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Countering Lone-Actor Terrorism Series No. 11

Lone-Actor Terrorism
Final Report

Clare Ellis, Raffaello Pantucci, Jeanine de Roy van Zuijdewijn,
Edwin Bakker, Benoît Gomis, Simon Palombi and Melanie Smith

About this Paper

This paper is the eleventh publication in the Countering Lone-Actor Terrorism (CLAT) project, which aims to improve understanding of, and responses to, the phenomenon of (potentially) violent lone actors through analysis of comprehensive data on cases from across Europe. The eighteen-month project is co-funded by the Prevention of and Fight against Crime Programme of the European Union, and has been undertaken by a RUSI-led consortium. Partnering institutions include Chatham House, the Institute for Strategic Dialogue (ISD) and Leiden University, one of the founding organisations of the International Centre for Counter-Terrorism (ICCT) at The Hague.

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Executive Summary

LONE-ACTOR TERRORISTS ARE perceived as presenting acute challenges for law enforcement practitioners in detection and disruption. By definition, they act without direct command and control from a wider network, and it is assumed that without such communications they may evade the 'tripwires' that would usually bring them to the attention of the authorities. The Countering Lone-Actor Terrorism (CLAT) project aimed to investigate this assumption. Through the construction and analysis of a database of 120 lone actors from across Europe, it sought to improve understanding of lone-actor terrorists, their behaviour and their activities in the period leading up to their intended attack.

This report aims to synthesise key aspects of the CLAT publications series, bringing together insights from the literature, details of the project's methodology and key findings, along with suggestions for further research.

Context

As intelligence agencies and law enforcement have become increasingly adept at detecting and disrupting large-scale terrorist plots, potential attackers have turned to smaller-scale, less-sophisticated assaults, which they perceive as offering a greater chance of success. While recent directed attacks by Daesh have underlined that Europe remains vulnerable to co-ordinated plots, within this climate, the threat from lone-actor terrorists still remains one of growing concern for security officials.

Examination of the academic literature provides valuable insights into the phenomenon.[1] While the scale of lone-actor terrorism is indeed perceived to be increasing,[2] Ramón Spaaij offers an important caveat that attackers are neither becoming more violent nor more effective.[3] Much of the academic research focuses on the characteristics of perpetrators, and while there is a general consensus that there is no consistent profile of a lone-actor terrorist, studies have

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1. For an extensive examination of the literature in relation to lone-actor terrorism see Raffaello Pantucci, Clare Ellis and Lorien Chaplais, 'Lone-Actor Terrorism: Literature Review', *RUSI Occasional Papers* (December 2015).
2. See Clark McCauley, Sophia Moskalenko and Benjamin Van Son, 'Characteristics of Lone-Wolf Violent Offenders: A Comparison of Assassins and School Attackers', *Perspectives on Terrorism* (Vol. 7, No. 1, 2013); Petter Nesser, 'Research Note: Single Actor Terrorism: Scope, Characteristics and Explanations', *Perspectives on Terrorism* (Vol. 6, No. 6, 2012); Jeff Gruenewald, Steven Chermak and Joshua D Freilich, 'Far-Right Lone Wolf Homicides in the United States', *Studies in Conflict and Terrorism* (Vol. 36, No. 12, 2013); Ramón Spaaij, *Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention* (London: Springer, 2012); Charles A Eby, 'The Nation that Cried Lone Wolf: A Data-Driven Analysis of Individual Terrorists in the United States since 9/11', thesis, Naval Postgraduate School, 2012; Instituut voor Veiligheids- en Crisismanagement, 'Lone Wolf Terrorism', report, 2007; Matthew Feldman, 'Comparative Lone Wolf Terrorism: Toward a Heuristic Definition', *Democracy and Security* (Vol. 9, No. 3, 2013), pp. 270–86; Gabriel Weimann, 'Lone Wolves in Cyberspace', *Journal of Terrorism Research* (Vol. 3, No. 2, 2012).
3. Spaaij, *Understanding Lone Wolf Terrorism*.

nevertheless offered interesting findings with regard to issues such as mental illness,[4] social isolation,[5] and military experience.[6]

A substantial body of literature examines the role of the internet in offering tactical support or even a surrogate community for lone-actor terrorists – a social environment in which they feel they belong.[7] It has also been suggested that given the prevalence of internet activity as a significant feature in lone-actor cases, it may offer a vehicle through which to detect them.[8]

The CLAT project seeks to build on the foundation of such research, further exploring the issues raised and their implications for policy-makers and practitioners. In particular, it aims to do so through specific examination of the processes in the planning, preparation and execution of the attack. Research exploring those who become lone actors will always have value; however, to date, the focus on this area has been at the expense of understanding the process employed from plot inception, through planning, to execution. This research therefore seeks to begin redressing this balance, examining both the perpetrators and the activities they undertake.

Methodology

Defining 'Lone-Actor Terrorism'

Although the term 'lone-actor terrorist' is often used, there remains significant disagreement regarding its interpretation. Rather than seeking to settle ongoing debates around these issues, a working definition was established for the purposes of this project:

> The threat or use of violence by a single perpetrator (or small cell), not acting out of purely personal-material reasons, with the aim of influencing a wider audience, and who acts without any direct support in the planning, preparation and execution of the attack, and whose decision to act is not directed by any group or other individuals (although possibly inspired by others).

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4.   Emily Corner and Paul Gill, 'A False Dichotomy? Mental Illness and Lone-Actor Terrorism', *Law and Human Behavior* (Vol. 39, No. 1, 2015).
5.   Ramón Spaaij, 'The Enigma of Lone Wolf Terrorism: An Assessment', *Studies in Conflict and Terrorism* (Vol. 33, No. 9, 2010), pp. 854–70; Paul Gill, 'Seven Findings on Lone-Actor Terrorists', International Center for the Study of Terrorism, 6 February 2013, <http://sites.psu.edu/icst/2013/02/06/seven-findings-on-lone-actorterrorists/>, accessed 14 December 2015.
6.   Paul Gill, John Horgan and Paige Deckert, 'Bombing Alone: Tracing the Motivations and Antecedent Behaviors of Lone-Actor Terrorists', *Journal of Forensic Sciences* (Vol. 59, No. 2, March 2014), pp. 425–35
7.   Spaaij, *Understanding Lone Wolf Terrorism*.
8.   Joel Brynielsson et al., 'Analysis of Weak Signals for Detecting Lone Wolf Terrorists', European Intelligence and Security Informatics Conference, 2012; Michael Fredholm, 'Hunting Lone Wolves – Finding Islamist Lone Actors Before They Strike', Stockholm Seminar on Lone Wolf Terrorism, 2011; Weimann, 'Lone Wolves in Cyberspace'; Katie Cohen et al., 'Detecting Linguistic Markers for Radical Violence in Social Media', *Terrorism and Political Violence* (Vol. 26, No. 1, 2014), pp. 246–56.

This working definition was broken down into specific inclusion criteria. In order to be included within the database there must be evidence to indicate that each of these criteria has been met. Absence of evidence to the contrary is insufficient. While this may mean that some cases of lone-actor terrorism are omitted, this stance reduces the possibility of contamination by cases that fall outside the definition and therefore increases the validity of subsequent analysis.

Data Collection and Coding

The CLAT database captures instances of lone-actor terrorism – both plots and attacks – across 30 European countries (EU member states, in addition to Norway and Switzerland) between 1 January 2000 and 31 December 2014. In the first instance, the Global Terrorism Database was used to find possible cases;[9] these were then investigated through news reporting to determine whether they met the project criteria for inclusion. This was followed by additional internet searches using broad search terms to identify any further examples. Finally, country experts were contacted to verify that relevant cases had been identified, thereby ensuring the database was as comprehensive as possible.

Guided by the CLAT literature review,[10] the researchers identified subject areas and issues to be investigated by the project; variables were then created to capture the information required, with coding guidance detailed in a project codebook to ensure consistency across the research teams. Double-coding exercises were also conducted, with different teams coding the same cases to highlight and eliminate any difference in practice.

To record the ideology of lone-actor terrorists, the project adopted the categories used by Europol in their Situation and Trend reports.[11] In cases where the perpetrator appeared to have taken inspiration from multiple ideologies, the case was coded as 'other'.

Limitations

Despite extensive effort by the research team, the CLAT database does not contain every lone-actor terrorism plot during the period studied. First, not all plots are in the public domain, especially where they have been abandoned or disrupted at an early stage by the authorities. Second, there are variations across Europe in the way incidents are perceived and reported; for example, some incidents may be reported as a 'hate crime', but meet the criteria for inclusion in the CLAT database. The research team took steps to compensate; however, some cases will undoubtedly have been missed.

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9.   National Consortium for the Study of Terrorism and Responses to Terrorism, 'Global Terrorism Database', 2015.

10. Raffaello Pantucci, Clare Ellis and Lorien Chaplais, 'Lone-Actor Terrorism: Literature Review', *RUSI Occasional Papers* (December 2015).

11. See Europol, *European Union Terrorism Situation and Trend Report 2015* (The Hague: Europol, 2015).

There are also some important limitations to the data due to the use of open-source reporting. First, complete information is not always available, leading to a number of variables containing high levels of 'unknown' entries. For some variables, this unavoidably limited the analysis that could be conducted and the strength of the conclusions that could be drawn. Second, there is an inevitable element of reporting bias: whether information is publicly available in relation to an issue may depend on whether it was interesting to the journalists investigating the story. Finally, the research teams faced particular challenges in finding open-source information in relation to mental health issues.

Analysis

Four thematic areas were identified for analysis: attack methodology and logistics; political engagement and online activity; personal characteristics; and leakage and interaction with authorities. Due to the limitations of the data, the consortium agreed that it did not support detailed and sophisticated quantitative analysis. Instead, more limited statistical analysis was used to explore the data and highlight key trends; these were subsequently explored in greater detail through examination of case information.

The Scale, Scope and Nature of the Threat

Increasing Plots, but a Limited Threat?

Lone-actor terrorism in Europe is rare. In ten of the 30 countries studied, no lone-actor terrorist plot could be identified across the fifteen-year study period, while only four of the countries had five plots or more. In total, 98 lone-actor terrorist plots were identified between 1 January 2000 and 31 December 2014, leading to 72 launched attacks of differing scope with substantial variations in impact. Lone-actor terrorist attacks can be devastating; Anders Breivik killed 77 and injured 242 on 22 July 2011, illustrating the damage a single individual can cause. However, this case is an outlier in the dataset; only nine other attacks claimed more than five lives, while only two others claimed more than ten. Excluding the attack by Breivik as an outlier, lone-actor terrorist plots resulted in an average of 1.22 fatalities and 2.13 injuries. Of the lone-actor plots examined 76 per cent failed to cause any fatalities, while 58 per cent caused no injuries. These findings underline that while lone-actor terrorist attacks can be devastating, a high proportion of plots fail to materialise in this manner. Therefore, while the number of lone-actor terrorism plots appears to be growing, the scale of threat posed is perhaps tempered by the proportion that fails to have a substantial impact.

Assessing Potential Harm

In assessing the threat posed by an individual, the research suggests that previous military training or experience and weapon choice are potentially important factors. Within the database, the lethality of perpetrators with military training was 2.29 fatalities per individual, markedly higher than their counterparts without such experience at 1.47. It must be remembered that the most lethal lone-actor terrorist in the database, Breivik, had no military training; the absence

of such experience cannot therefore be considered a conclusive indicator that a perpetrator is less dangerous. As such, while these findings do offer some support for the hypothesis that, on average, military training or experience increases the lethality of lone-actor terrorists, they also suggest that other factors must be taken into account.

The choice of weapon is also an important indicator of the potential risk posed.[12] Bladed weapons had a low lethality at 0.36 fatalities per attack and account for only 2 per cent of deaths; the lethality of explosives plots was also low at 0.57 fatalities per attack, accounting for only 4 per cent of fatalities in the dataset; in contrast, firearms caused an average of 6.65 fatalities per attack and account for 89 per cent of deaths.

Nature of the Threat

Of the perpetrators, 33 per cent were classified as right-wing extremists, while 38 per cent were religiously inspired, accounting for approximately three out of four lone-actor terrorists during this study period.

The media, and consequently public attention, is largely focused on violent Islamist extremists; while this may reflect the broader threat, it is at odds with that from lone-actor terrorism. The research also found that right-wing extremists were responsible for substantially more fatalities. Within the dataset, including the attack by Breivik, right-wing attacks caused 260 injuries and 94 fatalities,[13] while religiously-inspired attacks killed sixteen and injured 65 people. These findings have clear implications for policy-makers and practitioners; right-wing extremists represent a substantial aspect of the lone-actor threat and must not be overlooked.

However, analysis of the CLAT database suggests that intelligence machinery may currently be more finely attuned to detecting religiously inspired lone-actor terrorists by comparison to their right-wing counterparts. Excluding cases where a perpetrator was identified during (or immediately following) an incident, it was established that 40 per cent of right-wing extremists were uncovered by an element of chance, as part of an investigation into other offences or because the perpetrator accidentally detonated a device, drawing attention to his or her activities. Although chance was also evident in some examples of religiously inspired terrorism, overall 88 per cent of interventions were intelligence-led,[14] suggesting a clear disparity.

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12. To be as comprehensive as possible, in calculating lethality rates the fatalities from 'multiple weapon' attacks have been included where it is possible to definitively attribute casualties.
13. Right-wing plots resulted in eighteen injuries and seventeen fatalities if Breivik is excluded as an outlier.
14. Excluding cases where a perpetrator was identified during (or immediately following) an incident.

Identifying Potential Lone-Actor Terrorists – the Crucial Role of Communities

Public Vigilance, Co-operation and Confidence are Crucial

One of the most significant conclusions from the research is that lone-actor terrorists should not be considered as detached as is often presumed. Across the database only 29 per cent of perpetrators were in some way socially isolated; this rose slightly to 33 per cent for right-wing extremists, but dropped drastically to just 9 per cent for religiously inspired lone-actor terrorists. These findings contradict the widespread notion that lone-actor terrorists are lonely, reclusive and detached from society.

Moreover, lone-actor terrorists are often less secretive than might be expected. The term 'leakage' is used to denote situations where the perpetrator has given any indication of extreme views or intention to act to a third party; it may be intentional or done unwittingly. Nearly half of all perpetrators in the database (46 per cent) exhibited some form of leakage.

These indicators are often most evident to those close to the perpetrator. Religiously inspired extremists were most likely to leak information directly to friends or family (45 per cent), expressing extreme views to those in their immediate vicinity; in contrast, only 18 per cent of leakage by right-wing extremists was to this audience. Instead, right-wing lone-actor terrorists were more likely to post telling indicators online, where 41 per cent of their leakage occurred. The specific implications for online detection are discussed below; however, overall it is clear that whether in the physical or virtual world, friends, family or work colleagues are more likely to be exposed to crucial indicators than the authorities. An important tool in combatting the lone-actor terrorist threat is therefore ensuring the public is able to recognise extremist behaviour, has avenues to report it and, crucially, is willing to do so.

Mental Health Issues

The research also highlighted that friends, family and communities have another important role to play in relation to mental health issues. Mirroring previous research, the study found an indication of a mental health disorder in 35 per cent of cases. Although elevated, this does not represent a substantial deviation from the World Health Organization's (WHO) finding that 27 per cent of the general adult population had experienced some form of mental disorder in the past year. However, there were interesting variations between ideological sub-groups: religiously inspired extremists presented the lowest level of reported mental health issues (24 per cent), right-wing perpetrators were marginally higher at 28 per cent, while 'school shooters' were strikingly elevated at 63 per cent.

Caution is required in interpreting these findings; they certainly do not suggest a correlation or causal relationship between mental health issues and lone-actor terrorism. Any terrorism response that focused on mental health would not only be potentially ineffective, but also risk further stigmatising such disorders. The aim should instead be to reduce stigma, to encourage

open discussions and to seek help. The marginally elevated levels of mental health issues within the database highlight that interaction with health practitioners may offer another means to uncover indications of extremism or intention to undertake violent action; however, this will only occur if help is sought. Removing taboos in relation to issues such as mental health therefore increases the chances of concerning behaviour being noticed or notified.

Detecting Potential Lone-Actor Terrorists – Digital Footprints

Online Activity

Within the database, examples of online activity included using the internet to form relationships with others, to gain the inspiration for the attack or to acquire technical knowledge. The internet was used for tactical research in just under a third of all cases (33 per cent). The value of such online research is varied. Of the perpetrators who used the internet in this way, 54 per cent (or 17.5 per cent of the overall database) downloaded training manuals. Only one (5 per cent) of these cases directly caused fatalities, that of Breivik. This raises questions over the accuracy and effectiveness of training manuals, offering further support to a growing body of literature on this subject.[15]

Where perpetrators have primarily engaged through social media platforms, the information gathered overwhelmingly indicates a one-way relationship: reading and sharing relevant news, and expressing opinions, rather than utilising these platforms to form connections with other people.

Opportunities for Detection

Even such one-way communication can provide opportunities for detection. As highlighted above, this is particularly relevant for right-wing extremists. The findings indicate that it is perhaps other users of social media who are most likely to be exposed to 'leakage' from potential perpetrators. Mechanisms for ensuring that users can recognise such indicators and that they have the means to report them are therefore potentially powerful tools in detecting lone-actor terrorists, particularly those exhibiting right-wing ideologies.

Future Research

Analysis of the CLAT database reaffirms a key assertion from the project's literature review: there is no consistent profile for a lone-actor terrorist. However, systematic analysis of cases from across Europe has provided valuable insights into the scale of the threat, the ways in

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15.   See for example, Michael Kenney, 'Beyond the Internet: Metis, Techne, and the Limitations of Online Artifacts for Islamist Terrorists', *Terrorism and Political Violence* (Vol. 22, No. 2, April 2010); Jytte Klausen et al., '"Open Source Jihad": Online Mobilization for Domestic Attacks and Call of Jihad: Western Jihadists in the Syrian and Iraqi Insurgencies', research paper, May 2014

which it is most likely to manifest and the activities of lone-actor terrorists in the time leading up to the attack.

The research also highlighted areas that were beyond the scope of the current project, but warrant further investigation. First, the study identified possible evidence of reciprocal radicalisation, the danger that religiously inspired terrorism fuels right-wing extremism as a form of misguided response. The effect can also be reciprocated, with far-right discourse against religious groups driving some towards terrorist propaganda. There were indications of this effect within the data but it was not possible to investigate further. Second, the study identified the potential role of previous lone-actor terrorists in motivating other attacks – either as ideological inspiration or as a form of tactical guidance – as a further area of research.

Third, the project literature review and definitional workshop highlighted disagreement among scholars and practitioners regarding the inclusion of dyads or triads within definition of 'lone-actor terrorism'. Unfortunately, the sample of dyad and triad plots was too small to enable robust comparison with the sample of individuals. While there were no indications of substantial differences to suggest such cases should be excluded, this question is one that also warrants further empirical analysis.

Finally, comparison of lone-actor terrorists with group-based perpetrators may offer valuable insights regarding the relative scale of the threat, the process of radicalisation and the common – or unique – steps taken in preparing an attack.

Final Report

L ONE-ACTOR TERRORISTS ARE perceived as presenting acute challenges for law enforcement practitioners in detection and disruption. By definition, they act without direct command and control from a wider network, and it is assumed that without such communications they may evade the 'tripwires' that would usually bring them to the attention of the authorities. The Countering Lone-Actor Terrorism (CLAT) project aimed to investigate this assumption. Through the construction and analysis of a database of 120 lone actors from across Europe, it sought to improve understanding of lone-actor terrorists, their behaviour and their activities in the period leading up to their intended attack.

This report synthesises key aspects of the CLAT publications series, and is structured as follows: section one offers vital context regarding the current threat landscape and existing understanding of lone-actor terrorism; section two details the methodology used in data gathering, construction of the database and subsequent analysis; sections three, four and five present some of the key findings; and section six poses questions for future research.

Context

The terrorist threat in Europe continues to evolve. As intelligence agencies and law enforcement have become increasingly adept at detecting and disrupting large-scale terrorist plots, potential attackers have turned to smaller-scale, less-sophisticated assaults, which they perceive as offering a greater chance of success. While recent directed attacks by Daesh (also known as the Islamic State of Iraq and Syria, ISIS) have underlined that Europe remains vulnerable to co-ordinated plots, within this climate, the threat from lone-actor terrorists still remains one of growing concern for security officials.

In part, this trend reflects a decision by a number of extreme groups to adopt lone-actor terrorism as a tactic and to try to inspire their supporters to carry out such attacks. Through its magazine *Inspire*, Al'Qa'ida in the Arabian Peninsula has offered instructions for producing explosives and suggestions for possible attacks, a number of which have been adopted by plotters – both lone-actor terrorists and networked cells. Daesh has also actively encouraged lone-actor attacks. In October 2014, the group's magazine *Dabiq* advised: 'The smaller the numbers of those involved and the less the discussion beforehand, the more likely it will be carried out without problems ... One should not complicate the attacks by involving other parties, purchasing complex materials, or communicating with weak-hearted individuals.'[1]

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1.   'The Failed Crusade', *Dabiq*, (No. 4, October 2014), p. 44.

Examination of the academic literature provides valuable insights into the phenomenon.[2] While the scale of lone-actor terrorism is indeed perceived to be increasing,[3] Ramón Spaaij offers an important caveat that attackers are neither becoming more violent nor more effective.[4] Much of the academic research focuses on the characteristics of perpetrators, and while there is a general consensus that there is no consistent profile of a lone-actor terrorist, studies have nevertheless offered interesting findings. Levels of mental illness have been found to be higher among lone-actor terrorists than their group-based counterparts,[5] and a number of studies have offered evidence that suggests social isolation is common.[6] Research also suggests the level of military experience among perpetrators is notably higher than might be expected within the general population,[7] and studies have found indications that different ideological sub-groups present distinct characteristics.[8]

The internet features heavily in the literature on lone-actor terrorism. Spaaij suggests that it provides a surrogate community – a social environment in which lone actors feel they belong.[9] The internet can also offer a means to obtain tactical support, facilitating research as perpetrators plan an attack. While the material available is considerable and often detailed, some authors question the value of the internet as a 'training tool', finding it to be a poor substitute for practical instruction.[10] A substantial body of the literature further concludes that

2.   For an extensive examination of the literature in relation to lone-actor terrorism see Raffaello Pantucci, Clare Ellis and Lorien Chaplais, 'Lone-Actor Terrorism: Literature Review', *RUSI Occasional Papers* (December 2015).

3.   See Clark McCauley, Sophia Moskalenko and Benjamin Van Son, 'Characteristics of Lone-Wolf Violent Offenders: a Comparison of Assassins and School Attackers', *Perspectives on Terrorism* (Vol. 7, No. 1, 2013); Petter Nesser, 'Research Note: Single Actor Terrorism: Scope, Characteristics and Explanations', *Perspectives on Terrorism* (Vol. 6, No. 6, 2012); Jeff Gruenewald, Steven Chermak and Joshua D Freilich, 'Far-Right Lone Wolf Homicides in the United States', *Studies in Conflict and Terrorism* (Vol. 36, No. 12, 2013); Ramón Spaaij, *Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention* (London: Springer, 2012); Charles A Eby, 'The Nation that Cried Lone Wolf: A Data-Driven Analysis of Individual Terrorists in the United States since 9/11', thesis, Naval Postgraduate School, 2012; Instituut voor Veiligheids- en Crisismanagement, 'Lone Wolf Terrorism', report, 2007; Matthew Feldman, 'Comparative Lone Wolf Terrorism: Toward a Heuristic Definition', *Democracy and Security* (Vol. 9, No. 3, 2013), pp. 270–86; Gabriel Weimann, 'Lone Wolves in Cyberspace', *Journal of Terrorism Research* (Vol. 3, No. 2, 2012).

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6.   Ramón Spaaij, 'The Enigma of Lone Wolf Terrorism: An Assessment', *Studies in Conflict and Terrorism* (Vol. 33, No. 9, 2010) pp. 854–70; Paul Gill, 'Seven Findings on Lone-Actor Terrorists', International Center for the Study of Terrorism, 6 February 2013, <http://sites.psu.edu/ icst/2013/02/06/seven-findings-on-lone-actorterrorists/>, accessed 14 December 2015.

7.   Paul Gill, John Horgan and Paige Deckert, 'Bombing Alone: Tracing the Motivations and Antecedent Behaviors of Lone-Actor Terrorists', *Journal of Forensic Sciences* (Vol. 59, No. 2, March 2014), pp. 425–35

8.   Gill, 'Seven Findings on Lone-Actor Terrorists'.

9.   Spaaij, *Understanding Lone Wolf Terrorism*.

10. Scott Stewart and Fred Burton, 'The "Lone Wolf" Disconnect', *Security Weekly*, 30 January 2008; Michael Kenney, 'Beyond the Internet: Métis, Techne, and the Limitations of Online Artifacts for Islamist Terrorists', *Terrorism and Political Violence* (Vol. 22, No. 2, April 2010); Jytte Klausen et al.,

given the prevalence of internet activity as a significant feature in lone-actor cases, it may offer a vehicle through which to detect them.[11]

The CLAT project seeks to build on the foundation of such research, further exploring the issues raised and their implications for policy-makers and practitioners. In particular, it aims to do so through specific examination of the processes in the planning, preparation and execution of the attack. Research exploring those who become lone actors will always have value, especially to identify those at risk and prevent radicalisation to violence. However, to date the focus on this area has been at the expense of understanding the process employed from plot inception, through planning, to execution. It has been highlighted that it is perhaps during this terrorist-attack cycle that lone actors are most vulnerable to detection.[12] This research therefore seeks to begin redressing this balance, examining both the perpetrators and the activities they undertake.

Methodology

Defining 'Lone-Actor Terrorism'

Although the term 'lone-actor terrorist' is often used, there remains significant disagreement regarding its interpretation. Principal areas of divergence relate to the level of isolation, for example: can a dyad or triad be included if it acts without direction from a wider network; can a lone actor be inspired by the ideology of a terrorist group; and what degree of engagement with a broader network is acceptable?

Rather than seeking to settle ongoing debates around these issues, a working definition was established for the purposes of this project:

> The threat or use of violence by a single perpetrator (or small cell), not acting out of purely personal-material reasons, with the aim of influencing a wider audience, and who acts without any direct support in the planning, preparation and execution of the attack, and whose decision to act is not directed by any group or other individuals (although possibly inspired by others).

By design, the definition is broad in order to ensure as many potential cases as possible are captured in the database. This enables the CLAT project – and other users of the database – to potentially refine the definition of lone-actor terrorism through case analysis, discarding categories (where appropriate) in an evidence-based manner.

'"Open Source Jihad": Online Mobilization for Domestic Attacks and Call of Jihad: Western Jihadists in the Syrian and Iraqi Insurgencies', research paper, May 2014.

11.   Joel Brynielsson et al., 'Analysis of Weak Signals for Detecting Lone Wolf Terrorists', European Intelligence and Security Informatics Conference, 2012; Michael Fredholm, 'Hunting Lone Wolves – Finding Islamist Lone Actors Before They Strike', Stockholm Seminar on Lone Wolf Terrorism, 2011; Weimann, 'Lone Wolves in Cyberspace'; Katie Cohen et al., 'Detecting Linguistic Markers for Radical Violence in Social Media', *Terrorism and Political Violence* (Vol. 26, No. 1, 2014), pp. 246–56.

12.   Edwin Bakker and Beatrice de Graaf, 'Lone Wolves: How to Prevent this Seemingly New Phenomenon?', expert meeting paper, ICCT, The Hague, November 2010, p. 2.

The working definition was subsequently broken down into the following inclusion criteria:

1. Violence, or the threat of violence, must be planned or carried out.
2. The perpetrator(s) must be an individual, dyad or triad.
3. The perpetrator must act without any direct support in the planning, preparation and execution of the attack.
4. The perpetrator's decision to act must not be directed by any group or other individuals
5. The motivation cannot be purely personal-material gain.
6. The target of the attack extends beyond those victims who are immediately impacted by the act.

In order to be included within the database there must be evidence to indicate that each of these criteria has been met. Absence of evidence to the contrary is insufficient. For example, if the number of perpetrators is unknown or in doubt, then the case has not been included within the dataset. While this may mean that some cases of lone-actor terrorism are omitted, this stance reduces the possibility of contamination by cases that fall outside the definition and therefore increases the validity of subsequent analysis.

Data Collection and Coding

The CLAT database captures instances of lone-actor terrorism – both plots and attacks – across 30 European countries (28 European Union member states, Norway and Switzerland) between 1 January 2000 and 31 December 2014. Partners in the CLAT project were divided into research teams, each responsible for gathering data from open sources in relation to specific countries within the study area. In the first instance, the Global Terrorism Database[13] was used to find possible cases; these were then investigated through news reporting to determine whether they met the project criteria for inclusion. This was followed by additional internet searches, in English and local languages, using broad search terms to identify any further examples. Finally, country experts were contacted to verify that relevant cases had been identified, thereby ensuring the database was as comprehensive as possible.

Guided by the CLAT literature review,[14] the researchers identified subject areas and issues to be investigated by the project; variables were then chosen to capture the information required, with coding guidance detailed in a project codebook to ensure consistency across the research teams. Double-coding exercises were also conducted: sample cases that had been coded by one team were presented to another and the coding results compared; where any differences were identified, the teams discussed those variables, determined the correct coding option and further clarification was added to the codebook where necessary.

Some variables were designed to record biographical information such as age or gender, some recorded the methodology and impact of the plot, while others sought to capture the activites

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13. National Consortium for the Study of Terrorism and Responses to Terrorism, 'Global Terrorism Database', 2015.
14. Pantucci, Ellis and Chaplais, 'Lone-Actor Terrorism: Literature Review'.

of the perpetrator in the time leading up to the attack. To record the ideology of lone-actor terrorists, the project adopted the categories used by Europol in their Situation and Trend reports:[15] 'religiously inspired', 'ethno-nationalist and separatist', 'left-wing and anarchist', 'right-wing', 'single issue', 'other' and 'unknown'. The use of Europol's categories is intended to facilitate the use of CLAT data alongside other studies of terrorism within Europe.

In cases where the perpetrator appeared to have taken inspiration from multiple ideologies, their case was coded as 'other'. This category also includes the perpetrators of school shootings, particularly significant across Scandinavian countries since 2007. This cohort is often omitted from studies of lone-actor terrorism; however, in many cases they present the same detection challenges from a practitioner perspective. Following consultation with national experts, some 'school shooters' were therefore included on the basis of their compatibility with the CLAT definition: that is, those who were motivated by an ideology and a wish to convey a political message to a wider audience.

Limitations

Despite extensive effort by the research team, the CLAT database does not contain every lone-actor terrorism plot during the period studied. First, not all plots are in the public domain, especially where they have been abandoned or disrupted at an early stage by the authorities. Second, there are variations across Europe in the way incidents are perceived and reported; for example, some incidents may be reported as a 'hate crime', but meet the criteria for inclusion in the CLAT database.

This under-reporting was particularly evident when collecting data on attacks or plots in Eastern Europe. For example, in Hungary there are known to be incidents of xenophobic violence;[16] however, the task of collecting detailed media reportage around attacks proved very difficult. In many cases, the research teams found limited media coverage of potential right-wing extremism plots and attacks, with far greater public attention focused on religiously inspired incidents. The research team took steps to compensate, searching in local languages and using broad search terms to identify possible cases and then examine them against the project criteria (for instance, also searching for hate crimes); however, some cases will undoubtedly have been missed.

There are also some important limitations to the data due to the use of open-source reporting. First, complete information is not always available, leading to a number of variables containing high levels of 'unknown' entries. This creates challenges in analysis as it cannot be determined whether the 'unknown' entries would have the same ratio of distribution between the different options as the complete entries. Therefore, although the database contains more than 120 cases, analysis of specific variables was sometimes conducted using a subset of the data where

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15. See Europol, *European Union Terrorism Situation and Trend Report 2015* (The Hague: Europol, 2015).
16. European Roma Rights Centre, 'Attacks against Roma in Hungary: January 2008-September 2012', 2012, <http://www.errc.org/cms/upload/file/attacks-list-in-hungary.pdf>, accessed 21 March 2016.

complete information was available; in this scenario, and in particular when comparing sub-groups within the dataset, the sample used is more limited than the overall number of cases suggests. For some variables, this unavoidably limited the analysis that could be conducted and the strength of the conclusions that could be drawn.

Second, there is an inevitable element of reporting bias: whether information is publicly available in relation to an issue may depend on whether it was interesting to the journalists investigating the story. For example, whether a terrorist exhibited mental health problems is perhaps more often a question raised in relation to lone actors than cases involving larger terrorist cells.

It is conceivable that for certain variables of particular interest to journalists, such as mental health issues, illicit drug use or indications of previous violence, where there is evidence it is likely to be reported. However, where variables are not mentioned in reporting, it is not clear whether it is because these are not applicable to the case or simply that they were not covered: absence of evidence does not equate to evidence of absence. Some variables were therefore designed to record whether there was an 'indication' that it applied to the case, and the research team focused on cases where there was positive evidence, rather than trying to interpret the significance of missing information.

Finally, the research teams faced particular challenges in finding open-source information in relation to mental health issues. Many perpetrators may not have received a clinical diagnosis, but personal information in news reports acts as proxy indicators, clearly suggesting a relevant condition. Given the potential significance of this issue, as highlighted in the literature review, there was a reluctance to exclude it from the CLAT analysis. Separate variables were therefore created, capturing: first, whether there were any proxy indicators of mental health problems in case reporting, enabling the team to make use of the information available; and second, detailing clinical diagnoses where they had been conducted, to record and clearly distinguish medical opinion where it was available.

Analysis

Four thematic areas were identified for analysis: attack methodology and logistics; political engagement and online activity; personal characteristics; leakage and interactions with authorities. Due to the limitations of the data, the consortium agreed that it did not support detailed and sophisticated quantitative analysis. Instead, more limited statistical analysis was used to explore the data and highlight key trends; these were subsequently explored in greater detail through examination of case information. Various techniques were employed: in some cases, it was necessary to find the right benchmarks for comparison with the broader population, for others the most useful findings were uncovered through analysis of sub-categories, while correlations between variables also produced valuable insights.

The Scale, Scope and Nature of the Threat

Increasing Plots, but a Limited Threat?

Lone-actor terrorism in Europe is rare. In ten of the 30 countries studied, no lone-actor terrorist plot could be identified across the fifteen-year study period, while only four of the countries had five plots or more. In total, 98 lone-actor terrorist plots were identified between 1 January 2000 and 31 December 2014, leading to 72 launched attacks of differing scope and with substantial variations in impact.

Figure 1: Number of Lone-Actor Terrorist Plots and Attacks Per Year from 2000 to 2014.
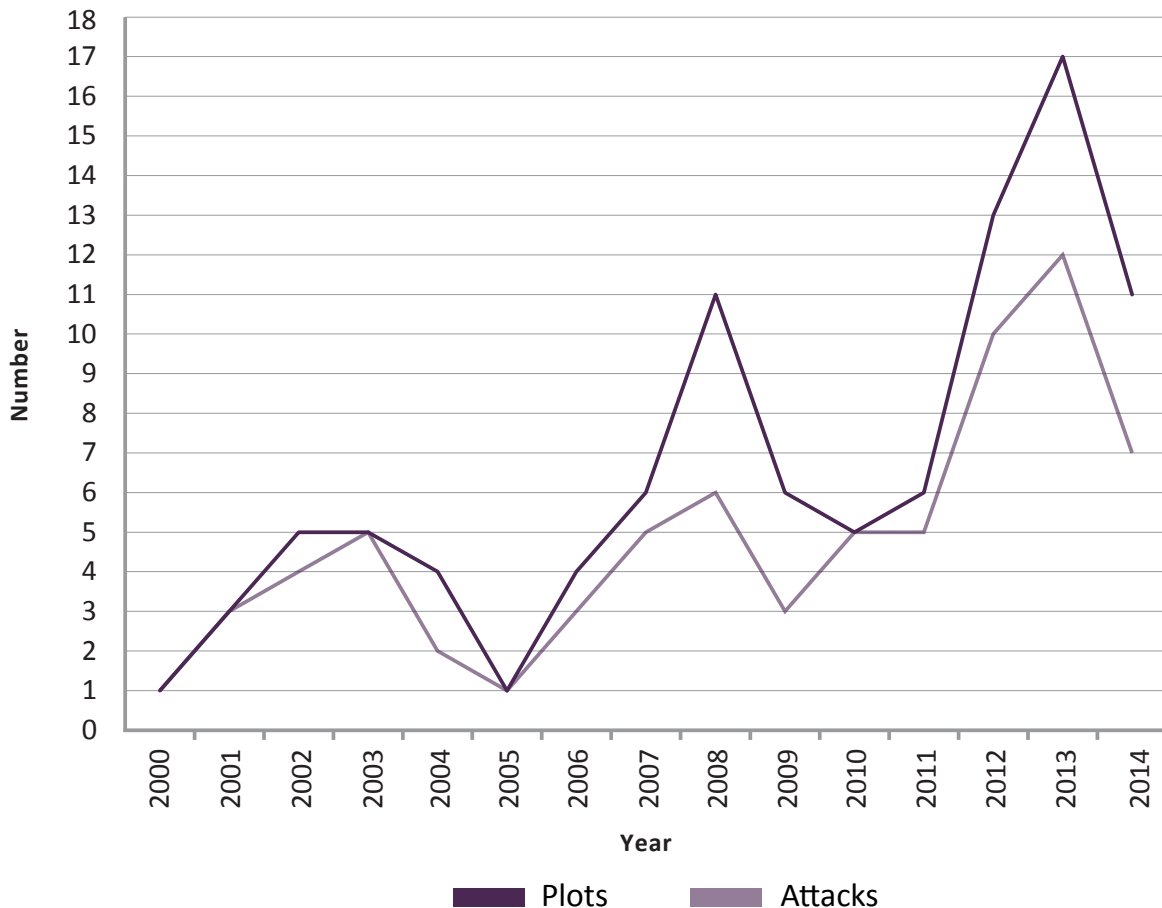
During the study period there has been a noticeable increase in lone-actor terrorism across Europe. While acknowledging that information on recent plots is more detailed and more readily available thanks to the rise in digital news archives, the overall trend appears clear. This quantitative finding reflects qualitative assessments of the current threat picture in Europe. As noted above, intelligence agencies and law enforcement have enjoyed repeated success in detecting and disrupting large-scale terrorist plots, leading to concerns that terrorists would

instead act alone, turning to small-scale attacks which may have a greater chance of success. Moreover, a number of extremist groups such as Al'Qa'ida in the Arabian Peninsula and Daesh have actively tried to encourage their supporters to pursue this route, advising them to act without specific direction from the broader network. The examination of trends in group-based terrorism is beyond the scope of this research and it is therefore not possible to determine whether there has been a decisive shift from group attacks; however, the findings do strongly indicate an increase in the number of lone-actor terrorism plots.

In order to assess the threat from lone-actor terrorism, it is necessary to look beyond the number of plots and examine the impacts of the plots themselves. Lone-actor terrorist attacks can be devastating; Anders Breivik killed 77 and injured 242 on the 22 July 2011 in Norway, illustrating the damage a single individual can cause. However, this case is an outlier in the dataset; only nine other attacks claimed more than five lives, while only two others claimed more than ten. Excluding the attack by Breivik as an outlier, lone-actor terrorist plots resulted in an average of 1.22 fatalities and 2.13 injuries, with standard deviations of 3.23 and 4.28, illustrating the degree of variation across the dataset. Of the lone-actor plots, 76 per cent failed to cause any fatalities, while 58 per cent caused no injuries. These findings underline that while lone-actor terrorism can be devastating, a high proportion of plots fail to materialise as fatal attacks. Therefore, while the number of lone-actor terrorism plots appears to be growing, the scale of threat posed is perhaps tempered by the proportion that fail to have a substantial impact – causing injuries or fatalities.

Assessing Potential Harm

As illustrated by Breivik and other high-casualty attacks, while most lone-actor terrorist plots will cause no fatalities, the potential for a devastating attack means they will remain a significant concern of both policy-makers and law enforcement officials. In assessing the threat posed by an individual, the research suggests that previous military training or experience as well as weapon choice are potentially important factors.

Within the database, the lethality of perpetrators with military training was 2.29 fatalities per individual, markedly higher than their counterparts without such experience at 1.47; if Breivik is removed as an outlier, the lethality of non-military perpetrators drops further to just 0.68. This raises an important issue: the most lethal lone-actor terrorist in the database, Breivik, had no military training. The absence of such experience cannot therefore be considered a conclusive indicator that a perpetrator is less dangerous. As such, while these findings do offer some support for the hypothesis that, on average, military training or experience increases the lethality of lone-actor terrorists, they also suggest that other factors must be taken into account.

It was also found that attacks planned by those with military training or experience were prevented in only 18 per cent of cases, a substantially lower proportion than the 36 per cent of perpetrators who had no comparable training or experience. While it is not possible to establish causality, one plausible interpretation could be that such experience may also have increased the perpetrators' ability to avoid detection during the planning and development stages.

Without further research on the role of military training it is not possible to draw firm conclusions and the data certainly do not show a correlation with a propensity to commit acts of lone-actor terrorism. These findings do suggest that it may be a useful factor to consider in assessing the level of risk posed by a potential lone-actor terrorist. However, as the case of Breivik illustrates, only alongside other factors.

The choice of weapon is also an important indicator of the potential risk posed.[17] Bladed weapons had a low lethality at 0.36 fatalities per attack and account for only 2 per cent of deaths, illustrating that although such attacks may be difficult to detect and disrupt, they do not often result in mass casualties. The lethality of explosives plots was also low at 0.57 fatalities per attack, accounting for only 4 per cent of fatalities in the dataset; in contrast, firearms caused an average of 6.65 fatalities per attack and account for 89 per cent of deaths.

These findings are perhaps not surprising: the successful use of explosives requires a significant level of technical knowledge and is potentially more challenging without the support of a wider network; in contrast, a firearm can be used effectively with minimal training or experience. However, in clearly illustrating the comparative level of threat posed by lone-actor terrorists with access to firearms, this research raises important considerations for practitioners assessing the risk posed by a potential lone-actor terrorist and for policy-makers seeking means to reduce the broader threat.

Nature of the Threat

The suspected ideology of the perpetrators was determined through either media reportage or information that emerged during legal proceedings. Of the perpetrators, 33 per cent were classified as right-wing extremists, while 38 per cent were religiously inspired, accounting for approximately three out of four lone-actor terrorists during this study period.

The media, and consequently public attention, is largely focused on violent Islamist extremists; while this may reflect the broader threat, it is at odds with that from lone-actor terrorism. Moreover, there are concerns that the threat from the far right may continue to grow. A substantial proportion of right-wing perpetrators identified in this research were predominantly motivated by anti-immigration or Islamophobic beliefs, often underpinned by notions of white supremacy. In light of the refugee crisis currently unfolding across Europe, the threat of a resurgent and violent far right has intensified.

The research also found that right-wing extremists were responsible for substantially more fatalities. Of the dataset, including the attack by Breivik, it was found that that right-wing attacks caused 260 injuries and 94 fatalities,[18] while religiously inspired attacks killed sixteen and injured 65 people. These results mirror findings across the West more broadly, where 80

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17.   To be as comprehensive as possible, in calculating lethality rates the fatalities from 'multiple weapon' attacks have been included where it is possible to definitively attribute casualties.

18.   Right-wing plots resulted in eighteen injuries and seventeen fatalities if Breivik is excluded as an outlier.

per cent of deaths from lone-actor terrorism have been attributed to right-wing extremists, nationalists, anti-government elements or other forms of political extremism, rather than religiously inspired terrorism.[19] These findings have clear implications for policy-makers and practitioners; right-wing extremists represent a substantial aspect of the lone-actor threat and must not be overlooked.

However, analysis of the CLAT database suggests that intelligence machinery may currently be more finely attuned to detecting religiously inspired lone-actor terrorists by comparison to their right-wing counterparts. Excluding cases where a perpetrator was identified during (or immediately following) an incident, it was established that 40 per cent of right-wing extremists were uncovered by an element of chance, as part of an investigation into other offences or because the perpetrator accidentally detonated a device, drawing attention to his or her activities.

One perpetrator sustained serious injuries while testing a device and was airlifted to hospital; the nature of his injuries roused suspicions and a search of his home revealed further explosive devices. The bomb-making activities of another perpetrator were discovered when his home was searched as part of an investigation into the possession of indecent images of children, while in a third example a perpetrator's terrorist activity was uncovered following his arrest for public-order offences after urinating on a train platform. These examples stand in stark contrast to religiously inspired cases. Although chance was also evident in some examples, with one perpetrator being identified following a routine traffic stop and another having accidentally detonated a device, overall 88 per cent of interventions were intelligence-led,[20] suggesting a clear disparity.

Detecting Potential Lone-Actor Terrorists – the Crucial Role of Communities

Public Vigilance, Co-operation and Confidence are Crucial

One of the most significant conclusions from the research is that lone-actor terrorists should not be considered as detached as is often presumed. Across the database only 29 per cent of perpetrators were in some way socially isolated; this rose slightly to 33 per cent for right-wing extremists, but dropped drastically to just 9 per cent for religiously inspired lone-actor terrorists. These findings contradict the widespread notion that lone-actor terrorists are lonely, reclusive and detached from society. The only sub-group in which there were consistent indications of isolation were 'school shooters' at 75 per cent. If potential lone-actor terrorists are regularly interacting with those around them, this presents opportunities for detection and disruption.

Moreover, lone-actor terrorists are often less secretive than might be expected. The term 'leakage' is used to denote situations where the perpetrator has given any indication of their

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19.   Institute for Economics and Peace, *Global Terrorism Index 2015* (Sydney, New York, NY and Mexico City: Institute for Economics and Peace, 2015).

20.   Excluding cases where a perpetrator was identified during (or immediately following) an incident.

extreme views or intention to act to a third party; it may be intentional or done unwittingly. Nearly half of all perpetrators in the database (46 per cent) exhibited leakage; this was relatively consistent across religiously inspired and right-wing perpetrators. This extent of the information shared varied across the database: 35 per cent of leakage was limited to an indication of the perpetrator's extremist ideology; in 44 per cent of cases the perpetrator went further and 'leaked' some indication of their intention to act; while in 21 per cent of leakage the perpetrator shared at least some details of the planned attack.

These indicators are often most evident to those close to the perpetrator. Religiously inspired extremists were most likely to leak information directly to friends or family (45 per cent), expressing extreme views to those in their immediate vicinity; in contrast, only 18 per cent of leakage by right-wing extremists was to this audience. Instead, right-wing lone-actor terrorists were more likely to post telling indicators online, where 41 per cent of their leakage occurred. The specific implications for online detection are discussed below; however, overall it is clear that whether in the physical or virtual world, friends, family or work colleagues are more likely to be exposed to crucial indicators than the authorities. Recent research conducted by Michael J Williams, John G Horgan and William P Evans offers further support for this finding: examining countering violent extremism (CVE) programmes more broadly, they found that 'those best positioned to notice early signs of individuals considering acts of violent extremism likely would be those individuals' friends'.[21] An important tool in combatting the lone-actor terrorist threat is therefore ensuring the public is able to recognise extremist behaviour has avenues to report it and, crucially, is willing to do so.

The latter point regarding public willingness to intervene is potentially the most difficult for policy-makers to overcome. The research of Williams, Horgan and Evans identified a general reluctance to intervene, drawing analogies with John Darley and Bibb Latané's model of bystander intervention.[22] Applying the model to CVE, they suggest two additional factors for consideration. First, the degree to which an individual identifies with the subject (the potential extremist) may restrict his or her willingness to acknowledge that person's behaviour as extreme. Second, fears of damaging a relationship will act as a barrier to intervention: this factor becomes more important the more he or she cares about the relationship with the potential extremist. The findings from the CLAT project underline the crucial importance of overcoming these challenges so that members of the public not only recognise indicators or extremism but are willing to report them. Communities, friends and family have a crucial role in detecting potential lone-actor terrorists, as for religiously inspired perpetrators in particular, research indicates that they are the most likely to be exposed to indicators of extremism or even intention to act.

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21. Michael J Williams, John G Horgan and William P Evans, 'The Critical Role of Friends in Networks for Countering Violent Extremism: Toward a Theory of Vicarious Help-Seeking', *Behavioral Sciences of Terrorism and Political Aggression* (Vol. 8, No. 1, 2016), pp. 45–65.
22. Williams, Horgan and Evans summarise the model as including 'five cognitive stages between an emergency and the decision to intervene and offer assistance. Those stages are the following: (a) notice the event, (b) interpret the event as an emergency, (c) assume responsibility for providing help, (d) know appropriate forms of assistance, and (e) implement a decision to help.'

Mental Health Issues

The research also highlighted that friends, family and communities have another important role to play in relation to mental health issues. The CLAT literature review found that previous studies have identified higher levels of mental illness among lone-actor terrorists than their group-based counterparts.[23] This was therefore explored in the research, which found an indication of a mental health disorder in 35 per cent of cases. Although elevated, this does not represent a substantial deviation from the World Health Organization's (WHO) finding that 27 per cent of the general adult population had experienced some form of mental disorder in the past year. However, there were interesting variations between ideological sub-groups: religiously-inspired extremists presented the lowest level of reported mental health issues (24 per cent), right-wing perpetrators were marginally higher at 28 per cent, while 'school shooters' were strikingly elevated at 63 per cent.

It should also be noted that these figures may be an underestimation. Within certain communities and among many extremist movements there is a taboo on openly speaking about mental health problems. More broadly, the WHO has suggested that two-thirds of those with a mental health disorder never seek help, which could also extend to a reluctance to confide in friends and family.

Caution is required in interpreting these findings; they certainly do not suggest a correlation or causal relationship between mental health issues and lone-actor terrorism. Any terrorism response that focused on mental health would not only be potentially ineffective, but also risk further stigmatising such disorders. The aim should instead be to reduce stigma, to encourage open discussions and to seek help. The marginally elevated levels of mental health issues within the database highlight that interaction with health practitioners may offer another means to uncover indications of extremism or intention to undertake violent action; however, this will only occur if help is sought. Removing taboos in relation to issues such as mental health therefore increases the chances of concerning behaviour being noticed or notified. The existence of mental health services that are culturally and religiously sensitive is also an important step towards building trust and lowering the threshold to seek help.

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23.   Jeff Gruenewald, Steven Chermak and Joshua D Freilich, 'Distinguishing "Loner" Attacks from Other Domestic Extremist Violence: A Comparison of Far-Right Homicide Incident and Offender Characteristics', *Criminology and Public Policy* (Vol. 12, No. 1, February 2013), pp. 65–91; Emily Corner and Paul Gill, 'A False Dichotomy? Mental Illness and Lone-Actor Terrorism', *Law and Human Behavior* (Vol. 39, No. 1, 2015).

Detecting Potential Lone-Actor Terrorists – Digital Footprints

Online Activity

Within the database examples of online activity included using the internet to form relationships with others, to gain inspiration for the attack or to acquire technical knowledge. The internet was used for tactical research in just under a third of all cases (33 per cent), in the form of downloading manuals, watching training videos, or basic reconnaissance such as researching the floorplan of a building, finding addresses or searching lists of individuals in order to identify targets.

The value of such online research is varied. Of the perpetrators who used the internet in this way, 54 per cent (or 17.5 per cent of the overall database) downloaded training manuals such as *The Anarchist's Cookbook* (referenced in six cases) or *The Jolly Roger Cookbook*, which provide instructions for the construction and detonation of explosives. Only one (5 per cent) of these cases directly caused fatalities: Breivik. This finding raises questions over the accuracy and effectiveness of such training manuals, offering further support to a growing body of literature on this subject.[24]

Where perpetrators have primarily engaged through social media platforms, the information gathered overwhelmingly indicates a one-way relationship; reading and sharing relevant news, and expressing opinions, rather than utilising these platforms to form connections with other people.

Opportunities for Detection

Even such one-way communication can provide opportunities for detection. As highlighted above, this is particularly relevant for right-wing extremists. Overall, 43 per cent of right-wing perpetrators 'leaked' either their extremist ideology or even their intention to act. In 41 per cent of cases, this leakage occurred online, with perpetrators posting explicit comments in the forums of extreme groups or on their own social media pages. Examples include a perpetrator who left a message on the internet forum of a known far-right group, Combat 18: 'Watch TV on Sunday, I will be the star. Death to ZOG ! 88!'[25] In another example, an individual had joined a number of far-right groups on Facebook including Bloc Identitaire (formerly Unité Radicale), Maison Commune and Belle et Rebelle.

There are mechanisms in place across European states to identify and remove suspicious online content,[26] while Europol's EU Internet Referral Unit aims to reduce the volume and impact of

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24. See for example, Kenney, 'Beyond the Internet'; Klausen et al., '"Open Source Jihad".
25. ZOG is an abbreviation for Zionist Occupation Government, while 88 is used to represent 'Heil Hitler', as 'H' is the eighth letter of the alphabet.
26. Europol, 'EU Internet Referral Unit at Europol – Concept Note', Concept Note to Standing Committee on Operational Cooperation on Internal Security, Council of the European Union,

violent extremist propaganda. These are valuable initiatives in combatting violent extremism more broadly; however, in relation to the specific lone-actor threat, the project's findings indicate that it is perhaps other users of social media who are most likely to be exposed to leakage from potential perpetrators. Mechanisms to ensure users can recognise such indicators and have the means to report them are therefore potentially powerful tools in detecting lone-actor terrorists, particularly those exhibiting extreme right-wing ideologies.

Future Research

Analysis of the CLAT database reaffirms a key assertion from the project's literature review: there is no consistent profile for a lone-actor terrorist. However, systematic analysis of cases from across Europe has provided valuable insights into the scale of the threat, the ways in which it is most likely to manifest, and the activities of lone-actor terrorists in the time leading up to the attack. Detailed descriptions of the analysis conducted are available in a previous publication,[27] while the policy implications of these findings are explored within dedicated papers in the CLAT series:

- Policy Paper One: Biographical Details.
- Policy Paper Two: Attack Methodology and Logistics.
- Policy Paper Three: Political Engagement and Online Activity.
- Policy Paper Four: 'Leakage' and Interaction with Authorities.

The research also highlighted areas that were beyond the scope of the current project but warrant further investigation. First, the study identified possible evidence of reciprocal radicalisation: the danger that religiously inspired terrorism fuels right-wing extremism as a form of misguided response. The effect can also be reciprocated, with far-right discourse against religious groups driving some towards terrorist propaganda. The CLAT database offers preliminary indications of this effect; in Great Britain there are suggestions that following the murder of Lee Rigby, 47 per cent of right-wing perpetrators were in part motivated by that religiously inspired attack. It was not possible to further investigate this finding within the scope of the current project; however, future research should examine the effect of reciprocal radicalisation, both in relation to lone-actor extremists and terrorism more broadly. In addition to providing further understanding of the process of radicalisation, such research may offer valuable insights for practitioners as to the catalyst effect of a terrorist incident in sparking 'retaliation' attacks.

Second, there were indications that some perpetrators were motivated by the acts of previous lone-actor terrorists, either as ideological inspiration or a form of tactical guidance. As in the case of reciprocal radicalisation, the issue of 'copycat' attacks is one that merits further investigation.

7266/15, 16 March 2015, p. 2, <http://www.statewatch.org/news/2015/may/eu-council-internet-referral-unit-7266-15.pdf>, accessed 21 March 2016.

27.   Clare Ellis et al., 'Lone-Actor Terrorism: Analysis Paper', *RUSI Occasional Papers* (February 2016).

Third, the project literature review and definitional workshop highlighted disagreement among scholars and practitioners regarding the inclusion of dyads or triads within definitions of 'lone-actor terrorism'. Some argue that the term 'lone-actor' can only apply to individuals, while others contend that a small cell which does not communicate with a wider terrorist network presents the same challenges for law enforcement in detection. Rather than seeking to settle this ongoing debate, an intentionally broad working definition was adopted to enable the project to subsequently refine it through evidence-based analysis where appropriate. However, the sample of dyad and triad plots was too small to enable robust comparison with the sample of individuals. While there were no indications of substantial differences to suggest such cases should be excluded, this question is one that warrants further empirical analysis.

Finally, comparison of lone-actor terrorists with group-based perpetrators may offer valuable insights regarding the relative scale of the threat, the process of radicalisation and the common – or unique – steps taken in preparing an attack. Such comparisons will be particularly important in understanding the impact of increasing calls by extreme groups for their supporters to act alone, in effect adopting lone-actor terrorism as a tactic. These calls raise questions as to whether the turn towards lone-actor terrorism by those who might otherwise have partaken in group-based terrorism will dilute the differences traditionally seen between the two categories of violent extremism.

Examining cases from 1 January 1968 to 31 December 2010, Spaaij highlights that traditionally many lone-actor terrorists have 'felt uncomfortable in organized extremist groups and preferred to act on their own. Those individuals who yearned to be a member of a group often found in the end that they had difficulty being accepted, feeling a part of, or succeeding in a group.'[28] Indeed, research has established a number of differences between those who become lone-actor terrorists and their group-based counterparts.[29] However, if lone-actor terrorism is increasingly being adopted as a tactical choice by those who would otherwise have joined wider networks, these differences might be expected to become diluted. Data collection for the present study extended only months beyond prominent calls for individual action by Daesh; however, future research including cases from 2015 and beyond should seek to determine whether such differences persist, as this may have important implications for understanding the future threat.

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28. Spaaij, *Understanding Lone Wolf Terrorism*, p. 100.
29. See, for example, Gill, Horgan and Deckert, 'Bombing Alone', pp. 425–35; Gruenewald, Chermak and Freilich, 'Distinguishing "Loner" Attacks from Other Domestic Extremist Violence', pp. 65–91.

Annex: CLAT Codebook – Database Variables

Reference Number

Each entry into the database has a unique reference number to facilitate anonymisation.

Date/Time

Day

The day of the month on which the attack occurred is recorded in this variable. This field was important to define the temporal parameters of the database: only incidents which occurred (or were uncovered and disrupted) between 01/01/2000 and 31/12/2014 (inclusive) have been included. Where the attack was disrupted, the planned date of attack is recorded (where known), alternatively the date of disruption or initial arrest is recorded. Where there are multiple attacks, this is the date of the first attack.

Month

The month in which the attack occurred is recorded in this variable. This field was important to define the temporal parameters of the database: only incidents which occurred (or were uncovered and disrupted) between 01/01/2000 and 31/12/2014 (inclusive) have been included. Where the attack was disrupted, the planned date of attack is recorded (where known), alternatively the date of disruption or initial arrest is recorded. Where there are multiple attacks, this is the date of the first attack.

Year

The year in which the attack occurred is recorded in this variable. This field was important to define the temporal parameters of the database: only incidents which occurred (or were uncovered and disrupted) between 01/01/2000 and 31/12/2014 (inclusive) have been included. Where the attack was disrupted, the planned date of attack is recorded (where known), alternatively the date of disruption or initial arrest is recorded. Where there are multiple attacks, this is the date of the first attack.

Incident Time

Where available, the time the attack occurred (where applicable) has been recorded. Where the time is not available, this has been recorded as '0'.

Single Incident

Was this a single incident or multiple attacks? Possible entries are *Single / Multiple / Unknown*.

Multiple Attack Dates

Where there were multiple attacks, the dates of additional attacks may be recorded here. This is a free text field, with dates separated by a semi-colon (;).

Location

Country

The country in which the (planned) attack occurred is recorded in this variable. This field was important to define the spatial parameters of the database: only incidents which occurred (or were uncovered and disrupted) within the 30 countries of the study area have been included.

City/Town

The city or town in which the (planned) attack occurred is recorded in this variable.

Domestic or International Attack

Did the perpetrator commit the attack in his or her home country (that is, domestic attack) or internationally? Possible entries are *Domestic / International / Unknown*.

Target

Target Type

Who was the target of the (planned) attack? Possible entries are *Government / Police / Military / Civilians / Religious / Aircraft or Airport / Other Transport / Multiple / Unknown*.

Target Details

This is a free text field where further information about the target of the (planned) attack can be entered.

Weapon

Weapon Type

What weapon was (intended to be) used in the attack? Possible entries are *Explosives / Firearms / Knife or Similar / Vehicle / Biological or Chemical / Incendiary / Other / Multiple /* Unknown.

Weapon Details

This is a free text field where further information about the (intended) weapon of the attack can be entered.

Legal Gun Possession

Where the attack was planned or committed using a firearm, was the weapon obtained legally? Possible entries are *Yes* / *No* / *Unknown* / *Not Applicable*.

Copycat or Inspired Attack

Was the planned or committed attack a copycat or inspired by a previous incident? Possible entries are *Yes – Suggested* / *Yes – Confirmed* / *No* / *Unknown*.

Perpetrator

Type

Did the perpetrator act alone, or was he or she part of a small cell? Possible entries are *Individual* / *Dyad* / *Triad*.

Linked Entries

Where the entry relates to a dyad or triad, the information recorded will relate to a sole individual; there are therefore linked entries for the other members of the isolated cell. This field records the reference numbers of the linked entries.

Name

The name of the perpetrator is entered here.

Age

The age of the perpetrator at the time of the attack is entered here. Where the attack was disrupted, the age of the perpetrator at the date of disruption or initial arrest is recorded. Where there are multiple attacks, it is the age of the perpetrator at the time of the first attack.

Gender

The gender of the perpetrator is recorded in this variable. Possible entries are *Male* / *Female* / *Unknown*.

Education

What level of formal education did the perpetrator have? Each entry indicates the level of schooling commenced, regardless of whether it was formerly completed. Possible entries are *Primary Education* / *Secondary Education* / *Higher Education* / *Unknown*.

Dropout

Did the perpetrator drop out rather than complete this level of education? Possible entries are *Yes* / *No* / *Unknown* / *Not Applicable*.

Employment

At the time of the attack, was the perpetrator in employment? Possible entries are *Employed* / *Self-Employed* / *Student* / *Unemployed* / *Retired* / *Unknown*.

Military Experience

Did the perpetrator have military experience or training? Possible entries are *National Military Service* / *Legal, Private Military or Arms Training* / *Illegal, Private Military or Arms Training* / *No* / *Unknown*.

Relationship Status

At the time of the attack, what was the perpetrator's relationship status? Possible entries are *Single* / *In a Relationship* / *Engaged* / *Married* / *Separated or Divorced* / *Unknown*.

Children

At the time of the attack, did the perpetrator have children? Possible entries are *Yes* / *No* / *Unknown*.

Indication of a Successful Sibling[1]

Is there an indication that the perpetrator had a more successful sibling? Possible entries are *Yes* / *No* / *Unknown*.

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1.   The concept of 'successful sibling' was one that the research team focused on in the wake of a presentation given to the consortium by Paul Gill of University College, London (UCL) at the CLAT project kick-off meeting in London, 5 September 2014. The idea was something he had been developing as part of separate work looking at the phenomenon of lone-actor terrorists.

Indication of a Safe Space[2]

Is there an indicator that the perpetrator had a 'safe space' where others in their life could be denied access? For example, a locked room in a shared home, a garage or simply that he or she lived alone. This is a free text variable.

Indication of Social Isolation

Is there an indication that the perpetrator was socially isolated? This is a free text variable.

Reported Previous Criminal Sanction

Was it reported that the perpetrator had previously been sanctioned for a criminal offence? Possible entries are *Yes* / *No* / *Unknown*.

Previous Criminal Sanction Details

This is a free text variable where further information regarding any reported previous criminal sanction can be recorded.

Indication of Previous Physical Violence

Is there an indication that the perpetrator had previously committed violent acts? Possible entries are *Yes* / *No* / *Unknown*.

Indication of Drug Use

Did the perpetrator have a history of abusing alcohol or of illegal drug use, or was there any indication of this? Possible entries are *Yes – Alcohol Abuse* / *Yes – Illegal Drug Use* / *No* / *Unknown*.

Indication of a Mental Health Disorder

Has there been any suggestion that the perpetrator suffered from a mental health disorder? Possible entries are *Yes* / *No* / *Unknown*.

Clinical Diagnosis

Has the perpetrator's mental health disorder been clinically diagnosed? Possible entries are *Yes* / *No* / *Unknown*.

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2. The concept of 'safe space' was one that the research team focused on in the wake of a presentation given to the consortium by Gill of UCL at the CLAT project kick-off meeting in London, 5 September 2014. The idea was something he had been developing as part of separate work looking at the phenomenon of lone-actor terrorists.

Diagnosis and Treatment

What was the diagnosis and was any treatment given? This is a free text field where further details may be entered about the specific diagnosis and treatment.

Ideology and Motivation

Justification Expressing Motivation

Did the perpetrator state his or her motivation, either verbally or in writing? Possible entries are *Yes / No / Unknown*.

Detailed Manifesto

Did the perpetrator have a detailed manifesto? Possible entries are *Yes / No / Unknown*.

Ideology

What ideology did the perpetrator identify with? The categorisation of ideologies is derived from Europol's TE-SET report[3] and similarly records the dominant motivating ideology where multiple examples are present. Possible entries are *Religiously Inspired / Ethno-Nationalist and Separatist / Left-Wing and Anarchist / Right-Wing / Single Issue / Other / Unknown*.

Motivation

This is a free text box where further details about the perpetrator's motivation may be entered.

Political Activity

Indication of Political Activity

Is there an indication that the perpetrator was politically active? This variable is not limited to mainstream political parties, and may equally capture engagement with more radical movements or material. Possible entries are *Yes – Participation in Meetings or Rallies / Yes – Consuming Material or Literature / No / Unknown*.

Political Medium

Where did the perpetrator conduct his or her political activity? Possible entries are *Online / Offline / Both / Unknown*.

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3.   See Europol, *European Union Terrorism Situation and Trend Report 2015* (The Hague: European Police Office, 2015).

Political Details

This is a free text field where further details may be entered about the perpetrator's political activity.

Links to Extreme Groups

Indication of Links to Extreme Groups

Is there an indication that the perpetrator was, or had ever been, active in extremist groups? Possible entries are *Yes* / *No* / *Unknown*.

Link Current

Was the perpetrator's communication or activity with the group ongoing at the time of the attack or planning for the attack? Possible entries are *Yes* / *No* / *Unknown*.

Link Medium

Where did the communication or activity with the group take place? Possible entries are *Online* / *Offline* / *Both* / *Unknown*.

Group Violent

Was the group violent or did it support violent action? Possible entries are *Yes* / *No* / *Unknown*.

Link Details

This is a free text field where further details may be entered about the perpetrator's links to extreme groups.

Digital Footprint

Online Platforms

If the communication or activity took place online, what was the principal platform used? Possible entries are *Mainstream Social Media* / *Forum or Blog* / *Password Protected Forums* / *Dark Web* / *Other* / *Multiple* / *Unknown*.

Online Details

This is a free text field where further details may be entered about the specific platforms used by the perpetrator.

Online Research / Training

If there is evidence to suggest the perpetrator used the internet to conduct research or undertake training for the incident, what form did this take? Possible entries are *Downloaded Training Manual* / *Watched Training Video* / *Participated in Interactive Online Training* / *Other* / *Unknown*.

Noteworthy Life Event

Indication of a Noteworthy Life Event

Is there an indication that the perpetrator had experienced a noteworthy life event? Possible entries are *Yes* / *No* / *Unknown*.

Event Details

This is a free text field where further details may be entered about this noteworthy event in the perpetrator's life.

Behaviour

Indication of a Change in Behaviour

Is there an indication that there was a change in the perpetrator's behaviour in the time leading up to the attack or planned attack? Possible entries are *Yes* / *No* / *Unknown*.

Change Type

What type of change was this? Possible entries are *Personal Appearance* / *Friends* / *Activities* / *Attitude*.

Change Details

This is a free text field where further details may be entered about this change in behaviour.

Leakage

Leakage

Did the perpetrator give any indication of his or her intentions to a third party? Possible entries are *Yes* / *No* / *Unknown*.

Time Before Attack

How long before the attack or planned attack did this leakage occur? Possible entries are *Hours* / *Days* / *Weeks* / *Months* / *Greater than Twelve Months*.

Specific Details

How specific or detailed was the leaked information? Possible entries are *Extremist Ideology Only* / *Intention to Act – Vague Suggestion Only* / *Intention to Act* / *Some Attack Details* / *Specific Attack Plan*.

Audience

To whom was the information leaked? Possible entries are *Friend or Family Member* / *Stranger* / *Posted Online* / *Healthcare Worker* / *Law Enforcement* / *Teacher or Similar* / *Multiple* / *Other*.

Details

This is a free text field where further details may be entered about the leakage.

Authorities

Mental Health Services

Was the perpetrator known to mental health services? Possible entries are *Yes* / *No* / *Unknown*.

Mental Health Care

Was the perpetrator under the care of mental health services? Possible entries are *Yes* / *No* / *Unknown*.

Social Welfare Services

Was the perpetrator known to social welfare services? Possible entries are *Yes* / *No* / *Unknown*.

Ongoing Engagement

Was there ongoing engagement between the perpetrator and social welfare services? Possible entries are *Yes* / *No* / *Unknown*.

Law Enforcement

Was the perpetrator known to law enforcement or the intelligence agencies? Possible entries are *Yes* / *No* / *Unknown*.

Under Investigation

Was the perpetrator under active investigation by law enforcement or the intelligence agencies? Note, this is not restricted to terrorism-related offences. Possible entries are *Yes* / *No* / *Unknown*.

Investigation Details

This is a free text field where further information about any ongoing investigation may be entered, including whether it was for an unrelated offence.

Impact

Attack Prevented

Was the attack prevented? Possible entries are *Yes* / *No*.

Injured

How many people were injured in the attack(s)? This does not include the perpetrator(s).

Fatalities

How many people were killed in the attack(s) or as a direct result of their injuries? This does not include the perpetrator(s).

Response

Incident End

How did the incident end? Possible entries are *Escape* / *Arrested Before Incident* / *Arrested During Incident* / *Arrested Following Incident* / *Intentional Suicide* / *Unintentional Suicide* / *Killed by Law Enforcement* or *Security Officials* / *Killed by Others* / *Other*.

Trial Details

This is a free text variable where information regarding the subsequent trial and its result can be entered (where appropriate).

About the Authors

Clare Ellis is a Research Fellow in the National Security and Resilience Studies group at RUSI. Her research focuses on counter-terrorism, organised crime and the role of policing in tackling national security threats. She has undertaken research on behalf of the European Commission, and the British and Danish governments, conducting fieldwork in the UK, Europe and West Africa. A regular speaker at international conferences, she is also a guest lecturer at the University of York. Prior to joining RUSI she worked in the criminal justice sector, first in criminal defence and later in the police. Clare holds an MSc with Distinction in Countering Organised Crime and Terrorism from University College London, where her dissertation examined the spatial and temporal distribution of terrorism incidents within post-accord Northern Ireland. She has also studied at the University of Newcastle and the Université Lumière Lyon 2, holding a Bachelor's degree in Law with French.

Raffaello Pantucci is Director of International Security Studies at RUSI. He has worked at think tanks in London, Washington and Shanghai, and his work on terrorism has been published in *Studies in Conflict and Terrorism*, *Terrorism and Political Violence*, *Survival*, the *RUSI Journal*, as well as media outlets including *The Times*, *The Guardian*, *Sunday Times*, *New York Times*, *Financial Times* and *Prospect*. He is the author of *We Love Death as You Love Life: Britain's Suburban Terrorists* (Hurst/Oxford University Press, 2015).

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Professor Edwin Bakker is Director of the Centre for Terrorism and Counterterrorism at Leiden University and Fellow of the International Centre for Counter-Terrorism in The Hague. Dr Bakker has a research interest in home-grown jihadist terrorism, lone-actor terrorism and the impact of terrorism on societies. He teaches the massive open online course at Coursera.org 'Terrorism and Counterterrorism: Comparing Theory and Practice' that has attracted more than 100,000 participants.

Benoît Gomis is an international security analyst focusing on terrorism and organised crime. He is an associate fellow with Chatham House, an independent consultant and the author of *Counterterrorism: Reassessing the Policy Response* (CRC Press, 2015), which he wrote as a visiting scholar at the Canadian Network for Research on Terrorism, Security and Society. He is a frequent contributor to *World Politics Review*, IHS *Jane's Intelligence Review*, Oxford Analytica and the international media. He previously worked at Simon Fraser University, Royal Roads University, Chatham House, the NATO Parliamentary Assembly and the French Ministry

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Simon Palombi is a consultant for the International Security Department at the Royal Institute of International Affairs (Chatham House). Simon has cultivated his expertise in the area of security policy with various organisations, including the UN Counter-Terrorism Executive Directorate in 2011 and the Lowy Institute for International Policy in 2011/12 and 2012/13. Simon is also the Research and Development Lead for a strategic advisory firm. Simon has degrees in International Relations (First Class Honours) and Law, and is on the roll of legal practitioners for the Supreme Court of New South Wales, Australia.

Melanie Smith is a Researcher and Coordinator at the Institute for Strategic Dialogue. Her research investigates the involvement of women in violent extremist activity, as well as the role of social media in terrorist movements. Melanie is also a Research Fellow at the International Centre for the Study of Radicalisation and Political Violence at King's College London, where she cultivated the largest known database of Western women who have migrated to Daesh territory.