illustrates the need for communication at workplaces in order to improve safety and security. Security can be invested through technology, access control, security guards, strategies or self-defense training for example. But correctly used communications and interpersonal skills are essential part of safety and security knowledge, which can improve individual and organizational safety and security. (Hjelt-Putilin 2005, 8)

From the organization's point of view, security communications main pillars are: content coverage, target group coverage, focusing on the essentials, the directionality with the objectives, correct methods and implementation, the correct timing, good communication skills, the target group perspective, an information chain is not interrupted and nothing is considered to be granted. By fulfilling these requirements for communications, organization has already reached a good level on safety and security communications. Neutral management of the communications is also beneficial for the safety picture of the organization. (Hjelt-Putilin 2005, 15-24.)

Motivation and commitment of the personnel is the responsibility of organizations, regarding communications as well as training and guidelines. A good way to implement this is through

argumentation that is based on the values, needs and goals of the work. (Hjelt-Putilin 2005, 22.)

Individuals communicate and interact to control situations. However, communities communicate through its members. This is why the individual should understand their responsibility communications. Individuals should have an understanding of themselves as communicator, as well as the objective of the communication. Non goal-oriented and inept communication can trigger wrong kind of reactions on the counterparty. (Hjelt-Putilin 2005, 24-28)

Good communication climate is the foundation of a safe workplace. Good communication climate conditions also provide premise for safety and security communications. Responsibility for the development of communication climate with the both, community and individuals. Openness, trust, social support and caring are perceived as the most important factors of communication climate development. (Hjelt-Putilin 2005, 74-75)

6 Conclusion

The objective of the thesis was to develop and improve operating models for severe violent attacks at emergency hospitals. The thesis resulted in operating model, which is suitable for most violent attacks hospitals may face. The presented operating model allows the conductor to choose the most suitable activity for their situation, but is at the same time so simple that it is easy to implement even in a stressful situation. Presenting only one operating model aims to reducing unnecessary operating instructions, which may decrease the possibility of erroneous activities.

In addition to the actual operating model, the study succeeded in drawing attention on major development proposals to improve the safety and security of emergency hospitals. Development proposals presented safety management, training and communications.

The thesis approached the matter with a slightly different perspective than most of the other studies of the same area. This thesis was purposely focused on fairly narrow well-defined area, particularly severe violence. However, the area is not limited to only certain kinds of violence, but to all kind of severe violence, which results in the loss of life or business disruption. This gave a different perspective that approaches the restricted subject broadly but simply. Thesis aimed at layman oriented thinking, which created operating models specifically to the use of the laymen.

Presented operating model was planned to fit universally to all emergency hospital environments. This fact makes the operating model very practical to be used in almost every hospital

(excluding closed hospitals). In practice, implementing the operating model requires mainly training and knowledge of the hospital's emergency plan, in order to make the escape route selection is possible.

In this area, severe violence in hospitals, there is room for further research. A challenge of this thesis is the lack of practical research. Further research in mind, a very practical and very functional research approach with particular focus on the operating model has demand.

References

INTERVIEWS

Komokallio, Jussi (2016) Interview. 10.3.2016.

LEGISLATION

Coercive Measures Act 22.7.2011/806

<http://www.finlex.fi/fi/laki/kaannokset/2011/en20110806.pdf>

Occupational Health Care Act 21.12.2001/1383

<http://www.finlex.fi/fi/laki/kaannokset/2001/en20011383.pdf>

Occupational Safety and Health Act 23.8.2002/738

<http://www.finlex.fi/fi/laki/kaannokset/2002/en20020738.pdf>

Public Order Act 27.6.2003/612

<http://www.finlex.fi/fi/laki/kaannokset/2003/en20030612.pdf>

Rescue Act 29.4.2011/379

<http://www.finlex.fi/fi/laki/kaannokset/2011/en20110379.pdf>

The Constitution of Finland 11.6.1999/731

<http://www.finlex.fi/fi/laki/kaannokset/1999/en19990731.pdf>

The Criminal Code of Finland 19.12.1889/39

<http://www.finlex.fi/fi/laki/kaannokset/1889/en18890039.pdf>

LITERATURE

Hirsjärvi, Sirkka & Hurme, Helena (2000) Tutkimushaastattelu. Teemahaastattelun teoria ja käytäntö. Helsinki: Yliopistopaino.

Hirsjärvi, Sirkka & Remes, Pirkko & Sajavaara, Paula (1997) Tutki ja kirjoita. Helsinki: Tammi.

Hjelt-Putilin, Paula (2005) Turvallisuutta viestinnällä. Kommunikaatio haastavissa asiakas- ja palvelutilanteissa. Helsinki: Edita.

Juholin, Elisa (2008) Viestinnän vallankumous. Löydä uusi työyhteisö viestintä. Helsinki: WSOY.

Pietikäinen, Elina & Reiman, Teemu & Oedewald, Pia (2008) Turvallisuuskulttuurityö organisaation toiminnan kehittämisenä terveydenhuollossa. Helsinki: Edita Prima Oy.

Piispa, M. & Hulkko, L. (2009) Työväkivalta on yleistä terveys- ja sosiaalialojen ammateissa. Statistic Finland Hyvinvointikatsaus 3/2009.

Reiman, Teemu & Pietikäinen, Elina & Oedewald, Pia (2008) Turvallisuuskulttuuri. Teoria ja arviointi. Helsinki: Edita.

Åberg, Leif (2000) Viestinnän johtaminen. Helsinki: Infoviestintä Oy.

NEWS

Helsingin Sanomat. 17.12.2011. Asemies häiriköi Jorvin sairaalassa.

<http://www.independent.co.uk/news/world/europe/germany-hospital-berlin-shooting-latest-updates-gunman-shots-fired-doctor-patients-a7156471.html>

The Guardian. 20.9.2010. Gunwoman shot dead after German hospital rampage.
<https://www.theguardian.com/world/2010/sep/20/gunwoman-germany-hospital-rampage>

The Independent. 26.7.2016. Berlin hospital shooting: Patient shoots dead doctor before turning gun on himself.
<http://www.independent.co.uk/news/world/europe/germany-hospital-berlin-shooting-latest-updates-gunman-shots-fired-doctor-patients-a7156471.html>

Yle Uutiset. 10.8.2016. Pommiuhkauksia useisiin suomalaissairaaloihin viime yönä.
<http://yle.fi/uutiset/3-9084275>

ONLINE

Adashi, E. (2015) Hospitals face growing active shooter threat. News from Brown 26.2.2015.
<https://news.brown.edu/articles/2015/02/shooters>. Accessed 17.11.2016

Confederation of Finnish Industries (EK) webpage.
<https://ek.fi/mita-teemme/tyoelama/yritysturvallisuus/>
https://ek.fi/wp-content/uploads/yritysturvallisuus_2016.pdf. Accessed 17.10.2016

Helsinki and Uusimaa Hospital District annual report 2012
http://www.hus.fi/hus-tietoa/materiaalipankki/vuosikertomukset/Documents/hus_vuosikertomus2012_suomi.pdf. Accessed 3.9.2016

Helsinki and Uusimaa Hospital District webpage.
<http://www.hus.fi/en/about-hus/Pages/default.aspx>. Accessed 3.9.2016

HUS Real Estate Ltd. webpage.
<http://www.hus.fi/en/about-hus/Pages/default.aspx>. Accessed 4.9.2016

Lanne, Marinka (2016) Turvallisuusjohtaminen. Tiedon rooli. Teknologian tutkimuskeskus VTT Oy.
http://ttk.fi/files/4558/Lanne_Kuntien_turvallisuusjohtaminen_11052016.pdf. Accessed 16.2.2017

Mankinen, Tarja & Evwaraye, Ari & Vertio, Kia (2012) Miksi nuori surmaa? Yhteenveto nuorten tekemistä suunnitelmallisista henkirikoksista ja niiden taustoista. Sisäministeriön julkaisu ja 44/2012. Sisäministeriö.
<http://www.intermin.fi/julkaisu/442012?docID=38934>. Accessed 17.2.2017.

National Police Chief's Council (UK) webpage.
<http://www.npcc.police.uk/NPCCBusinessAreas/WeaponAttacksStaySafe.aspx>. Accessed 18.10.2016

Ranta, Tiina & Martikainen, Soili (2016) Sisälle suojautuminen oppilaitoksissa. Laurea Julkaisut.
<http://www.theseus.fi/bitstream/handle/10024/122040/Laurea%20julkaisut%2075.pdf?sequence=3>. Accessed 17.2.2017

Sisäisen turvallisuuden strategia. Sisäministeriö.
<http://intermin.fi/sisaisen-turvallisuuden-strategia>. Accessed 22.1.2017

Turvallisuutta kaikkien parhaaksi. Toimintamalli työpaikkaväkivallan ehkäisyyn ja kohtaamiseen (2010) Helsinki: HUS.
<http://www.hus.fi/hus-tietoa/henkilosto/Toimintaohjelmat%20ja%20ohjeet/Tyopaikkavakivalta.pdf>. Accessed 17.2.2017

Työsuojelu webpage.
<http://www.tyosuojelu.fi/tyosuojelu-tyopaikalla/turvallisuusjohtaminen>. Accessed 16.2.2017

Figures

Figure 1: Corporate Security (modeled after EK)

Figure 2: A process diagram

Figure 3: Run - Hide - Tell model

Figure 4: Communication diagram (modeled after Hjelt-Putilin)