

# Developing Police Search Strategies for Elderly Missing Persons in Croatia

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## **Purpose:**

This paper examines the distribution of elderly missing persons in the city of Zagreb per variables (age, sex of the missing person, social and marital status, employment, place and duration of disappearance, method of finding the missing person, its outcome, reasons for disappearance, etc.) needed for the design of the plan of the search for the missing person.

## **Design/Methods/Approach:**

The paper uses data collected through a questionnaire with 417 variables and processed with certain basic statistical methods. The collected data are examined on a sample of 170 elderly missing persons in the city of Zagreb, and through characteristics of methods, measures and actions, together with the methods of search for elderly persons in cities, with special reference to Zagreb.

## **Findings:**

The statistically established behavioural modes of certain groups of elderly people are analysed: persons with Alzheimer's disease and persons with suicidal risk. The stated findings largely assist in planning and conducting the search for those persons, especially for missing person profiling and his/her possible movement since disappearance. The success of the search for the missing person presumes knowledge about the stated specifics by all searchers. It especially applies to the police in the formal, due to its sole duty and competence for the search for missing persons, as well as in the real sense where they conduct search measures and actions together with other participants adapted to real situations of disappearance of elderly persons.

## **Research Limitations/Implications:**

The research has been limited by data available from the police bulletin of daily events, but this limitation was partially removed by a direct insight into the police files containing the case history. During the research, the legal and ethical regulations regarding personal data protection were strictly followed.

## **Originality/Value:**

There is a number of researches on police search for the missing persons (UK, USA, Australia etc.), but few of them deal with elderly persons. This paper introduces a new offensive approach to the search for the missing person on a strategic level (missing person profiling with regard to specific variables, possible

movement and routes, "wanderings"). New police procedures are suggested on a tactical level (e.g., stopping a person who disappeared in a certain area), but they include traditional police methods (car & regular patrols, police officers on bicycles, police search dogs, collecting information, conducting interviews, terrain search etc.). Introduction of the principle of partnership search for the missing person. Research results should be useful to police practice and their education.

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**Keywords:** missing persons, police search, elderly persons, Alzheimer's disease

## **Razvijanje policijskih strategij za iskanje starejših pogrešanih oseb na Hrvaškem**

### **Namen prispevka:**

Članek obravnava porazdelitev starejših pogrešanih oseb v Zagrebu po posameznih spremenljivkah (starost in spol pogrešane osebe, socialni in zakonski stan, zaposlitev, kraj in trajanje izginotja, način iskanja pogrešane osebe, izid le tega, razlogi za izginotje itd.), potrebnih za oblikovanje načrta iskanja pogrešane osebe.

### **Metode:**

Podatke, predstavljene v članku, smo zbrali z vprašalnikom, ki ima 417 spremenljivk, in jih obdelali z nekaterimi osnovnimi statističnimi metodami. Podatki so zbrani na vzorcu 170 starejših pogrešanih oseb v Zagrebu s pomočjo metod in pripomočkov za iskanje starejših oseb v mestih, s posebnim poudarkom na mestu Zagreb.

### **Ugotovitve:**

Analizirali smo statistično ugotovljene vedenjske oblike nekaterih skupin starejših ljudi: oseb z alzheimerjevo boleznijo in oseb s tveganjem za samomorilno vedenje. Ugotovitve so predvsem v pomoč pri načrtovanju in vodenju iskanja teh skupin ljudi, še posebej pri profiliranju pogrešanih oseb in ugotavljanju njihovih možnih premikov v času izginotja. Seznanjenost o posebnostih pogrešane osebe je en od dejavnikov, ki vplivajo na uspešnost iskanja. Še posebej to velja za policijo – tako v formalnem smislu, saj je iskanje pogrešanih njena dolžnost in so policisti za to tudi usposobljeni, kot tudi zato, ker policija vodi iskanje skupaj z drugimi ter ga prilagaja realnim okoliščinam izginotja starejših.

### **Omejitve/uporabnost raziskave:**

Omejitve raziskave so vezane na razpoložljive podatke policijskih poročil o vsakodnevnih dogodkih, kar smo delno odpravili z neposrednim vpogledom v policijske kartoteke, ki vsebujejo tudi zgodovino samih primerov. V raziskavi smo upoštevali pravne in etične predpise o varstvu osebnih podatkov.

### **Izvirnost/pomembnost prispevka:**

O policijskem iskanju pogrešanih oseb obstaja veliko raziskav (Velika Britanija, ZDA, Avstralija itd.), vendar se jih le nekaj osredotoča na iskanje starostnikov. Članek predstavlja nov pristop k iskanju pogrešanih oseb na strateški ravni

(profiliranje pogrešanih glede na specifične spremenljivke, morebitno gibanje pogrešanih, "potepanja"). Novi policijski postopki so predlagani na ravni taktike (npr. ustavljanje osebe, ki je izginila na določenem območju) in kot uporaba tradicionalnih policijskih metod (avtomobilske in redne patrulje, policisti na kolesih, uporaba policijskih psov, zbiranje podatkov, vodenje razgovorov, pregled terena itd.). Članek predstavlja načela sodelovanja pri iskanju pogrešanih oseb. Rezultati raziskave so lahko koristni za policijsko delo in izobraževanje policistov.

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**Ključne besede:** pogrešane osebe, policijsko iskanje, starostniki, alzheimerjeva bolezen

## 1 INTRODUCTION

The increased number of the reported missing persons in the Republic of Croatia is getting more and more attention of the Croatian public, along with the police whose work volume in that area is marked by continual growth. The data collected in Table 1 show the *growth trend of the reported missing persons* with certain variations and falls in 2004 and the 2008–2010 period. In the presented period of time, the annual average number in the Republic of Croatia is 39 persons per 100.000 citizens, with round 18% of persons older than 60. These data do not include the persons who disappeared during the Homeland War or in natural disasters.

**Table 1:**  
The number  
of the reported  
missing  
persons\*

Year	No. of Missing Persons	Base Index	Chain Index
2000	1247	100.00	
2001	1253	100.98	100.48
2002	1406	112.75	112.21
2003	1639	131.44	116.57
2004	1559	125.02	95.12
2005	1619	129.83	103.85
2006	1702	136.49	105.13
2007	1771	142.02	104.05
2008	1753	140.58	98.98
2009	1733	138.97	98.86
2010	1704	136.65	98.33
2011	1774	142.26	104.11
2012	1928	154.61	108.68
2013	2192	175.78	113.69

\*The number of the reported missing persons in the Republic of Croatia in the period 2000–2013 with the calculated base and chain index (Source: <http://www.mup.hr>)

Disappearance of elderly people must be considered a security event with a high level of danger and risk (e.g., danger of self-inflicted injury or accidental

injury, cause of death by accident/fall from a height or drowning, hypothermia, dehydration, life-threatening symptoms characterized by failure to take regular drug therapy etc.) (Koester & Stooksbury, 1992; Silverstein, Flaherty, & Tobin, 2002).

According to the last census, there are round 15% persons older than 65 in the city of Zagreb ([www.zagreb.hr](http://www.zagreb.hr)). In the last 5-year period, according to the police data, there are round 80 missing persons in the city area p.a., which makes up to 20% of the total number of the missing person in the city of Zagreb (Butorac, Šuperina, & Mikšaj Todorović, 2013).

Within the issues of elderly missing persons, there is a special category for the elderly persons with Alzheimer disease and related dementia as syndromes of the global decrease of the acquired cognitive abilities with preserved conscience (e.g., caused by stroke/vascular dementia, Lewy body dementia, frontal-temporal dementia/Pick's disease, dementia caused by Creutzfeld-Jacob's and Parkinson's disease, etc.) (Lušić, 2011). With such persons, the occurrence of *wandering* caused by various causes is quite common: due to feeling of insecurity and disorientation in a new surroundings; short-term memory loss regarding the destination; search for someone or something in relation to his/her past; due to surplus of energy; insomnia and/or waking up in early morning, which makes them disoriented; for continuation of earlier habit of long-term walk on long distances; belief that they must do a certain job, but they are absent-minded in the space, time of the day or the season; due to inability to differentiate between dreams and reality, so the person reacts to something that (s)he dreamt about, thinking that it happened in the real life, etc. (Australian Federal Police, [www.missingpersons.gov.au](http://www.missingpersons.gov.au)) (Klein et al., 1999; Laklija, Milić Babić, & Rusac, 2009).

The success in the search for an elderly missing person implies the knowledge on the psycho-physical and social and demographic structure of elderly persons, the reasons and motives for disappearance, methods of search, especially in urban surroundings, risk management and assessment of danger by all participants in the search (Šuperina & Gluščić, 2003). It especially applies to the police in the formal sense, because it is the only one in charge and competent for the search for the missing persons, as well as in the real sense of the word, where it exercises measures and works of the search together with other persons, adjusted to real situations of the disappearance of elderly persons.

## 2 METHODS

Data on social and demographic features and the health status, as well as the reasons and motives for disappearance of the elderly persons aged 60 or older and data on the police activities in relation to the missing persons were collected for the period 2010–2012 in the sample of 170 missing persons from the police database for the City of Zagreb. Three types of police databases were used: missing persons' registry, registry of daily activities (bulletin) of the missing persons, and the file of the missing person which was kept at the territorially competent police precinct. The first two databases were used in October 2013, and the case file was checked in February and March 2014. This must be mentioned because this

involves the so-called “*alive database*” which can be changed daily, e.g., by finding the missing persons or by establishing a certain important fact on circumstances of the disappearance of the missing persons.

A questionnaire was designed and was used to collect the stated data. It consists of 417 variables that were classified in 16 units. The data were processed by a statistical method, and absolute and relative frequencies were included in order to gain insight into the status of the analysed topic. The available literature was also analysed and presented in the work through the description and compilation methods.

### 3 SPECIFIC FEATURES OF THE URBAN SEARCH

#### 3.1 Research Results

The analysed research results relate to the period 2010 to 2012. In 2010, there were 49 (28.8%) reported elderly missing persons in the area of the Zagreb Police Administration, and in 2011 that number increased to 62 (36.5%) of the reports, while in 2012 there were 59 (34.7%) reports.

Out of the total number of the elderly missing persons ( $N = 170$ ), 105 (61.8%) of them were male, while there was 65 women (38.2%). Therefore, the number of the missing men was almost twice as big as the number of women. But the data from the Croatian Public Health Institute show that the share of women in the population of elderly persons increases with age and that the share up to the age of 70 is 57%, while the share above the age of 85 increases up to 75%. In the age group of 60–65, there were 34 (20%) missing persons; in the age group of 65–70, there were 32 (18.8%) persons and in the age group 71 and above, there are 104 (61.2%) persons.

Regarding the submitted reports on the missing persons, all 170 were submitted to the police, and mostly to the police precinct competent at that territory. 131 (77.1%) reports were submitted orally in the police precinct, 26 (15.3%) reports were sent to the territorially competent police precinct through a fax notice, 10 (5.9%) reports were submitted by telephone, and only 3 (1.7%) reports were submitted through a memorandum sent through the post. These data lead to a conclusion that the largest number of reports was made when the persons submitting a report came to the police precinct, and the reports made through the fax notice relate to the submissions from hospitals, psychiatric hospitals and senior residences.

The greatest number of reports were made by a spouse of the missing person, 53 (31.2%) of them. In 38 (22.4%) cases, the report on the missing person was made by a son of the missing person, and in 29 (17.1%) cases the daughter of the missing person. Psychiatric hospitals submitted 21 (12.3%) reports, while senior and disabled persons' residences submitted 17 (10.0%) reports. The other 12 (7.0%) reports were made by other notifiers (grandson or granddaughter, brother or sister of the missing person or other private persons). These data lead to a conclusion that the greatest number of notifiers comes from the circle of the closest family members. A large percent of the spouses as notifiers is understandable

because the elderly missing persons, if married, are oriented towards their family and marital relations and care provided by those persons, followed by their children, sons or daughters.

According to the level of education, our pattern fits into the total overview of education of the Croatian population, with 21.2% people with higher education. The greatest number of the elderly missing persons in our pattern completed secondary education, 87 (51.2%) of them, then 31 (18.2%) of them completed the university or college. 30 (17.6%) of the missing persons completed the primary education, 8 (4.7%) of them completed college, while 4 (2.4%) missing persons have not completed their university studies. One of each of the missing persons (0.6%) completed a three-year vocational school and acquired the scientific academic level (MA). In 8 cases (4.7%) the level of education of the missing person was not determined. Although there is a large proportion of the persons with completed secondary school and university among these data, it cannot be concluded that the level of education among the elderly missing persons is a significant factor. Especially because there is also a large number of those who completed only primary education. We believe that some other factors, especially endogenous ones, are more important for the disappearance of elderly persons.

Personal data on the elderly missing persons	No	Unknown	Yes	
			Abs.	%
<b>At the time of disappearance, the missing person lived</b>				
In marital alliance	91	37	42	24.706
In common-law marriage	133	36	1	0.588
With parents	133	36	1	0.588
With a child	105	36	29	17.059
With a grandson/granddaughter	131	36	3	1.765
With other persons	131	36	3	1.765
In Senior and Disabled Person's Residence	120	36	14	8.235
Alone	93	36	1	0.588
<b>Marital status of the missing person at the time of disappearance</b>				
Unmarried	127	37	6	3.529
Married	91	37	42	24.706
Divorced	124	37	9	5.294
Widowed	55	37	78	45.882
<b>The missing person was the following at the time of disappearance</b>				
Pupil or student	151	19	-	-
Employed	138	26	6	3.529
Unemployed	137	26	7	4.118
Retired	21	18	131	77.059

**Table 2:**  
Personal data on a missing person at the time of disappearance: social, marital and employment status

In Table 2, personal data of the missing elderly persons were analysed. According to the social status data, the greatest number of the elderly persons

lived married with their spouse, almost one quarter of them (42 or 24.7%). It is followed by living in the child's family (29 or 17.1%) and living in a Senior and Disabled Persons' Residence (14 or 8.2%). The smallest frequency was noted, among other, with singles (1 or 0.6%). These data lead to conclusion that the elderly missing persons had relatively good care, they were provided for and with nearby care provider, either a spouse, own child to persons in the Senior and Disabled Persons' Residence. The largest number of the elderly missing persons were widowed (78 or 45.9%), and there were 42 or 24.7% married persons. Regarding the employment status, 131 or 77.1% of them were retired, which could be expected with respect to the population where these data were collected.

The collected data can determine the period when the missing person was found. Thus 45 (26.5%) of them were found in 2010, 55 (32.3%) of the missing persons were found in 2011, and 59 (34.7%) of the missing persons were found in 2012, while one person (0.6%) was found in 2013. In the monitored period 10 (5.9%) elderly missing persons were not found.

**Table 3:**  
Time lapse from the assumed time of disappearance of the person to the time of reporting of his/her disappearance

Time lapse	Frequency	%
00-03 hours	31	18.2
04-06 hours	44	25.9
07-09 hours	23	13.5
10-12 hours	11	6.5
13-15 hours	5	2.9
16-18 hours	6	3.5
18-21 hours	7	4.1
22-24 hours	8	4.7
1-2 days	17	10.0
3-4 days	9	5.3

Time lapse	Frequency	%
5-6 days	5	2.9
1-2 weeks	3	1.8
3-4 weeks	-	-
1-3 months	-	-
4-6 months	-	-
7-9 months	-	-
10-12 months	-	-
More than a year	1	0.6

**Table 4:**  
Time lapse from the time of reporting of the missing person to the time when he/she was found

Time lapse	Frequency	%
00-03 hours	28	16.5
04-06 hours	33	19.4
07-09 hours	14	8.2
10-12 hours	10	5.9
13-15 hours	9	5.3
16-18 hours	2	1.2
18-21 hours	3	1.8
22-24 hours	11	6.5
1-2 days	16	9.4
3-4 days	6	3.5

Time lapse	Frequency	%
5-6 days	3	1.8
1-2 weeks	6	3.5
3-4 weeks	6	3.5
1-3 months	4	2.3
4-6 months	3	1.8
7-9 months	2	1.2
10-12 months	2	1.2
More than a year	2	1.2
Not found	10	5.9

Time lapse	Frequency	%
Came back on his/her own	35	21.9
Police Officer	78	48.8
Mountain Rescue Service	1	0.6
Family member	16	10.0
Other private person	27	16.9
Other legal person	3	1.9

**Table 5:**  
Subject who  
found the  
missing person

With the analysis of data from Tables 3, 4, and 5 and their deeper introspection, we reached data connected to the time lapse – from the time when the person disappeared to reporting and time lapse – from the time of reporting to the time when the missing person was found, and on the subject who found the elderly missing person. According to the data from the Table 3, 109 (64.1%) of them were reported within the first 12 hours from disappearance, while another 26 (15.3%) of the missing persons were reported in the next 12 hours, and 17 (10%) more were reported by the end of the second day. By adding these data, we establish that 152 (89.4%) persons are reported within 2 days from the assumed time of disappearance. This large percent of the early reporting of the elderly missing person is certainly but not only the result of the care of and relations with the closest family members, as we already concluded in the previous analyses, but also due to quick intervention of psychiatric hospitals and senior and disabled persons' residences, where their care was originally provided.

Likewise, the percentage of finding the missing persons is relatively high. The total of 85 (50.0%) missing persons were found within 12 hours, while 25 (14.7%) more was found in the next 12 hours, and in the period of the next two days, another 16 (9.4%) missing persons were found. By adding these data, we reach the result that from the time of reporting until the time of finding the missing person, 126 (74.1%) of the missing elderly persons were found in the period up to 2 days. This high percentage of finding the missing persons in the established time period can be also seen through the quick and efficient reaction of the police in relation to the missing persons, as well as through so-called partnership search, where the family members have a significant role.

Data on subjects who found a missing person are analysed in Table 5. These data show that the police participated in finding of the missing elderly person with 48.8%, in almost half of the cases of the missing person cases. That is understandable due to their duty to search for the missing person, but also due to possessing human and material resources included in every individual search for the missing person. Independent return of the missing person in his/her residence also has a large percentage of 21.9%, and it can be explained either through the conscious return of the missing person or a moment of *lucida intervalla* when a disoriented person finds his/her way and returns to his/her home (e.g., a demented elderly woman got lost in the city and approached the taxi driver, telling him the address of her apartment where he should take her). The other physical persons who found the missing person (16.9%) include the citizens who reported e.g. the person wandering around on the schoolyard, riding in a tram for



a long time, etc. to the police. Likewise, a significant percentage also belongs to the activity of the family members (10.0%) whose activities assist the police in the search for the elderly missing person. In the monitored period, it must be said, 10 persons remained missing.

**Table 6:**  
Residence and  
the location  
where the  
missing person  
was found

Location of residence/ disappearance	Frequency	%	Location of finding	Frequency	%
Rural area	1	0.6	Rural area	7	4.1
Larger town – city	20	11.8	Larger town – city	17	10.0
County seat	148	87.1	County seat	135	79.4
Unknown	1	0.6	Unknown	1	0.6
			Not found	10	5.9

In Table 6, we analysed locations where the person disappeared and the locations where he/she was found. Data that we collected allow us only to draw a general conclusion that there was certain mobility among the elderly missing persons at the time of their disappearance. We thus recorded the trips of elderly persons from Zagreb to Osijek, Crikvenica, Križevci. This data is also useful in planning the scope of the search measures and operations during the search for the missing person. But in order to get a more complete and exact structure of responses to the questions, mapping/computer calculations of distances from the locations of residence or disappearance to the location where the person was found need to be done (Vaccaro & Guest, 2010), which will be a future assignment.

At the end of this summary analysis of the Table 7, we are providing you an overview of data giving us the reasons for disappearance of elderly persons in the territory of the City of Zagreb. We can see that the first place belongs to the various types of dementia (amnesia, intellectual difficulties, space disorientation, atherosclerosis, Alzheimer’s disease, Parkinson’s disease etc.) with a significant 49.4% share in the number of the missing person. It is followed by various mental disorders (18.8%) and mental diseases (18.1%).

Reason for missing	Frequency "YES" – relative share in the total number of the missing persons	Absolute share in the total number of the mis- sing persons (N = 160)
Wilful leaving of the common living area and keeping the place of residence secret	5	3.125
Family disputes	10	6.250
Problematic family relations	6	3.750
Lack of care or abuse in the family	2	1.250
His/her divorce proceedings	2	1.250
Disappearance is related to adventurism	1	0.625
Disappearance is related to travel	3	1.875
Disappearance is related to unhappy love	2	1.250
Disappearance is related to wandering	3	1.875
Disappearance is related to alcohol intake	17	10.625
Disappearance is related to material and financial reasons	9	5.625
Disappearance is related to issues at work	1	0.625
Disappearance is related to adultery of the spouse	1	0.625
Disappearance is related to chronic disease	20	12.500
Disappearance is related to mental disorder of the person	30	18.750
Disappearance is related to mental disease of the person	29	18.125
Disappearance is related to suicidal disposition of the person	15	9.375
Disappearance is related to amnesia, intellectual difficulties, space disorientation, atherosclerosis, Alzheimer's disease, Parkinson's disease etc.)	79	49.375
The reason for disappearance is natural death - old age	2	1.250
The reason for disappearance of the person is sudden natural death	2	1.250
The missing person was a victim of an accident	1	0.625
The missing person was victimized by criminal act	2	1.250
The person hides a criminal act through disappearance	1	0.625

**Table 7:**  
Established  
reasons for  
disappearance  
of the elderly  
person

According to the data from Croatian Public Health Institute (2013), only 0.8% of Croatian citizens older than 65 suffer from mental diseases and disorders. These data show a clear discrepancy and point to the fact that mental diseases and disorders are a significant factor among the reasons of disappearance of elderly persons. Significant reasons for disappearance of the elderly persons include chronic diseases (12.5%), alcoholism (10.6%), suicidal disposition of a person (9.4%), various types of disputes, arguments in the family (6.2%) as well as bad material, financial status (5.6%). The total significance of these data is seen in the possible usage for planning of the search process in individual cases, but also as the instruction to those who design the regular and supplemental education programmes for police officers (Kiepal, Carrington, & Dawson, 2012).

### 3.2 Specific Features of the Urban Search

In the following section, the specific features of the urban search will be presented. The basic stages of the process of the search for the missing person include the following (Kelly, Koester, & John, 2007; Syrotuck, 2012; Šuperina & Gluščić, 2003; Young & Wehbring, 2007):

**a) Data collection**, starting with reception of the report on the missing person to data collection, or notification on interviewing of a certain circle of persons and the field police activity at the location of disappearance. These collected data will be arranged and classified according to certain criteria (the missing person, the location of disappearance, the searched on unsearched locations, interviewed persons etc.) in the further search process. The information will be further assessed according to its significance and value, whether it is important, unimportant, reliable, or unreliable and then distributed within the search team, the family of the missing person, and the media covering the search (mostly through the police PR) (Hedges, 2002).

**b) Preparing for the search for the missing person**, including the check of the reporting on the missing person, checking in hospitals or ERs, establishment of the last location where the missing person was seen or where the contact was established, overview of those locations, protection of the traces and potential scent holders of the missing person, publication of the search for the elderly missing person and releasing the information “on air” in the police system.

**c) Conducting the search of the missing person**, consisting of making of a plan for the search for the missing person and conducting the search and checking the location and the area in the approximate vicinity of the location where the person disappeared, taking measures and actions according to the plan of the search for the missing person. Planning the search for the missing person is a complex and difficult intellectual and cognitive process, permanently dynamic, submitted to constant changes in relation to the collected data and the results of the conducted search (Milke, 1994). This is a cognitive process where bits of the collected information are perceived and mutually confronted, and new conclusions are made and decisions made with regard to the continued search for the missing person.

**d) Documenting and registration** – It relates to all known facts and information acquired through the process of the search for the missing person. It is an important stage in the total process of the search for the missing person.

Based on those data, what has been done, what is being done, and what has not been done can be traced. The positive and negative results of the undertaken measures and actions are also registered. Good documentation and registration prevent oversights and omissions in implementation of the plan for the search for the missing person.

**e) Holding the meetings (briefings and consultations)** – The best practice is to set up a meeting with all members of the team included in the search for the missing person in the beginning of the search (and distribute information on detailed personal description and description of the clothes that the missing person is wearing, on the location where the person was last seen), and then with every individual group of police officers before the start of the search and after the search (in the beginning the data on the segment of the area where they are in charge to search etc are distributed.). That is important because this is the quickest way to find out, e.g., which locations could not be searched and why. This ensures the flow of particular pieces of information, even of those which have not been noted yet.

**f) Making a decision to stop the intensive search for the missing person**, which presents the hardest decision in the whole process of the search for the missing person. Finally, finding a person is not an easy task, especially in a vast traffic and confusing infrastructure of our cities, with facilities and locations of all types of danger as well as a large number of people in a small area which make the recognition of the missing person in the mob of other people harder.

We saw from the statistically analysed data that the success in finding the person rises with the speed of reporting the disappearance of a person. But, that is the final goal of the whole process. Here, it is important to see also that the speed of reporting the missing person also decreases or increases the urban area for searching. If there was a long waiting for submission of the report on the missing person, the missing person may be miles away from his/her residence or the location where he/she was seen for the last time (Šuperina & Gluščić, 2003). The possibility of the private transport (by one's own bicycle, motorcycle, car) as well as the organised urban, city public transport (trams, buses, trolley-buses, taxi service) as well as intercity and international public transport (coaches, trains, ships, airplanes) also contributes to that mobility of the missing person. For that reasons, taking measures in order to "stop" the movement of the missing person in certain wider or closer area of the city is recommended, depending on the assessment of the specific case and engage police and other potentials in that secluded area (e.g., partner search) in the search for the missing person (Quinet, 2012).

Likewise, every missing person will be driven to certain specific contents in the urban environment. In planning the search for the missing person, it would be most helpful to determine the areas with the greatest possibility where the missing person could be located, in relation to the profile of the missing person and his/her usual behaviour. For example, shopping centres, religious facilities (churches, mosques, seminaries, charities, etc.), social centres, can be attractive destinations for the missing persons for people with Alzheimer's disease (Young & Wehbring, 2007). With patients with the Alzheimer's disease, it is important to

remember that those people live in “reality of his/her past world”. People with Alzheimer’s disease and generally those with dementia cannot remember recent events and are often disoriented as regards time and space, i.e., they do not know the date. It is useful to know, and it will be explained further below.

In urban searches for the missing person, one must also do the **segmentation or limitation of search areas into smaller areas (segments, regions)**. There is a question: What is the best way to determine a certain segment of the area? The answer lies in *urban features of the area*. It can have certain density of residential buildings, with or without closed or open courtyard or gardens, in branching of streets, pedestrian areas or zones without public city or private transportation (e.g., markets, squares, areas around religious facilities etc.), green areas (floral density and horticultural arrangement of the area), and dangerous locations or facilities such as sewers, ducts, trenches, natural hollows, disordered courtyards, abandoned sheds, barracks or unfinished construction sites, as well as abandoned cars, illegal waste disposals with abandoned objects where a person could hide (e.g., abandoned old refrigerators or freezers etc.), abandoned and disordered river beds, swamps, brooks, rivers, etc. (Young & Wehbring, 2007). In such circumstances, a person in charge of planning and managing the search action for the missing person decides on the intensity of the included staff, the types and the amount of resources. It is usual that the police car patrols and foot patrols are included. But in certain cases, where it would be more efficient, it would be possible to engage police bicycle patrols, who can search more area in less time than foot patrols. Likewise, where specific circumstances require, a search of an area must be conducted with police dog handlers and search dogs or from the air by a helicopter. In the end, organising a search, one must not forget to plan various measures in order to collect data or notifications, e.g., “door to door”, field treatment, etc. (Kelly et al., 2007; Milke, 1994; Syrotuck, 2012; Šuperina & Gluščić, 2003; Young & Wehbring, 2007).

**1) POLICE CAR PATROL.** The police car patrols are the most convenient methods for a quick search of a larger urban area. With the police car patrols, the police officers are searching for the missing persons while the vehicle moves, looking at all publicly available facilities in the street or the road, etc. While participating in conducting the field check, i.e. they conduct interviews with persons who might have seen the missing person. The police patrols are used by day and by night, usually with two police officers, the driver (who also observes right side of the street while driving) and a co-driver (observing the left side of the street and performs the activities of a navigator). A team of three police officers is recommended for night drives, where the third police officer would be in charge of observing the right side of the street and the driver would be focused only to driving, navigation and communication to the operational centre of the precinct. The officers could stop the vehicle and get out of the car and search the possible hiding areas, such as parks, schoolyards, sports courts, areas around the shops or kiosks etc. In order to enter private fenced areas and gardens, they must always look for a permit from the owner of that area. The tactics for the search of the area with the police cars can be in the form of a so-called grid, in the way that they first move on the streets of the sector from north to the south and vice versa, and then from east to the west.

**2) POLICE FOOT PATROLS.** The patrols are directed to those areas that are assessed as the probable destination of the missing person. These are the urban areas, buildings and other facilities which can be hard to search by using the police car patrols, such as: the station areas, tram or bus turnaround points, airports, park and zoo areas, homeless people, addicts and/or alcoholics spots, house entries, gates, inner courtyards etc. Because of that, they may spot more details than the police officers in the car (e.g., seeing different colours of socks, which could happen when a person has the Alzheimer's disease). Likewise, they could also spot possible traces observing the outer part of the street (e.g., abandoned clothing, bags, rucksacks etc) or the inside areas of the buildings, their closed yards, basements, shacks, etc. Due to the principles of the urgent searches of the area, the foot patrol police officers are the best solution. The possibility of communication with the citizens is also higher.

**3) POLICE BICYCLE PATROLS.** The police bicycle patrols in the urban city precincts are being formed in the last ten years due to the observed advantages in efficient performance of the police work and authority. We already mentioned the advantages of usage of the police bicycle patrols (access to the area which is inaccessible to the police car patrol, searching of the bigger area in the time unit before the police foot patrol), but two facts should be pointed out here. The first is that only fit police officers and those with the ability to distinct the relevant and the irrelevant content may participate in the police bicycle patrols. The other fact relates to the rushed search of the area. Although the bicycles (*mountain bike*) enable quick movement on the streets, roads, parks and playgrounds, as well as stations, the speed of the bicycle must be adjusted to the ability of perception of the police officer – cyclist. On the other hand, apart from taking part in the process of the search for the missing person in the urban surroundings of a continental town, (s)he also participates in the public transport, so (s)he must also dedicate a part of his/her attention to his/her own safety, as well as the safety of other participants in the public traffic in the city.

**4) POLICE HANDLERS AND SEARCH DOGS.** The statement that the search dogs together with their handlers are unusable and unsuccessful in the processes of searches for the missing persons in the urban areas is not true. Before their engagement and inclusion into the search, one must consult the police dog handler regarding the weather and local conditions in which the dog would be used. The following rule should be applied: *Even when there are small chances to use the police search dogs – they should be used.* It will be late when these animals that are so useful to the police, could not be used, because the trace of the scent has disappeared in the urban area. It is also wrong to demand that the police handler engaged in the search for the missing person with his dog must find the missing person. They would prove useful also if they found a trace or an object that belonged to the missing person or when they detect the lead of the missing person, e.g., by bringing the police officers to the city bus station. These facts can be useful afterwards, in designing a plan for further activity and determining the direction of movement of the missing person, or generally during the search for the missing person.

**5) POLICE HELICOPTER.** This helicopter may be included in the process of the search for the missing person from the very beginning. With a quick, swift flight over the search area, it can participate in the urgent "closing" off of the

search location. But even the arrival of the police helicopter is a message to the citizens that “something is happening”: there is an increased public perception of the search. Therefore, in synergy with ground units, this combination of search methods can provide good results. The ground action may be coordinated from the helicopter. The advantage of the police helicopter is that it is equipped with additional gear, e.g., night vision (IC equipment, thermovision), illumination of the ground area during the night (strong light beams) or for sending acoustic messages (megaphone for sending oral warnings or orders). In rare cases, the officers and the equipment may be transported by helicopter. Their usage is especially visible in searches of the large urban parks (e.g., Maksimir Park in Zagreb), lakes (e.g., Jarun Lake in Zagreb), new city areas with two-floor family homes, each with a yard, a garden and a garage, and those with small alleys (e.g., a neighbourhood in Dugave, Zagreb). They are also useful in the searches of rivers and riverbanks and the areas around/under bridges. The use of helicopters is limited by weather conditions (strong wind, rain, snow), the time of the flight (distance from a helidrom to the search area and back is a so-called empty flight), amount of gas that it can take, etc.

**The search of the buildings** (e.g., multi-floor buildings and skyscrapers). The decision about that is brought in relation to the circumstances related to the missing person and its disappearance (e.g., the missing person lives in the 16th floor of the sky-scraper). Before any search, one must check for any legal obstacles to an entry on a private property. Should there be any, one must ask for permission from either the owner or the user of the property or wait for the search warrant. If there is no such warrant, the search of the building starts, but the hurry and haste must not affect the principles of methodical and gradual proceedings in the search of the building. The best practice is to search the residential area from the highest floor and the terrace downstairs, towards the ground floor, basement premises, shacks and garages. A pair of the police officers will walk to the highest floor by stairs, while the other pair of the police officers would use the lift (if there is one) and disable its usage after the arrival to the highest floor. The missing person with dementia can be hiding on some of the floors (e.g., due to the panic fear) or may be sleeping there. If some areas are locked (e.g., an entrance to a terrace), one must check whether they were unlocked or opened recently (e.g., a trace of dust or trace of the door on the floor), and if they were, the manager of the janitor must be asked to open/unlock those closed and locked areas. There were cases where the missing persons were found in the attic areas of the houses that serve for clothes drying (for example, because of the paranoid attack, the person is lying in the attic of the building, covered by the items found in the corner of the room) or in the basements/areas with installations and heating equipment (for example, in such a heating room of a building, one person was found hung to the pipes of the heating system, successful in their intention to hide to commit suicide). All of the above also relates to the abandoned old buildings or unfinished buildings (where further construction was stopped due to bankruptcy of the construction company – an ideal location for homeless people and addicts). In such searches, one must also take into account the safety of the police officers, as they should not even enter such areas without adequate communication devices, personal weapons, and a torch.

Searches for the missing persons in the urban areas are more complicated than the ones in the open area because here we meet many characteristics of the urban environment which represent a special search location in itself (Colwell, 2001). That rule also applies to **garbage bins**. They can preserve many traces and objects, as well as the missing person. Therefore, if those bins are near the search location, they must be opened and skimmed, at least. Where needed and when reasonable, a more intensive search can be started. For example, in Zadar area, during the search for an elderly person, it was reasonable and necessary to search four dust bins. The contents were poured on the plastic bottom. In one of the bins, a black female bag, a couple of black shirts, a black skirt and two pairs of shoes were found. They belonged to the killed missing person. There was also a case of setting a fire to a bin where an elderly, short, but also very rich woman was hidden. After putting out the fire and observing the content of the container, she was found inside. It must be added that in order to prevent injuries, infections or diseases, police officers must be adequately protected by protective clothing and footwear while searching facilities such as garbage bins and any other objects representing a threat to their health.

**Field Work.** Here, police officers are divided one per each side of the street, stopping at every house, asking the tenants the information on the missing person (e.g., if they have seen them, and when and where that was, in whose company they were, about their behaviour, personality, temper or character, etc.). But we cannot even disregard the citizens met on the street, as they may be a source of information, especially if they live in the area. The questioning during the field work may represent the intensive work, taking up to 15 minutes per house, depending on the amount of data to be collected. In suburban areas and newly built city neighbourhoods, sometimes up to 200 family homes had to be checked. It is obvious that this field information gathering requires a significant staff put to work in a small time interval/period. It is also necessary to take into account the time when the information is gathered. It is normal that the police wants the latest information here and now, but one must not expect much from a man visited at 2 or 3 AM having woken his child who has just fallen asleep after nursing, even if the positive information would be gathered. This example leads to a conclusion that the police officer must have good interpersonal skills. Adjustment to the field work of request processing requires practice (Young & Wehbring, 2007). But there is no use of it if the police officer has no theoretic education, especially in perception of mistakes. The usage of certain communication patterns and set of questions that were prepared in advanced will help in alleviation of tension and this will save the precious time in the search for the missing person.

#### 4 RISK GROUPS

Among the missing persons in the urban areas, the most prominent are those with relatively higher or high levels of risk and danger. Among those persons, Young and Wehbring (2007) include: a) children under the age of 14, b) elderly persons who cannot care for themselves, c) persons with Alzheimer's disease (or other dementias), d) people with mental disorders or diseases, e) persons with



diagnosed chronic illnesses (diabetics, coronary patients etc.), f) low-hearted, desperate, suicidally predisposed persons and g) persons who are subjected / become victims in the extreme environment conditions (e.g., during summer heat etc.).

In this paper, we will deal only with the risk group of elderly people with Alzheimer's disease. Studying their *behaviour* is considered a significant tool for determination of the locations or areas where missing person could be located (Syrotuck, 2012). *The assumed behaviour* may help the investigators to determine the search area and locations in the urban areas where the investigators will be sent. But these recommendations should be taken with a bit of reserve, as they are only a tool based on probability, statistics, and possible behaviour. Every disappearance of a person is unique, with a different set of circumstances and behaviour (Kelly et al., 2007).

### 4.1 Elderly Persons with Alzheimer's Disease (Dementia)

The term Alzheimer's disease became in everyday speech a generic term for persons with dementia or loss of memory in relation to various diseases and infections, blows, head injuries and/pr drugs.

In the paper, we will not deal with medical contents of Alzheimer's disease or other types of dementia. Our interest is focused on *behaviours that are characteristic and caused* by these types of dementia (Koester & Stooksbury, 1992). Therefore, it must be said that the symptoms of dementia include memory loss, confusion, decreased cognitive abilities, issues with speech, perception, identity/personality, estimations/judgements, skills coordination and changes in emotions (Klein et al., 1999; Koester, 2011; Puljak, Perko, Mihok, Radašević, & Tomek-Roksandić, 2005).

Alzheimer's disease and other dementia as reasons for disappearance among the elderly persons were represented in our research with 79 cases or 46.5%. According to the research of Kelly et al. (2007), this reason appears in the USA in 44% of cases. Mental illness as a reason for disappearance in our research was documented in 30 cases (17.6%), and suicidal predisposition in 15 (8.8%).

Apart from the changes in the cognitive abilities, the Alzheimer's disease significantly decreases values of visual, speech and motor abilities. These symptoms become more obvious when a person is lost when dehydrated or under stress (Koester, 1998). We will isolate some behaviours and their causes with the persons suffering from Alzheimer's disease.

**1. AGNOSIA** – the loss or decreased ability of the brain to interpret pictures received by visual stimulus. This is the "mental blindness", the eyes "do not see", they only transfer the picture in the brain. The symptom results in not recognising one's own home, environment where he/she lives or not recognising the persons he/she once knew (e.g., a grandmother does not recognise her grandchildren). These persons have difficulty in recognizing dangerous urban facilities such as road or railway tracks, crossings across roads and rails, water surfaces, dense natural environment, etc. (Rowe, Greenblum, Polyak, Saunders, & Herrou, 2011). A person with Alzheimer's disease may interpret and the people in uniforms or "the picture of uniform" (and feel) as if (s)he did something wrong, which causes

panic in his/her mind, and uncontrolled behaviours are possible. A person with agnosia may interpret body language or facial expression of the police officer as a threat and might therefore react in an inappropriate way, even violently.

**2. APHASIA** – is the loss or decreased ability of the brain to interpret and formulate words and speech. A person replaces similar words with many different terms. A person becomes frustrated because he/she cannot utter his/her needs. In later stages, a person cannot control his/her speech, uses the wrong words (e.g., “on the chest at the table”) (paraphrasia). It is important to know that persons who have aphasia can fail to react to the calls of the investigators during the search as they cannot understand them.

**3. APRAXIA** – loss or decrease of the ability to control motor abilities and skills. A person with apraxia will have difficulties in personal life skills, such as dressing up, washing teeth, and will often look like a homeless person (unshaved, with dishevelled hair and clothes, etc.) which can be used in finding and identification of a missing person.

**4. COGNITIVE MAPPING DISORDER** – cognitive mapping is the brain’s ability to remember forms and objects of the location. In that way, we would be able to locate the bathroom in our own home without turning on the lights at night. But a person who suffers from Alzheimer’s disease can enter into the closet or some other part of the apartment instead of the bathroom. A person who goes to the shop every day and who has to change the way because of construction works will be disoriented in that moment, and that can be the reason of her disappearance.

**5. WANDERING** – common with people suffering from Alzheimer’s disease. It can be a simple clueless walk caused by a temporary short-term loss of memory, movement in the space caused by the feeling of insecurity and disorientation in the new space. But it can also be caused by something related to his/her past, visiting places where this person used to work, live etc. Therefore information related to the history of wandering of the missing person can be useful to the investigator (due to the checking of those or similar places in the urban surroundings). It is characteristic for elderly persons that they never or very rarely take the mobile phones with them or use them, and therefore the search for the missing persons through the mobile phone locating is almost useless. The associations for the Alzheimer’s disease propose placing the bracelets on the hand of the patient that he/she cannot take down, and which would contain the most important data for his/her identification as well as the telephone number of the person providing care to the patient.

In the relation to the approach to the missing person who was found, tactical rules were set. First of all, it is important to show that you care about that person and that you approach him/her with respect. In communication, you should use your surname, not your function (“I’m from the police ...”). The other tactical rules include the following:

The person is frontally approached only by one person, not two or more of them so that the person would not get scared.

The communication with the person is slow and clear, using simple sentences so that he/she can understand what he/she is told.

Touching the person is not desirable, except when appropriate.

It is advisable to give a person something to keep in his/her hand, to focus on something, similarly like a "child on a teddy bear", which might help in calming down the person.

At the end of this section, it must be said that there are still many other changes with the patients of the Alzheimer's disease, such as uncontrolled reactions, angry and violent tantrums, incontinence etc. It must be also said that the police officer will, apart from the set of general obligatory questions (Korajlić, 2012), in relation to the missing person, have to ask a set of the specific questions which go deep into the privacy of the patient and his/her family.

## **5 DESCRIPTION OF THE EXAMPLES**

### **Example No. 1**

One late February evening, the head of the Senior and Disabled Person's Residence came to the police precinct and reported the disappearance of her ward, aged 59 and diagnosed with Alzheimer's disease 3 years ago. The missing man was seen for the last time in the dining room of the Residence, looking at his photographs that were brought to him by the relatives, and he was missed at 6 pm, when he was supposed to come to dinner. The staff of the Residence organised the search in the facility and the very large area near the neighbouring closed factory. The missing ward was not found, despite their significant efforts. After the report made to the police, the police officers arrived to the place where he disappeared, and they also looked at the CCTV camera footage at the main road entrance to the Residence and they established that no person was recorded leaving that area. It was decided to hire a police handler with a dog. Upon his arrival, the police dog sensed the scent of the clothes that the missing person wore a couple of hours before he went missing, brought by the Residence official in a plastic bag. The dog took the lead and walked along the asphalt road next to the building of the Residence, then went towards the building of the ex-factory with various machine tools, then along the wire fence up to the sewer, where it left the fence and went through the grass to the spiky bush. There, after it passed 1000 meters, the dog stopped and lied down, signalling to the handler that it found the missing person. And really, in the thick and high spiky bushes, the missing person was lying down. The missing person was found despite hypothermia and disorientation in a large area with the set of urban obstructions and objects.

### **Example No. 2**

In the evening hours in early April, a man came to the police precinct and reported his wife, aged 71, missing and gave a detailed personal description and the circumstances before her disappearance. This person had been suffering from dementia and Alzheimer's disease for more than five years, and she left her home willingly in the unknown direction. Before reporting her absence to the police, her husband spent two hours searching for her in the neighbourhood, observing various urban facilities (the nearby park, the area around the shop, the school yard, the open space around the kindergarten, the paths between the buildings,

open yards, unlocked gates of the buildings, etc.), but he did not find her. After they received the report, the Police engaged all available foot and car patrols at the precinct regions, who got involved in the search for the missing person. As the place of disappearance was near the bus and tram turnaround (the first/last stop), the husband of the missing person approached the bus and tram drivers, notifying them on the disappearance of his spouse and her description. Since the time of the report, logged at 20.20, significant resources were used: the police, the family, other people. At 23.15, one of the drivers called the husband and notified him that he probably found the missing person matching the personal description, sitting at the bus stop, disoriented and scared. The bus driver took her to the bus and drove her to the bus turnaround where her husband took her home. Although the person was scared and cried, she was found.

## 6 CONCLUSION

The statistical police data show that the police officers receive reports on the missing persons daily. This specific social relation is definitely one among those the so-called “security events” to which police officers must react promptly, especially because there may be caused by criminal acts, especially the most serious ones anyone can be a victim of.

Complexity of the issue of missing persons can also be expressed by the increased number of the missing persons in the Republic of Croatia.

We may also conclude that efficiency of a police search for a missing person depends on the time that passed from the disappearance of the person and the submission of the report on the missing person, on the quality and the content of the report, the type of the person who disappeared (a child, an adult or an elderly person, and whether or not the elderly person suffers from some type of dementia, which makes the problem even more complicated) and the activities that the notifier undertook before the submission of their report on a missing person (a partner search segment). Therefore, there are both objective and subjective factors which affect the quality and the efficiency of the police search for the missing person.

Although already looking as a pattern, it must be repeated over and over again: the knowledge acquired must be built into the curricula and training programmes of police officers, both in regular and specialist training. This general and special crime investigation (tactical and methodical knowledge, experience and rules) is of special importance when it involves the search for the elderly missing persons in continental towns, on urban searches where special skills are applied. For example, the interpersonal communication skills needed to conduct the interview and collect notices during the field checks should be highly developed. It is obvious that the time has come, influenced by constant life and professional needs, to implement the training of police officers in conducting the missing persons’ search actions through a modular teaching. The modern practice assisted by adequate information and communication networks does not need criminal investigators lacking adequate education in individual subjects. It needs educated staff that acquired necessary multidisciplinary knowledge and

competences and developed the skills needed in solving specific practical cases, such as those involving missing person.

And finally, the urban surroundings are a complex vortex of various activities, pictures, lights, sounds, and people, and a missing person “fits” in them very well. Due to high complexity of this urban area, there is almost an unlimited number of tasks and solutions appearing and applied in such a search. In this paper, we discussed only the most common of them. Which of them will be applied depends on the knowledge and experience of the police officer.

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