“Exposing the Invisible” Workshops
Crowdsourcing information for investigations

Crowdsourcing: Reference Document

Session 1: Introduction to the topic

What is crowdsourcing and a short history of how it came to be:

- The term *crowdsourcing* was first coined by Jeff How in a 2006 *Wired* magazine article where he defined it as a new way of sourcing labor enabled by the Internet. Different types of commercial and non-commercial crowdsourcing have emerged since.
- For instance, *Wikipedia* is the best example of collective knowledge sourcing, *KICKSTARTER* is an example of crowdfunding projects, *Ushahidi* is a popular platform for crowd-mapping information.
- In fact, Ushahidi has been celebrated for being among the first platforms that enabled “activist mapping,” or a type of activism that combines crowdsourcing, citizen journalism and geospatial information for social change or public accountability. More often than not, Ushahidi has been used for crowd-mapping crisis information.
- Crowdsourcing has also been increasingly used by journalists.

Pros and Cons of crowdsourcing:

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<th>Pros</th>
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| 1. Allows tapping into a vast pool of data otherwise inaccessible to organizers.  
2. Allows engaging diverse contributors.  
3. Can help save time and costs.  
4. Opens new avenues for collaboration with contributors and/or others working in the same space. | 1. Carries the danger of manipulation.  
2. May require a lot of know-how and resources (e.g., for setting up tech tools, verifying collected data, and other).  
3. Carries the danger of coming up empty-handed (success of crowdsourcing very much depends on effectively engaging contributors).  
4. May carry potential risks to organizers and contributors (e.g. when crowdsourcing sensitive data). |
Mitigating the risk of manipulation:

- Given the challenges that arise from verifying crowdsourced data and the risk of the data being corrupted by opposing entities (e.g., through bots or malign user efforts), many organizations chose to use crowdsourcing not as a primary method but as a complementary data collection method.
- For instance, in disaster relief work, it is not uncommon to combine data generated by social media users with drone footage or satellite imagery.
- In election observation, voters’ reports may be further investigated by professional election monitors or journalists and serve as supporting evidence of process irregularities.

Alternatives to consider:

- Crowdsourcing often requires a lot of know-how and resources, which will be further explored in the next section.
- Hence, it is sometimes more feasible to employ other methods that could yield similar results, such as open source intelligence (OSINT), which focuses on utilizing free tools and resources.

Examples of when crowdsourcing may be used by journalists, in a crisis, or for better governance, accountability, or defending human rights:

Crowdsourcing in journalism

The Tow Center for Digital Journalism at Columbia’s Graduate School of Journalism, which researches the impact of technology on journalism, explores the use of crowdsourcing by media in this 2015 guide.

TOW defines crowdsourcing in journalism as “the act of specifically inviting a group of people to participate in a reporting task -- such as news gathering, data collection, or analysis – through a targeted, open call for input; personal experiences; documents; or other contributions.”

- In 2018, ABC Australia conducted the country’s biggest crowdscourced investigation into aged care through a structured call-out for information.
- Investigative reporting outlet CORRECTIV in Germany has developed an effective way of engaging the public to crowdsource information on various topics via its tested CrowdNewsroom platform. One of their most successful crowdsourced investigations to date was “Who Owns Hamburg?” (available in German), which called on the citizens of Hamburg to conduct open research into
who really owns and controls rental properties in the city’s non-transparent real-estate market.

- Bellingcat is an organisation focused on online citizen investigations and often uses crowdsourcing on social media to gather information, document and verify events as part of its stories and reports. For instance, one of their flagship investigations into the downing of the Malaysia Airlines 17 (MH17) passenger airplane in Ukraine in 2014 relied heavily on crowdsourcing.

- Producers of a documentary about the families affected by Mexico's drug war - “Anyone’s Child Mexico” -- gathered stories via a free phone line through local organizations and asked people across Mexico to call in and recount their stories.

Crowdsourcing for crisis mapping

The use of the Ushahidi platform during the 2010 Haiti earthquake is credited with being the first instance of using crowdmapping in disaster relief efforts. Multiple other crowd-mapping platforms have since been developed and deployed for humanitarian response, including in combination with other technologies, such as the use of drones or satellite imagery.

- Here is a 2019 example of using crowdsourcing for mapping handwashing stations in Indonesia to prevent the spread of COVID-19, which details the strategies used to attract users.

Crowdsourcing for better governance, accountability, and human rights

Crowdsourcing has also been used by activists and human rights defenders to map bribery and corruption, help citizens report local issues to the authorities, and expose human rights violations.

- Here is a 2017 example of Amnesty International and Airwars' joint investigation into the bombing of Raqqa, Syria, which involved over 138,000 volunteer contributors from 124 countries.

- ProPublica is an independent, nonprofit newsroom that produces investigative journalism. In 2020 it organized a collaborative real-time media coverage of Election Day issues across the US, called ElectionLand, by crowdsourcing data from voters’ web forms, text messages, a WhatsApp number and partnering with an electronic protection hotline.
Session 2: Setting up a crowdsourcing effort

Before you decide to engage in crowdsourcing, it is important to ask a number of questions. The questions for discussion are provided below:

• **Why do you want to crowdsource?**
  ◦ For instance, to tell a story/raise awareness about an issue, collect data to help other activists or organizations in their work, engage citizens around an important process or event, or other. For example:
    ▪ A mass online petition calling for a globally available Coronavirus vaccine
    ▪ A live map of air quality around the world
    ▪ A platform for reporting issues of concern from citizens to local authorities

• **What are the main ethical considerations when crowdsourcing evidence?**
  ◦ You may want to consider such aspects as accuracy of the information, privacy of contributors, property of the data collected, and accessibility of your effort.
  ◦ Some of these aspects may also have legal implications, so it may be wise to seek legal counsel before launching the effort.

• **How verifiable is the data collected?**
  ◦ Crowdsourcing can be a useful tool for gathering data you may not know.
  ◦ It can also present a challenge to verify, particularly if you’re up against larger entities who can organize bots and users that can corrupt your data. Hence, before engaging in crowdsourcing, think carefully about whether and how the data you would collect could be verified.
  ◦ Provide a clear explanation of the extent to which you are able to verify the data when publicizing your findings. If you have indications that data has been purposefully corrupted, consider carefully whether it should be publicized at all. For example:
    ▪ Russian election violation crowd-mapping platform https://www.kartanarusheniy.org/ provides a disclaimer, stating that the reports of election irregularities are voluntarily contributed by users and are published without additional verification by website administrators in order to promptly bring data to the attention of election administration bodies and law enforcement (content in Russian).

• **Who are your contributors?**
  ◦ Soliciting contributions from trained activists may look different than trying to engage regular citizens.
You may also want to consider such demographic characteristics as age, gender, or geographic location of your contributors.

If you do not want your data to come from just one subset of the population, ask yourself whether the information about your efforts can reach marginalized groups or whether the tools you are using are equally accessible to everyone or are likely to widen existing digital gaps.

Finally, while the data may not be representative in a sociological sense, you may still want it to come from a variety of locations and different groups to present a more accurate picture of the situation with your findings.

**Who are your beneficiaries?**
- Remember that those contributing data and the final beneficiaries of your work may be different.
- Try to present your findings in a format that will be accessible to the audience(s) that you want to share them with. This may affect the format in which you want to crowdsource data. For example:
  - The website of “I Paid a Bribe” - a project tracking corruption in India - highlights the map of the country according to the density of reports coming from each region, publishes individual reports in real time, totals them by category, and provides an overview of resulting news publications.

**What are the risks?**
- It is also important to think about any risks or security considerations that may affect you or your contributors and whether they are aware of them.
- Take every measure to protect their privacy and anonymity where needed. At times this may mean taking extra steps to deanonymize the data before further processing.

**Who could become your partner or collaborator?**
- Think about other groups or separate activists potentially interested or already engaged in similar work. Are there any groups with experience in crowdsourcing evidence or whose data you can use to cross-reference your findings?
- It is usually a good idea to partner with others in order to enhance your efforts or avoid duplication.
- Additionally, some fun mixed data collection approaches may emerge as a result of your collaboration. For example:
  - ProPublica’s Electionland project represented a collaborative journalism effort to cover voting access, cybersecurity, misinformation and election integrity in the 2020 USA elections. In order to document voting
impediments in real time, the organization assembled a coalition of over 150 newsrooms around the country as well as launched a call to voters, poll workers, and election administrators to report any problems they experience or witness during the voting process via a variety of channels.

• What happens with data afterwards?
  ◦ For instance, do you want to openly share the raw data or write and disseminate a report based on your findings?
  ◦ Is it critical to make the findings available immediately?
  ◦ What format does the data need to be in? For example:
    ▪ FixMyStreet in the UK publishes aggregate data about issues reported by citizens on a live dashboard where it also lists top categories, tracks how many reports have already been resolved, and rates local councils according to their responsiveness.

• Should any credit be given and how?
  ◦ It is important to always give credit where credit is due.
  ◦ This may involve giving gratitude to collaborating organizations, listing the tools and software used, and even naming contributors (groups or most active individuals in especially large efforts) if they do not need/wish to remain anonymous.
  ◦ Always check with contributors how they wish to be credited or add a note and disclaimer on how crediting will be done, including a way for people to opt out from being mentioned if that poses any risk to them. For example:
    ▪ When publicizing their findings about the civilian deaths during the 2017 bombing of Raqqa, Syria, Amnesty International and Airwars listed all partners, tools, and major contributors providing multiple streams of evidence used in the investigation (See https://raqqa.amnesty.org/ => “Toolkit” => “Credits”).
Session 3: Choosing the right crowdsourcing approach

Choosing the right approach really depends on your goals.

Sometimes, journalists set up a secure channel for citizens to anonymously send in tips, right defenders may encourage victims to submit evidence of abuse in whatever format they may have it, while election observers may want voters to attempt to categorize the type of irregularity they witness according to some pre-set criteria.

The extent to which you need the crowdsourced data to fit a strict format needed for analysis will define whether you should engage in a structured vs. unstructured data collection effort.

- **Crowdsourcing guide** by the Tow Center for Digital Journalism of Columbia University differentiates between “open” and “specific” calls to contribute in the following way:
  - In “open” calls, the public is invited to contact journalists with information via an open call using various channels (email, telephone, SMS, online polling software, etc.) to contribute votes, calls, tips, or any other material they wish to submit to a news organization/journalist. This format usually follows the open data collection format.
  - In “specific” calls, journalists target certain groups with a specific request for information. The information is usually provided in a predefined format and captured in a searchable database.

- The **benefits of crowdsourcing specific data in a structured way** include aggregating specific types of evidence in a unified format, which allows easily analysing data. However, a stricter format may limit the ability of your target audiences to contribute data.

- Open **unstructured calls** allow for the crowdsourcing of a greater variety of data from a potentially larger number of contributors, without limiting yourself and your audiences by the types of reports you think you may receive. At the same time, verifying and analysing data that comes through the variety of channels in multiple formats may be a lot more labor and time intensive.

- Sometimes, a **mix of approaches** may be used, especially in large collaborative projects or where data needs to be cross-referenced across multiple streams of evidence.
Session 4: Working with target audience(s) of the crowdsourcing effort

Successfully engaging the members of the community that you want to contribute data is half the success of your crowdsourcing effort.

In other words, you may do everything else right, but if no one contributes any data, all of your work will be in vain. Therefore, it is critical to think about community engagement in advance.

• Here are some helpful guiding questions from ProPublica:
  ◦ Who are the people you want to respond? Why are they the best community to involve?
  ◦ What does the community stand to gain from this? What are the reasons someone would participate?
  ◦ What are the reasons someone wouldn’t participate? How do you plan to assuage any concerns and hesitations?
  ◦ Who’s most affected? What language do they use to describe the problem? Are they angry? Where do they talk about it? How?
  ◦ Who are the most influential people in this community? Have you talked to them? What do they think of your idea?

• Be sure to also consider the particular social and political conditions in which you operate.
  ◦ If contributing data to your effort involves a certain degree of risk, people would be reluctant if they do not believe that tangible change may come out of it.

• Think about how you can get members interested in and excited about being a part of your crowdsourcing effort.
  ◦ Sometimes, this may mean the crowdsourcing should be preceded by some awareness-raising and trust-building work.
  ◦ You may choose to run an information campaign about a particular issue, engage with opinion leaders, build trust with the most active members of the community, and so on.

• Think about how you may demonstrate results and close the feedback loop with your audience, even if contributors remain anonymous. For instance:
  ◦ you may choose to publish live updates on the progress of your crowdsourcing effort or even share some of the data collected via the same
channels to encourage more contributions (see the case "Anyone’s Child: Mexico" described below for an excellent example of this).

- It is also helpful to make sure some contributions come in as soon as possible after you launch your effort (this may be arranged in advance with some trusted sources if you know they have something to contribute already).
- **In short, when members of the community see others actively participating, they are more likely to get engaged themselves.**

- **Think about how you are going to reach your audience.**
  - You may want to push your engagement call via channels and methods that your target contributors, not you, prefer.
  - For instance, targeted online advertising using tools like Facebook’s [Lookalike Audiences](https://www.facebook.com/ads/) may be very powerful, but only if your target audience uses Facebook in the first place and if you have enough resources to spend on Facebook ads.
  - ProPublica offers several helpful questions to consider when choosing the right engagement method:
    - What is the best, most efficient form of communication with the group? How will you let participants know what you find? How involved do you want/need this community to be throughout the reporting?
    - What do you want people to tell you through engagement? Are you trying to crowdsource data, a collection of anecdotes, gather evidentiary materials, etc.?
    - What are the concrete pieces of information you need to collect? What’s the easiest way for a participant to give these to you? Have you user-tested? What happened?
    - If this project goes gangbusters and you get a huge response, how will you organize it? What do you need to put in place beforehand?
    - How are you going to use or publish what participants submit? What permissions are they giving you? What is the best, clearest way to communicate your intentions?
  - Here are some community outreach methods and channels you may consider: (more can be found in the [case studies](https://www.globalinvestigativenetwork.net/) cited by the Global Investigative Journalism Network):
    - Dutch *De Correspondent* reporter Jelmer Mommers used the news site to appeal directly to Shell employees for information about the company’s knowledge of climate change. He invited readers to email him and received internal company documents and more.
    - US *ProPublica*’s engagement reporter Adriana Gallardo partnered with National Public Radio’s correspondent Renee Montagne to disseminate.
an online questionnaire aimed at women that experienced life-threatening complications in childbirth. Published on Facebook and Twitter, as well as unconventional places like the crowdfunding site GoFundMe, the questionnaire yielded thousands of responses and resulted in multiple stories.

- Documentary makers about drug violence in Mexico launched a free phone line publicized through local partners and invited people across the country to call in with their stories. When they did, callers could also listen to the stories of others. This effort resulted in a multimedia documentary project “Anyone’s Child: Mexico” (also available in Spanish).

• Be sure to take any privacy and security considerations into account.
  ◦ Does participating in your crowdsourcing effort potentially carry any risks for your target audience? If so, it is critical to make sure you do everything in your power to offer a secure channel of communication and protect the identity of your contributors.
  ◦ Although people may be more lenient about security than you would expect, you should strive to ensure they are aware of the risks and the extent to which you are able to mitigate them.

Session 5: Choosing technical tools for crowdsourcing

It is easy to feel overwhelmed or get overly excited about using a particular technical tool for crowdsourcing data. There is an abundance of easy and secure tools developed by and for human rights defenders, journalists, or citizen watchdogs. Yet it is important to choose the right tool that aligns with the goals and needs of your crowdsourcing effort, not try to design the crowdsourcing operation around it. Sometimes, this may mean you do not need the latest and coolest technology, but instead opt-in to use a simple telephone hotline, text messages or email.

In order to make the best choice, it is important to consider:

• Technical environment
  ◦ Do most of the people in your target audience have access to the Internet? What kind of connection do they have?
  ◦ Do they have access to mobile devices or smartphones if so - what type/models people are most likely to use?
  ◦ Also consider the level of their computer literacy.
• **Privacy and security**
  - It is important to consider whether participating in your crowdsourcing effort potentially carries any risks for your target audience. If so, it is critical to make sure you do everything in your power to offer a secure channel of communication and protect the identity of your contributors.
  - Although people may be more lenient about security than you would expect, you should strive to make sure they are aware of the risks and the extent to which you are able to mitigate them.

• **Using existing tools vs building/introducing something new**
  - People are especially reluctant to change their habits regarding technology. Investigate which tech tools your target audience is already using (i.e. social networks, online messengers, etc.) and consider integrating those tools into your crowdsourcing effort.
  - If you choose to develop and introduce a special tool for crowdsourcing data in this particular environment, consider that despite your best efforts getting people to use it may take a while or you may not be successful at all.

• **Some popular secure communication tools and their pros and cons**
  - There are multiple secure communication tools that are used by journalists and activists. While no system is 100% secure, there are instruments that attempt to create a more secure environment than normal communication channels (such as telephone, social media, email) provide.
  - No one tool is best for everyone, so it is important to carefully consider individual circumstances of your prospective contributor(s).

Common communication channels include:

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<th>Characteristics</th>
<th>Trade-offs</th>
<th>Downloads and set up guides</th>
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<td>Signal</td>
<td><a href="https://signal.org/">https://signal.org/</a></td>
<td>Signal is a free and open source secure messaging app for iPhone and Android, developed by <a href="https://openwhispersystems.org">Open Whisper Systems</a>. It encrypts all communication from end to end, making all data accessible only to the sender and recipient.</td>
<td>Signal is not nearly as popular as WhatsApp or other end-to-end encrypted messages and users must register using their actual phone numbers. However, Signal records virtually no metadata about your contacts or messages, as to make it impossible to infer anything about</td>
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<td><strong>WhatsApp</strong></td>
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<td><strong>Communication</strong></td>
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<td>Based on your use of the app.</td>
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<td><strong>Available on</strong></td>
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<td><strong>iPhone</strong> and <strong>Android</strong>, WhatsApp is a popular messaging application that utilizes similar to Signal end-to-end encryption. It is currently used by over 2 billion people worldwide.</td>
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<td><strong>Like Signal, WhatsApp stores user phone numbers. It is owned by Facebook and shares the user’s phone number and user analytics with the social media company. Facebook can also be forced to share its troves of user data in response to a court order or subpoena.</strong></td>
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<td><strong>WhatsApp also may be backing up your unencrypted messages to iCloud or Google Drive - which is a feature that can be turned off in the messenger’s security settings.</strong></td>
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<td><strong><a href="https://www.whatsapp.com/download/">https://www.whatsapp.com/download/</a></strong></td>
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| **Pretty Good Privacy (PGP) email encryption**  |
| **PGP is an encryption standard that is popular among journalists for securing email.** It uses public key cryptography, meaning that each user has a “public key” used to encrypt messages to other users. The public key can be shared with anyone. Each user also has a corresponding “private key” that is used to unscramble messages, and should never be shared. Examples of email encryption software include **GPG Suite** for Mac, **GPG4win** for Windows and Linux, **Thunderbird** with the **Enigmail extension**, and **Mailvelope**.  |
| **PGP requires a certain level of technical knowledge and training before a regular computer or smartphone owner could use it. Other secure communication channels may offer a comparable level of protection while being more user friendly.**  |
| **https://www.openpgp.org/software/**  |

| **Protonmail**  |
| **ProtonMail is a free PGP fully integrated**  |
| **While free (basic account only) and easy**  |
| **https://proton.me/pricing**  |
free email service. This means that with ProtonMail, anybody can use PGP, regardless of their technical knowledge. It also prevents anyone, including ProtonMail itself, from reading or sharing your emails while at rest, a concept known as zero-access encryption.

| SecureDrop | SecureDrop is an open source whistleblower submission system news organizations can install to safely and anonymously receive documents and tips from sources. It is available in 20 languages and is used at over 50 news organizations worldwide, including *The New York Times*, *The Washington Post*, *ProPublica*, *The Globe and Mail*, and *The Intercept*. | While SecureDrop allows any organization that installs it to completely own the servers, minimize metadata, encrypts data and imposes a series of other strong security practices, it can be costly and difficult to set it up yourself. | https://docs.securedrop.org/en/stable/ |
| Tella | Tella is a free open source mobile data collection application designed for environments with limited internet connectivity and high security risks. It is currently available on Android in a number of languages. | While Tella is relatively easy to use and is customizable to the needs of an organization using it, deploying the application still requires training users and some technical skill for backend server setup. | https://tella-app.org/ |
| FrontlineSMS | A software used by a variety of organizations to distribute and collect information via text messaging in over 120 countries. | Uses commonly accessible but not a secure communication channel. Is a paid service with relatively small fees. | https://www.frontlinesms.com/platform |
Session 6: Verification

Verifying crowdsourced data is extremely important. Depending on the type and format of data that you are attempting to collect, think carefully about how much verification you would want and be able to carry out.

The outcomes may look like this:

- **Unverified data**
  - Some data may be impossible to verify, as it can be novel and lack many corroborating sources. In this case, think of not verification, but vetting. That is, attempt to refute the data before publishing.
  - If you are unable to verify the data but still want to publicize it, provide a clear disclaimer marking your data as “unverified.”

- **Partially verified data**
  - Decide how much verification you deem “enough” for the data to be publicized.

- **Fully verified data**
  - Usually, data that has several corroborating sources.
    - In case of real-time reporting about rights violations or when an incident needs to be publicized quickly in order to prevent further wrongdoing or harm, consider having a mobile team of qualified people on the ground that could visit the location of the incident and collect corroborating evidence;
    - When on-the-ground verification of contributions is impossible, organizers may choose to partner with someone that has on-the-ground presence with whom they can cross-reference their findings.

Verifying crowd-mapped data

There are several elements that may be taken into account when crowdsourcing information during a crisis. Ushahidi users during the 2010 Haiti earthquake identified the following ways of verifying data, including when plotting it on a map:

- **location** – is the report coming from the right place?
- **Reputation** – is the source trusted by me or by people who themselves are trusted?
- **content comparison/aggregation** – via clustering or other methods to discover patterns
- **timing** – is the report coming at the right time?
Verifying information on social media

There are a variety of techniques for verifying social media reports, multimedia files, etc., that you may use if this is the type of data you collect (e.g. the European Journalism Centre’s Social Media Verification Handbook). However, remember that setting up a verification process is not an easy task and may require creating a complex decision-tree model and a team of people with particular skills.

• See this example of a journalists’ effort to monitor and verify information during the 2012 Parliamentary elections in Ukraine.

Session 7: Analysing data and presenting the findings

It is important to present crowdsourced data in an honest and truthful manner, but also think of an engaging format of presenting it.

• Before engaging in a crowdsourcing effort, think about how you are going to analyse and present your findings. The format in which you would want to present your findings may also affect the format in which you would crowdsource data.

  ○ For example, if you would like to write a story or series of stories based on collected data, an open unstructured call out may be most appropriate. If, in contrast, you would like to write an analytical report, you may need more structured data that can be analysed in a more systematic manner.

  ○ Even when working with structured data, still think about what kind of impression you would like to make with your data; in other words, what “story” would you like your data to tell?

• When publicizing findings, describe both your methods of data collection and how you arrived at your conclusions (in case of conducting an analysis).

• Do not forget to give credit where credit is due. This may involve giving gratitude to collaborating organizations, listing the tools and software used, and even naming contributors (groups or most active individuals in especially large efforts) - but not if they wish to remain anonymous.

• On your website and any other materials you may produce based on your findings, clearly state whether and to what extent you have been able to verify the data that you crowdsourced.
Related Exposing the Invisible articles and guides

- “It Takes a Crowd...”: Tips and examples of using crowdsourcing to collect information, article, also accompanied by an Exposing the Invisible Conference video talk and a case study video presentation
- "Safety First!", guide from Exposing the Invisible: the Kit.
- "Risk Assessment Is a Mindset, Not a Checklist", article also accompanied by an Exposing the Invisible Conference video talk