

Appendix A: Codebook of risk factors and indicators

| Indicator | Description |
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| Propensity | |
| Married | Individual was married at the time of attack |
| Children | Individual had children at the time of attack |
| Criminal convictions | Individual had previous criminal convictions |
| Imprisoned | Individual was previously imprisoned |
| Unemployed | Individual was unemployed |
| Mental illness | Individual has a diagnosed mental disorder |
| Chronic stress | Individual had a source of chronic stress in their lives |
| Isolated | Individual demonstrated a pattern of self-isolation |
| University experience | Individual had some university experience |
| Military reject | Individual was rejected from the military |
| Military experience | Individual had previous military experience |
| Juvenile arrest | Individual was arrested as a juvenile |
| Combat | Individual had combat experience |
| Substance abuse | Individual had a history of substance abuse |
| Born outside US | Individual was born outside of the US |
| Exceptional | Individual demonstrated exceptional educational achievements |
| Situation | |
| Angry | Individual was angry in the build-up to the attack |
| Prejudice | Individual experienced prejudice/injustice in the build-up to the attack |
| Degraded | Individual experienced being degraded in the build-up to the attack |
| Disrespected | Individual experienced being disrespected in the build-up to the attack |
| Helpless victim | Individual experienced being a helpless victim in the build-up to the attack |
| Escalating anger | Individual's anger was escalating in the build-up to the attack |
| Problematic relationships | Individual had problematic interpersonal relationships |
| Not cared for | Individual experience being not cared for by someone important to them in the build-up to the attack |
| Tipping point | Individual experienced a tipping point in the build-up to the attack |
| Ignored | Individual was ignored or treated poorly by someone important to them in the build-up to the attack |
| Recently unemployed | Individual was made unemployed in the build-up to the attack |

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| Work stressor | Individual experience a recent work stressor in the build-up to the attack |
| Financial problems | Individual experienced financial problems in the build-up to the attack |
| Life change | Individual experience a significant life change in the build-up to the attack |
| Assault | Individual experienced verbal/physical assault in the build-up to the attack |
| Family death | Individual experience a death in the family in the build-up to the attack |
| Promise broken | Individual had a promise broken by someone important to them in the build-up to the attack |
| Live alone | Individual live alone in the build-up to the attack |
| Drop out | Individual dropped out of school/university in the build-up to the attack |
| Stress | individual experience recent stress in the build-up to the attack |
| <hr/> Preparatory <hr/> | |
| History | Individual had a history with the event location |
| Travel | Individual travelled to prepare for an attack |
| Training | Individual has hand-on training for an attack |
| Obsessed | Individual was obsessed with an event/phenomenon in the build-up to the attack |
| Violence | individual committed an act of violence in the build-up to the attack, unrelated to their final event |
| Address change | Individual changed address in the build-up to the attack |
| Dry-runs | Individual carried out dry-runs in the build-up to the attack |
| Stockpile | Individual had access to a stockpile of weapons |
| Clear bank | Individual cleared out their bank account in the build-up to the attack |
| Legitimation | Individual sought legitimation from political/community leaders |
| Altered appearance | Individual altered their appearance in the build-up to the attack |
| Substance use | Individual used drugs/alcohol during their event |
| <hr/> Leakage <hr/> | |
| Verbal statements | Individual made verbal statements to friends/family |
| Wider audience | individual made verbal statements to a wider audience |

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|---------------------------|---|
| Desire to hurt others | Individual expressed a desire to hurt others |
| Others aware grievances | Others were aware of the individual's grievances |
| Others aware ideology | Others were aware of the individual's ideology |
| Letters | Individual made letters/public statements about their intent |
| Warning | Individual gave an event-specific warning |
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| Network | |
| Face-to-face interactions | Individual has face-to-face extremists with co-ideologues |
| Wider group | Individual recently joined a wider group |
| Group propaganda | Individual engaged with group propaganda |
| Group claim | Individual claimed to be part of a wider group |
| Virtual interactions | Individual interacted virtually with co-ideologues |
| Recruit others | Individual tried to recruit others |
| Close associates | Individual had close associates involved in violence/extremism |
| Command-and-control links | Evidence of command-and control-links |
| Lone-actor stories | Individual engaged with stories/materials about other lone-actors |
| Others procured weapons | Others helped procure weaponry for the attack |
| Propaganda by lone-actors | Engaged with propaganda by lone-actors, i.e. manifestos |
| Spouse involved | Spouse/partner was involved in a movement |