

# Following the Utøya attack – who received early assistance?

**BACKGROUND** Following the terror attack on Utøya on 22 July 2011, the Norwegian Directorate of Health recommended a proactive model of follow-up in the municipalities. According to this model, crisis teams were to rapidly contact the survivors, and all survivors were to be assigned a fixed contact person in the municipality. The aim was to ensure early assistance and continuity of follow-up. In this study we investigate whether there were geographical differences in the assistance measures provided.

**MATERIAL AND METHOD** The study includes 321 of 495 survivors of the Utøya attack. The participants were interviewed 4–5 months after the terror attack. We studied whether there were differences in the proportion of survivors who received proactive follow-up and other health services based on health region or centrality of the municipality of residence.

**RESULTS** The study showed that there were geographical differences in the health assistance provided, whereby a lower proportion of survivors received proactive follow-up in Oslo compared to the country as a whole. In Oslo, 66 % of the survivors reported that they had been contacted by a crisis team and 61 % that they had been assigned a contact person. In smaller central municipalities, 88–98 % reported contact with a crisis team and 85–91 % reported that they had been assigned a contact person.

**INTERPRETATION** The findings must be seen in the context of the particularly severe effect on Oslo of the terror attacks on 22 July 2011. Organisational factors in the municipality may also have had an impact on the outcome.

Terrorist acts can result in severe, acute stress reactions, and post-traumatic stress disorder (PTSD) or other chronic health problems in the long term (1–3). Those affected are often unaware of the help available, and may sometimes be hesitant to ask for help (4). Proactive early outreach to those affected by disaster was therefore tested in Norway following the tsunami in Southeast Asia in 2004, with positive feedback from those who received help (5, 6).

In view of the extreme severity of the Utøya attack and the fact that the majority of survivors were adolescents or young adults, the health services were mobilised to prevent and treat mental disorders. The Norwegian Directorate of Health quickly provided advice and guidance to all municipalities affected on initiating proactive follow-up, i.e. actively establishing contact with those affected immediately after the event (7–11).

The municipalities' crisis teams or others in the municipal assistance services were to contact the survivors immediately to offer support. In addition, all survivors were to be assigned a fixed contact person in the municipality. These were to safeguard continuity of follow-up, ensure that standardised mapping of mental reactions was conducted throughout the first year, and help those affected to receive necessary health assistance. The survivors were to be offered a contact person irrespective of whether they

received help from the specialist health services.

The scope of the assistance the survivors received has been studied previously (12, 13). Many reported that they received early assistance from the crisis teams (86.9 %) and the contact person in the municipality (83.8 %), but the proactive follow-up did not extend to everyone. The survivors were resident in municipalities of different sizes with variations in the health service and proximity to specialists. The aim of this study was to investigate whether there were differences in the proportion of survivors who received proactive follow-up among the four health regions and among municipalities with different degrees of centrality in the first 4–5 months after the terror attack on Utøya.

## Material and method

This is a descriptive observational study. A total of 495 persons were identified who survived the terror attack on Utøya. Four children below the age of 13 and one who lived abroad were excluded from the study, and the letter of invitation was sent to 490 survivors. Altogether 325 survivors participated, but four were excluded because they were living abroad during the interview period. We therefore included 321 survivors (66 %).

The study is based on semi-structured interviews conducted by health personnel, and the method has been described pre-

**Erik David Wiström**

erikwistrom@hotmail.com  
Brattvåg Medical Centre  
Haram municipality

**Lise Eilin Stene**

Norwegian Centre for Violence  
and Traumatic Stress Studies (NKVTS)  
and  
Section for Social Paediatrics  
Division of Paediatric and Adolescent Medicine  
Oslo University Hospital, Ullevål

**Grete Dyb**

Norwegian Centre for Violence  
and Traumatic Stress Studies (NKVTS)  
and  
Institute of Clinical Medicine  
Faculty of Medicine  
University of Oslo

*The study is based on a master's thesis at the University of Oslo.*

## MAIN MESSAGE

There were geographical differences with regard to the health assistance provided following the terror attack on Utøya.

Fewer survivors resident in Oslo received the proactive follow-up recommended, compared to the country as a whole.

This may be linked to the particularly severe effect on Oslo of the terror attack, but may also be attributable to organisational factors in the municipality

**Table 1** Follow-up of the survivors from the Utøya attack in the four health regions<sup>1</sup>

	Northern Norway Regional Health Authority (n = 48)	Central Norway Regional Health Authority (n = 57)	Western Norway Regional Health Authority (n = 38)	South- Eastern Norway Regional Health Authority (n = 178)	P-value
	Num- ber (%)	Num- ber (%)	Num- ber (%)	Num- ber (%)	
Municipal crisis team (n = 316)	46 [96]	53 [95]	35 [95]	143 [82]	0.005
Contact person (n = 310)	43 [91]	53 [96]	30 [81]	135 [79]	0.008
GP (n = 317)	34 [71]	34 [61]	18 [47]	113 [65]	0.137
Specialist health services (n = 316)	37 [79]	35 [63]	28 [74]	131 [75]	0.240
Needs met (n = 309)	41 [87]	50 [96]	33 [92]	144 [83]	0.066
Needs discussed (interviews) (n = 283)	13 [31]	9 [19]	4 [14]	60 [36]	0.024

<sup>1</sup> Percentages are calculated based on number of survivors who have answered the question in each region

**Table 2** Proactive follow-up and meeting survivors' needs for assistance after the Utøya attack, based on centrality of place of residence<sup>1</sup>

	Non-central (n = 44)	Somewhat central (n = 178)	City other than Oslo (n = 54)	Oslo (n = 45)	P-value
Place of residence	Num- ber (%)	Num- ber (%)	Num- ber (%)	Num- ber (%)	
Municipal crisis team (n = 316)	43 [98]	155 [88]	50 [96]	29 [66]	< 0.001
Contact person (n = 310)	40 [91]	150 [88]	44 [85]	27 [61]	< 0.001
Needs met (n = 309)	38 [88]	151 [88]	47 [94]	32 [71]	0.007
Needs discussed (n = 283)	12 [32]	47 [31]	7 [15]	20 [45]	0.015

<sup>1</sup> Percentages are calculated based on number of survivors who have answered the question in each category

viously (14). The study was undertaken by the Norwegian Centre for Violence and Traumatic Stress Studies (NKVTS). It was funded by the Directorate of Health and the Research Council of Norway, and approved by the Regional Committee for Medical and Health Research Ethics (REK).

#### Variables

Assistance measures for survivors were assessed using the following yes/no questions:

- The municipal crisis team: «Did anyone from the crisis team or other employees

from the municipality/borough contact you immediately after the event?»

- Contact person: «Have you had a contact person in the municipality/borough?»
- GP: «After the event on Utøya on 22 July, have you received help from your GP?»
- Psychiatric specialist health services: «After the event on Utøya on 22 July, have you received help from a psychologist or psychiatrist in the specialist health services, for example the Norwegian Association for Child and Adolescent Mental Health (BUP), District Psychiatric Centre (DPS) or others?»

- Needs for assistance met: «Have your perceived needs for assistance been met after what happened on Utøya on 22 July (for example by a psychologist, doctor, nurse, social worker or other professionals)?»
- Interviewer's assessment of the need for assistance: «Has this interview brought to light anything that indicates a requirement for you to discuss the need for assistance with the informant?»

The participants' addresses in the Norwegian National Population Register were used to determine place of residence, health region and centrality of the municipality of residence (Statistics Norway's standard for centrality) (15). The participants were asked whether they had moved to another municipality after the terror attack, and their address was updated at the time of interview. A municipality of residence without a large urban area (minimum 15 000 inhabitants) and more than one hour away from this type of urban area was defined as «not central». Urban municipalities included Oslo, Bergen, Trondheim, Stavanger, Kristiansand and Tromsø. Oslo was studied separately because it included the largest number of persons affected by the terror attack and had a significantly larger population than the other cities. Other municipalities of residence were defined as «somewhat central».

Survivors with two foreign-born parents were defined as having an immigrant background, while those with at least one Norwegian-born parent were defined as having a Norwegian background. The participants' economic status was measured by means of questions about how financially well off they considered themselves (those who did not live with their parents) or their family (those who lived with their parents) to be in relation to most people: much better off, somewhat better off, approximately the same as other people, somewhat worse off and much worse off. The responses much or somewhat worse off were defined as not financially well-off.

Exposure was measured using 13 questions about potentially traumatic experiences designed especially for the Utøya terror attack (16), and the number of positive answers was aggregated to obtain a score. We also recorded whether the survivors were hospitalised immediately after the terror attack. Post-traumatic stress reactions in the previous month were measured using the UCLA PTSD Reaction Index (PTSD-RI) (17) and symptoms of anxiety and depression in the last two weeks before the interview were measured using the Hopkins Symptom Checklist 8 (SCL-8) (18).

### Statistical analyses

Pearson's chi-square test was used for cross tabulation of categorical variables. For continuous variables an independent t-test was used to compare two groups, and analysis of variance to compare more than two groups. Two-tailed tests with a  $p$ -value  $< 0.05$  were used as a threshold for significant differences between groups. For exposure, the number of yes/no answers to the exposure questions were aggregated.

Altogether 25 participants had one unanswered exposure question, and four had two, and these were treated as «no». One participant had two and ten had one unanswered question on post-traumatic stress reactions, while two participants had two, and five had one unanswered question on symptoms of anxiety and depression. The average for the questions answered was used in the analyses. The analyses were performed using the statistical programme Statistical Packages for the Social Sciences (SPSS), version 22 (IBM, Armonk, NY, US).

### Results

In South-Eastern Norway Regional Health Authority the participants in the study were somewhat older (20.1 years, standard deviation (SD) 5.6 years) than in the other health regions (Northern Norway Regional Health Authority: 17.7 years, SD 1.9 years; Central Norway Regional Health Authority: 18.4 years, SD 2.6 years; Western Norway Regional Health Authority: 18.7 years, SD 2.2 years;  $p = 0.003$ ). In South-Eastern Norway Regional Health Authority 16 % of the participants had an immigrant background, in Western Norway Regional Health Authority 14 %, in Central Norway Regional Health Authority 0 % and in Northern Norway Regional Health Authority 4 % ( $p = 0.003$ ). Otherwise we found no significant differences among the health regions with regard to gender, proportion who moved after the terror attack, financial situation, exposure, hospitalisation, symptoms of post-traumatic stress, anxiety or depression, or response rate.

In South-Eastern Norway Regional Health Authority a lower percentage of survivors were contacted by the crisis team immediately after the event, and in South-Eastern and Western Norway Regional Health Authorities fewer were assigned a contact person than in the other health regions (Table 1). Interviewers reported a need for assessment of the assistance measures more often in South-Eastern Norway Regional Health Authority (36 %) and in Northern Norway Regional Health Authority (31 %) than in the other two health regions. There was no significant difference in self-reported unmet need for assistance

and use of a GP or the specialised health services between the health regions.

There were differences in terms of the health assistance received, based on the centrality of the survivors' place of residence (Table 2). The percentage who had been contacted by the crisis team, had been assigned a contact person, and had had their needs for assistance met after the disaster was lower for those who lived in Oslo than in the country overall.

The average age varied between central and non-central areas. The survivors in Oslo were older (21.3 years, SD 4.8 years) than in the rest of the country (non-central: 18.0 years, SD 1.9 years; somewhat central: 19.2 years, SD 5.2 years; cities other than Oslo: 18.7 years, SD 2.5 years),  $p = 0.004$ . There were also differences in ethnic background: In the areas defined as non-central, the proportion of those of Norwegian origin was 97.7 %, in the somewhat central areas it was 85.7 %, cities other than Oslo 96.3 %, and in Oslo 84.4 %,  $p = 0.027$ . Otherwise the survivors did not differ from each other significantly, based on the centrality of their place of residence, with regard to gender, financial situation, moving, exposure, hospitalisation, symptoms of post-traumatic stress, anxiety or depression, contact with GP or specialist health services, or response rate.

When we compared the percentage of survivors who received proactive follow-up in South-Eastern Norway Regional Health Authority, with the exception of Oslo, with the other health regions, there were no longer significant differences with regard to contact person ( $p = 0.074$ ), crisis team ( $p = 0.143$ ) or whether the interviewer should discuss the need for assistance ( $p = 0.091$ ).

### Discussion

The study determined geographical differences with regard to the proportion of survivors who received proactive follow-up. South-Eastern Norway Regional Health Authority differed with respect to having the lowest proportion of survivors who were contacted by the municipal crisis team or assigned a contact person after the terror attack (Table 1). When we excluded the survivors from Oslo from the analysis, we no longer found significant differences between the regions. Nor did we find similar tendencies for other cities.

The regional health authorities are responsible for offering specialised health services, whereas the proactive follow-up was municipality-based. The contact with the specialist health services was relatively evenly distributed in the various regions, and it therefore does not appear that this has compensated for the difference in proactive follow-up.

The reason why Oslo differed may have

been that the city was particularly hard hit by the 22 July terror attacks. In addition to Oslo having many survivors from Utøya, the city was affected by the bombing of the Government quarter. It is therefore conceivable that the municipality of Oslo had insufficient resources to ensure proactive follow-up of all survivors.

However, organisational differences may also have contributed to fewer receiving active follow-up in Oslo compared to the country as a whole. In the municipality of Oslo, the accident and emergency department's psychosocial team was responsible for psychosocial follow-up in the acute phase, after which the responsibility was transferred to the city's 15 boroughs.

The boroughs had their own crisis teams and were tasked with providing contact persons for the survivors. The work was coordinated by the Vice Mayor for Primary Health and Social Services. The municipality of Oslo's evaluation report after the terror attack describes challenges in identifying survivors as a result of incomplete lists of names in the first few days (19). Challenges are also described in terms of the unusually large number of crisis team members who were on holiday, and had no fixed deputies. Challenges with incomplete name lists and holidays should, however, have applied to other municipalities than Oslo.

### Strengths and weaknesses of the study

Almost two out of three survivors took part in the study. There were no significant differences in age, gender or centrality of address of residence among participants and non-participants, but we cannot rule out differences in the percentage who received proactive follow-up, or other potential selection biases. There was generally little missing data, except when the interviewer was supposed to assess the participant's need for assistance, which was only answered by 88 %. It is possible that the interviewers failed to answer the question in cases where they did not feel it was necessary to discuss needs, and that this might have resulted in a falsely elevated percentage of those with a requirement to discuss their need for assistance. Nevertheless, the differences remained significant if the unanswered questions were analysed as meaning that interviewers did not believe that the need for assistance needed to be discussed.

In some cases the address provided at the time of interview may not have tallied with the survivor's place of residence on 22 July 2011. Information on place of residence was based on the survivor's address, which was updated at the time of interview. Students living in Oslo or other university cities

should therefore normally have been registered based on their address of residence at the time of interview. However, there may have been cases where we did not obtain an updated address, but rather the parents' address. This should in any case apply to students in all the university cities, and does not explain why Oslo differs in terms of follow up.

The survivors were asked whether they had been assigned a contact person in the municipality. It is possible that some who answered «no» had been offered a contact person but declined the offer. The study includes only self-reported information from the survivors. Additional information from the health services might have provided a more complete picture of the follow up.

#### **Erik David Wiström (born 1989)**

cand.med. and foundation doctor at Brattvåg Medical Centre.

The author has completed the ICMJE form and reports no conflicts of interest.

#### **Lise Eilin Stene (born 1981)**

doctor at the Section for Social Paediatrics and postdoctoral researcher at the Norwegian Centre for Violence and Traumatic Stress Studies (NKVTS). She has a PhD in community medicine.

The author has completed the ICMJE form and reports no conflicts of interest.

#### **Grete Dyb (born 1959)**

dr.med., specialist in paediatric and adolescent psychiatry, professor and senior researcher. She is the project leader for the Utøya study at the Norwegian Centre for Violence and Traumatic Stress Studies (NKVTS) and has conducted several studies on children and adolescents exposed to violence, sexual abuse and disasters.

The author has completed the ICMJE form and reports no conflicts of interest.

#### **References**

1. Scrimin S, Axia G, Capello F et al. Posttraumatic reactions among injured children and their caregivers 3 months after the terrorist attack in Beslan. *Psychiatry Res* 2006; 141: 333–6.
2. Johnson SD, North CS, Smith EM. Psychiatric disorders among victims of a courthouse shooting spree: a three-year follow-up study. *Community Ment Health J* 2002; 38: 181–94, discussion 195–7.
3. Neria Y, DiGrande L, Adams BG. Posttraumatic stress disorder following the September 11, 2001, terrorist attacks: a review of the literature among highly exposed populations. *Am Psychol* 2011; 66: 429–46.
4. Brewin CR, Fuchkan N, Huntley Z et al. Outreach and screening following the 2005 London bombings: usage and outcomes. *Psychol Med* 2010; 40: 2049–57.
5. Glad KA, Jensen TK, Nygaard E et al. Møtet med hjelpeapparatet etter tsunamien – behov og tilfredshet. *Tidsskrift for Norsk Psykologforening* 2009; 46: 473–5.
6. O'Donnell ML, Lau W, Tipping S et al. Stepped early psychological intervention for posttraumatic stress disorder, other anxiety disorders, and depression following serious injury. *J Trauma Stress* 2012; 25: 125–33.
7. Råd for oppfølging av rammede etter hendelsene på Utøya 22.07.2011. Oslo: Helsedirektoratet, 2011.
8. Kartlegging av belastninger etter hendelsene på Utøya. Oslo: Helsedirektoratet, 2011.
9. Veiledning for kartlegging av belastninger etter hendelsene på Utøya. Oslo: Helsedirektoratet, 2011.
10. NKVTS. Oppfølging av berørte og rammede etter terrorhandlingene i Oslo og på Utøya 22.07.2011: Tillegg til veileder. Oslo: Helsedirektoratet, 2011.
11. Veileder for psykososiale tiltak ved kriser, ulykker og katastrofer. Oslo: Helsedirektoratet, 2011.
12. Stene LE, Dyb G. Health service utilization after terrorism: a longitudinal study of survivors of the 2011 Utøya attack in Norway. *BMC Health Serv Res* 2015; 15: 158.
13. Dyb G, Jensen T, Glad KA et al. Early outreach to survivors of the shootings in Norway on the 22nd of July 2011. *Eur J Psychotraumatol* 2014; 5.
14. Stene LE, Dyb G. Research participation after terrorism: an open cohort study of survivors and parents after the 2011 Utøya attack in Norway. *BMC Res Notes* 2016; 9: 57.
15. Statistisk sentralbyrå. Sentralitet 2008. <http://stabas.ssb.no/DownloadFramesOld.asp?ID=8346312&Language=nb&Type=CorrespondanceTable> [5.5.2016].
16. Dyb G, Jensen TK, Nygaard E et al. Post-traumatic stress reactions in survivors of the 2011 massacre on Utøya Island, Norway. *Br J Psychiatry* 2014; 204: 361–7.
17. Steinberg AM, Brymer MJ, Decker KB et al. The University of California at Los Angeles Post-traumatic Stress Disorder Reaction Index. *Curr Psychiatry Rep* 2004; 6: 96–100.
18. Derogatis LR, Lipman RS, Rickels K et al. The Hopkins Symptom Checklist (HSCL): a self-report symptom inventory. *Behav Sci* 1974; 19: 1–15.
19. Oslo kommunes erfaringer med håndteringen av bombeangrepet ved Regjeringskvartalet og konsekvensene av skytinga på Utøya 22.7.2011. Evalueringsrapport. Oslo: Oslo kommune, 2011.

*Received 18 June 2015, first revision submitted 19 December 2015, accepted 2 June 2016. Editor: Inge R. Groote.*