

# MPHMAS – **Master Thesis**



**FACULTY OF HEALTH SCIENCES  
MASTER IN PREHOSPITAL CRITICAL CARE (30 ECTS)**

## **Ambulance personnel in Urban Search And Rescue as perceived by USAR-trained firefighters and police officers – a qualitative study**

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## Preface

Life-long learning is a great slogan for the attitude of never stopping being curious and in search of new knowledge. I firmly believe in the proverb: "When you feel finished learning, you are not outlearned – but finished". This master's degree program has taught me that I still know so little about best practice as a concept, and how to find, evaluate, refine, and put to use new knowledge in my own field of work. Learning about scientific exploration has been an eye-opener, and I have had a great ride during these two years at University of Stavanger. It is now time to try to use some of the knowledge into better prehospital care where I work.

Along the way I have had the privilege of discussing and expose my ignorance and curiosity to many knowledgeable and marvellous professionals. Of these my supervisor, Associate professor Magnus Hjortdahl has been a star. Your advice and guidance have been crucial!

Dear Urban Search And Rescue-proficient firefighters at Oslo Fire & Rescue Service and police officers at Victor in Oslo Police District: Your honesty and willingness to put thoughts into words made this project possible. Kenneth and Lars Jørgen: You are both stars and prides to your agencies! Thank you ever so much, every single one of you!

Roger Bakke, your patience towards my never-ending need to change work shifts at 119 has no limit, and hopefully you know I appreciate it with the same lack of limit.

I also wish to thank Jon Vaage, Morten Steffensen and Thor Sundby for letting me be a part of Beredskapsenheten for so many years. It has been exciting and meaningful in many ways.

My three girls at home; Julie, Amanda and Kristina have endured my at times frustration, stress and both physical and mental absence. We are a family, although I have not contributed as I should these two last years. Still, I get advice on research projects from sixteen year old Amanda I

enjoy and overlook with a smile, cuddles from fourteen year old Julie that gives energy and even more smiles, and encouragements, optimism and cheers from my wife Kristina. I am ever so grateful and promise to return your love and patience. And to be at home a little more from now on.

Lillestrøm, May 31<sup>st</sup>, 2023.

A handwritten signature in black ink, appearing to read "E. Westnes". The signature is written in a cursive, flowing style with some loops and flourishes.

## Abstract

**Background:** Rescue work is part of the emergency services' responsibility, and defined as situations where those that need health care are difficult to access, or that more resources are needed than the health services alone possess and can put in operation. The three emergency services, civil protection, armed forces, non-governmental organizations, the business world, and others are all part of the "rescue family" in Norway, all with different response times. The initial effort in a large-scale accident must be performed by the emergency services as time in severe accidents is of the essence. This study looks into how and whether firefighters and police officers trained in Urban Search And Rescue have experienced ambulance personnel contribute in the dangerous area.

**Methods:** We conducted five focus group interviews, three with USAR-trained firefighters and two with USAR-trained police patrol dog handlers. The interviewees were not preselected, but merely those at watch on the agreed dates. The interviews were transcribed and then analysed using thematic analysis.

**Results:** Three themes were chosen; Feeling safe during missions, Building USAR capacity and Trust-building within USAR-teams. The firefighters and police officers reported their own and patients' safety is best managed by EMS-personnel. They feel and have experienced that EMS presence contributes significantly to their own feeling of safety. When EMS handles victims and injured emergency workers, they can themselves focus on their own primary tasks. Building a USAR capacity are, in their view, dependent on having trained EMS-personnel in the Hot Zone. They have clear and consistent opinions on how to build this capacity effectively. Trust is paramount for the informants, and they express a high degree of it within USAR Oslo. Even those that have less or no experience in cooperating with EMS in USAR incidents, report they trust them to be highly valuable in the dangerous area.

**Conclusions:** Firefighters and police officers value the presence of USAR-trained EMS workers in the Hot Zone. They regard an effective USAR-effort without EMS as less effective and safe and have clear opinions on how to establish and maintain such a service.

**Keywords:** USAR, Urban Search And Rescue, inter-agency training, EMS, trust-building in emergency services, team-building, Hot Zone

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## Glossary

### **Beredskapsenheten (BE)**

(English) Preparedness Unit, specially trained subunit in the Ambulance Service of Oslo University Hospital

**Cold Zone** Safe area where emergency personnel can work without special training or equipment

**EMCC** Emergency Medical Call Centre

**EMS** Emergency Medical Services

**Hot Zone** Dangerous area, where only selected, trained and equipped specialists are allowed

**INSARAG** International Search and Rescue Advisory Group (part of United Nations Office for the Coordination of Humanitarian Affairs)

**OBRE** Oslo Fire and Rescue Service (Oslo Brann- og Redningsetat)

**OPD** Oslo Police District

**OUS** Oslo University Hospital

**PLIVO** Live Shooter Incidents (Pågående LIVstruende VOId)

**PPE** Personal Protection Equipment

**RITS** Rescue Effort at Sea (RedningsInnsas Til Sjø)

**TA** Thematic Analysis

**Victor** Callsign for OPD Patrol Dog Unit (Canine Unit), many of whom are USAR-trained

**WAH** Work At Height

**Warm Zone**

Threatening area between Hot and Cold, where specialized training is mandatory

## 1. Introduction

Creating inter-agency collaborative teams where each agency contributes to the team's effort and mission success is an efficient way to avoid having parallel capacities (1). From an economic perspective this makes sense. Collaborative teams that are predefined is in this thesis understood as a team defined in advance, based on agreements, and known to all the team's partners.

Urban Search And Rescue (USAR) is a multi-disciplined form of rescue work demanding special training and equipment, and involves the search for, acquiring and securing access to, and medical assessment, stabilization and extrication of victims after structural collapse (2). The word urban in this acronym refers to building collapse, but it is quite usual in the international USAR community to include Work at Heights (WAH), floodings, land slides and similar weather created large scale incidents in USAR-related effort. Training and equipment necessary for such incidents are the same or similar to traditional USAR effort.

USAR Oslo is the nickname for the inter-agency capacity within or in the vicinity of Oslo, Norway, consisting of the special rescue unit in Oslo Fire and Rescue Service (OBRE), the patrol dog unit with callsign Victor in Oslo Police Department (OPD), and the Preparedness Unit (Beredskapsenheten, BE) in the ambulance department at Oslo University Hospital. OBRE and Victor contacted BE directly in 2017 and asked whether they were interested in a cooperation regarding USAR efforts. An innovative and foreseeing management in the ambulance department gave green light for BE to start a project of making BE USAR-capable based on standards and framework used in OBRE. In 2018 BE reported having educated and trained sufficient to take on USAR-related calls from the Emergency Medical Call Centre (EMCC).

Oslo Police District's (OPD) canine unit (Victor) and OBRE already had established a cooperation regarding USAR incidents two years prior, but

they had recognized they lacked the medical competence in managing both injuries to be expected in USAR-related rescue effort, as well as providing the necessary advanced medical treatment to USAR-victims. This realization was partially built on the experiences of NORSAR (NORwegian Search And Rescue) in the international humanitarian aid effort after the earthquake in Nepal (3) in 2015. NORSAR was comprised of USAR-trained firefighters from OBRE Special Rescue, non-USAR-competent doctors and paramedics from the Air Ambulance department at Oslo University Hospital, and USAR-trained search dogs and handlers from Victor. After the Nepal catastrophe, Norwegian authorities chose not to continue funding NORSAR, a decision OBRE protested as they feared it would lead to loss of equipment, training, experience and thus competence. Their experience was that international humanitarian work in USAR operations increases preparedness for domestic incidents.

### 1.1 Why is USAR interesting for a research project

Being a member of BE already, I was given the responsibility to develop BE into a USAR-competent unit in 2017. The task appeared daunting, however the willingness and positivity Victor and OBRE exhibited to share their competence and help was inspirational. They apparently sincerely wanted to pull the ambulance service in as a partner in demanding incident-management. My colleagues in BE was eager to increase cooperation with the other two agencies, meaning there were only open doors and positive contributors everywhere. The level of mutual respect, flexibility and positiveness to respect one another's cultural heritage and special competence within OBRE, Victor and BE regarding USAR-effort is in my view unparalleled. BE had a similar cooperation running with another special subunit at OBRE regarding CBRNe-incidents (Chemical, Biological, Radiation, Nuclear and explosions), so we had experienced that cooperation with OBRE would be feasible. OPD Bomb Disposal Unit is also a partner in CBRNe-incidents, although they keep more to themselves for

national security reasons. We did have some positive experience with establishing inter-agency capacities together with firefighters and police officers in Oslo, in other words.

## 1.2 National system for special or rare accidents

The national guideline “Håndbok for redningstjenesten” (4) describes principles for rescue work in Norway. Two of the four basic principles are cooperation and responsibility. In short, these two confirm that rescue effort entails that every agency should take part in rescue where they can, and that the agency responsible for the work in normal situations, also have the responsibility in larger incidents or rescue operations. This means that providing medical care is the responsibility of prehospital services, even in special circumstances and situations.

A practical example of this principle is the national system for the emergency agencies’ handling of a “live shooter” incident. All three agencies are expected to know and take part in the same system and set of procedures. It is also mandatory for all prehospital personnel to participate in annual live shooter training in their local area. In addition, there is a national procedure for managing fires on ships at sea, the so-called “RITS” (Rescue Effort at Sea). This last one comprises a selected few specially trained and equipped fire and rescue services in cooperation with HEMS (Helicopter Emergency Medical Service) and the national Helicopter Rescue Service at Sea (330-squadron).

These two are the only national based frameworks for collaborative effort between the three emergency services in special accidents or catastrophes in Norway (4). Local capacities may be established where local authorities or the local emergency services takes initiative, but without governmental or directorate overview and funding.

Cooperation between operational personnel from different agencies without a formal inter-agency agreement is a Norwegian speciality, at least we pride ourselves by it. However, robustness in such collaborations might be threatened at any time as changes in budgets, organizations, leadership or professional prioritizations can alter basis for cooperations from year to year within one or more of the involved partner agencies. A formal agreement and assignment letter from the authorities is wanted by USAR Oslo, and hopefully this research project may contribute with some academically based knowledge from the USAR community.

### 1.3 USAR Oslo

The development of Oslo USAR is thought by central participants in all three agencies to be a great success. Several large incidents with national and international attention from both the media and authorities have been evaluated in government commissions, concluding that USAR Oslo adds extra value and effectivity to rescue incidents where victims are trapped in a hostile environment, and is regarded to have saved several lives in the Gjerdrum quick clay landslide (5). It is an expectation within USAR Oslo that the Justice and Preparedness Department will define and give the task to establish USAR competence on a national scale within the foreseeable future. This master thesis project aims to add science to the believed and perceived feeling that tight cooperation between three agencies with entirely different culture, education and normal work on a narrow and competence intensive topic can lead to better patient care and work safety for the involved rescue personnel.

It is paramount to be open to the possibility that firefighters and police officers think or have experienced that ambulance personnel (Emergency Medical Services, EMS) either need to change their work in USAR incidents, or that ambulance personnel are not necessary in the Hot Zone and Warm Zone, for many different reasons, for instance:

- More people in the hazardous area means more that can be injured
- Patients should be evacuated without delay, and ambulance personnel therefore do not need to see the patients before they are in a safe area (Cold Zone)
- Ambulance personnel's USAR training is not sufficient
- Ambulance personnel have demonstrated they are not careful or respectful enough to be in the Warm or Hot zone
- Police officers and firefighters are medically trained sufficiently to treat patients before handing over to ambulance personnel in the Cold Zone

#### 1.4 USAR teams internationally – what knowledge exists?

Research done in this field is hard to find and seems scarce. A South African master thesis from 2016 (6) based on an international questionnaire, asks UHP (USAR Health Professional) several questions about their training in USAR-specific topics. Strangely, one doctor, one paramedic and one nurse from Norway were among the respondents. I have contacted Mr. Glass directly and received reply, but have not been successful in identifying the Norwegian health professionals in question. The findings are interesting but not directly related to my project, as the project was about health professionals' thoughts and experience about their own USAR training and education.

Another master thesis from South Africa is an interview and literature analysis-based study of what USAR effort comprises. It is targeted towards international humanitarian relief after earthquakes (7), and although comprehensive, does not directly describe sides of collaboration between emergency services within a USAR team.

Most other sources found, through several different search strings at Google Scholar, Pubmed and searching international journals related to rescue effort, have shown many articles about international disaster

effort. Most of these are articles and case reports regarding specific disasters. Several other articles and publications address international humanitarian efforts on an organizational and financial level. It seems my choice of topic is quite narrow, and unique.



## 2. Methods

### 2.1 Data collection

This is a qualitative (8) focus group interview (9,10) study. Three interviews were conducted at the Fire & Rescue Service and two at the Police District in Oslo, Norway.

The interviews were conducted by my supervisor, Magnus Hjortdahl, and tape recorded. Each interview lasted between 34 minutes and one hour, with a mean length of 48 minutes. None were interrupted before the questions from the interview guide had been exhausted. After each interview the guide was reviewed. It was adjusted after the first two and found to work well for gathering the data needed in the final three. After five interviews my supervisor and I found that the last two to a large degree repeated the same responses as the first three related to the research question (10), and that it therefore is unlikely that any new information would come from any further meetings. After these five about 50% of the employees in Redningsavdelingen and 30% in Victor had participated, respectively. None participated in more than one interview. The interviewer works as an advisor at the Emergency Medical Call Centre (EMCC) at Oslo University Hospital and associate professor at the faculty of health sciences at OsloMet University. He has extensive experience in qualitative research and has performed several focus groups interviews earlier.

The department managers and participants in OBRE and Victor received an information letter by email before the interviews commenced. No one withdrew their agreement during or after the interviews. One participant wanted to read through the transcript of the interview, and confirmed by email the transcript was correct.

## 2.2 Participants

Participants were those on duty on the dates chosen for the interviews by managers at the two services. The only selection criteria was that they were USAR-trained. The interviews were conducted at their premises, and at the start of their shifts. The numbers of participants were three in two interviews, four in the remaining three. Not everyone within the two sections in OBRE and OPD are USAR-certified. This goes especially for Victor, where not only the police officers but also the patrol dogs need to satisfy certain criteria and check-outs to be accepted. Not all patrol dogs are suited to search and rescue. They all signed a concession agreement before the interviews started.

Since training new USAR-operators is an ongoing process, the span of experience is huge among the participants in this study, ranging from six months to fifteen years, with an average of seven years. No adjustment was made for experience level, years in the service, or other factors. Everyone voiced opinions and experiences during the interviews, actively coached by the interviewer.

## 2.3 Analysis

The interviews were transcribed verbatim by me and analysed using thematic analysis as described by Braun & Clarke (11,12). I used the software NVivo 1.7.1 by QSR International to aid in analysing the interviews. I participated in the SAGE Publishing online webinar "Common challenges in Thematic Analysis and how to avoid them" with Braun & Clarke on August 11. 2022 by (13). According to the method some codes and themes were expected to be found in advance, related to the research question. However, many more were identified during transcription, and even more during actively searching for codes and themes. Using NVivo was helpful in coding, identifying themes, finding relations between sub-themes and main themes, and finding the most interesting quotes.

Graphics were generated with NVivo. In total I must have read the transcript from the interviews at least six times during analysis. I have followed Braun & Clarke's six step model (12) to perform the analysis as thorough as possible.

I chose to value all experiences and opinions equally, based on the assumption and observation that there seemed to be no clear correlation between for instance years in the service and how that could colour the opinions and experiences from real USAR jobs. The number of training sessions and real USAR missions was higher from those with the most years on the job, but the opinions and experiences did not differ much between newly certified or experienced operators. Another interesting observation is that the opinions and experiences expressed by police officers and firefighters, and to what degree they emphasize it, seems to follow much the same lines. However, those that were on duty and served at the quick clay landslide at Gjerdrum voiced very clear opinions and feelings related to workplace safety, especially relief knowing EMS-personnel trained in USAR was nearby in the Hot Zone. For this reason, all the quotes related to Gjerdrum have been marked. I also marked every quote with the number of years in service to show that even those with less years on the job had insight and opinions. Interestingly, in both services it appears the workplace environment welcomes everyone's voice. It must be said that the fire and rescue service and police force in Oslo probably are the most busy services in Norway, and hence obtains experience faster than most other services, at least on an organizational level. Some of the data found may be inherited from other colleagues, but we chose not to separate the inherited from those that were their own. No one expressed opinions based on: "I have heard...", "colleagues have told me..." and the likes, leading to believe that the participants really did share their own experiences, thoughts and feelings.

### 2.3.1 Phase 1 – familiarizing with the data

Listening through the interviews is according to Braun & Clarke valuable as it reveals breadth and depth of the interview (12), and by reading one should look for patterns and meanings that can be used as themes. During the transcription I caught even more statements that I chose to use as codes. A few themes also seemed to emerge during this phase, and was noted down for review in later phases.

Listening through the interviews was also necessary to evaluate whether the interview guide worked to get the data we wanted.

### 2.3.2 Phase 2 – generating codes

After listening, and then transcribing the interviews, it is time to code interesting aspects of the interviewees' statements and underlying meanings when they appear clear and understandable (12). As all participants are part of the same subgroup within their different organizations, have trained together and many also attended same basic training, some codes are expected to be found in all interviews and from many participants. Were they factual observations or opinions of the technical aspects of USAR, it would be expected and natural, pointing to an acceptance of obvious facts about USAR effort. However, many of these codes were not factual, they were opinions and feelings about sides to the cooperation and team building sides of inter-organizational capacity building. This is interesting since it may not be evident for everyone outside the subgroup meaning the USAR community. Using NVivo makes it easier to produce graphics and keep oversight of the code found.

### 2.3.3 Phase 3 – search for themes

The first themes are found by collating and grouping codes (12). Four themes and a small collection of loose codes seems to emerge, and

further investigation could reveal new themes through combing and comparing codes and groups of codes. Graphically mapping the codes makes it easier to see whether the groups have intertwined connections and therefore could create even new themes. The code structure map showed that one of the loose codes should be moved into a group, and by that support a theme.

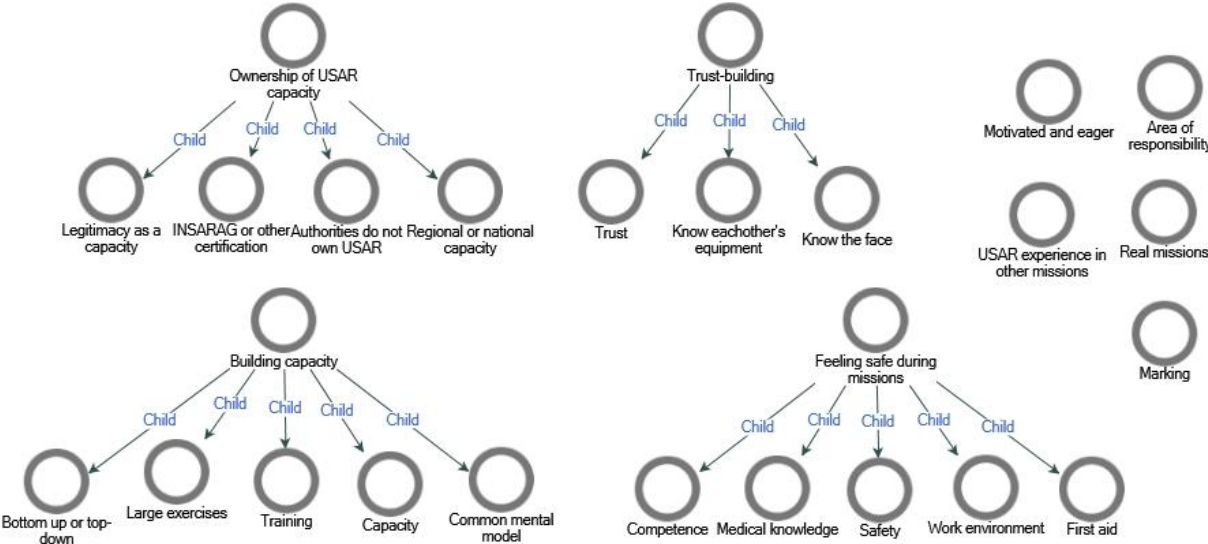


Figure 1 – Phase 3: Structure of codes, propable themes

2.3.4 Phase 4 – reviewing themes

By reviewing the emerging themes it is important to consider whether the codes within support the themes, and that the themes contributes to answer the research question (12). One of the themes is about the future of USAR incidents, and in what way USAR capacity should or could evolve from local initiatives into regional or national services in Norway. It is not the most supported theme by the count of codes, nevertheless it seems important as it is mentioned with strong opinions in four of the five interviews. This phase ends with moving on with the four themes already identified, and four codes that seems to stand alone without really contributing to answering the research question.

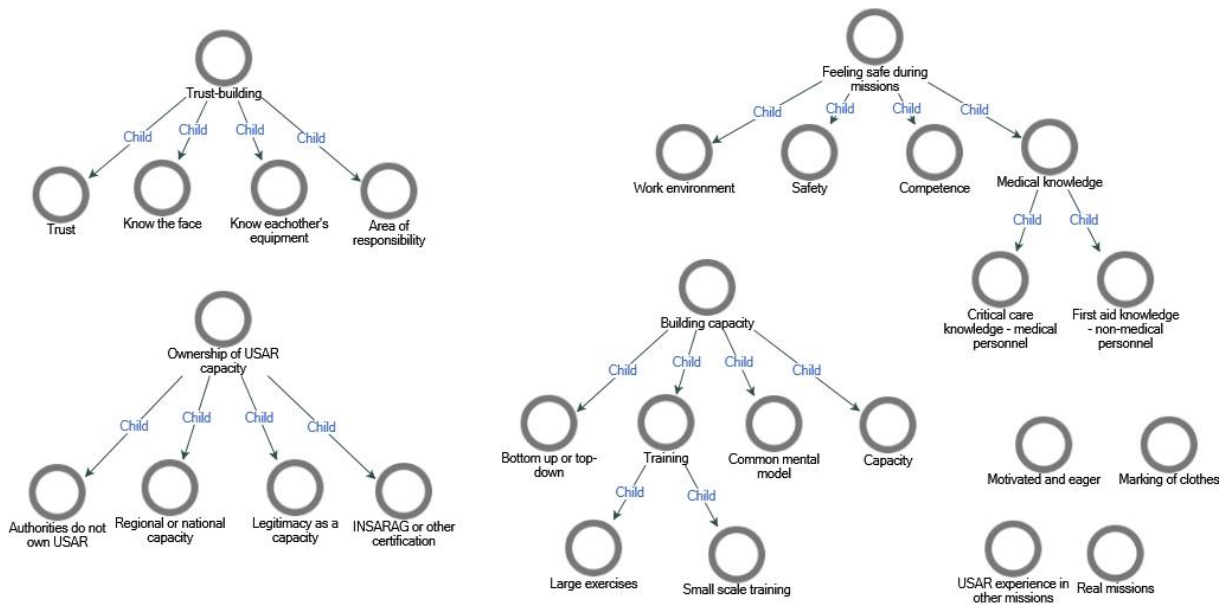


Figure 2 - Phase 4: Reviewed themes

### 2.3.5 Phase 5 – defining and naming themes

This phase starts with the refined map from phase 4. The goal is to define, refine and analyse the data within the selected themes, to find the essence within them, and give them names accordingly (12). For the sake of overview, I chose not to reduce the number of subs in phase 4. I did, however, find that Ownership of USAR capacity is a sub-theme of Bottom up or top-down based on the expressed opinions within these themes. Three identified top themes are all are of great interest, but two of them could be seen by the reader to be two aspects of safety. However, as many of the statements seems to differentiate between safety and trust I chose to regard them as separate themes. I found three sub-themes, one in the theme about building capacity, one in the theme about feeling safe during missions, and the one about ownership of

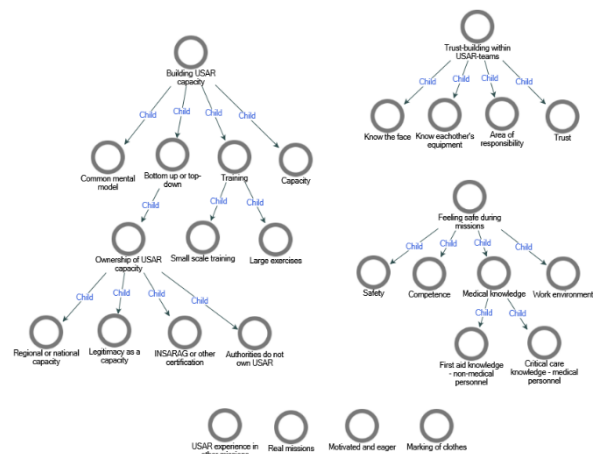


Figure 3 - Phase 5 revised

USAR capacity. Revised phase 4 map therefore is shown in Figure 3.

This final step in refining the codes into workable themes is shown in Figure 4.

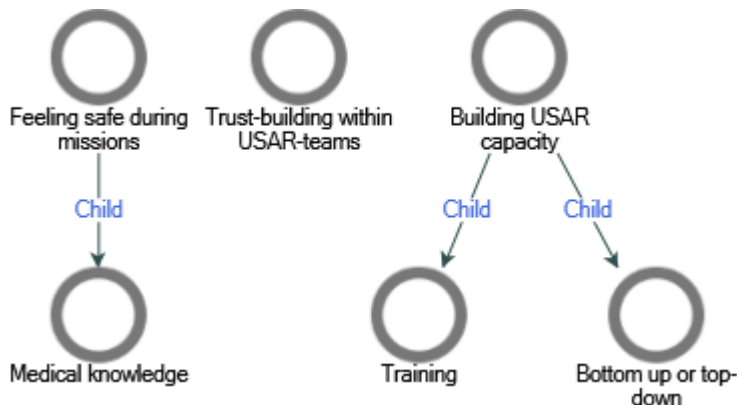


Figure 4 - Phase 5: Finally defined themes

### 2.3.6 Phase 6 – writing the report

This final step in the six step model according to Braun & Clarke is to write a coherently and convincingly report about the analysis of the data and hence the findings (12). Avoiding unnecessary complexity and using extracts of the interviews is important to underline and prove the findings are of importance and that they substantiate the story. The goal is to present a narrative behind the data extracts, and present an argument related to the research question.

## 2.4 Approval

Application for approval of this research project was submitted October 2<sup>nd</sup> 2022 to Norwegian Agency for Shared Services in Education and Research with reference number 838900. Consent was received October 24<sup>th</sup> 2022.

As no patient information, health information from participants or any other information subject to protection under Norwegian law is gathered,

approval from Regional Committees for Medical and Health Research Ethics is not needed.

## 2.5 Ethical considerations

Participation in this study was voluntarily and all informants signed a concession form at the beginning of each interview. As a long since member of BE and my central role in establishing BE as USAR-competent, I have a known face and name within USAR Oslo. It was because of this decided that I did not take part in the interviews. I do not have any manager role in either BE or USAR Oslo anymore, leading to the belief that no respondents have felt any need to not being honest about their opinions and experiences. Several of the answers about especially the future of USAR capacity on a national level, and the relationship between USAR as a topic and management level both in each agency and at a national level, suggests the interviewees have chosen to be very sincere and outspoken. It is tempting to attribute this to a culture within the two agencies of organizational openness, where even criticism, disagreement, deviant opinions and feelings can safely be voiced.

Each interview started with a reminder that withdrawal at any point until analysis starts (1<sup>st</sup> of December 2022) is acceptable.



### 3. Results

I wanted to find out what the other two partners in USAR Oslo thought about working together with USAR-trained ambulance personnel. I identified three main themes during analysis using the six step method as described by Braun & Clarke (12): "Feeling safe during missions", regarding what they think EMS-personnel contribute with, "Trust-building within USAR teams" which discusses what contributes to bilateral trust between operators from different agencies, and "Building USAR capacity", in large what it takes from the involved partners to do exactly that.

#### 3.1 Feeling safe during missions

##### 3.1.1 Personal safety

Although everyone has basic first aid training, the respondents seem to realize that this is not enough to manage injuries in a USAR-environment. They report this because the level of medical assistance they will receive will be higher and come faster with USAR-trained ambulance personnel in the immediate vicinity.

The operators throughout all interviews report this as adding positively to the work environment and feeling of safety.

##### 3.1.2 Patient safety

The goal of prehospital services in Norway is "bringing the hospital to the patient" (15). Both police and fire & rescue seems to have accepted this in most patient meetings, and absolutely in USAR work. Considering this, the respondents report they feel reassured that they will not be expected to assess, prioritize and start treating patients in a dangerous accident site, they are happy to leave this to USAR-trained health professionals.

A few times interest in learning more first aid from operators from BE is expressed. The most probable cause is that they find their own first aid training insufficient.

### 3.1.3 Work environment

All respondents seem to have accepted USAR-effort need both search capacity which the police with their patrol dogs bring, deconstructing, removing materials and create safe access which the fire & rescue are experts on, and patient management and safety for emergency personnel which is the ambulance service's responsibility. Most seem to feel strongly that if one of the three partners are missing, the USAR effort will be less successful and more precarious. This assumption is based on many statements from the participants on several topics during the interviews. Many of them point to actual experience from several industrial accidents, the Gjerdrum-landslide, but also training and exercises. They seem to regard USAR Oslo as a "complete team" where all three partners are dependant on each other.

### 3.1.4 Knowledge of one another's competence

Both Victor and OBRE trusts BE is competent for USAR effort, but they all wish for more meeting points. This touches into the theme Trust-building within USAR teams. Those from Victor that were at work in the Gjerdrum landslide observed BE at work, and report complete trust. It is tempting to believe, although not many police officers mention it directly, that the rumour about BE treating two injured patrol dogs has earned them the trust of the handlers.

## 3.2 Trust-building within USAR-teams

### 3.2.1 Trusting people from other services

Feeling safe as part of a team working in a dangerous environment is to a large degree dependant on trust (16). Several times in all the five interviews the participants mention how paramount they regard bilateral trust. It seems many feel a combination of basic training, exercises, real assignments or just social meeting points outside work contributes to trust-building.

### 3.2.2 Familiar faces

The most mentioned phenomena in all the interviews regarding trust is the importance of recognizing a face.

The overall impression is that meeting a person they remember, eases tension and is reassuring. It saves time not having to check capabilities and competence inside the team. Many claim that when they run into someone they have already interacted with during training or a real mission, they immediately want to get to work.

### 3.2.3 Familiar equipment

Knowing each other entails not only knowing each other's training and recognizing faces, but also techniques and equipment. Firefighters report the importance of BE using exactly the same or very similar personal protection equipment (PPE) as they do, and police officers report concern that BE does not know the characteristics of a police patrol dog.

This observation yet again amplifies the police dog handlers expressed wish for closer collaboration and small-scale training and meeting points. They feel they have this established with OBRE, but not with BE.

### 3.2.4 Area of responsibility

The goal for USAR Oslo is to save lives with minimum risk. Knowing what the other two partners contribute with and avoiding double capacities, makes good economic sense. It means each contributor can focus on their own expertise. It is better to be an expert in your own job, instead of an amateur in other's. Some of the participants in these interviews would like to learn more about emergency medicine from BE, but none expresses anything in the direction of wanting to take over patient management in USAR-missions.

### 3.3 Building USAR capacity

USAR Oslo has built a USAR emergency capability based on selected and willing operators from three different agencies. This capacity has been built bottom up (17), meaning no directive from political or directorate level has been the basis.

#### 3.3.1 Common mental model

Lately, shared mental model between emergency personnel has had an increasing focus (4,18). Between personnel from different agencies, it needs close attention to achieve. The participants describe several calls where this shared mental model is in place, especially when meeting a familiar face, and they express clearly this increases confidence.

#### 3.3.2 Training

Several times participants mention that they differentiate between separate training needs within their own expertise and responsibilities, and the need for cross-agency training. For the sake of ease, I choose to

refer to these two types of training as “training” (on specific technical skills, mostly within one service) and “large-scale exercises”. Training is mostly low-key, focused on technical skills and cooperation with informal debriefs and even discussing details; whereas large-scale exercises are more a test of capacity. Several express the latter are less efficient in developing competence.

### 3.3.3 Bottom-up or top-down

Ground level professionals in OBRE with knowledge about and interest in USAR reached out to Victor in 2015. They wanted to try to establish a unit capable of collaborate effort based on experience from the humanitarian mission to Nepal (3). Management in both agencies gave green light, and the same happened when the ambulance department at OUS was contacted. This type of development could be categorized as bottom-up (17).

In all five interviews concern is expressed about the lack of focus from superior entities in the bureaucracy.

## 3.4 Conclusion

The three selected themes in this project that contributes to answering the research question “How and whether USAR-trained firefighters and police officers think and have experienced EMS contribute in USAR-effort in the dangerous area”. I formulated the themes as user centric. What they think and have experienced about how close collaboration with paramedics change their own workplace safety and sense of mastery of rescue effort is in my view the most interesting findings. I do feel I can draw a conclusion.

There are almost none and very minor examples of emergency personnel suffering injuries during USAR missions save the two patrol dogs receiving lacerations at Gjerdrum. Those we know about are small cuts, bruises, and strain injuries, where no intervention from EMS has been necessary. However, the firefighters and police officers recognize how dangerous the Hot Zone in USAR can be. On this ground they regard strongly having advanced critical care close nearby as very important for their safety, but also for any found victims.

There is a strong feeling of trust from the firefighters and police officers towards USAR-trained EMS, and they also feel this trust is returned. Police officers express they want to interact more with BE in training and exercises, as they express not enough time has been spent to learn each other's capacities and tools.

The future of USAR Oslo and also establishing USAR capacity elsewhere in Norway was initially not my intention to explore but it would seem this topic is regarded as very important by the interviewees.

One firefighter and one police officer sum the conclusion nicely up in these two quotes:

"The word out is that it's only a matter of time before a major landslide occurs in Oslo, there are areas full of quick clay where there's potential for a slide. If you then have no preparedness, you have to use those that know a little. We make ourselves better if we know more than just a little. And that we have trained together. [...] That's preparedness."

Firefighter, three year's experience

"I noticed when we found the first victim [at Gjerdrum], and I didn't quite remember what BE was there and then, but they were ready and came into this pretty complicated landslide with their gear. [ ... ] Especially if the patient was alive, we didn't know that just then."

And then they were there, and I felt: "Ahh... It's good to have them here!"

Police officer, eight year's experience

#### 4. Discussion

The discussion part of this master thesis must be read and viewed in combination with the article in section 6. The findings are mostly discussed in the article.

Qualitative research is a suitable method for discovering knowledge when counting is not possible, or for: “[..] description and analysis of properties, contents, or experiences in the field of medicine.” (8). Malterud propose relevance, validity and reflexivity (19) as criteria for evaluating scientific quality of qualitative research, and I will comment on these related to this project here.

We asked questions primarily based on two lines of receiving interesting answers, one being: “Have you experienced (a wanted or unwanted situation in training or live missions), what did you think about those experiences?”. The other was: “What do you think, even without experiences, is a desired (situation, future, feature, etc)”.

The informants’ experiences in their own profession both within and outside USAR will of course colour their “free thoughts” but can still be interesting. However, digging beneath the interviewee’s possible preconceptions, especially in free thinking based on other experiences than USAR, means their bias must be addressed. As luck would have it, by far the most answers were targeted directly towards USAR situations, even the thoughts and opinions not based on actual experience. One example is trust. Even though examples of developing trust from observing actual critical care given by EMS in USAR settings is lacking, the trust the informants have towards EMS is vastly positive. One could, and should, ask amongst health professionals whether this almost blind trust is deserved.



#### 4.1 Relevance

Is it relevant what firefighters and police officers think about EMS in the Hot Zone of an accident? Is the question a worthy topic (20) for a study? I find it fascinating employees from three services with so many differences in education, area of responsibility, age, on-the-job experience and many more factors, can establish an integrated team on a specific type of task. There are no step-by-step book or process description on how to create inter-agency teams in emergency agencies. Based on the assumption that USAR Oslo has proven to be a success, it ought to be interesting to decision makers on directorial level or even political level what the operators have experienced about collaborative effort in USAR. As the society gets even more and more specialized on many levels, one could suspect that the emergency agencies would drift apart and would have less and less understanding of the other's view on society as a whole, and their specific role in particular. The willingness or ability to aid other services in collaborative work at large incidents may not come without incentives or a culture of cooperation. A Swedish article (21) suggests the culture to cooperate and help in large incidents does not necessarily come by itself.

The timing (20) of this master thesis is not coincidental. Granted, it is a coincidence that I am doing my master's degree just now, but looking into the topic of USAR is timely for three reasons:

1. The evaluation after the Gjerdrum quick clay landslide in 2020 killing ten people, has not resulted in any governmental bodies outline what kind of preparedness Norway should have on USAR incidents.
2. In the rescue effort after the earthquake in Turkey and Syria February 2023 where more than 50.000 persons died, Turkey and Syria asked for international support, specifically INSARAG-certified USAR-teams. Norway, being a nation that prides itself as being a large contributor of international humanitarian aid, have no such certified unit.

3. At the time this thesis is written, there are four fire & rescue services that have built USAR capacity in Norway (Oslo, Trondheim, Bergen, and Nedre Romerike). Several others have it on their agenda. Still, only the ambulance service at Oslo University Hospital has established the same, even though the fire services in Bergen and Trondheim has requested it from their regional University Hospitals, being the owner of the ambulance service within their region.

It is my hope that this qualitative study can add scientific knowledge to decision makers in whether or not creating inter-agency specialized units is feasible, what is important in embarking on such, which effects it can have on capacity and safety, and especially whether health professionals contributes positively in USAR. I have not been able to find any similar studies from emergency services. In this view, I hope this thesis is significant (20) for readers on all levels of managing or considering inter-agency team-building projects.

The assumption that health professionals contribute positively and is a vital part of USAR, is supported by INSARAG guidelines (2) and is not the most important outcome of this study. The objective is merely to point out some of the most important factors that can lead to success as voiced by those that does the search, deconstruction and safety work; police patrol dogs handlers and firefighters, respectively. In addition, I received very clear opinions and thoughts about USAR-trained health professionals contribution, based on experiences.

#### 4.2 Validity

The most important data source for answering this research question are experiences. As the number of traditional USAR incidents in Norway are limited, I wanted to include experiences from USAR-related rescue efforts, and even free thoughts. USAR Oslo have a fairly broad definition of what

USAR comprises. Complicated access and / or evacuation that demand special training and equipment are central elements. Accessing, treating and evacuating a tower crane operator sixty meters above ground level would be treated as a USAR-mission in Oslo. Likewise, searching for, treating and evacuating a victim from a landslide or rockslide would also be regarded a USAR incident and ideally handled by USAR Oslo.

Study design therefore had to be qualitative, and I was interested in both retrospective (experience-based) and prospective views (free thoughts and opinions) from the informants. USAR missions are always team efforts (2). My assumption is that when a group of professionals are being interviewed, those that have experience and thus preconceptions on the topic can be balanced by those with less experience but maybe present a more open mind towards other ways of performing. I was looking for a possible group dynamic effect that focus group interviews could produce (10), whereas the informants in the group elaborate and discuss among themselves, not merely answer questions. To a certain degree, this occurred in most of the five interviews. No fights or quarrels were observed, but difference of opinions were voiced on some occasions. Focus group interviews are also a cost-effective method as opposed to single interviews (10).

The sampling for this study has gone through several stages. I first planned to interview firefighters and police officers proficient in USAR and part of USAR Oslo, and also HEMS doctors, incident commanders from the ambulance service, and ambulance personnel without USAR training or experience. The initial thought was that all these categories of professionals have a role in USAR incidents, albeit some in the periphery. In the process of designing the interviews, it became clear that such a wide sample would lead to more data not based on insight in or understanding of USAR as a phenomenon.

I chose to analyse the interviews using thematic analysis (TA) (11–13,22,23). Being a novice researcher, doing interviews of professionals from other services than the one I belong to, I liked the idea and basis for TA; that during the analysis unexpected findings can occur, and that adjusting what is considered central findings during analysis is acceptable and even desirable (23). This way of seeking new knowledge, accepting qualitative research is all about acquiring something new or where the goal is not to prove or disprove, but rather to dig up something not documented in a structured manner, is appealing to me.

External validity is more complex, as the Norwegian organizational structure of the emergency services in question is not necessarily similar in other countries. For example, in USA many governmental ambulance services are run by municipal or city fire and rescue services. Firefighters and paramedics in those services in many cases share infrastructure and have the same management. Another example: In Great Britain the National Ambulance Resilience Unit (NARU) (24) established Hazardous Area Response Team (HART) (25) in every Ambulance Trust, but they are trained and equipped to handle USAR incidents more independently than BE. To my knowledge, HART and fire and rescue services do not participate in mandatory exercises the same way as USAR Oslo. In most countries it is normal that fire and rescue services are expected to handle USAR incidents (2), but it is also normal that NGOs are trained and equipped for advanced rescue operations. However, external validity within Norway should be at an acceptable level. Ambulance, fire and rescue and police services are each within the same ownership structure and subject to the same organization and system throughout Norway. Hence, findings in this thesis should be of national interest.

For countries with emergency services organized similar to Norway, for instance the Nordic region, findings in this study could be interesting. Furthermore, the process of getting USAR Oslo up and running, meaning the softer sides of creating a new cross agency service and capability

should be of interest to anyone taking on the task of utilizing different special capabilities into a new service without establishing a whole new formal organization.

#### 4.3 Reflexivity

My background as a paramedic in the air ambulance department at Oslo University Hospital, with ten years' experience as USAR specialist in the ambulance department, means I have preconceptions about USAR Oslo. It is fair to suspect bias in favour of how USAR Oslo has evolved, and the highlighted findings in this study. To counter this, my supervisor Magnus Hjortdahl who was performing the interviews, have no insight in USAR as a topic nor is he a "familiar face" to USAR specialists in OBRE and Victor. There has been no contact between me and Victor or OBRE during the weeks of interviews.

The analysis cannot be deemed entirely objective (19), nor should objectivity be considered a goal in itself. To counter too much subjectivity, those statements that may be interesting, but are seldom voiced, have not been included in themes and findings. One example is that in one interview an informant voiced a very clear opinion about the need for a INSARAG certification process to commence. His opinion was that this could affect the legitimacy of USAR Oslo, and also the economy and chances of developing other USAR capacities throughout Norway.

To a certain degree, themes have been identified based on the number of times statements have been coded and the sincerity with which they have been voiced. My preconceptions about the need for USAR preparedness in Norway and the model for building a capacity similar to USAR Oslo is supported by United Nations (2), the evaluation report after the quick clay landslide at Gjerdrum (5), and two extensive master thesis (6,7) and should not be very controversial. That complex rescue missions demand

the emergency services collaborate is regarded a prerequisite by Norwegian authorities (4,26).

#### 4.4 Comments on some of the findings

##### 4.4.1 Feeling safe during missions

Working as police officers and firefighters inherits risk. Both training and actual work exposes them to physical and psychological threats that they individually and through organizational measures seek to minimize. The overall attitude in all three emergency services is that if one is unable to accept this risk, one should seek another career. Safety regulations and Working Environment Act (14) in Norway places the responsibility for worker's safety on the organization, but every employee is under this law obliged to avoid unnecessary dangers, and put in effect any possible risk-reducing mean. It would seem the participants in this study has adopted the thought that having health professionals nearby in dangerous areas is a preparedness measure for injuries sustained themselves.

Knowing your partner is competent seems important. Especially if you feel dependant on their skills. The three partners in USAR Oslo trains together to a variable degree. OBRE takes part in basic training and certification of new search dogs and handlers, BE does not yet. Several police officers wish for this to begin. BE and OBRE train often together, mostly without Victor. OBRE appears to be the central partner.

##### 4.4.2 Trust-building within USAR teams

Trust seems to be important to firefighters and police officers. One would expect them to feel trusting your nearest colleagues is important, but I was a bit surprised how much weight they put on trusting team-members from other agencies. With this in mind, it is tempting to conclude or at

least suspect that the firefighters and police officers really see beyond the uniforms in collaborate team efforts in USAR missions. On Gjerdrum, during one night of searching for survivors in the rubble of crushed houses in the stream of flashlights and with the thermometer showing -5°C, one firefighter silently said: "Right now, we all wear the same uniform. We are in this together, and what agency we belong to does not matter at all." I was surprised they would speak so openly about cross-agency trust and companionship and how important they regard it, even in a warm meeting room in front of a to them foreign interviewer.

#### 4.4.3 Building USAR capacity

There are no assignment letters or formal agreements regulating the collaborative effort and system, even though the capacity has been in place since 2018. Is there a need for specialized rescue capacity for a type of incident that does not happen often? The question is at least partially answered by the interviewees, as several mention it in all interviews.

In all five interviews the need for more cross agency training was expressed without anyone expressing the opposite. It is on this basis reasonable to conclude that the general assumption among USAR-specialists is that building the ability to effectively establish shared mental model on high-risk assignments is something everyone needs to practice on?

USAR Oslo has been established by initiative from experts on USAR in OBRE. The alternative would be a project based on a decision from top-level management or from one of the three managing governmental directorates: the Directorate of Health, the Directorate of civil protection or the Police directorate. Initiative could even have come from politicians at national level. Funding would normally follow such a decision, and lacking that, the three agencies have carried the financial burden of establishing and maintaining USAR Oslo since the start. Victor and OBRE

has had questions about budget cuts in their services in recent time, making the participants in this study question how long they are able to uphold quality and ability in the USAR field. This concern is expressed in most interviews.

#### 4.5 Other limitations

The interviewer is a medical doctor, and although experienced in prehospital work in rural areas in cooperation with ambulances, this was not mentioned in the interviews. Based on how the respondents answered questions, and the discussions that occurred, it seems they regarded him as an entirely neutral moderator. This is on one side positive as no one seemed to adjust their responses and discussions towards him, on the other side, most answers were not challenged, something that could have given both deeper and broader reflections from the firefighters and police officers. As a first study on the topic this is acceptable, but further studies should consider digging more deeply into the aspects of building inter-agency teams and trust.

Selection of participants could also lead to more precise answers and reflections, for instance if the respondents were only those that had experience from USAR-specific large casualty incidents. Although many interviewed did serve at Gjerdrum, not everyone did. It is interesting, however, that the diversity of nature in the missions and training the participants have attended to, have left them with similar and sometimes even exactly same experiences and opinions.

It is also a possibility that opinions and feelings are based on a mix of USAR-related calls, and other types of calls where firefighters and police officers cooperate with the ambulance service. Traffic accidents, house fires, violence, cardiac arrests, and suicidal attempts or threats are all types of calls where the three emergency services cooperate on a daily basis in Oslo, and these are normally not coded as or treated like USAR-



related. I have tried to the best of my ability to sort out answers that probably are not based on USAR-related missions.

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## 6. Article

### **Firefighters and police canine handlers in Oslo: What do paramedics in the Hot Zone of USAR incidents contribute with – a qualitative focus group study**

#### **Authors:**

Erik Westnes and Magnus Hjortdahl

#### **Keywords:**

USAR, Urban Search And Rescue, inter-agency training, EMS, trust-building in emergency services, team-building in emergencies, high-risk emergencies

## Abstract

**Background:** Rescue work is in Norway defined as situations where patients are difficult to access, or that more resources are needed than the health services alone possess and can put in operation. Although rescue operations after large incidents may include civil protection, military forces, non-governmental organizations and other resources, the initial rescue effort must be performed by the emergency services as time often is of the essence. This study examines ambulance personnel's contribution in the Hot Zone (defined as the central area of an accident where special training and personal protection equipment is necessary or mandatory) as experienced by Urban Search And Rescue (USAR) firefighters and police officers.

**Methods:** We conducted five focus group interviews with USAR-trained firefighters and police canine handlers. The interviewees were those at watch on the agreed dates. The interviews were taped, transcribed and analysed using thematic analysis as described by Braun & Clarke.

**Results:** Three themes were identified; Feeling safe during missions, Building USAR capacity and Trust-building within USAR-teams. The firefighters and police officers reported their and the patients' safety is best managed by EMS-personnel, and that their presence strongly contributes to their own feeling of safety in a dangerous area. When EMS handles victims and injured emergency workers, they can themselves focus on their own primary tasks. Building a USAR capacity is, in their view, dependent on having trained EMS-personnel in the Hot Zone. They have clear and consistent opinions on how to establish this effectively. Trust is paramount to the informants, and they express a high degree of it within USAR Oslo.

**Conclusions:** Firefighters and police officers value the presence of USAR-trained EMS workers in the Hot Zone. They regard an effective USAR-

effort without EMS as less effective and safe and have clear opinions on how to establish and maintain such a service.

**Keywords:** USAR, Urban Search And Rescue, inter-agency training, EMS, trust-building in emergency services, team-building, Hot Zone

## Background

Urban Search And Rescue (USAR) as a concept, or rather a set of concepts and capacities to respond to complex and technical rescue operations, has received massive media coverage since December 2020 in Norway. The quick clay landslide in Gjerdrum December 30<sup>th</sup> 2020, the war in Ukraine where civilian infrastructure has been targeted daily, and the earthquake in Turkey February 6<sup>th</sup> 2023 has made USAR a topic many Norwegians have heard about.

When civilian infrastructure is exposed to force it is not built to

withstand, collapse and inevitable human suffering must be expected. Whether that force is due to extreme weather, climate change, industrial accidents, terror or regular acts of war, does not matter much. "United Nations (UN) General Assembly Resolution 57/150 (December 16<sup>th</sup> 2002) identifies that each country has the responsibility first and foremost to take care of the victims of disasters and other emergencies occurring on its territory." (1)

The de facto international standard for USAR is defined by the International Search And Rescue Advisory Group (INSARAG), an international network with more than ninety member countries, sorting under the UN Office for the Coordination of Humanitarian Affairs (OCHA). This standard is defined in a set of guidelines for establishing USAR preparedness, and listing of which capacities such a preparedness should

### **What is USAR?**

Urban Search and Rescue (USAR) is defined by Public Safety Canada as: "The location of trapped persons in collapsed structures using dogs and sophisticated search equipment; the use of heavy equipment such as cranes to remove debris; the work to breach, shore, remove and lift structural components; the treatment and removal of victims; and the securing of partially or completely collapsed structures.



comprise (1). Norway has as this article is written in May 2023, not established an INSARAG-certified USAR capacity able to respond to either domestic or international USAR incidents. However, local initiatives among emergency services have established loosely connected and framed capacities, but without governance and national regulations, these capacities are not possible to exploit to its fullest potential.

During a one-year period starting in 2017 the ambulance service under Oslo University Hospital established USAR medical capacity. This task was given by the ambulance department management as a feasibility question. Incidentally, Oslo Fire and Rescue Service (OBRE) simultaneously contacted the ambulance service and asked whether they would be interested in a cooperation regarding USAR incidents. Establishment of this USAR capacity in the ambulance department was handled and developed by "Beredskapsenheten" (BE), a subunit of the ambulance department.

Oslo Police District's (OPD) canine unit (Victor) and OBRE had already established a cooperation regarding USAR incidents two years prior, but they recognized they lacked the medical competence in managing both injuries to be expected in USAR-related rescue effort, as well as providing the necessary medical treatment to USAR-victims. This realization was partially built on the experiences of NORSAR (NORwegian Search And Rescue) in the international humanitarian aid effort after the earthquake in Nepal (2) in 2015. NORSAR was comprised of USAR-trained firefighters from OBRE Special Rescue, non-USAR-competent doctors and paramedics from the Air Ambulance department at Oslo University Hospital, and USAR-trained search dogs and handlers from Victor. Norwegian authorities chose not to continue funding NORSAR after the Nepal incident, a decision OBRE protested as they feared the loss of knowledge, experience and competence from international humanitarian work would hurt preparedness in domestic USAR incidents. In the years after 2018 when BE reported they had educated and trained enough paramedics and EMTs

to be prepared for USAR effort 24/7, Victor, OBRE and BE has started to name their combined USAR capacity as "USAR Oslo".

This article looks into the experiences earned by USAR Oslo when it comes to having health professionals in the dangerous area of a USAR incident, and also from training, exercises and other non-USAR related positive or negative side effects.

Although much has been written about establishing inter-agency teams, very few if any studies have been done on emergency services (police, fire & rescue and ambulance services). It is difficult to find empirical articles that discuss the actual experiences about inter-agency collaboration on the ground level, meaning from and about the emergency workers themselves. A South African master thesis from 2016 (3) based on an international questionnaire, asks UHP (USAR Health Professional) several questions about their training in USAR-specific topics. The findings are interesting, but not directly related to this study, as it was questioning health professionals only about their perception of received education on USAR.

Several other articles and publications address international humanitarian efforts on an organizational (4) and financial level.

In this study we examine USAR trained firefighters and police search dog handler's experiences with USAR trained EMS-personnel in USAR-incidents: How do they contribute, and how can they offer even better assistance to both rescuers and victims?

## Methods and methodological considerations

This is a qualitative focus group interview (5,6) study. Three interviews were conducted with USAR operators from OBRE, and two at Victor in Oslo, Norway. The aim was to collect experiences from actual USAR operators on collaborating with USAR trained EMS personnel, and if possible, find critical success factors and possible pitfalls.

### Data collection

The interviews were conducted by MH and tape recorded. After each interview the interview guide was reviewed and adjusted after the first two. After five interviews EW and MH found that the last two to a large degree repeated the same responses as the first three related to the research question (6). Preliminary analysis indicated that we had enough data to answer our research question, and we started to come across the same patterns. These five interviews comprised about 50% of the employees in OBREs Special Rescue Unit and 30% in Victor, respectively. None participated in more than one interview. MH works as an advisor at the Emergency Medical Call Centre (EMCC) at Oslo University Hospital and associate professor at the faculty of health sciences at OsloMet University. He has extensive experience in qualitative research, but no background or knowledge about USAR.

The department managers and participants received a written information letter a fortnight prior to the first in the series of interviews, and they all signed a concession agreement before the interviews started. No one withdrew their agreement during or after the interviews. One participant wanted to read through the transcript of the interview, and confirmed by email the transcript was correct.

### Participants

Participants were those on duty on the dates selected by managers at the two services. EW and MH had no insight in or presented any selection

criteria for interview subjects, only that they were USAR-trained within their service. The interviews were conducted at their premises, and at the start of their shifts. The numbers of participants were three in two interviews, four in the remaining three. Their experience as USAR-operators ranged from six months to fifteen years, with an overall average of seven years. All participated actively during the interviews.

Analysis

The interviews were transcribed by EW, and then analysed using thematic analysis as described by Braun & Clarke (7,8) using NVivo 1.7.1 by QSR International. For further insight on the method, EW participated in the SAGE Publishing online webinar “Common challenges in Thematic Analysis and how to avoid them” with Braun & Clarke on August 11. 2022 by (9). According to the method some codes and suggested themes were expected in advance, more found during listening to recordings, identified during transcription, and several more during actively searching. Indeed, some were found as expected, but some expected were not found. Codes were registered in NVivo during listening and transcription, according to Braun & Clarke’s six step model (8):

- Phase 1 – familiarizing with the data
- Phase 2 – generating codes

Name	Files	References	Name	Files	References
Area of responsibility	5	24	Legitimacy as a capacity	2	5
Authorities do not own USAR	2	12	Marking	2	8
Bottom up or top-down	2	4	Medical knowledge	5	12
Capacity	5	15	Motivated and eager	2	3
Common mental model	5	14	Real missions	4	15
Competence	4	26	Regional or national capacity	4	9
First aid	2	3	Safety	5	25
INSARAG or other certification	1	1	Training	5	20
Know eachother's equipment	3	9	Trust	5	21
Know the face	5	26	USAR experience in other missions	1	2
Large exercises	4	6	Work environment	1	4

Table 1 - Codes in phase 2

- Phase 3 – search for themes

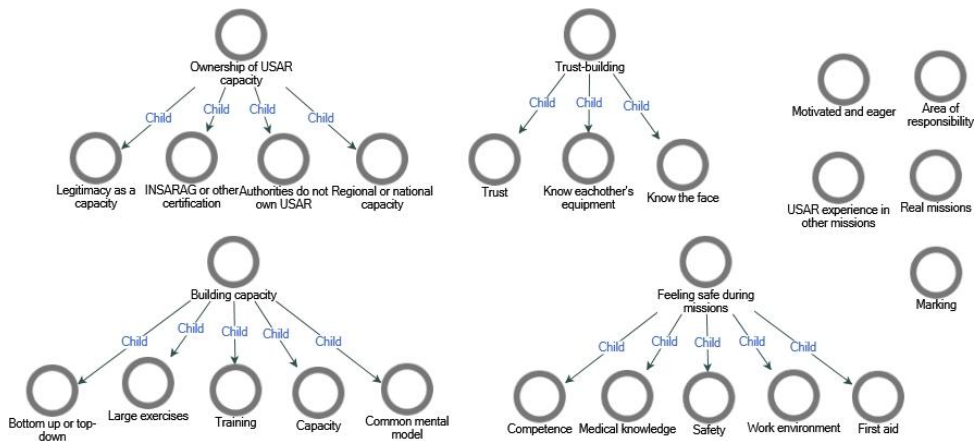


Figure 1 – Phase 3: Structure of codes, probable themes

- Phase 4 – reviewing themes

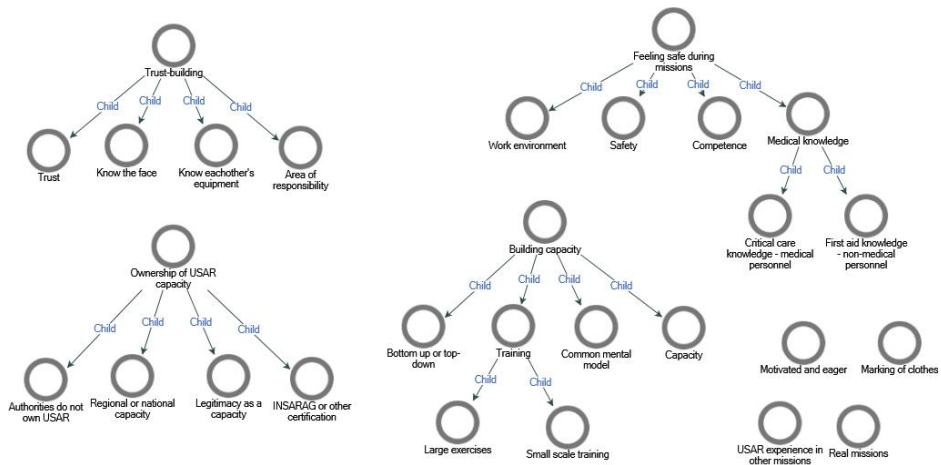


Figure 2 - Phase 4: Reviewed themes

- Phase 5 – defining and naming themes

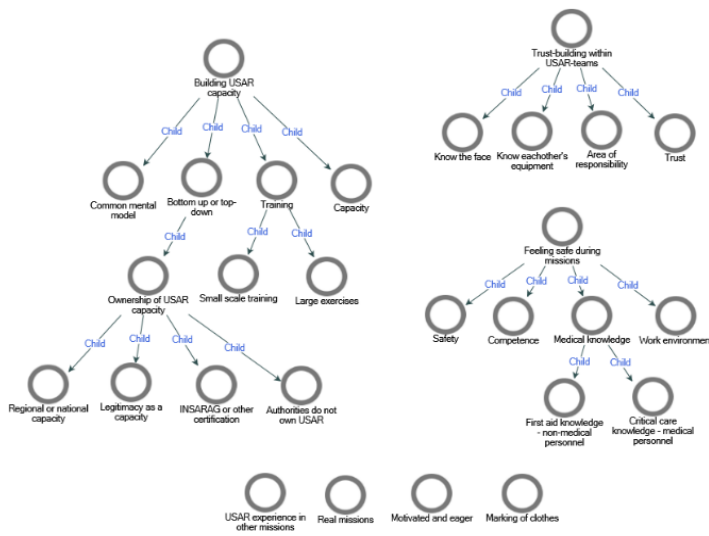


Figure 3 - Phase 5 revised

This final step is refining the codes into workable themes end with Figure 4.

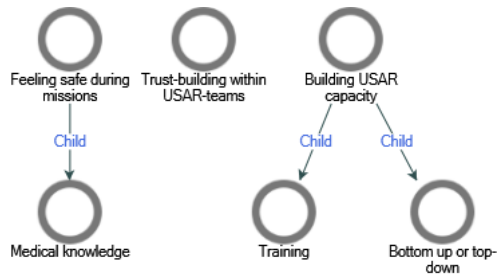


Figure 4 - Phase 5: Finally defined themes

- Phase 6 – writing the report

### Approval

Application for approval of this research project was submitted October 2<sup>nd</sup> 2022 to Norwegian Agency for Shared Services in Education and Research with reference number 838900. Consent was received October 24<sup>th</sup> 2022.

As no patient information, health information from participants or any other information subject to protection under Norwegian law is gathered, approval from Regional Committees for Medical and Health Research Ethics was not needed.

## Results

This study wanted to find out what the other two partners in USAR Oslo thought about working together with USAR-trained ambulance personnel. The three identified themes during analysis were: "Feeling safe during missions" regarding what they think EMS-personnel contribute with, "Trust-building within USAR teams" which discusses what contributes to bilateral trust between operators from different agencies, and "Building USAR capacity" about what it takes from the involved partners to do exactly that.

### Feeling safe during missions

The respondents seem to realize that annual training in basic lifesaving techniques such as cardiopulmonary resuscitation, lateral position and stopping catastrophic external bleedings is not enough to manage injuries in a USAR-environment. They value having medical professionals as part of the team in the immediate vicinity.

"I noticed when we found the first victim [at Gjerdrum (10)], and I didn't quite remember what BE was there and then, but they were ready and came into this pretty complicated landslide with their gear. [ ... ] Especially if the patient was alive, we didn't know that just then. And then they were there, and I felt: "Ahh... It's good to have them here!"

*Police officer, eight year's experience*

*"Again, it means a lot for us and our safety that they are there. It was a scary place."*

*Firefighter, ten year's experience (about the landslide at Gjerdrum)*

"One of the dogs suffered a bad laceration, and BE patched it up before transport to a veterinarian. And that is reassuring. So, we



don't have a veterinarian here, but we do have top qualified health professionals that can patch us up, and the dogs."

*Police officer, nine years' experience (talking about Gjerdrum)*

The operators throughout all interviews report they appreciate the fact that USAR trained health professionals are nearby and because of their training and equipment are able to work effectively even in the hazardous area.

The goal of prehospital services in Norway is "bringing the hospital to the patient" (11). Considering this, the respondents report they feel reassured that they will not be expected to assess, prioritize and start treating patients in a dangerous accident site, they are happy to leave this to USAR-trained health professionals.

"Stabilizing a patient if there is life in there, that's something they are far better at than we are. If we were to be competent on that too, we would have to train less on other stuff, so..."

*Firefighter, three year's experience*

On the other hand, several value cooperative theoretic and practical training, and express interest in learning more about medical patient treatment than they receive in their own service.

"My point is: with those Styrofoam sheets with quick clay sloshing on both sides, if someone topside had said to me: "Yes, [firstname], bring your dog. Let's balance 250 metres into the landslide area to the top of that smashed house you can see over there". I would never have done it. But because I had health expertise and fire and rescue service with me, my risk assessment was that the risk is acceptable. That's my thought about the matter."

*Police officer, twelve year's experience*

## Trust-building within USAR-teams

The participants often mention how paramount they regard bilateral trust. Both trust in personnel's competence within their profession, their ability to be part of a cross-agency team in complex environments, but also trust on a more personal level. Those that have worked together with BE in real missions, seems to have experienced and regard BE's members as trustworthy contributors. Many feel a combination of basic training, smaller exercises, real assignments or just social meeting points outside work contributes to trust-building.

"Coming up topside on the crane seeing there are two from BE there with their harnesses on, means I know they are checked out, that they trust my work, and I trust them. When we're all rigged up, and they are ready to climb over the rail, they just: "Yes!" without hesitation."

*Firefighter, three year's experience*

The most mentioned phenomena in all the interviews regarding trust is the importance of recognizing a face. Having an open dialogue when discussing solutions, methods, prioritization or simply sharing knowledge is often mentioned as easier when the firefighters and police officers meet familiar faces from the ambulance service.

"Hi, nice to see you again! Let's get to work together!"

*Police officer, fifteen year's experience*

"I know from experience that things are easier when we just say: "Hi, nice to see you again!", and then crack on with the job at hand."

*Firefighter, ten year's experience*

Respondents from both agencies in all interviews report that they relax meeting a familiar face from BE, because they put aside any thought

about whether or not they are competent enough, and whether trust towards themselves is in place.

Police officers report concern that BE does not know the characteristics of a police patrol dog. All the USAR-certified dogs in OPD are patrol dogs, meaning they normally are tools to manage unwilling individuals or crowds. In police terminology, patrol dogs are referred to as weapons. Several police dog handlers express the need for closer cooperation and meeting points with BE.

“What we saw up there [at Gjerdrum] was that OBRE is very aware our dogs are also weapons. They move calmly and in a circle around us, while several from BE looked like they were thinking “rescue dog!” and came right up to greet. So we had to explain that: “Yes, sort of, but not right now.” This would have been best clarified in advance.”

*Police officer, twelve year’s experience*

This observation yet again amplifies the police dog handlers expressed wish for closer collaboration and small-scale training and meeting points.

#### Building USAR capacity

USAR Oslo has built a USAR emergency capability based on selected and volunteer operators from three different agencies. This capacity has been built bottom up (12), meaning no directive from political or directorate level has been issued. The technical and theoretical competence needed has come from the ground level, almost solely from OBRE. OPD and BE has accepted the coursing given by OBRE, and also implemented their selection system for operators.

“The word out is that it’s only a matter of time before a major landslide occurs in Oslo, there are areas full of quick clay where

there's potential for a slide. If you then have no preparedness, you have to use those that know a little. We make ourselves better if we know more than just a little. And that we have trained together. [...] That's preparedness."

*Firefighter, three year's experience*

All three agencies have hours set aside for training. The overall impression is that cross-agency training is seen as paramount, and more of it is desired. They identify two routes to developing competence: "training" and "large-scale exercises". Training is described as low-key, focused on technical skills and cooperation with informal debriefs and discussion around details; whereas large-scale exercises comprise all three agencies and include a plan for the exercise with specific goals, controllers to evaluate, and a formal debrief to establish learning points for all participants. Large-scale exercises thus can be said to be a test of preparedness and capacity, more than a platform for building those.

"Yes, please, both of them. We have to practice separately, because we have our own stuff to take care of too but would also like very much to train more together. That's my opinion."

*Firefighter, ten year's experience*

"Distinguish between practicing but also have exercises in the form of a case. We will train first, then be sent to an unknown object and maybe spend the day, doing several incidents. That will give a better outcome."

*Firefighter, three year's experience*

Several times the respondents express pride in what USAR Oslo has evolved into. Fire fighters and police officers interviewed with normally entirely different work tasks seem to value contributing with their individual expertise in collaborative effort. Many express they expect that

the authorities outline national preparedness for USAR incidents, preferably based on USAR Oslo.

“What is strange is that we receive excellent feedback on the cooperation and collaborative work when something happens, like after the Gjerdrum incident, right? We were pulled into the spotlight, the cooperation between BE, fire and rescue and police worked very well. But to use this to show the will to invest in the future...”

*Police officer, nine year's experience*

## Discussion

The findings suggest firefighters and police officers have overall positive experiences and opinions on working with ambulance personnel in USAR. This aligns very well with INSARAG Guidelines (1), albeit not implemented as framework for USAR capacity in Norway. Two other extensive publications on building USAR capacity (3,4) support the need for medical professionals, leading to conclude this is not controversial.

### Quality in qualitative research

#### Relevance (13)

To our knowledge, no one has ever asked firefighters and police officers what they have experienced and think about working closely with ambulance personnel in precarious situations. As USAR incidents are rare and always unique, an explorative study seems to be most appropriate. This led to the belief that a qualitative study could produce interesting data from a variety of personnel, where factors like experience, exposure, preconceptions among the informants could add colour and depth to the canvas. To ensure efficiency in data gathering, focus groups interviews was selected instead of individual interviews. The group dynamic effect among colleagues who know each other very well could also lead to more openness, honesty and sharing of creative opinions (6), which was desired.

#### Validity and transferability (13)

The selection of contributors in the focus groups has been entirely up to the services discretion. The criteria was that they were certified USAR-operators within their service, willing, and accepting that the interviews were taped and used in an article. Internal validity (14,15) is addressed by review of the interview guide after each interview. We have also thoroughly followed Braun & Clarke's method for thematic analysis,

following the proposed six phase model (8,16). EW has been a USAR-specialist in BE since 2017 and was responsible for establishing USAR as a capacity within BE. He has been involved in a number of USAR missions, and also education and training comprising search and rescue and complicated evacuations. EW has over twenty years of practice as EMT and paramedic in the ambulance service in Norway. MH has been a GP in rural areas and have extensive experience in research and actual prehospital work in cooperation with the local ambulance service.

How large should focus groups be? Malterud (6) describes a project should comprise three to five interviews, each with six to ten participants. Two of the interviews in this study has only three participants, the other three has four. Reading the results should take this into account. Further studies about creating inter-agency teams should have bigger sample.

The findings in this study are directly valid to other services and regions in Norway, and to other countries with similar organizational boundaries between emergency services. External validity wise this can be understood as that the opinions and psychosocial mechanisms uncovered, like trust, familiar faces, the value of social encounters, small training sessions with unformal debriefs, are probably valid in a broader area of creating teams across organizational lines.

#### Reflexivity (13)

EW works as a paramedic in the air ambulance department at Oslo University Hospital, with ten years' experience as USAR and CBRNe specialist in the ambulance department. It is fair to suspect bias in favour of how USAR Oslo has evolved, and the highlighted findings in this study. To counter this, MH who was performing the interviews, have no insight in USAR as a topic nor is he a "familiar face" to USAR specialists in OBRE and Victor. To a large degree, themes have been identified based on the number of times statements have been coded and the sincerity with which

they have been voiced. EWs preconceptions about the need for USAR preparedness in Norway and the model for building a capacity similar to USAR Oslo is supported by United Nations (1), the evaluation report after the quick clay landslide at Gjerdrum (10), and two extensive master thesis (3,4) and should not be deemed very controversial. That complex rescue missions demand the emergency services collaborate is regarded a prerequisite by Norwegian authorities (17,18).

How to interpret central findings?

Working as police officers and firefighters inherits risk. Both training and actual work exposes them to physical and psychological threats that they individually and through organizational measures seek to minimize.

Both police officers and firefighters are educated in and train on basic life-saving techniques, like cardiopulmonary resuscitation, lateral position and stopping external haemorrhages. They all seem to realize that injuries sustained in a USAR-setting can be more complicated than they are trained for. They also to a large degree express relief when they have experienced that ambulance personnel take responsibility for assessing and treating patients, even those that have not experienced it themselves seem to believe patients are best handled by health professionals. This opinion can be based on the principles from Norwegian authorities on managing large incidents (17), or their own experiences or fear of having to manage a field of expertise they feel they do not master.

Feeling safe as part of a team working in a dangerous environment necessitate trust (19). The emphasis the informants put on the need for mutual trust, leads to believe that even tough emergency workers have the need for feeling safe, especially in dangerous situations. They also express the need and appreciation for being trusted back. This fundamental human need to trust and feel trusted seems to be paramount within emergency services, and should not be underestimated (19).



Sharing knowledge contributes to developing trust, but trust is also a prerequisite for sharing knowledge (20,21).

In recent years, establishing shared mental model between emergency personnel has had an increasing focus (17,22–25). Within one service of people with the same education, and the same view on how to interpret and reach their goals, this is easy to achieve. Between personnel from different agencies, it needs closer attention. In all five interviews the need for more cross agency training was expressed without anyone expressing the opposite. It is on this basis reasonable to conclude that the general assumption among USAR-specialists is that building the ability to effectively establish shared mental model on high-risk assignments is something everyone need to practice.

The development of USAR Oslo is not based on an assignment or project established by any governmental entity or top management in any of the three agencies. Ground level special rescue professionals in OBRE with knowledge about and interest in USAR reached out to Victor in 2015. This type of development could be described as bottom-up (12). In all five interviews concern is expressed about the lack of focus from superior entities in the bureaucracy.

The lack of governmental ownership of USAR preparedness is often mentioned. The prominent opinion seems to be that the future of USAR in Norway depends on the governmental bodies giving the assignment and funding necessary to all three emergency services to build a robust USAR organization comprising education, training and governance. Especially the firefighters realize that responsibility for such a task delegated to each local fire and rescue service would be impossible, as most services in Norway are too small to be able to maintain such a specialized capacity. The police and ambulance service would meet the same challenge in rural areas. Several participants in the interviews express that specialized

rescue capacities like for instance USAR would best be established on a regional or national basis.

There is a feeling of pride within USAR Oslo among the interviewees that surfaces in diverse comments and answers on many topics. Especially the fact that the evaluation after the Gjerdrum landslide by a governmental commission concluded the success of the acute effort in the first hours was crucial for preventing loss of lives (10) has contributed to this. It seems to be the opinion by many that USAR Oslo has proven the ability to deliver, especially at Gjerdrum, in close cooperation with USAR-trained personnel from Nedre Romerike Brann & Redning. The fact that the evaluation report still has not resulted in a directorial or political initiative to give the field focus and development opportunity have led to what appears to be disappointment, maybe even gloom and statements of almost hopelessness.

## Conclusions

The firefighters and police officers recognize how dangerous the Hot Zone in USAR can be. On this ground they strongly regard having USAR-trained ambulance personnel close nearby as very important for their own safety, but also for any found victims.

There is a strong feeling of trust from the firefighters and police officers towards USAR-trained EMS. They also feel this trust is bilateral. Overall, the findings suggest USAR operators feel they are part of the same tightly knit "special emergency family", and that they see no hierarchy or any sort of borders or limits in the cooperation.

The main findings suggest small scale training sessions are best to evolve competence and techniques. The informants find that large regional or national exercises are not the best learning situations, nor the best platforms for building trust and foundation for collaborative work.

## Abbreviations

BE	Beredskapsenheten (Preparedness Unit, part of the Ambulance Service at Oslo University Hospital)
EMCC	Emergency Medical Call Center
EMS	Emergency Medical Service
EMT	Emergency Medical Technician (basic ambulance education level)
GP	General practitioner
INSARAG	International Search And Rescue Advisory Group
OBRE	Oslo Brann & Redningsetat (Oslo Fire & Rescue Service)
OCHA	Office for the Coordination of Humanitarian Affairs
NORSAR	NORwegian Search And Rescue
UHP	USAR Health Professional
UN	United Nations
USAR	Urban Search And Rescue
Victor	Callsign and "street name" for the Oslo Police District patrol dog unit

## Declarations

These declarations are according to Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine criteria for original research.

## Approval

Application for approval of this research project was submitted October 2<sup>nd</sup> 2022 to Norwegian Agency for Shared Services in Education and Research with reference number 838900. Consent was received October 24<sup>th</sup> 2022.

## Consent for publication

Not applicable.

## Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

## Competing interests

The authors declare that they have no competing interests.

## Funding

Not applicable.

## Authors' contributions

EW and MH participated in study design. MH acquired the dataset (interviews) EW analysed the dataset and drafted the article. MH critically revised the draft, and all authors read and approved the final manuscript.

## Acknowledgements

We are very thankful to all the firefighters and police officers that participated, and their managers for letting us interview. A warm thought also goes to the patrol dogs at Victor who are real heroes.

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## 7. Appendices

### 7.1 Information letter and consent form

# Vil du delta i forskningsprosjektet

## «Ambulansepersonell i USAR-innsats»

Dette er et spørsmål til deg om å delta i et forskningsprosjekt hvor formålet er å undersøke hvordan USAR-personell i Oslo Brann- og Redningsetat og Oslo Politidistrikt oppfatter og vurderer ambulansepersonellets bidrag. I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

Jeg er student på et masterstudie som heter PHCC (Prehospital Critical Care) ved Universitetet i Stavanger, og hensikten er altså å samle data til en masteroppgave.

### Formål

Jeg ønsker å undersøke hvordan du oppfatter samarbeidet med medlemmer av Beredskapsenheten i ambulanseavdelingen sin innsats i Warm og Hot Zone. Jeg er bare opptatt av USAR-oppdrag i vår utvidete forståelse av begrepet, så både arbeid i høyde og sammenraste strukturer, ras og skred mm er viktig. PLIVO, CBRNe og samhandlingsoppdrag av mer «normal» karakter er ikke tema.

Hensikten er å få svar på følgende spørsmål:

- Hvilke erfaringer har du med hensyn til samarbeid med ambulansepersonell i USAR-oppdrag?
- Hvordan er din oppfattelse av deres forståelse for og innsikt i dine arbeidsoppgaver i slike oppdrag? Har du erfaringer og tanker fra oppdrag eller trening og øvelser du kan dele?
- Hvordan påvirkes ditt arbeid av at ambulansepersonell er til stede i farlig område?
- Hvordan kan kursing og trening/øvelser sammen påvirke samarbeidet med de to andre etatene?
- Hvordan har kursing og trening foregått for din del?
- Har du deltatt på øvelser eller reelle oppdrag med alle tre etater i innsats?
  - Ja: Hvordan opplevde du samarbeidet?
  - Nei: Hva tror du felles øvelser kan gi av effekt i et samhandlingsperspektiv?

Jeg har tenkt å skrive en artikkel for publisering i et internasjonalt eller norsk tidsskrift.

Jeg skal ikke bruke data jeg samler inn i disse intervjuene til noe annet enn det ovennevnte.

### **Hvem er ansvarlig for forskningsprosjektet?**

Universitetet i Svanger er ansvarlig for prosjektet.

### **Hvorfor får du spørsmål om å delta?**

Undersøkelsen har planlagt å gjennomføre 2 – 6 gruppeintervjuer hos OBRE ved Redningsavdelingen, og Oslo Politidistrikt ved Hundetjenesten (Viktor).

Jeg har overlatt til OPD og OBRE å velge hvem som blir invitert til å delta, kravet er at du er godkjent USAR-personell, og er villig til å dele dine erfaringer og tanker om USAR-innsats i samarbeid med USAR-trent ambulansepersonell.

### **Hva innebærer det for deg å delta?**

Jeg antar det meste skal være mulig å få til i løpet av en times tid. For deg betyr det at du deltar aktivt i intervjuet, og at du sier deg villig til å la meg bruke dataene fra intervjuene i min master-oppgave. Intervjuene blir tatt opp med diktafon, slik at jeg er sikker på å få med meg alt som blir sagt. Jeg vil ikke selv stå for intervjuet, det blir utført av en tredjeperson som ikke har spesiell innsikt i USAR som fagfelt, og som heller ikke er aktivt prehospitalt personell. Dette valget er tatt for å redusere sjansen for at mine ideer, erfaringer og tanker skal farge svarene dine.

Det viktigste jeg ønsker å få tak i, er dine erfaringer – men også dine ideer, ønsker, krav og tanker ellers om samarbeid med ambulansepersonell i USAR-relaterte oppdrag.

Når intervjuene er gjennomført vil jeg transkribere opptakene av intervjuene og sortere innspillene under forskjellige temaer for å finne felles erfaringer, tanker og ideer, som så samles i en rapport og en forskningsartikkel. Jeg ønsker altså å få samlet kunnskap som ambulansetjenesten kan bruke for å forbedre sitt bidrag, men håpet er også å finne viktig informasjon som kan hjelpe andre tjenester i eller utenfor Norge i arbeid med å etablere tverrfaglige innsatsgrupper. Det kan også tenkes at funnene i denne studien kan være vel så interessant for de øvrige nødetatene eller andre som arbeider i situasjoner med høy risiko, ikke bare ambulansetjenesten.

### **Det er frivillig å delta**

Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du trekke samtykket tilbake uten å oppgi noen grunn, frem til dataanalyse starter – fristen er 1. desember. Alle dine personopplysninger vil da bli slettet. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

## **Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger**

Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

Det vil bare være to personer som har tilgang til det som blir sagt i intervjuene:

- Dr. Magnus Hjortdahl som er min veileder, som også gjennomfører intervjuet
- Erik Westnes (jeg) som transkriberer og analyserer dataene i etterkant samt skriver artikkel og rapport

I selve masteroppgaven og den tilhørende artikkelen som jeg skal forsøke å få publisert, vil det ikke være mulig å spore utsagn til deg som enkeltperson. Uttalelser og sitater jeg bruker i oppgaven vil kodes med P1, P2, B1, B2 og så videre, slik at person og uttalelse ikke kan kobles.

Jeg vil likevel samle navn på deltakerne i hvert enkelt intervju for at jeg skal kunne slette ditt bidrag om du skulle ønske å trekke deg fra studien. Jeg vil også ønske å kunne sende deg intervjuene når de er transkribert, slik at du har mulighet til å rette feil jeg har gjort. Navnene deres vil ikke bli lagret sammen med selve intervjuene, navn og data lagres altså separat. Bare jeg og min veileder vil kunne koble navn og data. Både data og navnelister blir lagret kryptert på servere hos Universitetet i Stavanger.

### **Hva skjer med personopplysningene dine når forskningsprosjektet avsluttes?**

Prosjektet vil etter planen avsluttes i juli 2023 når min masteroppgave (forhåpentligvis) er godkjent. Dersom navn eller personsensitive opplysninger fremkommer i intervjuene, vil disse bli spilt over («beepet») i lydfilene og originale lydfile slettes.

### **Hva gir oss rett til å behandle personopplysninger om deg?**

Vi behandler opplysninger om deg basert på ditt samtykke.

På oppdrag fra Universitetet i Stavanger har Personverntjenester vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

## **Dine rettigheter**

Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke opplysninger vi behandler om deg, og å få utlevert en kopi av opplysningene
- å få rettet opplysninger om deg som er feil eller misvisende

- å få slettet personopplysninger om deg
- å sende klage til Datatilsynet om behandlingen av dine personopplysninger

Hvis du har spørsmål til studien, eller ønsker å vite mer om eller benytte deg av dine rettigheter, ta kontakt med:

- Universitetet i Stavanger ved Erik Westnes ([erik@westnes.no](mailto:erik@westnes.no) eller tlf 92250637) eller Dr. Magnus Hjortdahl ([magnushj@oslomet.no](mailto:magnushj@oslomet.no) eller tlf 97562697).
- Vårt personvernombud på UiS: Rolf Jegervatn: [personvernombud@uis.no](mailto:personvernombud@uis.no)

Hvis du har spørsmål knyttet til Personverntjenester sin vurdering av prosjektet, kan du ta kontakt med:

- Personverntjenester på epost ([personverntjenester@sikt.no](mailto:personverntjenester@sikt.no)) eller på telefon: 53 21 15 00.

Med vennlig hilsen,

Dr. Magnus Hjortdahl (veileder)

Erik Westnes (masterstudent)

Oslo, 30.09.22

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### **Samtykkeerklæring – «Ambulansepersonell i USAR-innsats»**

Jeg har mottatt og forstått informasjon om prosjektet «Ambulansepersonell i USAR-innsats», og har fått anledning til å stille spørsmål. Jeg samtykker til:

- å delta i fokusgruppeintervju
- jatakk, jeg vil gjerne få tilsendt transkribering av intervjuene for gjennomlesning

\_\_\_\_\_ (din epostadresse)

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet

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(Signert av prosjektdeltaker, dato)

## ***Intervjuguide for «Ambulansepersonell i USAR-innsats»***

### **Innledning:**

Hensikten med denne intervjuguiden er å gi intervjuer og deltakere forståelse for hvilke spørsmål det ønskes svar på, eller hvilken kunnskap, erfaringer og tanker deltakerne har om ambulansepersonell sitt arbeid i USAR-hendelser.

### **Husk:**

- Det er frivillig å delta
- Vi trenger signert samtykkeerklæring fra alle deltakere
- Du kan trekke deg frem til dataanalyse starter, ca 1. desember.
- Det du sier vil ikke kunne spores tilbake til deg i oppgave eller artikkel
- Alle data vil lagres på beskyttede servere på Universitetet i Stavanger

### **Forskningsspørsmål:**

Hva er USAR-trente polititjenestefolk (hundeførere) og redningsmenn fra Brann- og Redningstjenestens erfaring med USAR-trent ambulansepersonell: Hvordan bidrar de, og hvordan kan deres bistand til både redningsarbeidere og ofre bli bedre?

Alle spørsmålene dreier seg om arbeid i USAR innsats, altså arbeid i ras, skred, sammenraste eller truende sammenrasninger i naturlige eller menneskeskapt strukturer, arbeid i høyde eller arbeid under trange forhold (WICS – Work In Confined Space).

## Din erfaring:

- Har dere erfaringer fra samarbeid med ambulanspersonell i USAR-innsats? Er de fra trening, kurs, fullskalaøvelser, eller fra skarpe oppdrag?
- Bidrar eller forhindrer ambulanspersonell effektiv innsats i farlig område?
- Hva er USAR-trent ambulanspersonells konstruktive bidrag i innsatsarbeid?
- Hvilke ulemper eller fordeler medfører USAR-trent ambulanspersonell på skadestedet? Både erfaringer og frie tanker er interessante.

## Kursing / kompetanseheving:

- Hvordan kan kurs og trening innenfor emnet USAR forbedres?
- Kan kursing eller trening sammen med de to andre etatene øke felles virkelighetsforståelse? Hvordan?
- Foretrekker du kurs og trening separat eller samtrening med de to andre etatene? Hvorfor?

## Trenings- og øvelseskonsepter:

- Fullskalaøvelser med USAR-personell fra alle tre etater: Hvilke erfaringer gjorde du deg om samhandling med ambulanspersonell?
  - Hvilke kunnskaper får du fra fullskalaøvelser som etatsintern trening ikke gir?
  - Hvordan kan eventuelt dine erfaringer med USAR-relatert trening og innsats overføres til andre fagfelt/temaer?
  - Hvordan skiller øvelser seg fra skarpe oppdrag?
  - I hvilken grad og på hvilken måte bidrar fullskalaøvelser til felles mental modell om USAR-oppdrag?

## Holdninger mtp samarbeid med de to andre etatene:

- Hvordan har samarbeid om USAR-innsats påvirket ditt syn på tett samarbeid med de to andre etatene?
  - Hvordan, om i det hele tatt, har dette gitt deg innsikt som er nyttig i andre samhandlingsoppdrag som PLIVO, CBRNe, MIK, store ulykker, etc?
  - Hvordan endrer ditt arbeidsmønster seg når ambulanspersonell er tilgjengelig i Hot Zone?
  - Kan samarbeid med ambulanspersonell i USAR-relaterte oppdrag endre ditt syn på deres bidrag i andre komplekse oppdrag? Kan du gi eksempler?
- Hvordan kan samarbeidet mellom BE, Redning og Victor gjøre USAR Oslo mer aktuell som nasjonal ressurs?

## Oppfølgingsspørsmål:

- Er det noe du har lyst til å nevne som ikke er spurt om?
- Har du noen andre innspill relatert til samarbeid mellom innsatspersonell fra disse tre etatene?

## Theseaurus:

- PLIVO - Pågående Livstruende Vold
- CBRNe - Chemical, Biological, Radiation, Nuclear, explosives
- MIK - Mobilt InnsatsKonsept

Tusen takk for hjelpen!

Vennlig hilsen,

Erik Westnes

Paramedic, PHCC-Master student