JUNE 2018

Restoring Restraint

Enforcing Accountability for Users of Chemical Weapons

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Executive Summary

In 2012, a 20-year moratorium on state employment of chemical weapons (CW) use was broken. Since then there have been more than 200 uses—against civilians, military targets, and political enemies.[1] These attacks have violated norms against the use of weapons of mass destruction and create a gap in the nonproliferation fabric—despite the robust international architecture of laws, treaties, agreements, and mechanisms designed to restrain the proliferation and use of these weapons. Accountability for these recent attacks has been limited or nonexistent, which threatens the credibility of the nonproliferation regime and only encourages further use. Leaders must find the political and moral strength to use a full spectrum of tools to reestablish this system of restraint.

By understanding this system—built on taboos, norms, deterrence, and a lack of benefit—and corresponding accountability approaches—military, legal, political, diplomatic, economic, and educational—leaders can utilize a tailorable menu of potential actions for building more diverse, flexible, scalable, and implementable options to hold accountable users of chemical weapons.

This study divides recent uses of chemical weapons into five categories, each with its own lessons for how to improve accountability. It then uses the theoretical framework above and draws on takeaways from the cases to create the menu of responses.

1. In Syria: Chemical Weapons Convention (CWC) party uses CW in its own territory

Conservative, high-confidence estimates used by U.S. ambassador to the United Nations (UN) Nikki Haley and others suggest at least 50 instances of CW use by the Bashar al Assad regime. Civil society sources suggest there could be at least 200 CW uses since 2012.[2] While the number of attacks is staggering, the diverse methods, targets, and types of weapons are also disturbing. At the hands of the regime, civilians, hospitals, and military targets have faced chlorine-filled barrel bombs dropped from helicopters and several types of rockets tipped with both sarin and chlorine gases.[3] The United States and its partners have attempted a variety of efforts across the system of restraint to hold the Syrian regime accountable—ranging from a UN Fact-Finding Mission, unilateral and multilateral sanctions, the Joint Investigative Mechanism, and both unilateral and

[1] For uses in Syria, see Syrian American Medical Society, "SAMS, Syria Civil Defense Condemn Chemical Attack on Douma," last modified April 8, 2018, https://www.sams-usa.net/press_release/sams-syria-civil-defense-condemn-chemical-attack-douma/. Reports on the number of attacks in Iraq and Syria vary by source and assessment criteria, but adding unattributed and attributed easily surpasses 200 by most assessments.
[2] Human Rights Watch, "Syria: A Year On, Chemical Weapons Attacks Persist," April 4, 2018, https://www.hrw.org/news/2018/04/04/syria-year-chemical-weapons-attacks-persist. The number of attacks committed by the Syrian regime is likely much higher, according to reports from Syrian American Medical Society (SAMS) and the Syrian Archive, which suggest more than 200 confirmed incidents of CW use in Syria (not all attributed to an actor). Numbers cited here suggest about 30 uses in Syria by ISIL. This leaves about 170 unattributed attacks, the majority of which would likely have been by the Assad regime.
[3] Daryl Kimball, "Timeline of Syrian Chemical Weapons Activity, 2012–2018," Arms Control Association, updated February 2018, https://www.armscontrol.org/factsheets/Timeline-of-Syrian-Chemical-Weapons-Activity.

coalition missile strikes—with seemingly little long-term effect.[4] Many of these efforts have been seriously hampered by Russia.

2. In Syria: Nonstate actor (ISIL) used CW in CWC party territory during an armed internal conflict involving CW use

ISIL's CW use in Syria further complicates accountability approaches by adding a second CW actor to an already-messy conflict and providing the Syrian regime a scapegoat to blame for continued CW use in the country. Accounts attribute CW use to ISIL in 28 instances in Syria, including sulfur mustard and chlorine, far less than the number of incidents attributed to the regime but nonetheless enough to suggest a persistent and long-term challenge.[5] Given the limited and ineffective legislation in Syria regarding chemical weapons, it will be critical for any post-conflict resolutions to address these instances as well.

3. In Iraq: Nonstate actor (ISIL) used CW in territory of CWC party in good standing

ISIL's CW use in Iraq presents a distinct, but no less important, challenge. The group may have used chemical weapons as many as 40 times in Iraq since 2014, primarily on the battlefield against Iraqi and Kurdish forces.[6] Coalition forces uncovered labs in former ISIL territory that contained evidence of the organization's intent to research and produce CW.[7] While ISIL's decline has significantly slowed CW use in Iraq, U.S. intelligence suggests ISIL may seek to export CW to affiliates around the globe.[8] Responses to use in Iraq have centered on sanctions and military actions, which degraded resources and slowed the group's ability to develop more effective and lethal capabilities, but failed to fully dissuade ISIL from developing or using CW.

4. In Malaysia: Non-CWC party (North Korea) used CW in another state's territory

In February 2017, Kim Jong-nam, the estranged brother of North Korean leader Kim Jong-un, was killed with VX nerve agent in Malaysia. Two women wiped a liquid on Kim Jong-nam's face, before he died shortly thereafter while seeking medical treatment. Several countries allege North Korea orchestrated the attack and that they used VX either to intimidate political opponents or to demonstrate its advanced CW program.[9] Responses against North Korea so far have focused on political statements and sanctions. The two women accused of the attack are on trial in Malaysia,

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[4] Ibid.
[5] Columb Strack, "The Evolution of the Islamic State's Chemical Weapons Efforts," *CTC Sentinel* 10, no. 9 (October 2017): 20, https://ctc.usma.edu/app/uploads/2017/10/CTC-Sentinel_Vol10Iss9-21.pdf.
[6] IHS Markit, "Islamic State's Chemical Weapons Capability Degraded, IHS Markit Says," last modified June 13, 2017, http://news.ihsmarkit.com/press-release/aerospace-defense-security/islamic-states-chemical-weapons-capability-degraded-ihs-mar.
[7] Associated Press, "Chemical weapons found in Mosul in Isis lab, say Iraqi forces," *The Guardian*, January 29, 2017, https://www.theguardian.com/world/2017/jan/29/chemical-weapons-found-in-mosul-in-isis-lab-say-iraqi-forces.
[8] Daniel R. Coats, Office of the Director of National Intelligence, *Statement for the Record: Worldwide Threat Assessment of the US Intelligence Community* (Washington, 2018), https://www.dni.gov/files/documents/Newsroom/Testimonies/2018-ATA---Unclassified-SSCI.pdf.
[9] Richard Paddock, Choe Sang-Hun, and Nicholas Wade, "In Kim Jong-nam's Death, North Korea Lets Loose a Weapon of Mass Destruction," *New York Times,* February 24, 2017, https://www.nytimes.com/2017/02/24/world/asia/north-korea-kim-jong-nam-vx-nerve-agent.html.

while suspected North Korean accomplices were allowed to leave Malaysia in a diplomatic swap.[10] The Trump administration officially declared that North Korea had used VX to kill Kim Jong-nam, resulting in legally mandated sanctions.[11]

5. In the United Kingdom: CWC party (Russia) used CW in another state's territory

In March 2018, a former Russian spy and his daughter became ill after reportedly being exposed to a chemical nerve agent in Salisbury, United Kingdom. While both have since been released from the hospital, several countries have retaliated against Russia for their likely role in the incident. Inconsistent Russian statements have sought to discredit the analysis by suggesting various reasons for how the two might have exhibited such symptoms. Yet, 26 countries expelled nearly 150 Russian intelligence officers in a coordinated retaliation.[12]

Recommendations

Drawing on key takeaways from these cases, these recommendations provide governments and international organizations a tailorable menu of actions for building more diverse, flexible, scalable, and implementable options. These consequences must be applied consistently to rebuild the system of restraint against the use of chemical weapons.

Create a "Zero Tolerance" Culture for CW Use

Like-minded nations will need to demonstrate they still have the moral and political appetite to respond to CW use—failure to do so will further undermine the system of restraint. This culture would primarily seek to reduce benefits to potential users of chemical weapons and help restore the taboo against their use.

- *Foster political will for action.* Like-minded governments should clearly and collectively state that every use of CW will result in a response and they should follow through on that claim. This must be coupled by the development of a flexible array of responses for everything from isolated, small use of CW to large-scale employment. Supporting mechanisms to educate publics and leaders on the scale of CW use, the effects of CW, the impact use has on the broader nonproliferation regime, and the long-standing norm against their use will help create the political will to respond.

- *Develop fact sheets for consistent information sharing.* The French-led International Partnership Against Impunity for the Use of Chemical Weapons (or some other group of countries) should develop fact sheets on a range of issues—including proliferation, use, and defensive efforts—for participating nations to help educate other governments and diplomats.

[10] Rozanna Latiff and James Pearson, "North Korean murder suspects go home with victim's body as Malaysia forced to swap," *Newsweek*, March 30, 2017, https://www.reuters.com/article/us-northkorea-malaysia-kim/north-korean-murder-suspects-go-home-with-victims-body-as-malaysia-forced-to-swap-idUSKBN1711NI.
[11] Rick Gladstone, "U.S. Slaps Sanctions on North Korea Over Use of Nerve Agent in Assassination," *New York Times*, March 6, 2018, https://www.nytimes.com/2018/03/06/world/asia/north-korea-vx-kim-sanctions.html.
[12] UK Government, "Novichok Nerve Agent Use in Salisbury: UK government response," last updated April 18, 2018, https://www.gov.uk/government/news/novichok-nerve-agent-use-in-salisbury-uk-government-response.

- *Release FFM and JIM data.* Nations can use their collective efforts to get Joint Investigative Mechanism (JIM) and Fact-Finding Mission (FFM) information released to other UN mechanisms, such as the UN International, Impartial and Independent Mechanism on International Crimes Committed in the Syrian Arab Republic (IIIM), to facilitate prosecution of CW use in appropriate international forums.

- *Prioritize additive actions.* To help create this culture of responding to each use, countries should seek mechanisms that are additive, rather than zero-sum—it should allow flexibility in the escalation ladder based on the type of use and allow for responses that can build on each other. Developing a response plan that draws from multiple elements of the response menu can create opportunities to gain international support and multilateralize responses, even if all like-minded nations do not agree on every response measure.

Strengthen Coalitions

- *Internationalize responses as much as possible.* Responses to CW use—particularly démarches, sanctions, and legal actions—must be internationalized, coordinated, and synchronized to the greatest extent possible. Doing so provides comfort in numbers and distributes the costs of action, which is critical for smaller countries. Countries should also cooperate multilaterally to close sanctions gaps being exploited.

- *Press for effective action in international organizations and entities.* While voluntary multilateral efforts such as the Partnership play a vital role in demonstrating that international will cannot be held hostage to a few nations determined not to play by the rules or abuse their institutional power, these multilateral approaches should seek a return to and reinvigoration of international institutions, not their demise.

- *Coordinate statements.* States can coordinate démarches to key countries on the OPCW Executive Council and UN Security Council to press for greater accountability. Joint statements, press releases, and other documents can demonstrate collective will and resolve in international organizations. Countries could also jointly declare CW use a violation of customary international law.

- *Expand the Partnership.* The French-led Partnership should continue to issue statements about North Korea, Russia, and Syria, and should publicize them on its website. The Partnership should also seek programmatic and geographic expansion. Specific action items need to be created to ensure that the Partnership remains active and its presence felt beyond advocacy in international forums.

- *Institutionalize and staff the Partnership.* A modest Partnership secretariat should be established, with either permanent or temporary volunteer staff.

- *Make Partnership sustainable.* Efforts should also be made to improve the "stickiness" of the Partnership by connecting it to a variety of forums and institutions beyond those associated with the nonproliferation system. Preestablished mechanisms to address future CW use should be established and upheld.

- *Learn from other successful models.* Countries could look to efforts such as the Proliferation Security Initiative (PSI) for examples of collaborative information sharing, development of best practices, and operational and table-top exercises. The models for collective action used during the four Nuclear Security Summits, particularly the use of diplomatic "gift baskets," demonstrate how to convene subsets of countries around issues, efforts, and approaches without requiring consensus or the active contribution of all endorsing nations.

Fill Technical Gaps

Improvements in technology would support investigative techniques, counter false narratives, and, especially, help to deny benefits to potential users of chemical weapons.

- *Collect and protect more evidence.* Further steps must be taken to collect and protect evidence of CW use, such as witness testimony, technical-sample analysis, forensic records, and assessments until a trial occurs. Evidence must adhere to the highest standards, in accordance with international law, and be more transparent to maintain credibility and to prevent discrediting of the investigation.

- *Take advantage of technological advances.* The OPCW has recommended the following to improve evidence collection and preservation: development of additional reference standards, autonomous systems to aid in collection and analysis, and expanded biomedical methods.[13] More miniature and durable sampling technology would allow analysis to occur more quickly and closer to the site of the attack.

- *Learn from other technical sharing arrangements.* Other WMD-related technical groups, such as the Nuclear Forensics International Technical Working Group, could share best practices in the field and, if replicated in the CW field, could help investigators and scientists implement technical approaches for countering false narratives.

- *Remove stovepipes.* Within these technical capabilities, both partner countries and domestic agencies should seek ways to remove stovepipes between the intelligence-gathering and other communities by improving data sharing and creating a non-IC (intelligence community) national database of relevant evidence. OPCW states with site access to alleged attacks should share information more readily.

- *Use UNMOVIC as a model.* Using the United Nations Monitoring, Verification, and Inspection Commission (UNMOVIC) as a model for future attribution mechanisms that separates scientists and diplomats in the investigation and attribution of CW use and other compliance issues would help avoid the politicization of evidence that hindered the JIM process.

- *Expand training opportunities.* Countries should also seek ways to enhance capability, capacity-building, and chain-of-custody efforts. First, they should find ways to share best practices, through protocols or agreements, to help facilitate information exchanges between law enforcement bodies, diplomats, and national security professionals. They should exercise

[13] Scientific Advisory Board, "Report of the Scientific Advisory Board's Workshop on Chemical Forensics," Organization for the Prohibition of Chemical Weapons, The Hague, July 14, 2016, 2–3, https://www.opcw.org/fileadmin/OPCW/SAB/en/sab24wp01_e_.pdf.

tactics, techniques, and procedures—serving the dual-hatted purpose of improving capabilities and signaling preparedness.

Establish/Reform Institutional Mechanisms

Building more diverse, flexible, scalable, and implementable response options requires reforming the institutional mechanisms that provide infrastructure for accountability. In some cases, this will require countries employing political pressure through existing processes in innovative ways, while in others relying on ad hoc or new mechanisms may be more effective.

- *Use "Acheson Plan" at the United Nations.* UN tools, such as General Assembly Resolution 377A (also known as the "Acheson Plan"), should be used to bring Security Council issues to a full General Assembly vote in the case of a Security Council deadlock. This could empower the Secretary-General's Mechanism to perform attribution in the Syrian conflict after the dismantling of the JIM.

- *Modify OPCW personnel rules.* To ensure expertise exists to conduct investigations, the OPCW could consider changing its personnel rules. Currently, employment at the OPCW is contractual, and technical expertise must be replaced with each contract.

- *Establish post-use accession procedures.* In order to avoid the difficulty of creating mechanisms in the midst of a crisis, the OPCW should establish probationary procedures for future post-use accession to the CWC. Countries that choose to join the treaty on the heels of CW use must expect a higher threshold of scrutiny, a stepwise progression toward the rights and privileges of a CWC party, and expedited procedures of censure in the event of serious noncompliance.

Expand Judicial Pathways to Accountability

While legal mechanisms form a critical part of the accountability menu, these tools have either been underutilized or have extensive gaps that have been exploited by users or their supporters.

- *Expand, improve, and better utilize national authorities for CW accountability.* The national legislation required of parties to the CWC and UNSCR 1540 still contains major gaps and, in many cases, does not exist at all. Many states have weak 1540 legislation on trade controls.[14] These loopholes should be fixed. International partners should coordinate further to maximize prosecutorial success, perhaps following the counterterrorism model. National authorities should refuse to harbor CW users or facilitators of CW attacks, institute financial and economic sanctions, and engage in criminal and civil prosecution. Such national responses can be used to act against companies or individuals that provide illicit support to CW programs or provide materials and equipment used in CW attacks, perhaps seeking ways to declare them equally responsible.

[14] Richard T. Cupitt, "Developing Indices to Measure Chemical Strategic Trade Security Controls," *Strategic Trade Review* 3, no. 5 (Autumn 2017): 63.

- *Expand work through 1540 Committee.* Through the Partnership or other efforts, nations can share lessons learned, best practices, and model legislation to help bolster national legal structures. Countries can also work through the 1540 Committee to build national capacity to prevent, respond to, and prosecute CW attacks.

- *Treat CW use as a war crime and demand restitution for victims.* Countries, perhaps through the Partnership, should lay the groundwork before any Syrian peace process to ensure prosecution of those who used CW in the civil war and seek to include new declarations from the Syrian government's CW stockpile and additional inspections in Syria to ensure CWC compliance. Long-term mechanisms for providing justice and reconciliation for victims should be pursued with chemical weapons victims explicitly recognized and addressed.

- *Bolster the importance of international law by using it.* A strong legal argument exists for declaring that the norm against CW use is customary international law. Countries should not shy away from making this argument publicly, particularly in their statements condemning CW use. Finally, while it might seem far-fetched, countries could also explore universal jurisdiction over CW, similar to the antipiracy model.

Engage, Expand, and Strengthen Civil Society

A robust civil society working on and concerned about these issues is essential. This community has shown its ability to pressure governments through the negotiation of the Treaty on the Prohibition of Nuclear Weapons (TPNW) and other international efforts on issues such as landmines and cluster munitions. NGOs could encourage the over 150 nations that signed the TPNW to protect the norm against CW use and uphold the principle of a weapons ban—especially one nearly universal in coverage. To this end, partner nations should work to foster a stronger civil society expert community to lobby their respective countries to respond and bring attention to each CW attack.

- *Proactively counter false and misleading narratives.* Civil society should play a role in countering conspiracy theorists and trolls who overtake the media and online discourse regarding CW use. The importance of this cannot be overstated at a time when false information may spread even faster and farther online than facts.[15] Civil society could help broadcast factual information, promote quality scholarship and analysis, and identify and refute false, misleading, or conspiratorial information designed to create confusion and discord.

- *Increase databases on use and resources.* NGOs could help create databases and resources for accurate information, analysis, and resources with appropriate vetting of expertise to provide a "go to" guide of reliable experts and authorities. The recently released Syrian Archive, which has analyzed and mapped more than 200 confirmed uses of chemical weapons in Syria, serves as a prime example of this type of work tracking the scale and frequency of attacks.[16]

[15] Soroush Vosoughi, Deb Roy, and Sinan Aral, "The Spread of True and False News Online," *Science* 359 no. 6380 (2018): 1146–51.
[16] Syrian Archive, "Chemical Weapons Database," accessed May 7, 2018, https://syrianarchive.org/en/collections/chemical-weapons.

- *Work with humanitarian groups to improve immediate responses.* Technical and medical sharing with civil society organizations working on the ground could help improve immediate responses following an attack. Providing assistance, training, equipment, and other resources could decrease potential benefits to an attacker by improving and distributing technology used to identify chemical agents, providing personal protective equipment, or distributing antidotes more broadly.[17]

The global system of restraint against the use of chemical weapons and the rules-based treaty system that supports it is at risk of dying a slow death. Without a fervent response in the coming months, this and the broader WMD-nonproliferation systems could crumble, and, most importantly, victims would see no justice.

[17] Julia Brooks et al., "Responding to chemical weapons violations in Syria: legal, health, and humanitarian recommendations," *Conflict and Health* 12, no. 1 (2018): 3.

Chapter 1: Introduction

Sarin, chlorine, VX, and a novichok nerve agent. Barrel bombs, rockets, and sprays. Political enemies, troops, civilians, children—even infants. The chemicals, methods, and targets of chemical weapons (CW) in the past year represent by far the most diverse CW use since World War I. Following those early uses of chemical weapons in warfare, leaders cultivated a moral aversion to chemical weapons while constructing what would become the world's strongest arms-control regime.[1] Today's employments of CW—there have been more than 200 uses since 2012—threaten that framework started over a century ago. While the diversity of users and tactics today rivals those of the early twentieth century, leaders then had only a portion of the response pathways available today. Leaders must find the political and moral strength to use these tools and reestablish the system of restraint against the use of chemical weapons, as "a lack of consequences will surely encourage others to follow, not only in the Syrian Arab Republic, but also elsewhere."[2] The global system of restraint against the use of chemical weapons and the rules-based treaty system that supports it is at risk of dying a slow death. Without a fervent response in the coming months, this system could crumble, and, most importantly, victims would see no justice.

Defining the Problem

Since 2012, five cases of CW use have each posed distinct challenges to the system of restraint against CW use built over the past century. Actions in defiance of or beyond the jurisdiction of the current nonproliferation framework continue to grow more lethal and frequent. Potential pathways for accountability have been clipped, existing pathways are perilously too narrow, and consequences against users have been enforced irregularly and unpredictably. This combination of factors has enabled, indeed encouraged, the use of chemical weapons as parties skirt and test the international community's willingness to respond in the following instances:

- In Syria: Chemical Weapons Convention (CWC) party uses CW in its own territory
- ISIL, a nonstate actor, used CW inside a CWC party's territory in two cases:
    - In Syria, during an armed internal conflict involving CW use
    - In Iraq, a CWC party in good standing
- In Malaysia: Non-CWC party (North Korea) used CW in another state's territory
- In the United Kingdom, a CWC party used CW in another state's territory

[1] Richard Price, "A Genealogy of the Chemical Weapons Taboo," *International Organization* 49, no. 1 (Winter 1995): 94, http://www.jstor.org/stable/2706867.
[2] UN Security Council (UNSC), "Seventh Report of the Organization for the Prohibition of Chemical Weapons-United Nations Joint Investigative Mechanism," October 26, 2017, 14, http://undocs.org/S/2017/904.

As evidenced by these recent cases of CW use, existing arms control treaty mechanisms—such as the CWC—may need to evolve to address trends in use. These employment cases include a CWC party utilizing both military-grade and unsophisticated chemical weapons in deliberate obfuscation and violation of its legal responsibilities; nonstate actors in CWC states with and without effective national legislation; and both parties and nonparties using CW to assassinate political opponents. Taken together, these events call into question the ability of the CW accountability regime to fulfill its purpose, resulting in the gradual erosion of the system of restraint against the use of chemical weapons.

While there have been problems with the CWC's ability to respond to potential and actual proliferators for some time, these most recent instances present new and diverse challenges that must be addressed to prevent further CW proliferation and employment.[3]

Creating New Accountability Mechanisms

Like-minded nations must begin consistently implementing creative solutions to counter those who have sought to degrade existing accountability structures. While Russian obstruction at the UN Security Council serves as a prime example, other potential efforts have also either been stymied or are inherently weak. The CW nonproliferation regime was built upon the assumption that CW would be manufactured by states using a limited set of precursors for use in state-on-state conflicts on the battlefield—as they were in World War I. While this scenario could certainly still occur, recent uses of CW have fallen outside this scope, highlighting gaps in the regime. CW use by nonstate actors is not a new phenomenon, but the increase in use since 2012 has resulted in a nonproliferation worst nightmare.[4]

There are too few agreed-upon punishments and actors are getting away with CW use—not to mention that responses have been inconsistently applied. If the CW nonproliferation regime appears increasingly irrelevant to the use of chemical weapons in these unconventional settings, eventually its responsiveness to crises that fall within its traditional state-based mission will be called into question.

In the face of these challenges to the nonproliferation regime, like-minded countries must compose a cohesive strategy to impose costs for the use of chemical weapons and hold perpetrators accountable. Without more effective pathways to accountability, norms and taboos against the use of chemical weapons cannot be restored or sustained, and future use cannot be deterred or dissuaded. The implications of such a failure affect not only the future of the CW nonproliferation regime but also the broader treaty-based system of nonproliferation, the international legal system, and the body of humanitarian law, including the Geneva Conventions.

These issues raise several critical questions:

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[3] Some of the challenges facing the CWC include the hesitancy for states to perform challenge inspections, an aging classification framework for chemicals, and difficulties regulating dual-use facilities. For more, see Jonathan Tucker, "The Future of Chemical Weapons," *New Atlantis* 26 (Fall 2009/Winter 2010): 3–29, http://www.thenewatlantis.com/publications/the-future-of-chemical-weapons.

[4] For examples of nonstate actor use recently, see the 1995 Aum Shinrikyo attack in the Tokyo subway and the chlorine-laden improvised explosive devices (IEDs) used by Iraqi insurgents in the mid-2000s.

- If nations are actively violating international arrangements that ban the use of specific weapons, what value do these treaties hold?

- How can the international community hold actors, including nonstate actors, accountable for clear violations of norms if there is not a clear and functioning legal or political structure in place to do so?

- Can states that want to enforce accountability, either individually or collectively, do so without broad-based international support?

- How can the existing structures be supplemented by expanding the range of potential accountability pathways without undermining their authority?

To develop and sustain a meaningful system of restraint to discourage and deter CW use, the international community will need to build more diverse, flexible, scalable, and implementable response options and work across stovepipes to collaborate between humanitarian and nonproliferation/arms control communities. This will require a need-based, flexible approach to holding CW users accountable and rebuilding the system of restraint against CW use. Most importantly, punishments must be certain for CW users, and the international community must demonstrate its earnestness to respond. There must be a zero-tolerance policy for actors employing CW and assurance that justice will be served—for the sake of taboos, norms, deterrence, and, most importantly, the victims of these heinous acts.

The study will examine the system of restraint against CW use to establish a theoretical basis for the processes of attribution, accountability, and formulating response options. By looking at the five distinct cases of CW use since 2012—by the Syrian regime in Syria, ISIL in Syria, ISIL in Iraq, North Korea in Malaysia, and Russia in the United Kingdom—the study develops an understanding of how the international community has attempted to hold CW users accountable. Using the theoretical basis above, the report then examines in detail each of the five cases and evaluates some of the challenges presented by each. Finally, the study recommends pathways for rebuilding the system of restraint against CW use.

Chapter 2: Understanding Restraint

The global system that shapes a nation's behavior encourages restraint through several different, often mutually reinforcing mechanisms: taboos, lack of benefit, norms, and deterrence. Each of these frameworks simultaneously plays a role in an actor's decisionmaking and helps inform how the international community must work across pathways to prevent the use of chemical weapons.

Taboos

A taboo exists when an action is perceived to carry such high moral, societal, or political costs, either internally or externally, that self-restraint is the natural outcome—regardless of whether the action faces legal or other formal prohibitions.[1] Taboos build over time based on a persistent climate of restraint that becomes internalized by leaders.[2] For example, the decision to use nuclear weapons or a return to nuclear testing would require the crossing of powerful taboos based on decades of restraint even though no legal prohibitions have been formally codified. Similarly, biological weapons are perceived to face a high taboo, even though the legal or normative environments are not as robust as with chemical weapons.[3] Breaking a taboo carries a high burden of justification, though taboos can tolerate a limited amount of violation—so long as the actor is an outlier or isolated in its actions.[4] Hence, North Korea can test nuclear weapons without unraveling the international taboo on nuclear testing, but the taboo would probably not survive testing by states like the United States or Russia.

By 2012, a fairly strong taboo against the use of chemical weapons seemingly had taken hold, as evidenced by a nearly 20-year moratorium on the use of chemical weapons by states following the Halabja massacre in the Iran-Iraq War and the entering into effect of the Chemical Weapons Convention. However, the quantity of chemical weapons attacks (200-plus) and range of actors who have used chemical weapons since 2012 has largely shattered this taboo. The taboo can only be reaccumulated over a period of nonuse.

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[1] Glenn Cross, "Long Ignored: The Use of Chemical and Biological Weapons against Insurgents," *War on the Rocks*, August 15, 2017, https://warontherocks.com/2017/08/long-ignored-the-use-of-chemical-and-biological-weapons-against-insurgents/.
[2] Thomas M. Dolan, "Unthinkable and Tragic: The Psychology of Weapons Taboos in War," *International Organization* 67, no. 1 (Winter 2013): 42, http://www.jstor.org/stable/i40129909.
[3] Jason Enia and Jeffrey Fields, "The Relative Efficacy of the Biological and Chemical Weapons Regimes," *Nonproliferation Review* 21, no. 1 (2014): 43–64.
[4] The victims' respective places in the international system may also play a role, particularly when one looks at some of the less publicized cases of CW use, or alleged use, namely: Rhodesia in the 1970s, alleged uses in Afghanistan in the 1970s, and the U.S. position that its use of Agent Orange in the Vietnam War did not constitute the use of a chemical weapon. See Price, "A Genealogy of the Chemical Weapons Taboo," 95–98; and Cross, *War on the Rocks*; and Rebecca Katz and Burton Singer, "Can an Attribution Assessment be Made for Yellow Rain? Systematic Reanalysis in a Chemical-and-Biological-Weapons Use Investigation," *Politics and the Life Sciences* 26, no. 1 (March 2007): 24–42, http://www.jstor.org/stable/40072925.

Lack of Benefit

Restraint can also be encouraged by reducing any benefits or utility of the action.[5] In some cases, this lack of benefit reflects the natural obsolescence of weapons and warfare as one class or type of weapon is replaced with another that is more effective, less costly, etc. This perceived lack of utility results in an intrinsically motivated form of restraint—other more effective, or more lethal actions are naturally preferable to an action of lesser utility. Lack of benefit is also achieved through effective defensive measures that help render the action less useful. Such actions, often through protective or defensive measures, create a more extrinsically motivated restraint, often referred to as denial of benefit or deterrence by denial.[6] Many believe that the battlefield use of chemical weapons, especially choking agents, has been restrained through denial of benefit, as well-armed nations developed fairly effective protective measures to counter them and their use in warfare grew less efficacious as compared to other weapons and tactics.[7] In the case of chemical weapons, many analysts believe that the moratorium on use of CW reflected more this natural obsolescence and loss of utility rather than a perceived sense of taboo about their use.[8] Yet, it appears that rather than obsolesce, chemical weapons use has actually evolved to target, terrorize, or assassinate unprotected populations or individuals in ways that maximize their operational, psychological, or political utility.[9] In this case, denial of benefit may not induce restraint but rather it encourages a shift in tactics and targets to employ these weapons so the benefits remain comparatively high.

Norms

Norms emanate from a system of laws and/or rules designed to shape behavior and encourage restraint.[10] Actors conform with these rules or laws because they value their credibility or legitimacy in the system, they value the restraining effects of these rules on the behavior of others, or they fear the costs of enforcement of those rules or laws.[11] Chemical weapons use faces one of the most robust normative structures in the international system—a web of national and international laws and regimes that span more than 100 years and include a comprehensive ban in a nearly universal treaty.[12] Norms that are not challenged or violated will create and/or reinforce taboos and over time can become somewhat indistinguishable. Norms are less fragile or brittle than taboos; they can withstand a degree of challenge or violation because adherence is not simply voluntary but rather mandated through binding or political commitments and legal

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[5] Glenn H. Snyder, *Deterrence and Defense: Toward a Theory of National Security* (Princeton, NJ: Princeton University Press, 1961).
[6] Austin Long, *Deterrence—From Cold War to Long War: Lessons from Six Decades of RAND Research* (Santa Monica, CA: RAND, 2008): 10, https://www.rand.org/content/dam/rand/pubs/monographs/2008/RAND_MG636.pdf.
[7] Dana A. Shea, *Chemical Weapons: A Summary Report of Characteristics and Effects* (Washington, DC: Congressional Research Service, September 13, 2013), 11–12, https://fas.org/sgp/crs/nuke/R42862.pdf.
[8] Enia and Fields, "Biological and Chemical Weapons Regimes," 60.
[9] Shea, *Chemical Weapons*, 11–12.
[10] Annika Björkdahl, "Norms in International Relations: Some Conceptual and Methodological Reflections," *Cambridge Review of International Affairs* 15, no. 1, (2010).
[11] Jeffrey W. Knopf, "After Diffusion: Challenges to Enforcing Nonproliferation and Disarmament Norms," *Contemporary Security Policy* (2018): 372, https://doi.org/10.1080/13523260.2018.1431446.
[12] Price, "A Genealogy of the Chemical Weapons Taboo," 84.

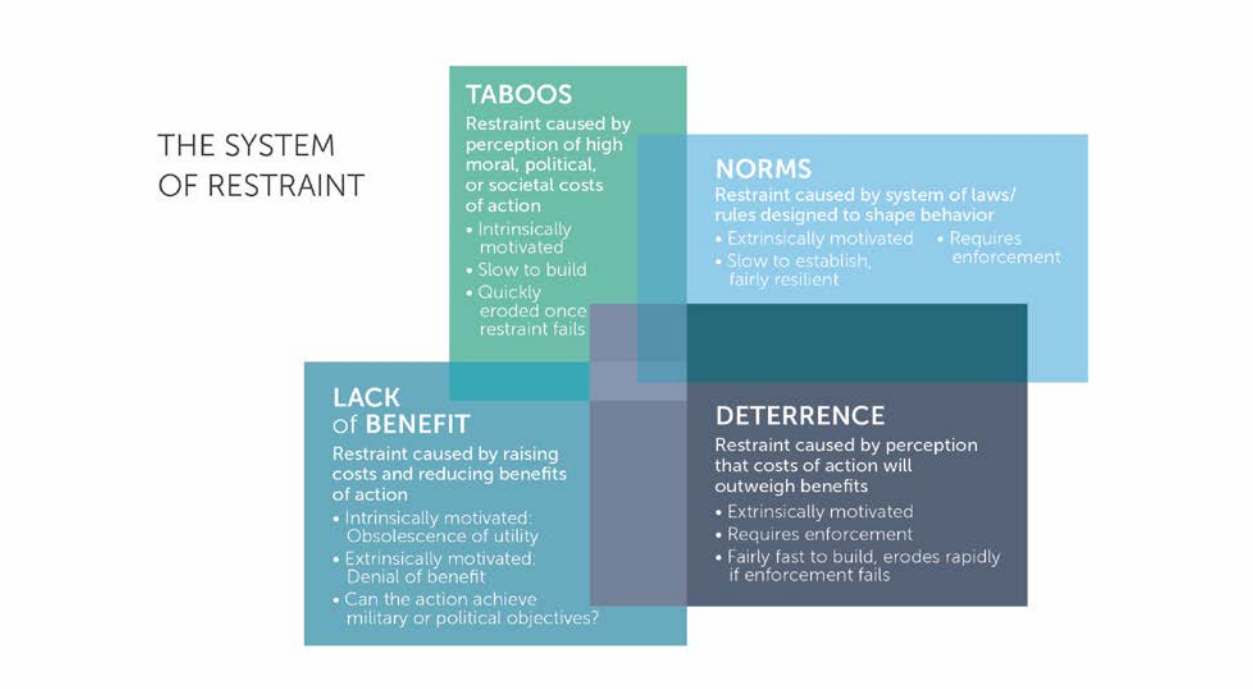
frameworks. Even so, in the face of sustained or egregious violation, enforcement is required or impunity renders the norm irrelevant.[13] Therefore, while norms can withstand violation, they cannot persist over time without an expectation of accountability and enforcement.

Deterrence

Deterrence encourages restraint by convincing an actor that the punitive response to an action will produce costs far in excess of any benefits they might hope to gain.[14] Taboos and norms can enhance the credibility of deterrence, but they are not required for it. The actor being deterred must believe that response is both certain and severe and hence not worth the risk. If the actor ignores or misunderstands the threat, only certain and severe punishment to enforce the threat can restore deterrence-based restraint.[15]

During the first Gulf War, strongly worded messages of extreme consequences in the face of chemical weapons use are widely attributed to have impacted Saddam Hussein's reluctance to use them during the coalition offensive in 1991.[16] Some of these threats, particularly from Secretary of State James Baker in a letter to Iraq's foreign minister in January of 1991, were intentionally vague to leave open the option for a nuclear response from the United States if Hussein further used chemical weapons.[17] Between 1991 and 2012, however, restraint regarding the use of chemical weapons relied predominantly on denial of benefit, taboo, and norms, not deterrence. The attempts to reintroduce deterrence as a primary form of restraint for chemical weapons use through President Obama's "red line" communications underline the challenges of relying on the deterrence-induced restraint when the stakes of the two parties are highly asymmetrical; the conflict is internal, unconventional, or involves third parties; and response thresholds are unclear or poorly communicated. Efforts during the Trump administration to deter CW use through air strikes have faced the same problems and have resulted in the same pattern of unclear thresholds, modest and reactive punishments, and a fundamental lack of certainty in the nature of any U.S. or international response. The fact that weak deterrence enforcement has been accompanied by weak norms enforcement at the Organization for the Prohibition of Chemical Weapons (OPCW) and the UN Security Council has only exacerbated the problem by failing to offer a pathway of accountability even when attribution for an attack is fairly straightforward. Without enforcement, deterrence, much like normative restraints, cannot exist. In this case, the actor believes benefits are more likely to exceed costs, either because it perceives that penalties cannot or will not be imposed, or blame cannot or will not be assigned.

[13] Knopf, "After Diffusion," 367.
[14] Thomas Schelling, *The Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1960), 9.
[15] Daniel Salisbury, "Why Do Entities Get Involved in Proliferation? Exploring the Criminology of Illicit WMD-related Trade," *Nonproliferation Review* (February 2018): 1–18.
[16] John J. Mearsheimer and Stephen M. Walt, "An Unnecessary War," *Foreign Policy*, November 3, 2009, http://foreignpolicy.com/2009/11/03/an-unnecessary-war-2/.
[17] Robert Harris and Jeremy Paxman, *A Higher Form of Killing: The Secret History of Chemical and Biological Warfare* (New York: Random House Trade Paperbacks, 2002), 243.



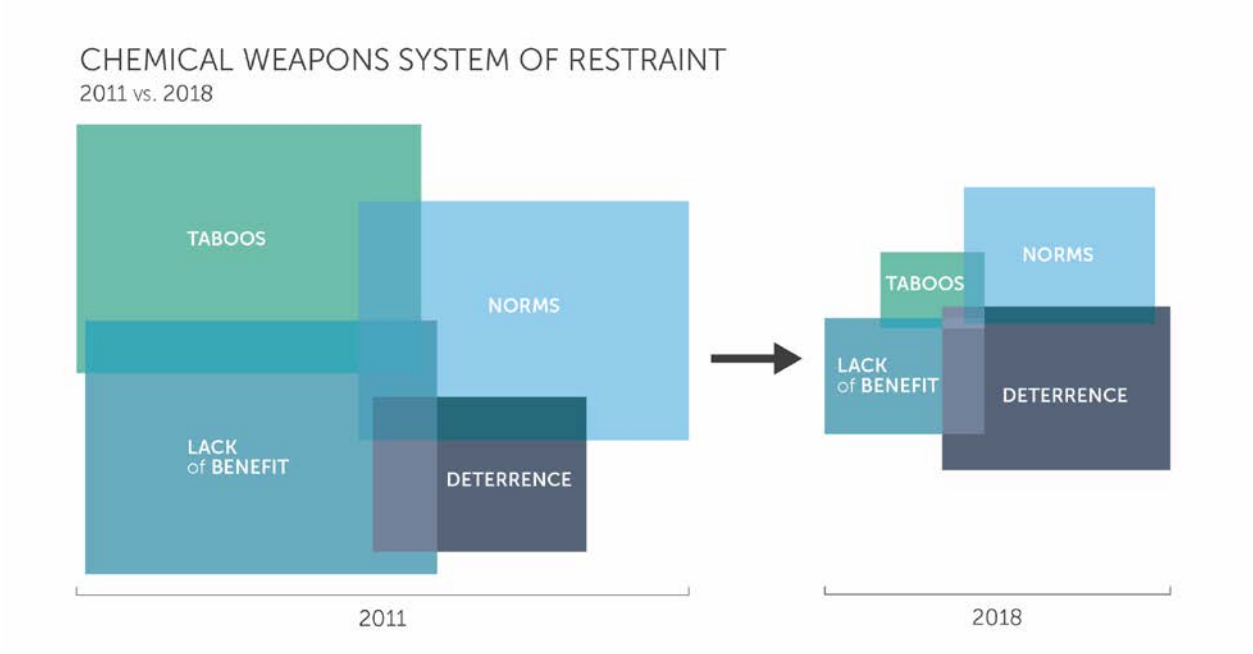
The System of Restraint

Generally, strong taboos, norms, and lack of benefit create an environment in which deterrence is less necessary because the actor is already inclined to restraint. Such restraint could be motivated intrinsically by a perceived lack of military utility or because they would pay a high societal cost. In a strong normative environment, extrinsic response factors could also raise perceived costs associated with the action. Such costs could include the loss of international legitimacy, loss of standing or participation in multilateral entities, or even international military or economic sanction. Over time, however, if norms are violated and not enforced they will no longer convey this restraining effect.

As taboos and norms erode, deterrence, namely the fundamental belief that the penalty for an action will exceed any benefit, becomes much more important in shaping behavior and encouraging restraint.

In the case of CW use, the fairly robust restraints associated with a strong taboo, low perceived military utility, and strong normative environment led to diminished responses to use, especially in terms of deterrence-based restraints. In Syria, repeated and sustained use fractured the taboo, largely eliminating that source of restraint. While the extensive normative restraint structure remained largely intact, especially following the international effort to remove and destroy Syrian chemical weapons through 2014, the lack of enforcement and accountability in the face of sustained use and great-power protectionism has badly damaged the restraining effects of these norms. This loss of restraint is reflected not only in the increasing overall number of CW attacks, but also in the diversity of weapon types (sarin, chlorine, sulfur mustard, and novichok) and in the range of attacks (counterinsurgency, political assassination, intimidation, and terror) as the actors involved sought to skirt response thresholds and exploit weaknesses or perceived gaps in the

normative fabric. Moreover, the lack of overall strategic stakes in the outcome of the Syrian war made the United States and other Western nations less inclined to engage in robust deterrence for fear of being dragged into a larger sustained conflict. Finally, the repeated small-scale, limited use of chemical weapons sought to test response thresholds and complicate deterrence and normative responses by effectively raising costs for the responders and lowering costs for the users.



History of the System of Restraint against Use of Chemical Weapons

Early Development

Reports of chemicals being used as weapons of war date back to ancient Greek and Roman times, while the taboo against their use is only a few hundred years old.[18] This stigma represents a unique development among technological advancements in warfare.[19] While military leaders have at times found battlefield utility for the weapons, the politicization of their use may have restrained political leaders from employing them in wartime for decades.[20]

The Hague Declaration of 1899 banned weapons meant to cause harm by toxic gases—what we now call chemical weapons—even before they had been fully developed.[21] In spite of the 1899

[18] Price, "A Genealogy of the Chemical Weapons Taboo," 80.
[19] Ibid., 88n59.
[20] Ibid., 76.
[21] Declaration (IV,2) concerning Asphyxiating Gases, The Hague, July 29, 1899, https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Article.xsp?action=openDocument&documentId=2531E92D282B5436C12563CD00516149.

declaration, chemical warfare was widespread during World War I—beginning with the German use of chlorine in 1915 during the Battle of Ypres and later the large-scale employment of gas by almost all major combatants. Estimates indicate that chemical weapons and agents injured over 1 million soldiers and killed nearly 100,000 during World War I.[22] Shortly thereafter, the international community recommitted itself to preventing CW use during war.[23] In 1919, Article 171 of the Treaty of Versailles, the armistice treaty for World War I, prohibited the development, importation, and use of all such gases in Germany.[24] A few years later, a draft treaty about the use of submarines from the Washington Conference of 1922 condemned the use of noxious gases in warfare.[25] These early efforts resulted in a ban on CW use in war—the Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, widely known as the Geneva Protocol of 1925.[26] Although not all countries signed, the protocol helped codify the widely respected taboo against CW use in conflict.[27]

Despite these efforts to ban chemical weapons, sporadic use continued in counterinsurgency campaigns or against civilian targets, and some countries built CW stockpiles as a deterrent. Throughout the 1930s, the Italian military used chemical weapons in Ethiopia, and the Japanese performed limited attacks and experiments in China.[28] During World War II, Nazi Germany used chemical agents in the form of Zyklon B on a massive scale in gas chambers. But, defying expectations, chemical weapons were not employed on the battleground. Not only did this become a significant factor in later establishing a prohibition, but historians reference the full system of restraint for why CW were not used, including deterrence, growing taboos and norms, and a lack of perceived military utility.[29] Between 1963 and 1987, three countries across Africa saw CW usage, while the United States was accused of using chemical agents, including Agent Orange, in the Vietnam War.[30] Nonstate actors also challenged the taboo, most notably when the terrorist cell Aum Shrinkyo employed a nerve agent during a Tokyo subway attack in 1995 that affected more than 6,000 victims.[31]

The widespread use of chemical weapons in the late 1980s, however, provided the impetus to establish a more formal mechanism to prevent their use. Saddam Hussein's regime maintained a

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[22] Enia and Fields, "Biological and Chemical Weapons Regimes," 52
[23] OPCW, "Genesis and Historical Development," accessed May 6, 2018, https://www.opcw.org/chemical-weapons-convention/genesis-and-historical-development/.
[24] Treaty of Peace with Germany (Treaty of Versailles), June 28, 1919, https://www.loc.gov/law/help/us-treaties/bevans/m-ust000002-0043.pdf.
[25] Treaty relating to the Use of Submarines and Noxious Gases in Warfare, February 6, 1922, https://ihl-databases.icrc.org/ihl/INTRO/270.
[26] Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Treaty.xsp?documentId=921B4414B13E58B8C12563CD002D693B&action=openDocument.
[27] Catherine Jefferson, "Origins of the Norm against Chemical Weapons," *International Affairs* 90, no. 3 (May 2014): 659.
[28] "The History of Chemical Weapons: The Shadow of Ypres," *The Economist*, August 31, 2013, https://www.economist.com/news/briefing/21584397-how-whole-class-weaponry-came-be-seen-indecent-shadow-ypres.
[29] Price, "A Genealogy of the Chemical Weapons Taboo," 76n12 (on later impact) and 74 (on reasons for non-use).
[30] For uses in Africa, see Cross, *War on the Rocks*. For Vietnam, see Institute of Medicine, *Blue Water Navy Vietnam Veterans and Agent Orange Exposure* (Washington, DC: National Academies Press, 2011).
[31] U.S. Department of State, Office of the Coordinator for Counterterrorism, *Country Reports on Terrorism 2010* (Washington, DC: Department of State, 2011), https://www.state.gov/documents/organization/170479.pdf.

CW stockpile, made extensive use of chemical weapons during the Iran-Iraq war, and in 1988 unleashed a chemical attack on Kurdish civilians that killed an estimated 5,000 immediately and thousands more in the following days.[32] The Halabja Massacre horrified the international community and provided momentum for negotiating the Chemical Weapons Convention.[33]

While CWC talks were ongoing, the Security Council passed UNSCR 687 in 1991 to create a special commission (UNSCOM) responsible for inspecting, destroying, and monitoring Iraq's declared WMD capabilities.[34] In a coordinated effort, the International Atomic Energy Agency (IAEA) director and the UN secretary general presented two plans for monitoring compliance that were passed in UNSCR 715.[35]

According to the plans, Iraq had to make accurate and regular declarations on its activities, sites, facilities, civilian, and/or military items prohibited under UNSCR 687. Both UNSCOM and the IAEA were granted authority to conduct inspections whenever and wherever they wanted—with little to no prior notice.[36] Passed in 1999, UNSCR 1284 established the United Nations Monitoring, Verification, and Inspection Commission (UNMOVIC) to continue UNSCOM's mandate of inspecting, disarming, and verifying that Iraq does not possess WMD capabilities.[37]

The Chemical Weapons Convention and Organization for the Prohibition of Chemical Weapons

After more than a decade of negotiations, the CWC was signed on January 13, 1993, and came into force on April 29, 1997.[38] In the broadest sense, the 192 states party to the CWC agree to work toward chemical disarmament.[39] In practice, the convention bans the development, production, acquisition, stockpiling, transfer, and use of chemical weapons. It also requires all possessor states to destroy their declared stockpiles, munitions, and associated infrastructure.[40] The CWC has been signed and ratified by almost the entire international community. Only North Korea, South Sudan, Egypt, and Israel (only signed) have not ratified the treaty.

The CWC mandates that all parties must declare their CW stockpiles, production facilities, relevant industry locations, and other pertinent details about weapons. The CWC also specifically codifies

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[32] Hamish de Bretton-Gordon, "Remembering Halabja chemical attack," Al Jazeera News, March 16, 2016, https://www.aljazeera.com/indepth/opinion/2016/03/remembering-halabja-chemical-attack-160316061221074.html.
[33] Syria Justice and Accountability Centre, "Thirty Years Later: How the Legacy of Halabja has Failed to Protect Syria," last updated March 13, 2018, https://syriaaccountability.org/updates/2018/03/13/thirty-years-later-how-the-legacy-of-halabja-has-failed-to-protect-syria/.
[34] UNSC, Resolution 687, "Iraq-Kuwait," April 3, 1991, http://unscr.com/en/resolutions/doc/687.
[35] UNSC, Resolution 715, "Iraq," October 11, 1991, http://www.un.org/Depts/unmovic/documents/715.pdf.
[36] UNSCOM, "United Nations Special Commission," accessed May 7, 2018, http://www.un.org/Depts/unscom/unscom.htm.
[37] UNMOVIC, "United Nations Monitoring, Verification and Inspection Commission," accessed May 7, 2018, http://www.un.org/Depts/unmovic/.
[38] Jonathan Tucker, "U.S. Ratification of the Chemical Weapons Convention," *Center for the Study of Weapons of Mass Destruction Case Study 4*, ed. Paul Bernstein (Washington, DC: National Defense University Press, 2011), 2, http://ndupress.ndu.edu/Portals/68/Documents/casestudies/CSWMD_CaseStudy-4.pdf.
[39] OPCW, "Chemical Weapons Convention," accessed May 6, 2018, https://www.opcw.org/chemical-weapons-convention/.
[40] Ibid.

banned chemical weapons: any toxic chemical and its precursors, munitions, and devices that can cause death or injury, as well as the equipment that could be used to employ such munitions and devices. The use of any chemical to inflict harm or death is prohibited by the treaty, regardless of whether that chemical is a traditionally recognized warfare agent or subject to the verification provisions of the treaty. Known chemical weapons-related toxic chemicals and their precursors are categorized in the treaty across three schedules that require various levels of monitoring and verification, based on their potential use as a weapon.[41] However, not all harmful chemicals are covered by the CWC schedules. A notable exception is chlorine, a nearly ubiquitous industrial chemical necessary for clean water and other essential purposes.

Article VIII of the CWC created the OPCW as the treaty's permanent implementing agency.[42] The treaty also includes a number of provisions designed to enhance or ensure compliance with the treaty's requirements, including a unique characteristic that details procedures for states parties to request challenge inspections.[43] This potentially allows an unprecedented level of transparency and access. Notably, however, no country has utilized this mechanism since the OPCW's founding.[44] The treaty also provided for Conference of States Parties (CSP) and Executive Council (EC) authorities to deal with noncompliance issues.[45] The EC, by a two-thirds vote, can make decisions regarding compliance, while the CSP maintains the power to decide how the organization should attempt to bring the offending party back into compliance. The state in question may be stripped of its rights and privileges under the convention if it fails to address its compliance issues. The CSP can take collective action against the violating party in accordance with international law, such as recommending that OPCW members enact sanctions. Additionally, the CSP and EC may refer cases to the UN General Assembly and the UN Security Council.[46]

From 1997 to 2012, the CWC and OPCW focused primarily on the elimination of state-sponsored stockpiles.[47] This included efforts to destroy and verify residual state programs in Iraq and Libya as those countries sought to eliminate their CW programs, join the convention, and meet their obligations as states parties. While the 1995 Aum Shinrikyo sarin attack in Tokyo deepened concerns about terrorist use of chemical weapons, it was not until 2013 that the OPCW was forced to wrestle with the challenges of state use of chemical weapons and not until early 2014 that the OPCW faced the challenge of CW use by a party to the treaty.

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[41] OPCW, "CWC: Article II. Definitions and Criteria," accessed May 6, 2018, https://www.opcw.org/chemical-weapons-convention/articles/article-ii-definitions-and-criteria/.
[42] OPCW, "About OPCW," accessed May 5, 2018, https://www.opcw.org/about-opcw/.
[43] OPCW, "CWC: Article IX. Consultations, Cooperation and Fact-Finding," accessed May 6, 2018, https://www.opcw.org/chemical-weapons-convention/articles/article-ix-consultations-cooperation-and-fact-finding/.
[44] OPCW, "Challenge Inspections," accessed May 6, 2018, https://www.opcw.org/special-sections/challenge-inspection-exercise/.
[45] OPCW, "CWC: Article VIII: The Organization," accessed May 6, 2018, https://www.opcw.org/chemical-weapons-convention/articles/article-viii-the-organization/; and OPCW, "CWC: Article XII. Measures to Redress a Situation and to Ensure Compliance, Including Sanctions," accessed May 6, 2018, https://www.opcw.org/chemical-weapons-convention/articles/article-xii-measures-to-redress-a-situation-and-to-ensure-compliance-including-sanctions/.
[46] OPCW, "CWC: Article XII."
[47] John Hart et al., "The Future of the Chemical Weapons Convention: Policy and Planning Aspects," SIPRI (Stockholm International Peace Research Institute) Policy Paper no. 35 (April 2013), 11, https://www.sipri.org/sites/default/files/files/PP/SIPRIPP35.pdf.

Other Mechanisms

Several other mechanisms complement the CWC and seek to fill additional gaps in the nonproliferation regime.

The Australia Group is a voluntary, informal, export-control arrangement established in 1985, through which 42 countries and the European Union coordinate export controls to limit the supply of chemical and biological agents, equipment, technologies, and knowledge to actors suspected of pursuing chemical and biological weapons capabilities.[48]

In April 2004, the UN Security Council unanimously adopted Resolution 1540, a legally binding measure on all UN member states that aims to prevent nonstate actors from acquiring nuclear, biological, and chemical weapons.[49] UNSCR 1540 includes three main obligations:

- Prohibitions on providing any form of support to nonstate actors seeking to acquire WMD, related materials, or delivery means.
- Adoption and enforcement of laws criminalizing the possession and acquisition of such items by nonstate actors.
- Adoption and enforcement of domestic controls over nuclear, chemical, and biological weapons, their delivery means, and related materials, to prevent their proliferation.[50]

The Security Council established a committee to oversee and monitor implementation of the resolution, which was originally mandated for two years but has been extended until 2021.

Finally, the Proliferation Security Initiative, launched by the United States in May 2003, seeks to prevent shipments of biological, chemical, and nuclear weapons materials and goods that could be used to deliver or produce WMD. The initiative relies on existing international law to conduct interdictions in international waters and airspace.[51] One hundred five countries have endorsed PSI.[52]

International Law

The commonly understood norm, humanitarian law, and breadth of treaties that prohibit CW use have helped developed a sense that the use of chemical weapons might also run contrary to customary international law (CIL), a general and consistent practice of legal standards that states

[48] Daryl Kimball, "The Australia Group at a Glance," Arms Control Association, January 2018, https://www.armscontrol.org/factsheets/australiagroup.
[49] Nuclear Threat Initiative, "UNSCR 1540 Resource Collection," June 2015, http://www.nti.org/analysis/reports/1540-reporting-overview/.
[50] Kelsey Davenport and Kathleen Masterson, "UN Security Council Resolution 1540 at a Glance," Arms Control Association, August 2017, https://www.armscontrol.org/factsheets/1540.
[51] Kelsey Davenport, "The Proliferation Security Initiative at a Glance," Arms Control Association, October 2016, https://www.armscontrol.org/factsheets/PSI.
[52] U.S. Department of State, "Proliferation Security Initiative," accessed May 6, 2018, https://www.state.gov/t/isn/c10390.htm.

follow from a sense of legal obligation.[53] CIL is distinct from treaty law, so states not party to a particular treaty could still be bound to the norms enshrined in CIL. Given its universal nature, CIL also provides more latitude for addressing actions in noninternational armed conflicts (conflicts taking place within a country), an area often missed by treaty law.[54] Specifically, CIL "is considered binding on all states based on two elements: the settled practice of states, and *opinio juris*"—a sense of a state when it feels bound by a law.[55] Meaning, for a norm to be considered customary, states must follow this practice and it must be considered law by the international community.[56]

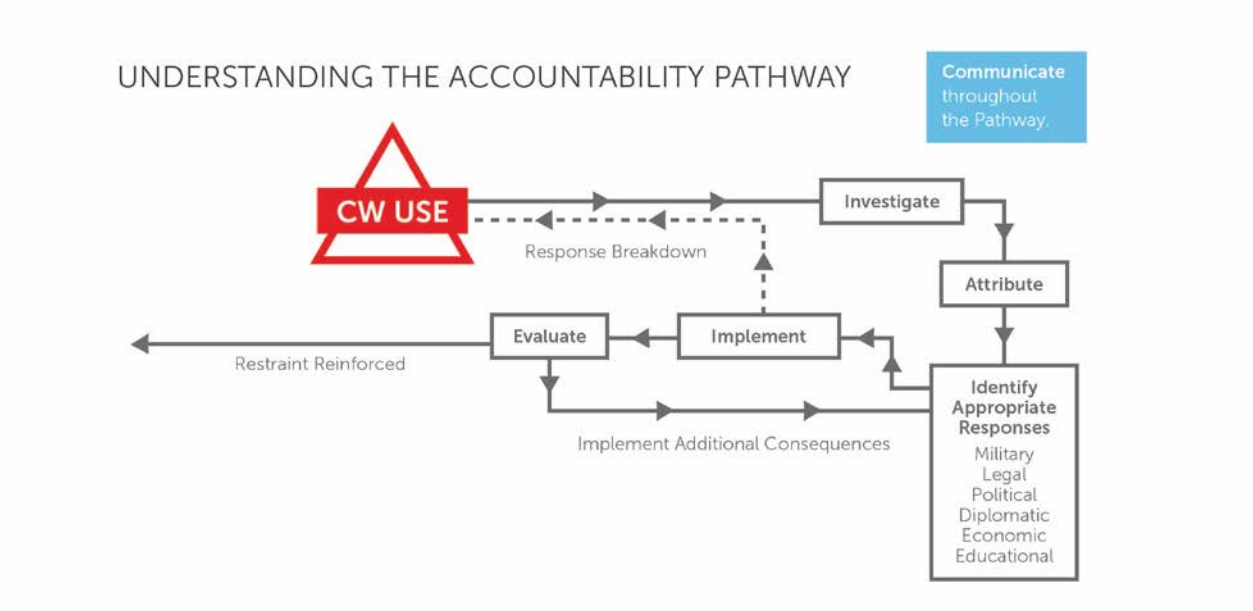
Conclusion

A 20-year taboo against the use of chemical weapons by state actors was broken in the Syrian civil war. The increasing number of incidents leaves the international community at a similar point that it faced nearly 100 years ago: the need to respond to the spreading use of chemical weapons by multiple actors simultaneously. While the stigma against their use has firmly become a norm today—even the actors supporting or engaging in the activity often still condemn its use—the international community must find ways to stop their continued employment and reestablish the system of restraint built on taboos, norms, lack of benefit, and deterrence.

Accountability Pathway

A system of restraint requires enforcement for sustained effect. Specifically, violators must be held to account for their actions and face consequences that reset the cost-benefit analysis of CW use. Absent a robust, recognized, and reliable accountability process, enforcement of legal norms and deterrence threats will be weak and inconsistent. To restore restraint after CW use, the international community must respond consistently to each use of chemical weapons and utilize a process of accountability that relies on strong investigative practices, scientifically sound attribution techniques, legally binding consequences, persistent implementation, thorough evaluation, and coordinated deterrence messaging throughout the process. Taken together, these six steps comprise the accountability pathway. Breakdowns at any point in this process threaten the system of restraint, and countries must remain vigilant to prevent such failures—which could ultimately encourage further CW use.

[53] David Sloss, "Do International Norms Influence State Behavior," review of *The Limits of International Law*, by Jack L. Goldsmith and Eric A. Posner, *George Washington International Law Review* 38, no. 1 (2006): 159–207, https://digitalcommons.law.scu.edu/facpubs/690.
[54] International Committee of the Red Cross, "Customary international humanitarian law," October 29, 2010, https://www.icrc.org/en/document/customary-international-humanitarian-law-0.
[55] Newell Highsmith and Mallory Stewart, "The Nuclear Ban Treaty: A Legal Analysis," *Survival* 60, no. 1 (February/March 2018): 138; and Cornell Law School, "Wex: Opinio Juris (international law)," accessed May 6, 2018, https://www.law.cornell.edu/wex/opinio_juris_international_law.
[56] International Committee of the Red Cross, "Customary International Humanitarian Law."



Investigate

Once reports of a CW incident surface over social media, from eyewitnesses, monitoring systems, or other avenues, in-depth fact finding must determine the timing, location, scope, nature, character, and effects of the use.[57] Initial reports can be fabricated or contain false positives, so evidence must meet a verifiable burden of proof, which can vary by the entity that will implement consequences. Evidence can include a wide variety of forensic and investigative techniques, including: interviews of victims and witnesses, collection and tests of physical and medical evidence, requests of national governments, satellite imagery, redundant analyses at recognized international or national laboratories or from outside experts, and social media analysis. Further, effective chain of custody, documentation, and preservation of all evidence and victim accounts are critical for assuring outside parties of the investigation's results. Weaknesses in this step can complicate accountability mechanisms—be it in a court of law, court of public opinion, or military planning.

A variety of actors can take responsibility for investigation, and, in some cases, concurrent investigations may be preferred, if possible. Formal avenues have included the OPCW Fact-Finding Mission, and domestic law enforcement in Malaysia, Iraq, and United Kingdom. Other characteristics may influence where trials take place or what evidence can be gathered. For example, the Joint Investigative Mechanism (JIM) noted that, unlike some domestic law enforcement agencies, it could not compel witnesses to provide information or documents.[58] Intelligence agencies or civil society organizations can also play important roles in evidence collection.

[57] See the "Methods of Work" section of the seventh JIM report (October 2017) for additional details on what was collected and how that information was gathered in its investigative process: http://undocs.org/S/2017/904.
[58] UNSC, Seventh JIM Report, 4.

OPCW Fact-Finding Mission

The OPCW Fact-Finding Mission (FFM) provides a prime example of the technical capabilities and strict guidelines that must be followed to conduct a scientific and legally sound investigation. The FFM was created in 2014 to validate facts related to allegations of CW use in Syria. Three principles drive the FFM's methodology:

1. ensuring a validated methodology for the collection and analysis of evidence;
2. maintaining qualified inspectors, with appropriate skills and experience;
3. applying appropriate chain-of-custody procedures.

Evidence collected by the FFM includes audio and video recordings of witness interviews, statements and other documents, photos, and/or videos provided by witnesses. Moreover, the FFM collects environmental and biomedical samples, including from stakeholders associated with the incident. From the moment it receives the evidence to the point of its delivery to the OPCW laboratory in the Netherlands, the FFM implements strict chain-of-custody procedures. Similar measures are also applied when samples are passed to OPCW-designated laboratories.

The methodology for the collection of evidence by the FFM follows procedures outlined in the Verification Annex of the CWC. The team ensures credibility of evidence through various materials: incident reports, background information, interviews, documents and information from interviewees, symptoms of victims, and environmental and biomedical samples. The team also utilizes open-source research from news media, blogs, and NGO websites.

The best evidence is collected immediately after the incident. However, on-site visits are not always necessary or possible due to security and time constraints. If the FFM is unable to collect samples from the site of the attack, it collects samples from others with supporting documentation. The authentic samples are sent for analysis to the OPCW laboratory and two designated labs.

Interviewees provide information on the site of the incident, casualties, and the acquisition of samples and are selected with the help of states parties and NGOs. The Syrian government has provided interviewees to the FFM, and NGOs have also helped identify interviewees, including the White Helmets, Same Justice/Chemical Violations Documentation Centre Syria (CVDCS), Syrian Institute for Justice (SIJ), and the Syrian American Medical Society (SAMS).

Interviews are conducted with respect to the local culture, maintain anonymity, and gain consent of the interviewee with complete confidentiality of the information and the identity of the interviewees, who have included victims and physicians. Locations for the interviews are carefully selected and each follows a standard procedure.

The FFM also conducts epidemiological investigations, which include the review of relevant documents, an epidemiological description of the incident, survivor and witness interviews,

assessments of symptoms, and the treatment received. These help assess the scale and location of the attack, which is then cross-checked with the team collecting environmental samples.[59]

Technical Assistance Visit (TAV)

The OPCW can also provide a Technical Assistance Visit (TAV) to assist with an investigation.[60] The OPCW director-general can dispatch a TAV team to collect information on the medical conditions of those affected, including treatments. The TAV collects biomedical samples and under full chain of custody delivers samples to the OPCW and OPCW-designated labs. The TAV also collects environmental samples under full chain of custody, while samples collected by the local authorities can verify results. The local authorities also share data and results on evidence collected by the TAV.

Some countries, like the United States, have OPCW-certified labs that conduct off-site analysis and provide evidence to supplement attribution.[61] These OPCW-designated labs undergo proficiency testing annually, and the OPCW maintains stringent secrecy regarding its activities and testing procedures to verify chemicals used in an attack.[62]

Attribute

Following the investigation, actors must determine whether sufficient evidence exists to assign blame and motive for an attack, or to find "organizers, sponsors or those otherwise involved."[63] This includes determining whether a sufficient burden of proof exists to indict, prosecute, or otherwise punish the individual, entity, or state responsible for an attack.

During this process, investigators analyze evidence in combination with motives, capabilities, and geopolitical context. To provide conclusive evidence, attribution requires technical capabilities and granularity of data. The location, actor, nature of the event, applicable laws and jurisdictions, and potential consequences will affect which body or agency leads this step. In many cases, local or national law enforcement, nongovernmental organizations, individual nations, or multilateral or international structures are capable of assigning attribution. In Syria, the OPCW-UN JIM filled this role until late 2017. Yet, in Malaysia, Iraq, and the United Kingdom, no formal international body has performed this role; local law enforcement and national judicial and political processes have fulfilled both the investigation and attribution functions. These tools have also relied on assessments from civil society, individual governments, and like-minded nations building

[59] OPCW, "Report of the OPCW Fact-Finding Mission in Syria Regarding an Alleged Incident in Khan Shaykhun, Syrian Arab Republic April 2017," Note by the Technical Secretariat, June 29, 2017, https://www.opcw.org/fileadmin/OPCW/Fact_Finding_Mission/s-1510-2017_e_.pdf.
[60] TAVs can be requested under Article VIII subparagraph 38 (e) of the CWC.
[61] OPCW, "Status of the Laboratories Designated for the Analysis of Authentic Biomedical Samples," Note by the Director-General, July 11, 2017, https://www.opcw.org/fileadmin/OPCW/S_series/2017/en/s-1516-2017_e_.pdf.
[62] OPCW, "Designated Laboratories," accessed May 6, 2018, https://www.opcw.org/our-work/non-proliferation/designated-laboratories/.
[63] UNSC, Seventh JIM Report, 3.

consensus around shared analyses, in some cases with supplemental technical assistance from the OPCW.[64]

National evaluations may only be effective at galvanizing national government response, whereas international organizations might have more legitimacy globally. If a country is suspected of lying about its CW obligations or simply does not have the technical capacity to investigate and attribute an attack, other actors or organizations may need to assist. NGOs may fill this role informally. For example, groups like Human Rights Watch have performed interviews with survivors of CW attacks in Syria and performed geopolitical analysis to assign blame for attacks to the Assad regime.[65] Although the burden of proof is self-determined by the NGO, this format can galvanize civil society or bolster technical analysis by other groups. Third-party countries may also attribute attacks, much like the French evaluation on Syria released in 2017.[66]

Identify Appropriate Responses

After attribution occurs, the process of restoring the system of restraint continues by identifying and implementing consequences. Pathways for restraint are constructed using unilateral, multilateral, or international actions and economic, military, legal, diplomatic, political, or education and outreach approaches. Several outcomes from the investigation impact the available response options, including where the attack took place, the scale of the attack, the target, the perpetrator, and confidence in attribution.

The location of the attack helps determine which legal structures might be appropriate and whether they would be domestic or international in nature. The scale of the attack could affect the extent to which civil society and other NGOs create or increase pressure to respond. The target of the attack could influence whether and which military options would be possible, while the perpetrator will also affect what law enforcement capabilities could be employed. Finally, the level of confidence in attribution will be one of the strongest influencers of both the severity of punishment and whether such responses are unilateral, multilateral, or international.

For instance, if a nonstate actor were to conduct a CW attack in the United States, U.S. federal investigative and judicial mechanisms are designed to prosecute a case using domestic legislation—held to a burden of proof as required for prosecution in U.S. courts. However, in the case of a government employing CW in its own country, attribution mechanisms may require an even higher level of confidence to convince third parties to intervene. If the international community cannot be convinced of the evidence, individual countries could pursue their own investigations and accountability actions, when appropriate. This, of course, risks political backlash from other countries or actors who do not support their assessments, likely limits costs that can be

[64] The JIM's mandate did not extend into Iraq, despite investigating ISIL's CW use in Syria.
[65] Human Rights Watch, *Death by Chemicals: The Syrian Government's Widespread and Systematic Use of Chemical Weapons* (New York: Human Rights Watch, May 2017), https://www.hrw.org/sites/default/files/report_pdf/syria0517_web.pdf.
[66] French Ministry for Europe and Foreign Affairs, "Chemical Attack in Syria—National Evaluation presented by Jean-Marc Ayrault following the Defense Council Meeting, Annex," April 26, 2017, https://www.diplomatie.gouv.fr/en/country-files/syria/events/article/chemical-attack-in-syria-national-evaluation-presented-by-jean-marc-ayrault.

imposed, and could increase the possibility of conflicting reports—all of which could imperil reestablishment of the system of restraint.

Consequences should seek to impact something of value to the violator through one of the pathways above, such as a military facility, significant economic center, or individuals responsible for the attack. Consequences should also seek to strengthen mechanisms in the system of restraint that have been weakened by the use of chemical weapons.

Implement and Evaluate

Once the relevant actors choose an accountability mechanism and identify appropriate consequences, timely, consistent, and comprehensive implementation is essential. First, the actor, entities, or state carrying out the consequence must be identified. These efforts are most effective when internationalized to the greatest extent possible—through international institutions, multilateral frameworks, or coalitions.[67] Implementation actions can include bringing actors to trial, making diplomatic statements, imposing economic sanctions, or employing military force.

Consequences must be enforced consistently. Otherwise, actors may come to believe that the system of restraint is toothless and will employ CW again. Academic studies on deterrence in criminal justice suggest that rational actors are most impacted by the certainty that they will be punished not the severity of their possible punishment.[68] Therefore, these mechanisms must be developed with long-term implementation plans in mind.

Syria, North Korea, and Russia have felt little certainty or severity, especially through international mechanisms, given stalled implementation of consequences at the UNSC and the OPCW Executive Council.

Communicate

After implementing the selected punishment mechanisms, the international community must continue to reinforce the system of restraint against CW use. It is critical to send a strong message that CW use is not permissible and similar actions will result in additional consequences. Throughout the pathway, parties involved must also prevent the deviant actor from perpetuating false or inaccurate information designed to jeopardize or undermine the investigation, its results, and implementation. For example, from the earliest stages of its investigation into the incident in Salisbury, the UK government has highlighted the high standards to which its scientists and labs are held.[69] It is likely that CW users will attempt at every point throughout the pathway to discredit the steps being taken against them, and responding states must be prepared to counter these efforts.

[67]Atsushi Tago, "Multilateralism, Bilateralism, and Unilateralism in Foreign Policy," in *Oxford Research Encyclopedia of Politics*, ed. William R. Thompson (New York: Oxford University Press, 2017).
[68] Daniel S. Nagin, "Deterrence in the Twenty-First Century," *Crime and Justice* 42 (2013): 199–263, https://doi.org/10.1086/670398.
[69] UK government, "Novichok Nerve Agent Use in Salisbury."

Chapter 3: Accountability Menu

Introduction

The international community needs a more creative and comprehensive process for responding to and coordinating on responses to CW use. The following matrices analyze possible responses across three levels (national, multilateral, and international) and six sets of tools (military, legal, political, diplomatic, economic, and education and outreach). Combined, these comprise a tailorable menu of potential actions for building more diverse, flexible, scalable, and implementable options to hold accountable users of chemical weapons. These matrices provide a schema for policymakers to understand the option space, but do not represent a comprehensive set of response options, nor do the examples described below constitute the full menu—they are only meant to help categorize and illustrate potential responses. The user, type of use, and location of attack will impact the available pathways—be it the appropriate response actor or the level at which actions will take place. Policymakers can utilize this menu to develop appropriate responses to every instance of CW use to support consistent and certain responses for actors employing chemical weapons. Moreover, multiple tools from the accountability menu may be used by multiple actors simultaneously, creating a web of responses for which the aggregate restraining effect is greater than that of individual actions. For example, a national state or government may pursue an accountability pathway utilizing some of the tools, while at the multilateral or international level, states and entities may concurrently pursue additional pathways supported by alternative tools from the accountability menu. Generally, responses that incorporate more actors require a proportionately higher burden of proof of CW use based on information that is credible and shareable. For example, a state acting on its own may rely on its own intelligence offices, while international responses may require that all (or most) participating states agree on the assessment and response mechanism.

The matrices categorize the following six types of accountability tools or instruments:

- Military: Threatened or actual use of military force
- Legal: Prosecuting CW users or supporters through courts or other mechanisms
- Political: Exerting political pressures
- Diplomatic: Employing diplomatic tools
- Economic: Exacting financial costs
- Education and Outreach: Communicating and informing actors, countries, nongovernmental and civil society organizations, as well as populations about the moral, political, legal, and societal risks of using chemical weapons


THE ACCOUNTABILITY MENU
Options
Examples
National/Unilateral
Coalition/Multilateral
International
MILITARY
Targeted strikes
Shayriat Air Base Strike (Apr. 2017)
Sustained campaign
Campaign against ISIL
Targeted strikes
U.S., UK, France airstrikes in Syria (Apr. 2018)
Sustained campaign
Operation Iraqi Freedom
Joint interdiction efforts
Joint military exercises
Proliferation Security Initiative
International peacekeeping (UN)
Chapter 7 UNSC-endorsed action
Korean War
Collective security
NATO involvement in Libya
LEGAL
National courts
Death sentences for 13 Aum Shinrikyo members
Post-conflict peace and reconciliation
International criminal tribunal
ICTY for former Yugoslavia
Shared legal assistance
Law enforcement cooperation
Counterpiracy in Africa
Treaties
CWC investigation of use
UN Resolutions
UNSCR 2235 – JIM
UNGAR 71/248 – IIIM
International Mechanisms
OPCW EC decision
International Courts
International Criminal Court
POLITICAL
Naming and shaming
US statements on Syrian CW use
Boycott major events
Naming and shaming
Ad hoc initiatives
Coordinated messaging
French-led Partnership against CW use
Naming and shaming
IAEA statements against Iran's WMD & missile programs
UNSC statements against North Korea WMD programs
DIPLOMATIC
Suspending diplomatic ties
Closing embassies
Expelling foreign agents
UK removing Russian foreign agents
Démarches
Individual travel bans
Expelling foreign agents
Coordinated Russian diplomat expulsion in 2018
Statements at institutions
Joint statements at OPCW EC
Suspension in international forums
UN suspends South Africa's voting rights in 1974
ECONOMIC
Asset freeze
Prohibiting business
Sanctions against Syrian SSRC scientists
Import ban
Asset freeze
Coordinated sanctions
Prohibiting business
Import bans
Asset freeze
Prohibiting business
UN sanctions on Iran for WMD & missile programs
Import bans
EDUCATION
Strategic communications
UK social media countering Russian propaganda
Technical sharing
Nuclear Forensics International Technical Working Group
Create awareness & engage civil society
Human Rights Watch, Syrian American Medical Society, etc.

These accountability tools can be used at three different response levels, either individually, sequentially, or concurrently:

- National/unilateral: What actions are available to individual nations?
- Coalition/multilateral: What multilateral actions are available outside of formalized institutions on a voluntary, ad hoc basis?
- International: What actions are available to formal international institutions?

Explanation of Accountability Approaches

Military

Especially since 2017, the international community has relied heavily on military approaches to send a strong signal regarding CW use in Syria. Responses to nonstate actors have focused on military and economic approaches. There is little leverage available through most other approaches, as nonstate actors largely fall outside the traditional treaty structures through which other tools would be applied. Military strikes were especially effective in degrading ISIL's CW capabilities in Iraq, but less effective in actually deterring or dissuading use. Military actions, particularly unilateral or multilateral, are often employed shortly—but not immediately—after a reported attack and often seem to have a brief or temporary restraining effect. In the system of restraint, military actions most directly enforce deterrence, but they can also enforce norms when executed under international authority in support of international law.

Unilateral military action in response to CW employment may be the most predictable method of accountability, such as the April 2017 U.S. airstrike against Syria following the Khan Sheikhoun sarin attack earlier that month. Advantages include flexibility (in terms of both scale and timeline) and visibility of response. Unilateral military action does not require international consensus, allowing a nation to act when it wants with the amount of force it deems necessary and appropriate. However, this does not typically carry the weight of a broad-based consensus from the international community. The application of force also may not be viewed as legitimate. A lack of independently authenticated and validated evidence (e.g., labs from different countries validating the presence of chemicals, or varied intelligence sources each providing unique evidence) may also raise serious concerns about the existence of a legitimate *casus belli* for military strikes.

Coalition-based military responses to CW use have been employed with varying degrees of effectiveness. Most recently, several countries contributed to strikes in April 2018 against CW-production sites in Syria. Coordinating a group of like-minded states to use military force both lessens the burden for states not willing to employ military force on their own and magnifies opposition to the norm-breaking state. To generate such actions, countries generally require a higher level of confidence in the nature and perpetrator of the attack.

International military responses would be subjected to the highest levels of proof and would most likely have to be taken in accordance with international law, perhaps pursuant to a chapter VII resolution by the UN Security Council or an official NATO operation. International military responses may enhance deterrence, and they can also rebuild norms when they seek to enforce

globally accepted rules of behavior in accordance with a strong legal basis. In the case of Syria, should the UNSC reach a consensus, UNSCR 2118 passed in 2013 granted the UNSC authority to consider military action against parties in Syria for continued CW use.[1]

Legal

The international community has underutilized several legal approaches across the investigative and enforcement spectrum, from domestic courts to the International Criminal Court and other mechanisms based on international law. The type and breadth of legal pathways available vary based on the location, nature of the attack, and actors involved. It is clear, however, that better awareness of legal approaches, improved coordination, more collaboration between countries and organizations, and enhanced technical assistance for countries that lack the requisite legal structures or expertise could help create the accountability mechanisms needed to reestablish the system of restraint against CW use. At all three levels, these actions would be especially focused on the denial of benefits and rebuilding the norm against CW use.

At the national level, all CWC members are required to implement legislation to prevent activities in violation of the treaty and to enshrine their treaty obligations in their national legal code, including prohibitions on use in its territory or by its citizens elsewhere. Each state must also have an authority to serve as the contact point for cooperation with other states and the OPCW.[2] National legislation provides prosecutorial pathways for CWC violations, a means of collecting accurate declarations from the chemical industry, and serves as a monitoring tool of trade controls.[3] Many CWC parties, however, have yet to adopt their obligations fully.[4] The OPCW Executive Council has highlighted the need to shore up these domestic controls.[5] Both the OPCW Technical Secretariat and the OPCW Working Group on Terrorism have engaged directly with member states to improve their national laws for criminalizing violations of the CWC.[6] Specifically, the OPCW Executive Council has encouraged member states to cooperate in investigating incidents of use by nonstate actors through mutual legal assistance arrangements.[7]

UNSCR 1540 has similar domestic legal requirements. Yet, many countries lag behind in regulating nonproliferation export controls, in spite of the serious threat of WMD use and proliferation posed

[1] UNSC, "Resolution 2118 (2013)," September 27, 2013, http://undocs.org/S/RES/2118(2013).
[2] OPCW, "CWC: Article VII: National Implementation Measures," accessed May 6, 2018, https://www.opcw.org/chemical-weapons-convention/articles/article-vii-national-implementation-measures/.
[3] OPCW, "Implementing Legislation," accessed May 6, 2018, https://www.opcw.org/our-work/national-implementation/implementing-legislation/.
[4] OPCW, "States Parties in Asia Discuss Roadmaps towards Adoption of CWC Implementing Legislation," November 17, 2017, https://www.opcw.org/news/article/states-parties-in-asia-discuss-roadmaps-towards-adoption-of-cwc-implementing-legislation/.
[5] OPCW Executive Council, Decision, "Addressing the Threat Posed by the Use of Chemical Weapons by Non-State Actors," October 13, 2017, https://www.opcw.org/fileadmin/OPCW/EC/86/en/ec86dec09_e_.pdf.
[6] Ahmet Üzümcü, "The Speech of the Director-General to NATO Conference on WMD Arms Control, Disarmament, and Non-Proliferation" (speech at NATO conference, May 9, 2016, Ljubljana, Slovenia), https://www.opcw.org/fileadmin/OPCW/ODG/uzumcu/160509_DG_Speech_to_NATO_WMD_Conference.pdf.
[7] OPCW Executive Council, "Use of Chemical Weapons by Non-State Actors."

by nonstate actors.[8,9] Even so, Russia and many other former Soviet states fall behind other countries in their strategic trade controls.[10] The 1540 Committee itself does not evaluate the effectiveness of these laws—it only assesses whether such laws are in place.[11]

In the United States, three laws outline how sanctions should be applied in response to chemical and biological weapons: the Arms Export Control Act, the Export Administration Act, and the Chemical and Biological Weapons Control and Warfare Elimination Act of 1991.[12] The latter aims to control chemical agents, precursors, equipment, and the proliferation of chemical weapons. It provides a list of goods that could be used to acquire chemical weapon capabilities, and it requires a valid license to export them to specific countries of concern. The law also requires the imposition of sanctions against foreign persons or countries that may be involved in such activities at the determination of the president.[13] These sanctions may be waived by the president, upon certification that the sanctions would harm U.S. national security interests.

In addition to sanctions, domestic trials provide a key legal response to CW use. The upheld convictions of 13 members of the Japanese terror group Aum Shinrikyo show the value of governments seeking accountability through domestic courts and mechanisms.[14] These trials also provided important restitution for victims following changes in Japanese law that allowed victims to ask questions directly to the defendants.[15]

States routinely work collaboratively across national and regional law enforcement entities to investigate and prosecute international crimes, including terrorism, money-laundering, piracy, and other criminal acts. In international law, several structures encourage and rely on such cooperation between states for justice. For example, CWC parties are expected to provide legal assistance as necessary to ensure implementation of the convention.

Ad hoc criminal tribunals have been utilized to prosecute individuals who committed grave breaches of international humanitarian law in two instances: the International Criminal Tribunal for the former Yugoslavia (ICTY) and the International Criminal Tribunal for Rwanda (ICTR). The ICTY, based in the Netherlands, was the first of its kind when it was created by UNSCR 827 (1993) with authority under chapter VII of the UN charter.[16] Through its 24 years of cases, the ICTY convicted

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[8] Richard T. Cupitt, "Developing Indices to Measure Chemical Strategic Trade Security Controls," *Strategic Trade Review* 3, no. 5 (Autumn 2017): 49.
[9] Ian J. Stewart, "Preventing WMD Proliferation: The Future of UNSCR 1540," in *Preventing the Proliferation of WMDs: Measuring the Success of UN Security Council Resolution 1540*, ed. Daniel Salisbury, Ian J. Stewart, and Andrea Viski (Cham, Switzerland: Palgrave Pivot, 2018), 122.
[10] Cupitt, "Developing Indices," 63.
[11] Ibid., 57.
[12] U.S. Department of State, "Chemical and Biological Weapons Sanctions Laws," accessed May 6, 2018, https://www.state.gov/t/isn/c15236.htm.
[13] Chemical and Biological Weapons Control and Warfare Elimination Act of 1991, Pub. L. No. 102–192 (1991), http://uscode.house.gov/statutes/pl/102/182.pdf.
[14] OPCW Executive Council, "Report by H.E Ambassador Maria Teresa Infante Facilitator of the sub-working Group on Non-State Actors of the open-ended Working Group on Terrorism-Summary of Intersessional Work," October 2, 2017, https://www.opcw.org/fileadmin/OPCW/EC/86/en/ec86wp01_e_.pdf.
[15] "After More Than 20 Years of Trials, Japan's Supreme Court Removes Final Obstacle to Aum Executions," *Japan Times*, January 21, 2018, www.japantimes.co.jp/news/2018/01/21/national/crime-legal/aum-trials-asahara-accomplices-can-finally-hanged/.
[16] UNSC, Resolution 827, May 25, 1993, http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/827(1993).

all 161 of those accused of war crimes.[17] After 21 years of activity, the ICTR brought charges against 90 of the individuals it tried.[18] Some suggest that a similar model could be applied against those involved in the Syrian regime's use of chemical weapons.

Other multilateral efforts, such as extradition agreements, can also play a role in the prosecution of "grave breaches" of international humanitarian law—including but not limited to intentional killing during international conflicts.[19]

Any international legal mechanisms would rely on a variety of principles of international law and would most likely involve the International Criminal Court (ICC)—a complement to national criminal justice systems. The ICC can only intervene when a state fails or lacks capacity to prosecute individuals within its own national justice system.[20]

According to Article 8 of the Rome Statute, the use of chemical weapons in an international armed conflict is a war crime. While in none of the cases reviewed in this study have chemical weapons been employed in an international armed conflict, this remains an important avenue for accountability should such use occur in the future.[21] Moreover, some scholars suggest that Articles 7 and 8 could be used to punish CW use as war crimes under the premise of cruel punishment, the launching of intentional attacks against civilians, or as systemic attacks against civilians—much like the chemical attacks against civilians in Syria.[22] Intentional attacks against UN personnel, units, or vehicles on a mission are also a war crime.[23]

None of the countries either accused or suspected of using chemical weapons are a party to the Rome Statute of the ICC.[24] It is not essential to be a state party to the court to recognize its jurisdiction; a country not party to the Rome Statute may choose to recognize the jurisdiction of the court and present a case before it. However, it is not likely any accused states would choose to recognize the jurisdiction of the court. The UN Security Council can adopt a resolution under Chapter VII of the UN charter to refer crimes to the ICC.[25] The prosecution of war criminals in the

[17] UN International Criminal Tribunal for the former Yugoslavia, "ICTY marks official closure with moving Ceremony in The Hague," December 27, 2017, http://www.icty.org/en/press/icty-marks-official-closure-with-moving-ceremony-in-the-hague.
[18] Vagn Joensen, "Address to the United Nations Security Council: Final Report on the Completion Strategy of the International Criminal Tribunal for Rwanda," United Nations, December 9, 2015, http://unictr.unmict.org/en/news/address-united-nations-security-council-final-report-completion-strategy-international-criminal.
[19] International Committee of the Red Cross, "Penal Repression: Punishing War Crimes," March 31, 2014, https://www.icrc.org/en/document/penal-repression-punishing-war-crimes.
[20] International Criminal Court, "Understanding the International Criminal Court," (The Hague, Netherlands: ICC): 4, https://www.icc-cpi.int/iccdocs/PIDS/publications/UICCEng.pdf.
[21] Under international law, the conflict in Syria falls under the category of an internal conflict or civil war.
[22] Andreas Zimmermann and Meltem Şener, "Chemical Weapons and the International Criminal Court," *American Journal of International Law* 108, no. 3 (July 2014): 448.
[23] International Criminal Court, "Rome Statute," July 1, 2002, https://www.icc-cpi.int/nr/rdonlyres/ea9aeff7-5752-4f84-be94-0a655eb30e16/0/rome_statute_english.pdf.
[24] International Criminal Court, "The States Parties to the Rome Statute," accessed May 7, 2018, https://asp.icc-cpi.int/en_menus/asp/states%20parties/pages/the%20states%20parties%20to%20the%20rome%20statute.aspx. Russia signed but did not ratify the Rome Statute before pulling out of the agreement in 2016 following an ICC report classifying Russia's action in Crimea as an illegal occupation.
[25] International Criminal Court, "How the Court works," accessed May 7, 2018, https://www.icc-cpi.int/about/how-the-court-works.

cases of Rwanda and former Yugoslavia demonstrated "concurrent jurisdiction," exercising the capabilities of national justice systems as well as specially established international tribunals. This combination of circumstances may suggest that customary international law may prove beneficial as a basis for building international prosecution in the cases examined in this study.

Political

Nations seeking to send a message before escalating their responses may pursue political approaches, such as public naming and shaming, boycotting international events, engaging in public or civil society outreach, or creating ad hoc multilateral initiatives. They are some of the most common actions for immediate responses, as at all levels they require a relatively low burden of proof to justify their implementation. These responses are most effective at rebuilding the taboo against CW use and denying benefits to potential CW users.

Immediately following a reported attack, countries signal their intentions through unilateral statements that set the stage for future actions. Country leaders or spokespeople may broadly condemn the use of chemical weapons or challenge suspected users to provide evidence of their innocence. These statements are important to create political pressure on perpetrators and to lead the push for accountability. In particular, these initial responses seek to prevent malevolent actors and their actions from undermining international institutions like the OPCW or the United Nations. As one example of this type of action, the U.S. ambassador to the OPCW issued a strong statement at the Executive Council in March 2015 blaming the Syrian government for CW use.[26]

Countries can also pursue these efforts in a multilateral or international fashion through coordinated statements, naming-and-shaming, or ad hoc multilateral initiatives. The French-led Partnership—through its collective statements and other joint actions—serves as a great example of a multilateral political effort.[27] Some organizations have preestablished response mechanisms, such as the CWC noncompliance procedures available to the OPCW EC, which can recommend restricting or suspending the rights and privileges of the noncompliant state.[28]

Diplomatic

Diplomatic approaches can employ similar tactics and achieve similar goals as political ones, but they occur through more formal channels or institutional structures and can restrict the norm-breaking actors' abilities to interact with the international community. Diplomatic mechanisms most often provide a quick-response option requiring a relatively lower burden of proof compared to military, economic, or legal actions. These approaches support efforts to rebuild the taboo against CW use and in deterrence signaling.

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[26] OPCW Executive Council, "United States of America—Statement by H.E. Ambassador Robert P. Mikulak Permanent Representative of the United States of America to the OPCW at the Seventy-Eighth Session of the Executive Council," March 17, 2015, https://www.opcw.org/fileadmin/OPCW/EC/78/en/ec78nat10_e_.pdf.
[27] International Partnership Against Impunity for the Use of Chemical Weapons, "Chemical Weapons No Impunity," accessed May 7, 2018, https://www.noimpunitychemicalweapons.org/-en-.html.
[28] OPCW, "CWC: Article XII."

When a state perpetrates a chemical attack on the territory of another state, a number of diplomatic actions could be taken, including suspending diplomatic ties, closing consulates, ending communication mechanisms, issuing démarches, or expelling diplomats. In 2018, the United Kingdom suspended high-level communication with Russia following the attack in Salisbury and expelled 23 diplomats.[29]

Actions at the multilateral level provide the added benefits of stronger political signals and increased effect on the perpetrating state. Beyond simply multilateralizing actions mentioned above, states could also seek bilateral engagement on issues before decisionmaking bodies such as the OPCW Executive Council or the UN Security Council.

International diplomatic approaches are some of the strongest responses available, including suspension from international forums like the United Nations. In one example, the United Nations suspended South Africa's voting rights in response to its apartheid policies in 1974.

Economic

Economic responses have become another common tool for short-term responses, even though they require a relatively high burden of proof. Delicately threading the line between hard and soft power, they possess a deterrence effect and help restore taboos and norms.

The economic punishments available for a state depend primarily on the target of sanctions or other financial restrictions: states can block assets in their own countries of individuals or organizations, prevent their citizens from doing business with those individuals or organizations, or they can punish anyone who violates these sanctions. States can also prevent their citizens from doing business in sanctioned states.

In the United States, the Chemical and Biological Weapons Control and Warfare Elimination Act of 1991 requires that the president impose sanctions on a foreign country determined to be responsible for chemical weapons use. The legislation details a number of actions that must be taken, including:

- termination of assistance (excluding humanitarian and agricultural goods),
- suspension of arms sales and arms-sales financing,
- denial of U.S. credit, and
- implementation of export controls on certain goods and technology.

In addition to these actions, the president must also impose additional sanctions if the country fails to assure that it will no longer use chemical weapons and does not provide access for inspections of its weapons programs. These additional sanctions include opposing extension of multilateral

[29] UK Government, "PM Commons Statement on Salisbury incident response: 14 March 2018," last modified March 15, 2018, https://www.gov.uk/government/speeches/pm-commons-statement-on-salisbury-incident-response-14-march-2018.

development bank assistance, forbidding U.S. bank loans (except for food or agriculture-related loans), prohibiting additional exports, restricting imports, suspending diplomatic ties, and ending the rights for air carrier landing.[30] Additionally, the Office of Foreign Assets Control (OFAC) at the Treasury Department has several tools to block the property of those supporting or proliferating WMD by denying them access to the U.S. financial and commercial systems. The State Department can also prohibit foreign persons from importing goods, technology, or services.[31]

Especially since 2001, the United States has expanded its use of unilateral economic punishments.[32] While not all countries have such stringent mechanisms, sanctions remain a popular option for unilateral responses, as they can signal that countries are taking meaningful punitive action while not being forced to use military means or to expend limited diplomatic or political capital.

Multilateral sanctions can have a much larger impact.[33] Such a coalition approach also indicates states have opted to engage actively in the response, making them more likely to enforce the sanctions. However, these approaches can take significant time and effort and require a higher burden of proof.

If all UN member states participate in a sanctions regime, the target state will be almost entirely alienated from the international financial system. States in international bodies, however, may vary in their enforcement of sanctions. For example, while Chinese trade with North Korea has fallen, particularly in response to UNSCR 2375 that limits energy imports to North Korea, Chinese firms reportedly continue to export materials to North Korea.[34]

Adoption of such a broad measure can be rare, as it requires consensus of the five permanent members of the UN Security Council—a difficult task today. However, the debilitating sanctions regime imposed by the international community on Iran in the late 2000s enacted through UNSCR 1929 proved effective in shaping Iranian behavior and bringing them to the negotiating table to address outstanding issues with their nuclear program.[35]

Education and Outreach

Efforts to educate both the public and governments play an important role in rebuilding the taboo against CW use and denying the benefits of the weapons to perpetrators—either by countering false narratives, sharing medical or technical training with first responders, medical providers, and

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[30] Chemical and Biological Weapons Control and Warfare Elimination Act of 1991, Pub. L. No. 102-182, 105 Stat, 1245 (1991), https://www.congress.gov/bill/102nd-congress/house-bill/3409.
[31] U.S. Department of the Treasury, Office of Foreign Assets Control, "Nonproliferation—What You Need to Know about Treasury Restrictions," https://www.treasury.gov/resource-center/sanctions/Programs/Documents/wmd.pdf.
[32] Juan C. Zarate, *Treasury's War: The Unleashing of a New Era of Financial Warfare* (New York: Public Affairs, 2013).
[33] Ibid., 312–13.
[34] "China Upholding UN Sanctions Against North Korea, Trade Figures Show," Bloomberg, November 24, 2017, https://www.bloomberg.com/news/articles/2017-11-24/china-upholds-un-sanctions-against-north-korea-trade-data-show; Melissa Quinn, "Chinese Cargo Ships Assisted North Korea in Violation of UN Sanctions: Report," *Washington Examiner*, January 18, 2018, https://www.washingtonexaminer.com/chinese-cargo-ships-assisted-north-korea-in-violation-of-un-sanctions-report.
[35] Farhad Rezaei, "Sanctions and Nuclear Rollback: The Case of Iran," *Middle East Policy* XXIV, no. 4 (Winter 2017): 86, https://doi.org/10.1111/mepo.12309.

citizens on how best to respond to chemical weapons, or through naming and shaming of perpetrators by civil society. These efforts occur at all times across the system of restraint, though have relatively less impact on deterrence.

In today's environment where false information spreads more rapidly than truth, individual countries must be ready to counter actors who perpetuate lies for their benefit.[36] For example, the United Kingdom actively engaged on social media with Russian government accounts that spread more than 30 different narratives about the events in Salisbury.[37] The UK government has also created a webpage detailing the international response to the incident.[38] The OPCW's Advisory Board on Education and Outreach, established in December 2015, released in February 2018 several recommendations for national authorities to contribute to "prevention of the re-emergence of chemical weapons."[39]

Countries with advanced technological capabilities can share their knowledge with other parties to aid in the response to CW use—through either sharing forensics capabilities or medical treatments. The OPCW offers a multitude of capacity-building programs to foster cooperation between states and promote chemistry for peace.[40] One approach that could be replicated includes the Nuclear Forensics International Technical Working Group, which seeks to advance best practices and suggest cooperative measures for competent authorities in investigations involving nuclear, radiological, or other radioactive materials.[41]

Civil society has also played an essential role in the accountability pathway. Outcry on the ground helps bring chemical attacks to the attention of the international community, such as efforts in Syria by the White Helmets and the Syrian American Medical Society.[42] Civil society also supports the investigation process through evidence collection, providing witnesses and interviewees, and online platforms used by investigators to conduct open-source research into an incident.[43] Civil society also pressures institutions to hold perpetrators accountable.

In the case of the Syrian conflict, civil society cooperated with the International, Impartial and Independent Mechanism to Assist in the Investigation and Prosecution of Persons Responsible for the Most Serious Crimes under International Law Committed in the Syrian Arab Republic since

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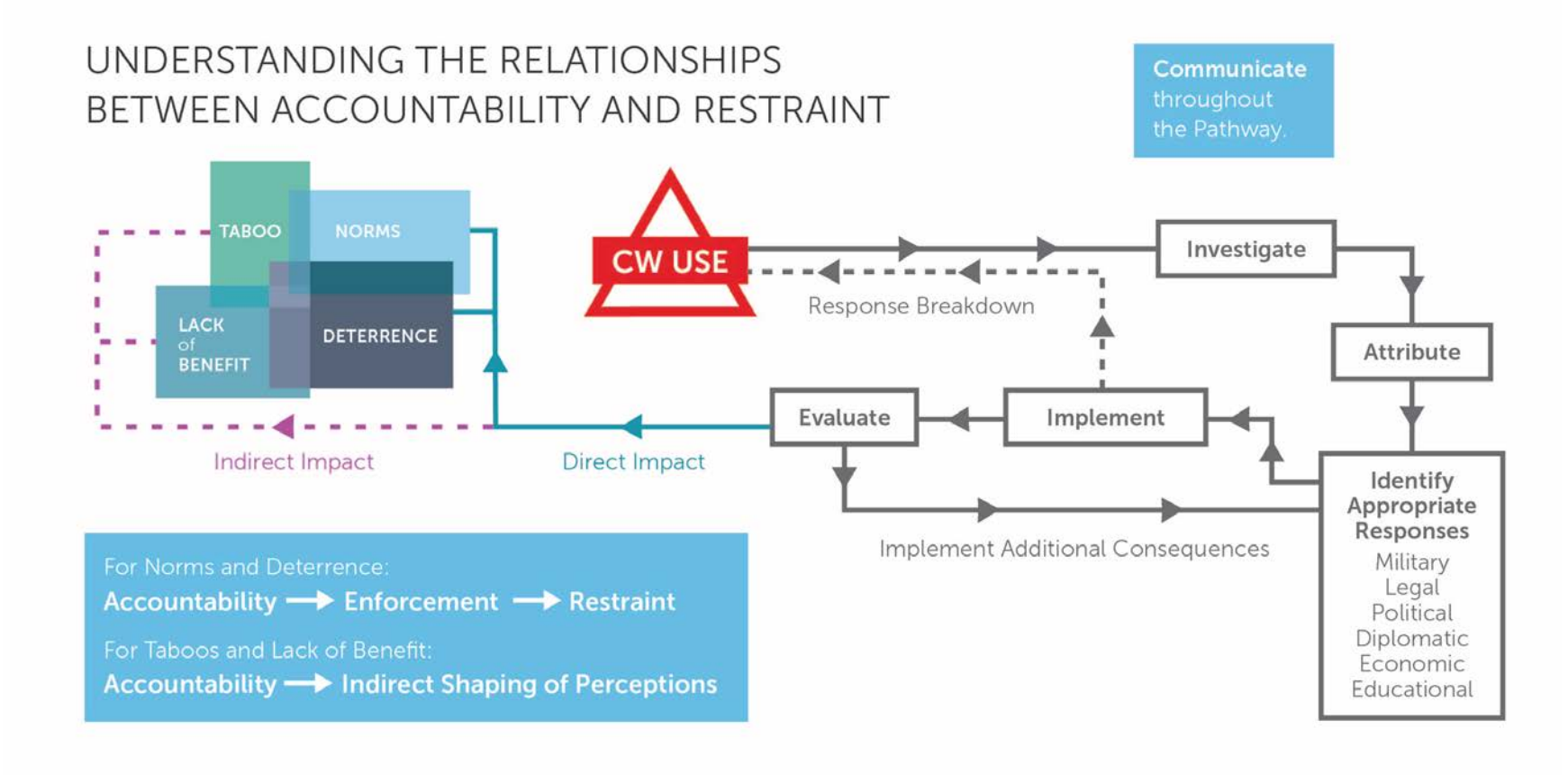
[36] Soroush Vosoughi, Deb Roy, and Sinan Aral, "The spread of true and false news online," *Science* 359, no. 6380 (March 2018): 1146–51.
[37] UK Government, "OPCW Executive Council meeting: 18 April update on the use of a nerve agent in Salisbury," April 18, 2018, https://www.gov.uk/government/speeches/opcw-executive-council-meeting-18-april-update-on-the-use-of-a-nerve-agent-in-salisbury.
[38] UK Government, "Novichok Nerve Agent Use in Salisbury."
[39] OPCW Advisory Board on Education and Outreach, "Report on the Role of Education and Outreach in Preventing the Re-Emergence of Chemical Weapons," February 2, 2018, https://www.opcw.org/fileadmin/OPCW/ABEO/abeo-5-01_e.pdf.
[40] OPCW, "Capacity Building Programmes," accessed May 7, 2018, https://www.opcw.org/our-work/international-cooperation/capacity-building-programmes/.
[41] Nuclear Forensics International Technical Working Group, "About us," accessed May 1, 2018, http://www.nf-itwg.org/.
[42] "Syria War: 'Chlorine Attack' on Rebel-Held Idlib Town," BBC News, February 5, 2018, http://www.bbc.com/news/world-middle-east-42944033; and Syrian American Medical Society, "A New Normal—Ongoing Chemical Weapons Attacks in Syria," February 2016, https://www.sams-usa.net/wp-content/uploads/2016/09/A-New-Normal_Ongoing-Chemical-Weapons-Attacks-in-Syria.compressed.pdf.
[43] OPCW, "Report of the OPCW Fact-Finding Mission in Syria Regarding an Alleged Incident in Khan Shaykhun, Syrian Arab Republic April 2017."

March 2011 (IIIM). The IIIM, established under United Nations General Assembly Resolution (UNGAR) 71/248 in 2017, seeks to gather evidence of human rights and international humanitarian law violations for potential future prosecutions in accordance with international law in national, regional, or international courts.[44]

[44] UN General Assembly, Resolution 71/248, "International, Impartial and Independent Mechanism to Assist in the Investigation and Prosecution of Persons Responsible for the Most Serious Crimes under International Law "Committed in the Syrian Arab Republic since March 2011," January 11, 2017, http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/71/248.


UNDERSTANDING THE RELATIONSHIPS
BETWEEN ACCOUNTABILITY AND RESTRAINT
Communicate throughout the Pathway.
TABOO
NORMS
LACK of BENEFIT
DETERRENCE
CW USE
Investigate
Response Breakdown
Attribute
Evaluate
Implement
Indirect Impact
Direct Impact
Identify Appropriate Responses
Military
Legal
Political
Diplomatic
Economic
Educational
Implement Additional Consequences
For Norms and Deterrence:
Accountability → Enforcement → Restraint
For Taboos and Lack of Benefit:
Accountability → Indirect Shaping of Perceptions

Chapter 4: Accountability in Practice

Each of the cases presented in this study represent unique problems and corresponding lessons for the CW regime to address.

In Syria: CWC Party Uses CW in Its Own Territory

Incidents of Use and Response

Conservative, high-confidence estimates used by U.S. ambassador to the United Nations (UN) Nikki Haley and others suggest at least 50 instances of CW use by the Bashar al Assad regime. Civil society sources suggest there could be at least 200 CW uses since 2012.[1] Yet, the diverse methods, targets, and types of weapons are equally disturbing. The sheer number of incidents shows that the Syrian regime believes there are no boundaries limiting what and how much they can get away with. The Syrian regime has targeted civilians, hospitals, and military targets with chlorine-filled barrel bombs dropped from helicopters and several types of rockets tipped with both sarin and chlorine gases.[2] The majority of these attacks occurred after the August 2013 sarin attack in East Ghouta that killed more than 1,400 people.[3]

In response to the Ghouta attack, the Obama administration indicated it would seek congressional authorization for military strikes.[4] Just before the vote, a flurry of diplomacy resulted in the Kerry-Lavrov Framework for Elimination of Syrian Chemical Weapons.[5] This agreement permitted the OPCW Executive Council (EC) to set destruction timelines and stockpile and verification procedures.[6] UNSCR 2118 enforced the EC decision, called for a fast removal of Syria's declared CW stockpile, directed the OPCW to conduct inspections with "unfettered access" to facilities in Syria, and allowed states to acquire Syria's CW to destroy them.[7] Syria officially joined the CWC, and it seemed Syria's use of chemical weapons had been stopped. These actions facilitated the ultimate destruction of more than 1,200 metric tons of dangerous chemicals and precursors by the United States and its allies, both at sea using the Field Deployable Hydrolysis System on the MV *Cape Ray* and through removal of less dangerous precursors and byproducts for destruction in the United States, Finland, the United Kingdom, and Germany. [8]

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[1] Syrian Archive, "Chemical Weapons Database."
[2] Kimball, "Timeline."
[3] Ibid.
[4] Ibid.
[5] United Nations, "Letter dated 19 September 2013 from the Permanent Representatives of the Russian Federation and the United States of America to the United Nations addressed to the Secretary-General," September 24, 2013, http://undocs.org/S/2013/565.
[6] Ibid.
[7] UNSC, "Resolution 2118 (2013)."
[8] Nina Notman, "Cape Ray Finishes Destruction of Syria's Most Deadly Chemicals," Royal Society of Chemistry, August 21, 2014, https://www.chemistryworld.com/news/cape-ray-finishes-destruction-of-syrias-most-deadly-chemicals/7668.article.

Despite these efforts, CW use resumed by early 2014.[9] That spring, the OPCW established the Fact-Finding Mission (FFM) to investigate the growing number of incidents. However, there were significant limitations to the FFM. First, many of the alleged sites were still in combat zones, hampering access to inspectors. After an attack on an FFM convoy in May 2014, the mission cut back its site evaluations.[10] Most importantly, even when the FFM could access a site, it could only perform the technical task of confirming CW use; attribution was outside its mandate. Syria's compliance problems have not been limited to CW use but also with regard to the accuracy and completeness of their CW program declaration and destruction. In 2014, the OPCW EC asked the Syrian government to resolve gaps, inconsistencies, and discrepancies with its initial declaration in coordination with the Declaration Assessment Team (DAT) through site visits and analysis of samples. Several of the 17 issues identified by the DAT remained unresolved as of March 2018.[11] These issues in Syria's declarations complicate efforts to identify those responsible for unconfirmed attacks.

Despite these challenges, the FFM used video metadata, biomedical and environmental samples, interviews, media, and other forensic evidence to confirm the use of chemicals as weapons—including chlorine and sarin—at least 36 times.[12] Similarly, investigations by the DAT have found clear evidence of suspicious activity through technical sampling and other forensic techniques.

Faced with steadily increasing cases of use, the UNSC—with Russian support—passed UNSCR 2235 establishing the UN-OPCW JIM in 2015 to identify, where possible, the perpetrators of FFM-confirmed attacks.[13] The JIM could attribute CW attacks to actors while making use of the technical expertise of the OPCW. Between February 2016 and October 2017, the JIM issued seven reports and attributed multiple CW attacks to the Syrian regime. As with the FFM, the JIM was extremely conservative in its analysis of culpability and maintained a high threshold for attribution. In October 2017, the JIM determined Syria's culpability for the April 2017 sarin attack in Khan Sheikhoun that killed more than 100 people, including 27 children—the deadliest attack since East Ghouta.[14] Despite the extensive evidence supporting the JIM's conclusions, Russia, seeking to

[9] French Ministry for Europe and Foreign Affairs, "Chemical Attack in Syria."
[10] "Syria UN chemical weapons inspectors 'attacked,'" BBC News, May 27, 2014, http://www.bbc.com/news/world-middle-east-27587498.
[11] OPCW Executive Council, Decision, "Report by the Director-General Regarding the Declaration and Related Submissions by the Syrian Arab Republic," March 23, 2016, https://www.opcw.org/fileadmin/OPCW/EC/81/en/ec81dec04_e_.pdf; and Ahmet Üzümcü, "Opening Statement by the Director-General to the Executive Council at Its Eighty-Seventh Session" (speech, Organization for the Prohibition of Chemical Weapons, The Hague, Netherlands, March 13, 2018), https://www.opcw.org/fileadmin/OPCW/EC/87/en/ec87dg21_e_.pdf.
[12] See OPCW, "Report of the OPCW Fact-Finding Mission in Syria Regarding Alleged Incidents in the Idlib Governorate of the Syrian Arab Republic Between 16 March and 20 May 2015," October 29, 2015, https://www.opcw.org/fileadmin/OPCW/Fact_Finding_Mission/s-1319-2015_e_.pdf; OPCW, "Third Report of the OPCW Fact-Finding Mission in Syria," December 18, 2014, https://www.opcw.org/fileadmin/OPCW/Fact_Finding_Mission/s-1230-2014_e_.pdf; OPCW, "Report of the OPCW Fact-Finding Mission in Syria Regarding the Incident of 16 September 2016 As Reported In the Note Verbale of the Syrian Arab Republic Number 113 Dated 29 November 2016," May 1, 2017, https://www.opcw.org/fileadmin/OPCW/Fact_Finding_Mission/s-1491- 2017_e_.pdf; and OPCW, "Report of the OPCW Fact-Finding Mission in Syria Regarding an Alleged Incident in Khan Shaykhun, Syrian Arab Republic, April 2017."
[13] United Nations, "Security Council Unanimously Adopts Resolution 2235 (2015), Establishing Mechanism to Identify Perpetrators Using Chemical Weapons in Syria," August 7, 2015, https://www.un.org/press/en/2015/sc12001.doc.htm.
[14] UNSC, Seventh JIM Report, 10.

protect its Syrian ally, questioned the JIM's methodology and impartiality. Just three weeks after the October 2017 JIM report was released, Russia used its 10th Syria-related veto in the UN Security Council to prevent an extension of the JIM's mandate.[15] This shuttered the body before it could issue findings on other attacks.[16] Today, without the JIM, there is no standing international mechanism for attributing attacks in Syria. In January 2018, the U.S. ambassador to the UN called Russian attempts to discredit the JIM's analysis "misleading, unprofessional, inconsistent and, at times, completely false."[17] Yet, public shaming has done little to convince Russia of the need to support the very accountability mechanisms it helped establish.

Results at the OPCW have not been much better. Despite the painstaking work of the FFM, the OPCW EC has proven unable to address Syria's multiple compliance issues. Most recently, in November 2017, several attempts within the OPCW EC to express concerns about Syria's compliance with its CWC obligations failed to muster the necessary 28 votes among the 41 members to bring any treaty-based accountability to Syria for its actions.[18] Since that time, CW use has continued unabated, but efforts to uphold the treaty's most basic prohibitions have fared no better. Instead of enforcing the treaty, the CWC's governing body has taken a step to undermine the most comprehensive arms-control agreement ever brought into force.

Two military attacks have been launched in direct response to CW use in Syria. The United States conducted the first in April 2017, a unilateral strike with 59 Tomahawk missiles targeting the airfield used by Syrian aircraft during the Khan Sheikhoun attack earlier that month.[19] Initially, the quick, unilateral military response to the Khan Sheikhoun attack prompted favorable comparisons to President Obama's reluctance to enforce his "red line" more than three years earlier and raised hopes that deterrence would be restored. Shortly thereafter, however, CW use resumed and accelerated over the next year, first with chlorine and ultimately culminating in the combined chlorine/sarin attack at Douma on April 7, 2018. This larger-scale attack again gained the attention of the international community. This time in a multilateral effort, the United States, the United Kingdom, and France launched airstrikes against a scientific research center in Damascus, a chemical weapons storage facility near Homs, and a chemical weapons equipment storage facility and command post.[20]

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[15] Rick Gladstone, "In U.N. Showdown, Russian Veto Kills Syria Chemical Arms Panel," *New York Times*, November 16, 2017, https://www.nytimes.com/2017/11/16/world/middleeast/syria-chemical-weapons-unitednations. html.
[16] UNSC, Letter from the Secretary-General to the President of the Security Council, "Report of the Organization for the Prohibition of Chemical Weapons Fact-Finding Mission in the Syrian Arab Republic Regarding an Alleged Incident in Lataminah, Syrian Arab Republic, 30 March 2017," November 6, 2017, http://undocs.org/S/2017/931.
[17] UNSC, "Letter Dated 10 January 2018 from the Permanent Representative of the United States of America to the United Nations addressed to the Secretary-General," January 16, 2018, http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/s_2018_35.pdf.
[18] "US Proposal on Syria Rejected by OPCW Executive Council–Moscow," Sputnik, November 24, 2017, https://sputniknews.com/world/201711241059415284-us-syriarejection-opcw/.
[19] Everett Rosenfeld, "Trump Launches Attack on Syria with 59 Tomahawk Missiles," CNBC, April 7, 2017, https://www.cnbc.com/2017/04/06/us-military-has-launched-more-50-than-missiles-aimed-at-syria-nbc-news.html.
[20] Jim Mattis, "Briefing by Secretary Mattis on U.S. Strikes in Syria," Department of Defense, April 13, 2018, https://www.defense.gov/News/Transcripts/Transcript-View/Article/1493658/briefing-by-secretary-mattis-on-us-strikes-in-syria/.

Economic responses have included the U.S. imposition of sanctions against the Scientific Studies and Research Center (SSRC) in Syria in 2013, and against 271 employees of the SSRC in 2017.[21] Prior to this in January 2017, the Department of State added 18 senior Syrian regime officials and 5 Syrian military branches.[22] While Russia and China used their veto powers at the UNSC to prevent UN sanctions on Syria, the European Union sanctioned CW users identified by the JIM in March 2017 and another 16 Syrian military officers and the SSRC in July 2017.[23,24]

Assad-regime supporters are also being targeted, including several Russian business leaders, companies, and government officials sanctioned by the United States.[25] As of May 2018, the White House said it would not likely impose additional sanctions on Russia for supporting CW use in Syria, barring further escalation.[26] Separately, three Belgian firms face prosecution for illegally shipping CW precursors, including isopropanol, to Syria between 2014 and 2016.[27]

Given the lack of current pathways through the United Nations and OPCW, foreign ministers from 25 countries met in Paris in January 2018 to launch a new multilateral effort to seek accountability for the use of CW—the International Partnership Against Impunity for the Use of Chemical Weapons (the Partnership).[28]

The Partnership takes a page out of the Proliferation Security Initiative (PSI) playbook and demonstrates the power of voluntary collective action in supporting the nonproliferation and arms control regimes.[29] With this initiative, now more than 30 countries and organizations have chosen to stand together against the use of chemical weapons—anywhere and by anyone. The Partnership's establishment represented the first time the international community moved outside of formally established organizations both to hold Syria accountable for its CW use and to create cooperative approaches to deal with future cases. Former U.S. Secretary of State Rex Tillerson

[21] U.S. Department of the Treasury, "Treasury Restrictions."
[22] U.S. Department of State, "Designation of Syrian Entity Pursuant to Executive Order 13382," January 12, 2017, https://2009-2017.state.gov/r/pa/prs/ps/2017/01/266898.htm.
[23] Michelle Nichols, "Russia, China block U.N. sanctions on Syria over gas attacks," Reuters, February 28, 2017, https://www.reuters.com/article/us-mideast-crisis-syria-chemicalweapons/russia-china-block-u-n-sanctions-on-syria-over-gas-attacks-idUSKBN167232; and French Ministry for Europe and Foreign Affairs, "Syria–Chemical weapons–Adoption of sanctions by the EU (March 20, 2017)," March 20, 2017, https://www.diplomatie.gouv.fr/en/country-files/syria/events/article/syria-chemical-weapons-adoption-of-sanctions-by-the-eu-20-03-17.
[24] U.S. Department of State, "United States Applauds New European Union Sanctions on Syrian Regime Officers and Scientists Involved in the Use of Chemical Weapons in Syria," July 17, 2017, https://www.state.gov/r/pa/prs/ps/2017/07/272643.htm.
[25] U.S. Department of the Treasury, "Treasury Designates Russian Oligarchs, Officials, and Entities in Response to Worldwide Malign Activity," April 6, 2018, https://home.treasury.gov/news/press-releases/sm0338.
[26] John Walcott, "Trump Administration Delays New Sanctions on Russia: Official," Reuters, April 16, 2018, https://www.reuters.com/article/us-usa-russia-sanctions/idUSKBN1HN20O.
[27] Daniel Boffey, "Belgian firms prosecuted over Syria chemical exports," *The Guardian*, April 18, 2018, https://www.theguardian.com/world/2018/apr/18/belgian-firms-prosecuted-over-chemicals-exports-to-syria-sarin.
[28] French Ministry of Foreign Affairs, "Fight against proliferation—Launch of International Partnership against Impunity for Use of Chemical Weapons," January 23, 2018, https://www.diplomatie.gouv.fr/en/french-foreign-policy/disarmament-and-non-proliferation/events/article/fight-against-proliferation-launch-of-international-partnership-against.
[29] Ibid.

minced no words in his pointed remarks at the launch for users of chemical weapons: "You will face a day of reckoning for your crimes against humanity and your victims will see justice done."[30]

Importantly, the Partnership recognized that repeated CW use threatens the international norm against such attacks as established in international law, including through the Geneva Protocol, Geneva Conventions, and several UNSCRs.[31] The Partnership met for a second time at the ministerial level in May 2018.[32]

Evaluation

Use by the Syrian regime demonstrates two challenges facing accountability pathways today: existing international mechanisms have been unable to hold accountable a CWC state party using CW in its own country, and the lack of sustainable and consistent responses to CW use has enabled their further use—by both the Syrian regime and other actors.

When the international community was united in holding Syria accountable, it successfully employed tools from across the system of restraint, such as coercive diplomacy and the threat of force, treaty accession, and UNSC-wide action. However, Russia's obstruction has deadlocked the UNSC and forced countries to seek alternative means, such as national and coalition-based pathways, to punish the Syrian regime. Ultimately, this created a loop of nonexistent accountability at the international level even when attacks were attributed through scientific and legally defensible means. Consequences that should have been imposed were blocked—primarily by Russia.

The layers of redundancy and careful analysis employed by the FFM and JIM produced a robust and impartial case against the Assad regime based on the most unassailable subset of known instances of use. NGO and other third-party evaluations of the attacks bolster the JIM's assessment that the Assad regime was responsible for attacks in Syria.[33] Yet, the JIM proved susceptible to Russian vetoes. A blocked accountability pathway can undermine even the strongest attribution tools, and previously successful pathways for accountability may now be insufficient.

The Syrian regime case also shows how the international community has struggled to create sustainable and consistent responses to CW use. While various nations have haphazardly applied a wide variety of actions, they have not done so in a strategic or consistent way. International leaders have yet to define a threshold for military response that sends clear messages about what

[30] Rex W. Tillerson, "Remarks on Russia's Responsibility for the Ongoing Use of Chemical Weapons in Syria," U.S. Department of State, January 23, 2018, https://www.state.gov/secretary/20172018tillerson/remarks/2018/01/277601.htm.
[31] International Partnership Against Impunity for the Use of Chemical Weapons, "Declaration of Principles," January 23, 2018, https://www.noimpunitychemicalweapons.org/-en-.html.
[32] At the time of writing, the 29 participating parties in the Partnership were: Australia, Belgium, Canada, Côte d'Ivoire, Czech Republic, Estonia, European Union, Finland, France, Germany, Italy, Japan, Kuwait, Morocco, Netherlands, Norway, Peru, Poland, Senegal, South Korea, Spain, Slovenia, Sweden, Switzerland, Tunisia, Turkey, Ukraine, the United Kingdom, and the United States. The Partnership is not exclusive, nor does it impose any legally binding constraints on its members, as it is not a treaty.
[33] Human Rights Watch, *Death by Chemicals*; and French Ministry for Europe and Foreign Affairs, "Chemical Attack in Syria."

constitutes unacceptable CW use. Punishing only sarin attacks with military strikes, while allowing chlorine attacks to continue, draws an inappropriate and dangerous distinction that undermines prohibitions in international law. The more than 100 uses of chlorine as a weapon in the Syrian civil war, including four such cases formally attributed to the Syrian regime by the JIM, are no less prohibited than attacks using sarin, yet incurred little to no response in most cases.[34] Such arbitrary distinctions, seemingly based on lethality or pre-identification as a military agent, undermine carefully developed legal norms in the CW regime.

Striking Syrian military bases neither imposes meaningful punishment on the perpetrators, nor does it provide justice for the victims. Meaningful accountability requires that a wider range of costs—economic, political, and legal—be imposed as consistently and comprehensively as possible. The very visible response in reaction to a high death toll from CW use followed by long periods of inattention to smaller-scale uses has encouraged threshold testing, whereby the Syrian forces use CW in significantly smaller quantities or with less lethal agents, inflict smaller numbers of casualties and receive little or no response.

That is not to say that all attempts at exacting accountability through international means were unsuccessful. UNSCR's 2118, 2209, and 2035 all show how the international community can take proactive steps through international institutions when the Security Council takes action. However, once deadlocked through the excessive use of veto powers, accountability advocates will have to turn to other means.

Responses to the continued use of chemical weapons by the Syrian regime will require fully implementing the accountability menu across all levels and approaches and will be a critical goal post for reestablishing the system of restraint. Failure to do so could pose serious challenges to the taboo, norms, and deterrence against the use of chemical weapons. Allowing the regime and others involved in these attacks to escape legal punishment—even if it comes years later—will call into question the norms built over the past century. Responses to only certain types of chemical weapons or attacks that reach a certain threshold of deaths—as lower-level use continues—illuminate the weak effect of such deterrence efforts. And any use of chemical weapons further damages the tattered taboo.

In Syria: Nonstate Actor (ISIL) Used CW in CWC Party Territory during an Armed Internal Conflict Involving CW Use

In this case, a nonstate actor (ISIL) has employed CW on the territory of a CWC states party that is widely viewed as not complying with its CWC obligations. The confirmed use by ISIL provides some cover—albeit very weak—for the Syrian regime and its supporters to claim that nonstate actors are the only ones using CW in Syria.

[34] See UNSC, "Fourth report of the Organization for the Prohibition of Chemical Weapons–United Nations Joint Investigative Mechanism," October 21, 2016, 8, https://www.un.org/ga/search/view_doc.asp?symbol=S/2016/888; and UNSC, Seventh JIM Report, 10.

Incidents of Use and Response

Open-source accounts suggest ISIL has used chemical weapons as many as 28 times in Syria, including with sulfur mustard and chlorine.[35] While far fewer than the number of instances attributed to the regime, these still have proven enough to suggest a persistent and long-term challenge. These uses represented the first time a nonstate actor had deployed "a banned chemical warfare agent with a projectile delivery system."[36] The JIM assigned responsibility to ISIL for two sulfur-mustard attacks in Syria, a September 2016 attack in Umm Hawsh and an August 2015 attack in Marea.[37]

Evaluation

Given that the Syrian government was using chemical weapons at the same time, domestic prosecution of ISIL seems an unlikely pathway to accountability. While Syria has ratified the CWC, its lack of national legislation severely limits the domestic legal pathways for accountability of individuals—the primary tool recommended by the OPCW's Working Group on Terrorism.[38] Gaps in international law also mean that bringing the actors to justice in Syria could be more complicated. The Geneva Protocol would not be applicable since the conflict in Syria—whether examined through the Syrian civil war or counter-ISIL operations—would likely not be considered an international armed conflict under international law.[39] While the Rome Statute makes clear that attacking civilians in an internal conflict is a war crime, the International Criminal Court cannot prosecute the Syrian regime or ISIL independent of a UNSC referral because Syria has not ratified the statute. Deadlock within the UNSC has prevented referral of Syrian cases to the International Criminal Court. These facts should influence any post-conflict reconciliation or restitution processes in a negotiated settlement to the conflict.

ISIL's use in Syria highlights the impact of not fully implementing mechanisms in the system of restraint, as Syria's lack of a complete declaration allowed for both parties to blame the other for use in an already complicated environment. These disparities in Syria's official declarations make investigation and attribution even more difficult. While the military efforts were successful in destroying ISIL's capabilities, it is less clear what impact they had on deterring ISIL's desire to use chemical weapons. In fact, deterrence (or lack thereof) against other nonstate actors may be much more impacted by the other cases reviewed in this study, particularly if they sought to use them in a state with weak domestic enforcement or that isn't a CWC signatory. And the use of unilateral and coalition military actions against ISIL likely did little to reinforce the norms against CW use.

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[35] Strack, "The Evolution of the Islamic State's Chemical Weapons Efforts," 20. See the ISIL use in Iraq for a more detailed explanation of ISIL's CW-related capabilities.
[36] Strack, "The Evolution of the Islamic State's Chemical Weapons Efforts," 19.
[37] UNSC, Seventh JIM Report, 9.
[38] OPCW Executive Council, Decision, "Addressing the Threat Posed by the Use of Chemical Weapons by Non-State Actors," October 13, 2017.
[39] Legal experts disagree on whether counterterrorism operations constitute armed conflict. The College of Europe has published a report from a two-day conference cohosted with the Red Cross in October 2016 that details many of the distinctions; see "Terrorism, Counter-Terrorism and International Humanitarian Law," 17th Bruges Colloquium on International Law, October 20–21, 2016, https://www.coleurope.eu/sites/default/files/uploads/page/collegium_47_v7.pdf.

In Iraq: Nonstate Actor (ISIL) Used CW in Territory of CWC Party in Good Standing

ISIL CW use in Iraq represents additional challenges for accountability. First, Iraq's capability to investigate, attribute, and hold accountable a nonstate actor using CW on its territory, while markedly better than Syria's, is still developing.[40] Second, coalition forces fighting ISIL focused on counterterrorism efforts and much less on reestablishing the system of restraint in Iraq, though this mission significantly degraded ISIL's CW capabilities.

Incidents of Use and Response

ISIL began using CW in Iraq in mid-2014 as a force multiplier against coalition forces, perhaps as many as 48 times.[41] Scientists affiliated with the program have produced a crude, low-grade mustard agent, and have employed chlorine and other unknown chemicals in artillery rounds and improvised explosive devices (IEDs).[42] Reports of CW projectiles skyrocketed in late 2016 and early 2017 as coalition forces took back the ISIL-held stronghold of Mosul, home to many of ISIL's CW production capabilities.[43] Incidents dropped significantly after the city's capture.[44] In many of these instances, Kurdish and Iraqi forces were often ill prepared to fight in a contaminated environment.[45]

The origins of ISIL's CW capability remain unclear. Though, based on chemical analysis on the agent used by ISIL in Marea, it appears most likely ISIL did not acquire remnants of Iraq's state-based program uncovered in the early 1990s.[46] Analysts suggest ISIL either captured CW from Syrian bases and brought them into Iraq or their scientists developed the fairly crude capability indigenously.[47]

The United States and other allies in the anti-ISIL coalition enacted sanctions against scientists suspected of aiding ISIL starting in summer 2017.[48] Military efforts appear to have been successful at degrading the group's ability to produce CW. After coalition forces captured Mosul, reports of

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[40] OPCW, "Iraqi Officials Review Laws and Set Up Roadmap to Implement Chemical Weapons Convention into Domestic Legislation," April 10, 2018, https://www.opcw.org/news/article/iraqi-officials-review-laws-and-set-up-roadmap-to-implement-chemical-weapons-convention-into-domestic-legislation/.
[41] Strack, "The Evolution of the Islamic State's Chemical Weapons Efforts," 19.
[42] Ibid.
[43] Tom O'Connor, "ISIS Militants Launch Multiple Chemical Weapons Attacks on Iraqi Troops," *Newsweek*, April 17, 2017, http://www.newsweek.com/isis-militants-chemical-weapons-attack-soldiers-iraq-585174.
[44] Strack, "The Evolution of the Islamic State's Chemical Weapons Efforts," 19.
[45] O'Connor, "ISIS Militants Launch Multiple Chemical Weapons Attacks on Iraqi Troops."
[46] Markus K. Binder, Jillian M. Quigley, and Herbert F. Tinsley, "Islamic State Chemical Weapons: A Case Contained by its Context?," *CTC Sentinel* 11, no. 3 (March 2018): 28, https://ctc.usma.edu/app/uploads/2018/03/CTC-Sentinel-Vol11Iss3.pdf.
[47] Harald Doornbos and Jenan Moussa, "How the Islamic State Seized a Chemical Weapons Stockpile," *Foreign Policy*, August 17, 2016, http://foreignpolicy.com/2016/08/17/how-the-islamic-state-seized-a-chemical-weapons-stockpile/; and "ISIS Pursuing Production of Chemical Weapons, Officials Say," CBS News, November 19, 2015, https://www.cbsnews.com/news/isis-pursuing-production-of-chemical-weapons-officials-say/.
[48] Thomas Joscelyn, "US Designates ISIS Chemical Weapons Expert from France as Terrorist," *FDD's Long War Journal*, March 22, 2018, https://www.longwarjournal.org/archives/2018/03/us-designates-isis-chemical-weapons-expert-from-france-as-terrorist.php.

ISIL CW use in Iraq fell precipitously, with no new incidents since summer 2017.[49] For the time being, the CW threat from ISIL appears to be held in check, but it could be reconstituted fairly quickly in the absence of ongoing pressure.

Evaluation

This case highlights the challenges of dealing with nonstate-actor CW use, against which there are few available international legal mechanisms. The military campaign and sanctions against ISIL successfully degraded many of their capabilities. It also highlights the value of existing OPCW structures for states in responding to use of chemical weapons by nonstate actors.

Even from the earliest uses by ISIL, the Iraqi government abided by its CWC obligations in its responses. Following an August 2015 incident, Iraqi officials investigated the alleged use of sulfur mustard in northern Iraq and requested OPCW technical assistance. The OPCW investigation later confirmed Iraq's initial assessment that sulfur mustard had most likely been used by ISIL.[50] Reports have also suggested that ISIL or other nonstate groups have considered ways to employ chemical weapons "half a world away."[51] Indeed, the JIM also noted reports of nonstate actors, including the Nusrah Front, showing interest in CW.[52] The Iraqi government has cooperated with the OPCW to improve its national legislation regulating dual-use chemicals, helping to create additional accountability mechanisms for CW use and proliferation.[53] These efforts also coincide with Iraq's completed destruction of its 2009 declared stockpile.[54]

Strategies for rebuilding the system of restraint for nonstate actors might pursue tools built upon punishment and denying benefits. To the fullest extent possible, it will be important for the Iraqi government to pursue domestic legal punishments for those involved in ISIL's CW program. In addition, troops should be prepared with sufficient protective gear to limit CW's effectiveness and deny their military benefit as battlefield weapons.

In Malaysia: Non-CWC Party (North Korea) Used CW in Another State's Territory

The Democratic People's Republic of Korea (DPRK) exists outside most international law structures and repeatedly violates norms, including those related to CW use, thereby presenting an especially unique challenge for the international community.

[49] Strack, "The Evolution of the Islamic State's Chemical Weapons Efforts," 21.
[50] Üzümcü, "NATO Conference."
[51] Ibid.
[52] UNSC, Seventh JIM Report, 12.
[53] OPCW, "Iraqi Officials Review Laws."
[54] OPCW, "OPCW Director-General Congratulates Iraq on Complete Destruction of Chemical Weapons Remnants," March 13, 2018, https://www.opcw.org/news/article/opcw-director-general-congratulates-iraq-on-complete-destruction-of-chemical-weapons-remnants/.

Incidents of Use and Response

In the early 2000s, U.S. intelligence reported that North Korea possessed the capability to produce precursors to chemical agents, including nerve agents. Open-source assessments indicate North Korea has developed an extensive CW stockpile of between 2,500–5,000 tons, with an annual production capability of 4,500 tons during peacetime and 12,000 tons during war.[55,56] At present, North Korea is believed to have an active CW program with the ability to produce and employ a variety of chemical weapons, deliverable with diverse and unconventional methods across the peninsula and beyond.[57] While significant evidence shows North Korea has assisted other states' CW capabilities—multiple North Korean ships have been interdicted carrying chemical precursors and technology to Syria—there had been no cases of confirmed CW used associated with the North Korean regime.

This all changed on February 13, 2017, when Kim Jong-nam, the estranged brother of the North Korea's authoritarian leader, Kim Jong-un, was assassinated at the Kuala Lumpur International Airport in Malaysia. Two women, who claimed they were recruited for a TV prank show, wiped a liquid on Kim Jong-nam's face. A short time later, Kim died while receiving medical treatment. The two women were arrested, and the autopsy revealed that Kim Jong-nam was killed with VX, a highly lethal nerve agent that many suspect North Korea possesses. Later, several vials of VX antidote were found in Kim's hotel room, though none were on him when the attack occurred.[58]

Analysts believe North Korea was motivated by one or both of following: Kim Jong-un wanted to intimidate political opponents and defectors, or the attacks were a way to signal that North Korea possessed an advanced CW program.[59,60] In either case, the use of proxies has enabled the regime to refute allegations that it played a role in the attack.

The two women, one from Indonesia and the other from Vietnam, face murder charges in Malaysia. The defense team has argued the women were unwilling accomplices to a North Korean-orchestrated assassination.[61] Between the attack and the trial, suspected North Korean accomplices were allowed to leave Malaysia in a diplomatic swap, possibly allowing the more

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[55] Ibid.
[56] Joseph S. Bermudez and Sharon A. Richardson, "The North Korean View of the Development and Production of Strategic Weapons Systems," in *Planning for a Peaceful Korea*, ed. Henry D. Sokolski (Carlisle, PA: Strategic Studies Institute, 2001), 111.
[57] Joseph S. Bermudez Jr., "Overview of North Korea's NBC Infrastructure," US-Korea Institute at John Hopkins SAIS, June 2017, 14–15, https://www.38north.org/wp-content/uploads/pdf/NKIP-Bermudez-Overview-of-NBC-061417.pdf.
[58] Doug Bock Clark, "The Untold Story of Kim Jong-nam's Assassination," *GQ*, September 25, 2017, https://www.gq.com/story/kim-jong-nam-accidental-assassination.
[59] Emily Werk, "North Korea Deploys VX as Weapon of Mass Destruction and Panic," *IISS Voices*, March 15, 2017, https://www.iiss.org/en/iiss%20voices/blogsections/iiss-voices-2017-adeb/march-8a0c/north-korea-chemical-weapons-1f08.
[60] Richard C. Paddock, Choe Sang-Hun, and Nicholas Wade, "In Kim Jong-nam's Death, North Korea Lets Loose a Weapons of Mass Destruction," *New York Times*, February 24, 2017, https://www.nytimes.com/2017/02/24/world/asia/north-korea-kim-jong-nam-vx-nerve-agent.html.
[61] Ben Westcott and King Chai Woon, "Alleged Kim Jong Nam Killer Was Hired for 'Japanese Prank Show'" CNN, January 30, 2018, https://www.cnn.com/2018/01/30/asia/kim-jong-nam-murder-trial-prank-show-intl/index.html.

significant perpetrators of the attack to go free.[62] Closing arguments for the trial were set to begin in late June 2018. Under its CWC obligations, Malaysian law prohibits the possession, use, and production of CW, punishable with up to 30 years in prison or a fine of 1 million ringgit.[63] However, no CW-related charges have been filed against the women.

The investigation has been a largely internal Malaysian matter. Although the Malaysian government requested technical assistance from the OPCW,[64] there have been no indications that OPCW labs were used to analyze the chemicals found on Kim Jong-nam's body, the area surrounding the attack, or the attacker's clothes.[65] The Malaysian government has refrained from wading into the political challenges of tying the attack to North Korea.[66]

The international response has been limited and brought no real costs to the North Korean regime. After South Korean intelligence agencies accused North Korea of being responsible, the South Korean foreign minister called for upholding the norm against CW use through collective and aggressive diplomatic action, including the possible suspension of North Korea from the United Nations.[67] In February 2018, the United States made a unilateral determination that North Korea was responsible for the assassination.[68] In accordance with legal requirements, the United States then imposed additional sanctions on North Korea.[69] China's response was more muted, as they minimally limited coal trade with North Korea.[70]

North Korea has flatly denied it has a CW program, despite being one of the few nations not a signatory to the CWC.[71] A March 2018 UN report described illegal trade from North Korea to Syria, including "materials that can be used to build bricks for the interior walls of [a] chemical factory."[72] North Korea's CW capabilities also complicate the already delicate military situation presented by

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[62] Rozanna Latiff and James Pearson, "North Korean Murder Suspects Go Home with Victim's Body as Malaysia Forced to Swap," Reuters, March 30,2017, https://www.reuters.com/article/us-northkorea-malaysia-kim/north-korean-murder-suspects-go-home-with-victims-body-as-malaysia-forced-to-swap-idUSKBN1711NI.
[63] Laws of Malaysia, Chemical Weapons Convention Act 2005, Part III, 18 (1 - 2) https://www.kln.gov.my/cwc/index.php?option=com_docman&task=doc_download&gid=1&Itemid=.
[64] Richard C. Paddock and Choe Sang-Hun, "Use of Nerve Agent in Kim Jong-nam Killing Is Condemned by Malaysia," *New York Times*, March 2, 2017, https://www.nytimes.com/2017/03/02/world/asia/kim-jong-nam-malaysia.html.
[65] Eileen Ng, "Chemist says VX nerve agent byproduct was on Kim Jong Nam murder suspect's shirt," *Chicago Tribune*, October 5, 2017, http://www.chicagotribune.com/news/nationworld/ct-kim-jong-nam-assassination-trial-20171005-story.html.
[66] "Report: Vast Difference How Britain and Malaysia Dealt with Nerve Agent Attacks," *Free Malaysia Today*, March 17, 2018, http://www.freemalaysiatoday.com/category/nation/2018/03/17/report-vast-difference-how-britain-and-malaysia-dealt-with-nerve-agent-attacks/.
[67] "Foreign Ministry: Kim Jong-nam's Murder Clearly Terrorist Act by N. Korea," KBS World Radio, October 11, 2017, http://world.kbs.co.kr/english/news/news_Po_detail.htm?No=131824.
[68] Heather Nauert, "Imposition of Chemical and Biological Weapons Control and Warfare Elimination Act Sanctions on North Korea," Department of State, March 6, 2018, https://www.state.gov/r/pa/prs/ps/2018/03/279079.htm.
[69] U.S. Department of State, "Nonproliferation Sanctions: Complete List of Sanctioned Entities," March 19, 2018, https://www.state.gov/documents/organization/273924.pdf.
[70] Michael Schwirtz, "U.N. Links North Korea to Syria's Chemical Weapons Program," *New York Times*, February 27, 2018, https://www.nytimes.com/2018/02/27/world/asia/north-korea-syria-chemical-weapons-sanctions.html.
[71] Nuclear Threat Initiative, "North Korea: Chemical," accessed May 7, 2018, http://www.nti.org/learn/countries/north-korea/chemical/.
[72] UNSC, "Letter dated 1 March 2018 from the Panel of Experts established pursuant to resolution 1874 (2009) addressed to the President of the Security Council," March 5, 2018, http://www.un.org/ga/search/view_doc.asp?symbol=S/2018/171.

its military forces, which can hold at risk large South Korean civilian populations.[73] Any military actions against North Korea's CW sites could elicit a credible response against civilian or military targets across the border, potentially including the use of chemical weapons from artillery positions that can reach Seoul.

Evaluation

The Malaysian case demonstrates the difficulty of holding accountable those not party to international agreements on chemical weapons. The U.S. response has focused on sanctions against a country that already has very limited access to the international economic system. The most visible accountability may come in the form of domestic legal action in Malaysia against the two women likely involved in the assassination. Prosecuting on murder charges and solely under the authority of the Malaysian government limits the strength of statements from the international community about the importance of accountability for violations of the CW norm.

That is not to say that the international response has not been important, but it is likely insufficient. Naming and shaming highlights the international outrage over CW use, but may do little to impact a country already shunned on the global stage and one little impacted by norms and taboos. One-off messages from South Korea, the United States, UN First Committee, and OPCW have not been integrated to present a united front. China's lax enforcement of sanctions and general patronage of North Korea further mixes the message. Particularly in the face of a country possessing such a large arsenal, it will be critical for the international community to stand up against North Korea's testing of the response in this case. Restraint will likely be most reinforced through deterrence and a lack of benefit. If negotiations regarding the North Korean nuclear program progress, the country's chemical and biological capabilities should not be left unaddressed. If North Korea pauses or gives up its nuclear program, it may consider its other WMD as an important sub-threshold capability that it could employ.

In the United Kingdom: CWC Party (Russia) Used CW in Another State's Territory

The alleged attack on two Russians living in the United Kingdom using a sophisticated chemical agent potentially represents the largest challenge of the cases examined in this study to the system of restraint. One CWC party's employment of chemical weapons on another party's territory without strong and comprehensive response could significantly undermine all four pillars of the system.

Incidents of Use and Response

On March 4, 2018, a former Russian spy and his daughter became ill after reportedly being exposed to a chemical nerve agent in Salisbury, United Kingdom, in what UK police are treating as an attempted murder. Both were released from the hospital after several weeks. One of the first

[73] Reid Kirby, "Sea of Sarin: North Korea's Chemical Deterrent," *Bulletin of the Atomic Scientists*, June 21, 2017, https://thebulletin.org/sea-sarin-north-korea%E2%80%99s-chemical-deterrent10856.

attending detectives was also hospitalized and released. More than 100 others were tested for exposure, but have not yet exhibited any symptoms.[74] Initial reports suggest that the victims, Sergei and Yulia Skripal, were affected by a group of nerve agents developed in the Soviet Union called novichok agents. While the OPCW confirmed earlier this year that Russia had destroyed its declared CW stockpile, the novichok series was not included in its official declarations to the OPCW.[75]

The British government issued an ultimatum to the Russians to explain what happened in Salisbury before accusing them of orchestrating the attack. When the Russians failed to meet this deadline, Prime Minister Theresa May directly accused the Russians of involvement with the incident. The United Kingdom then expelled 23 Russian diplomats.[76] A coordinated political response by 26 countries followed, with a total of 143 Russian intelligence officers expelled in a multilateral effort.[77] On March 15, France, Germany, the United Kingdom, and the United States jointly applied political pressure on Russia to provide information on its novichok program and condemned the attack.[78]

In April, the U.S. representative to the OPCW further raised the stakes at an OPCW Executive Council meeting called by Russia, saying, "Through its involvement in the use of a military-grade nerve agent in the United Kingdom, Russia has violated the Chemical Weapons Convention, brazenly flouting the international norm against the use of chemical weapons."[79]

Evaluation

The international community has taken diplomatic steps, but should it be confirmed that Russia played a part in the attack (as early evidence seems to suggest) like-minded nations will need to employ a broader response to ensure states don't continue to find avenues to skirt the system—especially in the face of smaller-scale instances. A failure to thoroughly investigate and hold accountable one CWC party's use of chemical weapons against another CWC party in good standing potentially has grave implications for norms and laws prohibiting CW use. The United Kingdom's communication efforts, though, should serve as an example for other countries to follow in the face of future use, including aggregating updates and responses on a single webpage and creating videos to counter the effective Russian false narratives spreading quickly on the internet.

Russia's flagrant violation of norms to carry out this assassination should raise alarms on the current weakness of the system of restraint. It demonstrates that Russia believes the international

[74] "Russian Spy: What We Know So Far," BBC News, April 10, 2018, http://www.bbc.com/news/uk-43315636.
[75] "Russian Spy: What Are Novichok Agents and What Do They Do?," BBC News, March 19, 2018, http://www.bbc.com/news/world-europe-43377698.
[76] UK Government, "Novichok Nerve Agent Use in Salisbury."
[77] Ibid.
[78] UK Government, "Salisbury attack: Joint statement from the leaders of France, Germany, the United States and the United Kingdom," March 15, 2018, https://www.gov.uk/government/news/salisbury-attack-joint-statement-from-the-leaders-of-france-germany-the-united-states-and-the-united-kingdom.
[79] Kenneth D. Ward, "Statement by H.E. Ambassador Kenneth D. Ward Permanent Representative of the United States of America to the OPCW at the Fifty-Seventh Meeting of the Executive Council" (speech, Organization for the Prohibition of Chemical Weapons, The Hague, Netherlands, April 4, 2018), https://www.opcw.org/fileadmin/OPCW/EC/M-57/en/ecm57nat01_e___1_.pdf.

community will not respond in any way that will have a long-term impact. They have tested the lower level of the threshold, and should further analysis confirm the initial assessment of direct Russian involvement, they must be held to account.

Key Themes and Takeaways

The recent cases of CW use reveal gaps in the international community's ability to prevent and respond to CW use and highlight key lessons for creating and implementing a comprehensive system of restraint:

- Consequences have been enforced irregularly and unpredictably.
- There are too few agreed-upon punishments for WMD use.
- Stovepipes have been a roadblock to accountability—at and between international institutions, given the different approaches by the humanitarian and nonproliferation communities, and even among domestic government agencies.
- Existing ad hoc structures are not sufficient for the current diverse set of actors and methods.
- The system of restraint has become too constrained by political dynamics and should be more insulated from political pressures.
- Accountability actions within and across states are insufficiently synchronized.
- All-or-nothing approaches to accountability lead to zero-sum implementation.
- Prevention and response mechanisms for CW acquisition or proliferation are reasonably well developed in national and international structures, but the approaches, mechanisms, and capacities to address CW use when normative pressure fails are seriously underdeveloped.
- Responding to every use of chemical weapons may be the only way to restore the system fully.

International Partnership against Impunity for the Use of Chemical Weapons

Efforts that combine accountability approaches across multiple levels, such as the French-led Partnership, are key to the reinforcement of the system of restraint. Several opportunities are available for like-minded nations to work cooperatively, as the French-led Partnership demonstrates. This effort sent a powerful statement against continued Syrian CW use and Russian obstructionism, while attempting to address limitations with current accountability approaches. Examining areas in which the Partnership aims to fix these gaps—restrictions on sharing of information, lack of compelling coordinated diplomacy at international institutions such as the OPCW Executive Council, and lax sanctions enforcement—demonstrates the potential impact of utilizing the full accountability menu.

Preserve Evidence

By collecting, compiling, retaining, and preserving relevant information, and facilitating the sharing of such information with participating states and relevant international organizations, the Partnership attempts to overcome the hurdles presented by the JIM's confidentiality rules.[80] When Russia blocked the JIM's renewal, evidence collected by the JIM remained classified at the United Nations and may now be kept locked away for 20 years or more.[81] Partner states can collaborate to collect and preserve nationally held evidence, share information and take common positions on the transfer of relevant information to other international evidence repositories such as the IMMM, and engage in coordinated diplomatic efforts to press for the release of vital evidence from the JIM's records.

Coordinate Diplomacy

Partner nations can collaborate on multilateral efforts to make international institutions such as the OPCW and the United Nations more effective in matters of CW enforcement and accountability. Coordinated démarches and educational efforts in capitals of all OPCW Executive Council members is a place to start. Similarly engaging as a coordinated block in aggressive diplomacy targeting both the UN Security Council and the UN General Assembly meeting in September is essential.

Improve Sanctions Enforcement

The Partnership can enhance existing legal structures to sanction individuals, entities, groups, and governments involved in the proliferation or use of CW, and to publicize their names collectively. The Partnership can also enhance states' legal and operational capabilities to identify and sanction or prosecute these individuals, filling another gap left in the JIM's demise.[82]

The public list of sanctioned entities serves as a forum to name and shame, especially if such lists indicate that individuals face prosecution should they transit a participating nation's territory. These factors may deter military officers or scientists seeking to become involved with CW programs or at least prompt them to think twice before targeting civilians. In addition, this capacity-building ensures states have the legal and technical assistance needed to implement political, economic, and legal accountability mechanisms. This is consistent with states' obligations under both UNSCR 1540 and the CWC—showing how the Partnership complements existing CW accountability institutions and mechanisms. Finally, the states agreed to stand together on the use of CW in other international organizations, including the OPCW and United Nations. While the impetus for the Partnership emanates from inaction at the United Nations and OPCW, Partnership states are showing the fight for accountability is not over.

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[80] International Partnership against Impunity for the Use of Chemical Weapons, "Declaration of Principles," accessed May 7, 2018, https://www.noimpunitychemicalweapons.org/.
[81] UN Secretariat, "Secretary-General's Bulletin: Information Sensitivity, Classification, and Handling," February 12, 2007, https://archives.un.org/sites/archives.un.org/files/ST_SGB_2007_6_eng.pdf.
[82] International Partnership Against Impunity for the Use of Chemical Weapons, "Declaration of Principles."

Chapter 5: Strengthening Accountability

These diverse use cases reinforce the importance of developing responsive accountability approaches that can be applied by multiple actors simultaneously along multiple lines of effort. The following recommendations can be filtered through the above accountability menu of military, legal, political, diplomatic, economic, and education and outreach tools to help understand when they might be most effective in their implementation. These diverse, scalable, and flexible response options should provide governments and international organizations the opportunity to apply consequences consistently, appropriately, and proportionately, thereby helping rebuild the system of restraint against the use of chemical weapons.

Create a "Zero Tolerance" Culture for CW Use

Like-minded nations will need to demonstrate they still have the moral and political appetite to respond to CW use—failure to do so will further undermine the system of restraint. This enforcement and accountability culture would primarily seek to reduce benefits to potential users of chemical weapons and help restore the taboo against their use. This will require not only the consistent imposition of consequences for CW use, but also demands an aggressive outreach and education campaign to governments, civil society, and international organizations. This campaign must stress the importance of enforcing norms against chemical weapons and restoring the tattered taboo against their use. It must also communicate the stakes involved for the future of the broader nonproliferation regime and preservation of the international system of laws and treaties that shape global norms on so many vital issues.

Foster Political Will for Action

Countries must foster an environment of political will that encourages effective and consistent response to CW use by raising awareness and speaking collectively. Like-minded governments should clearly state that every use of CW will result in a response and they should follow through on that claim. This must be coupled by the development of a flexible array of responses for everything from isolated, small use of CW to large-scale employment.

Supporting mechanisms to educate publics and leaders on the scale of CW use, the effects of CW, the impacts use has on the broader nonproliferation regime, and the long-standing norm against their use, will help create this necessary political will to respond. In the near term, nations can use the French-led International Partnership Against Impunity for the Use of Chemical Weapons to raise this awareness and coordinate responses to maximize collective effect and build confidence with smaller nations that the benefits of participating and supporting such collective efforts will outweigh any negatives.

Develop Fact Sheets for Consistent Information Sharing

The French, British, and Americans have done much of the legwork without developing a coalition broader than those countries with a long-standing concern for CW use. Most of the world has very little awareness of the problem, with many populations and governments alike unaware of the scale of CW use not only in Syria, but around the world. To remedy this, the Partnership (or some other group of countries) should develop fact sheets on a range of issues—including proliferation, use, and defensive efforts—for participating nations to help educate other governments and diplomats. They could also draw on this report's comprehensive list of military, legal, political, diplomatic, economic, and educational tools to provide an in-depth understanding of the assets available to hold accountable CW users beyond the Syrian regime.

Release FFM and JIM Data

Both the OPCW FFM and JIM have collected, analyzed, and validated enormous volumes of video, witness accounts, samples, and other critical evidence in Syria and Iraq. Much of that information is covered by secrecy rules preventing its release. Nations can use their collective efforts to get JIM and FFM information released to other UN mechanisms, such as the IIIM, to facilitate prosecution of CW use in appropriate international forums.

Prioritize Additive Actions

To help create this culture, countries should seek mechanisms that are additive, rather than zero-sum—it should allow flexibility in the escalation ladder based on the type of use and allow for responses that can build on each other. Developing a response plan that draws from multiple elements of the response menu can create opportunities to gain international support and multilateralize responses even if all like-minded nations do not agree on every response measure.

Strengthen Coalitions

Multilateralizing responses provides a stronger response and serves to restore aspects of all four mechanisms in the system of restraint, especially norms. While not all reactions can or should involve multiple countries, particularly as doing so requires time to build the coalition, countries should find as many opportunities as possible to coordinate their responses to uses of chemical weapons. In some cases, this means developing new tools and pathways for these actions, while others involve expanding and strengthening existing tools and pathways. The key to effective coalitions is planning, exercising, and training of different response options in advance so they can be identified and implemented quickly and confidently in the face of confirmed and attributed CW use. Additionally, such coalitions should not be limited to military responses. In fact, military responses are greatly enhanced when accompanied by a suite of similarly multilateralized political, diplomatic, economic, and other actions.

Internationalize Responses as Much as Possible

Responses to CW use—particularly démarches, sanctions, and legal actions—must be internationalized, coordinated, and synchronized to the greatest extent possible. Doing so provides comfort in numbers and distributes the costs of action, critical for smaller countries. The coordinated expelling of about 150 Russian spies from nearly 30 countries in response to the attack in the United Kingdom showcases the efficacy of coordinated efforts. Indeed, an effective enforcement step requires the participation of multiple actors.[1] Countries should also cooperate multilaterally to close sanctions gaps being exploited by countries like North Korea, which continues to employ front companies and illegal ship-to-ship transfers to evade sanctions.[2]

Press for Effective Action in International Organizations and Entities

Optimizing multilateral or like-minded nations approaches is an essential stop-gap measure when international mechanisms and organizations are unable to respond appropriately. Nevertheless, longer-term norm reinforcement rests on the ability of the United Nations and relevant international organizations and entities such as the OPCW to regain an ability to self-police the actions of member states and authorize appropriate international responses when international norms against chemical weapons use are under threat. Therefore, while voluntary multilateral efforts such as the Partnership play a vital role in demonstrating that international will cannot be held hostage to a few nations determined not to play by the rules or who wish to abuse their institutional power, these multilateral approaches should seek a return to and reinvigoration of international institutions—not their demise.

Coordinate Statements

While expelling foreign citizens sends a strong signal, several other diplomatic actions are available. States can coordinate démarches to key countries on the OPCW Executive Council and UN Security Council to press for greater accountability. Joint statements, press releases, and other documents can be used to demonstrate collective will and resolve in the UN General Assembly, UN First Committee, Conference on Disarmament, OPCW meetings of states parties, and the Australia Group. Countries could also help drive a joint statement declaring CW use a violation of customary international law punishable under multiple international legal agreements, including the ICC's Rome Statute, the Geneva Protocol, and humanitarian laws against indiscriminate killing.

Expand the Partnership

The French-led Partnership represents a model for coordinated responses, but is limited in scope and membership. This project should be enabled and empowered further. The Partnership should continue to issue statements about North Korea and Russia, and should publicize them on its website. This could also serve as a pathway for applying pressure on the OPCW Executive Council to make a CWC noncompliance ruling against Syria, which requires support from at least two-thirds of the 41 EC members. Dealing with bold and troubling use of an advanced novichok nerve

[1] Knopf, "After Diffusion," 375.
[2] Sara Perlangeli, "Flagging Down North Korea on the High Seas," Royal United Services Institute, March 29, 2018, https://rusi.org/commentary/flagging-down-north-korea-high-seas.

agent in the United Kingdom by a fellow CWC party will also be a matter the Executive Council cannot merely sweep under the rug. Close coordination in the EC among the Partnership will be essential there as well.

The Partnership should seek programmatic and geographic expansion. The more than 30 current members of the Partnership are a good start, but are not enough. Adding countries not closely aligned with the P-3 could help highlight the violation of international law and make the issue less one of a dispute between the P-3 and Russia. Nordic, South Asian, and South American countries seem likely supporters.

In addition, countries should use national and international authorities to the fullest extent available to refuse safe harbor to known or suspected CW users through travel and visa limitations, imposition of financial and economic sanctions, and criminal and civil prosecution.

Institutionalize and Staff the Partnership

Specific action items need to be created to ensure that the Partnership remains active and its presence felt beyond advocacy in international forums. To date, the defense and diplomatic staffs covering CW issues in their respective governments have done much of the legwork. As time goes on, demands on their workloads will likely slow Partnership work, absent a more formalized structure. To implement this, a modest Partnership secretariat should be established, with either permanent or temporary staff on a volunteer basis. This could provide a point of coordination to facilitate communications and create opportunities to convene around specific efforts outside high-level meetings. It could also help update the sanctions list more frequently and correct the missing entries aggregated from existing lists.[3]

Make the Partnership Sustainable

Efforts should also be made to improve the "stickiness" of the Partnership by connecting it to a variety of forums and institutions beyond those associated with the nonproliferation system. Partner countries should press for institutional reforms and mechanisms that will improve the speed and quality of international responses in the event of future attacks, in Syria and beyond. Preestablished mechanisms to address future CW use should be established and upheld.

Learn from Other Successful Models

Countries could look to efforts such as the Proliferation Security Initiative (PSI) for examples of collaborative information-sharing, development of best practices, and operational and table-top exercises. Other efforts offer similar parallels. In the areas of counterterrorism and counter-piracy cooperation, domestic and international law-enforcement entities such as Interpol and the FBI routinely cooperate to maximize successful apprehension and prosecution of suspects through various legal authorities and national jurisdictions. The models for collective action used during the four Nuclear Security Summits, particularly the use of diplomatic "gift baskets," demonstrate the

[3] Andrea Viski, e-mail message to authors, May 4, 2018.

option of convening subsets of countries around issues, efforts, and approaches without requiring consensus or the active contribution of all endorsing nations.

Fill Technical Gaps

Improvements in technology should help create more holistic and faster investigative techniques, aid in countering false narratives, and, especially, deny benefits to potential users of chemical weapons.

Collect and Protect More Evidence

Effective accountability requires that nations possess the capacity to investigate, collect, and preserve evidence, perform complex technical analysis, and appropriately maintain stringent chain-of-custody procedures. Today, many of these capabilities are limited to a few countries and the OPCW. Further steps must be taken to collect and protect evidence of CW use, such as witness testimony, technical-sample analysis, forensic records, and assessments until a trial occurs. Evidence must adhere to the highest standards, in accordance with international law, and be more transparent to maintain credibility and to prevent discrediting of the investigation. This will require strengthening the already robust technical capabilities and expanding information sharing across the international community. If necessary, these evidence-collection steps can be used for collective international responses through ad hoc mechanisms.

Take Advantage of Technological Advances

Countries must find ways to improve evidence collection and preservation. The OPCW recommended in 2016 some of the following ideas: development of additional reference standards, autonomous systems to aid in collection and analysis, and expanded biomedical methods.[4] More miniature and durable sampling technology would allow analysis to occur more quickly and closer to the site of the attack. These new advancements should also be combined with a more holistic approach to evidence collection that relies on data from biomedical, environmental, social media, and other processes. The OPCW should also continue to support the expansion of bioanalytical analysis capabilities, like those used to confirm the presence of sarin in a victim from an April 2013 attack in Syria.[5]

Learn from Other Technical Sharing Arrangements

There might also be lessons from other WMD-related technical groups, such as the training academies created by the Nuclear Forensics International Technical Working Group. These groups help to share common best practices in the field and, if replicated in the CW field, could help investigators and scientists implement technical approaches for countering false narratives.

[4] Scientific Advisory Board, "Report of the Scientific Advisory Board's Workshop on Chemical Forensics," 2–3.
[5] Harald John et al., "Fatal Sarin Poisoning in Syria 2013: Forensic Verification Within an International Laboratory Network," *Forensic Toxicology* 36, no. 1 (January 2018), https://doi.org/10.1007/s11419-017-0376-7.

Remove Stovepipes

Within these technical capabilities, both partner countries and domestic agencies should seek ways to remove stovepipes between the intelligence-gathering and other communities by improving data sharing and creating a non-intelligence-community national database of relevant evidence. OPCW states with site access to alleged attacks should share information more readily, so all parties can see what samples have been collected. This will help ensure that relevant parties have access to all information and will improve the likelihood all parties are on the same page about what chemicals have been used.

Use UNMOVIC as a Model

The OPCW or other international organizations should develop a strategy to preserve and protect any and all evidence of chemical weapons use, including but not limited to witness testimony, technical sample analysis and results, and forensic reports and assessments in accordance with international legal standards. Using UNMOVIC as a model for future attribution mechanisms—by separating scientists and diplomats in the investigation and attribution of CW use and other compliance issues—would help avoid the politicization of evidence that hindered the JIM process.

Expand Training Opportunities

Countries should also seek ways to enhance capability, capacity-building, and chain-of-custody efforts. First, they should find ways to share best practices, through protocols or agreements, to help facilitate information exchanges between law enforcement bodies, diplomats, and national security professionals. They should exercise tactics, techniques, and procedures—serving the dual-hatted purpose of improving capabilities and signaling preparedness. Like-minded countries should establish formal bilateral and multilateral protocols to facilitate the exchange of information between and among law enforcement, diplomatic, and national security sectors to facilitate the apprehension and prosecution of known or suspected users of chemical weapons. They should also coordinate national action plans in the case of CW use. "Gift baskets," like those created as part of the Nuclear Security Summits, could provide technical expertise and other support to states and organizations, potentially including the United Nations and OPCW. These would fall under the mandate of the CWC and UNSCR 1540, but need to be supported further. A number of these efforts would aid in showing a lack of benefit to potential CW users.

Establish/Reform Institutional Mechanisms

Building more diverse, flexible, scalable, and implementable response options requires reforming the institutional mechanisms that provide infrastructure for accountability. In some cases, this will require countries employing political pressure in innovative ways through existing processes, while in others relying on ad hoc or new mechanisms may be more effective.

Use "Acheson Plan" at the United Nations

UN tools, such as General Assembly Resolution 377A (also known as the "Acheson Plan"), should be used to bring Security Council issues to a full General Assembly vote in the case of a Security

Council deadlock. This could empower the Secretary-General's Mechanism to perform attribution in the Syrian conflict after the dismantling of the JIM. Countries may also want to push for pre-established UN investigatory structures, perhaps following the UNMOVIC model, and broadening or making permanent the original FFM mandate. Some legal scholars also suggest the OPCW Conference of States Parties has the power to make decisions regarding compliance under the CWC's Article VIII.[6]

Modify OPCW Personnel Rules

To ensure expertise exists to conduct investigations, the OPCW could consider changing its personnel rules. Employment at the OPCW is contractual, and technical expertise must be replaced with each contract. Some experts who conducted inspections in Syria in 2013, for example, may no longer be part of the OPCW Technical Secretariat to offer their expertise for the more recent attacks.

Establish Post-Use Accession Procedures

In order to avoid the difficulty of creating mechanisms in the midst of a crisis, the OPCW should establish probationary procedures for future post-use accession to the CWC. The CWC provides no explicit form of interim status for new parties whose behavior calls into question its fundamental commitment to fully comply with the treaty's obligations. In the future, countries that choose to join the treaty on the heels of CW use must expect a higher threshold of scrutiny, a stepwise progression toward the rights and privileges of a state party, and expedited procedures of censure in the event of serious noncompliance.

Expand Judicial Pathways to Accountability

While legal mechanisms form a critical part of the accountability menu, these tools have either been underutilized or have extensive gaps that have been exploited by users or their supporters. Existing national authorities, mechanisms, and courts offer the most promising and immediate judicial avenues for accountability, but nations have far too little transparency and knowledge of each other's authorities and structures. Fundamental differences of standing, jurisdiction, extradition, and criminal code between and among countries complicate attempts to coordinate and collaborate effectively. A comprehensive inventory of national authorities and legal resources would benefit cooperative accountability efforts.

Expand, Improve, and Better Utilize National Authorities for CW Accountability

In many cases, national authorities to address CW use are fundamentally lacking. The national legislation required of parties to the CWC and UNSCR 1540 still contains many gaps and in many cases does not exist at all. Many states have weak 1540 legislation on trade controls.[7] These loopholes should be fixed. The recent case brought against three companies in Belgium could

[6] Masahiko Asada, "The OPCW's Arrangements for Missed Destruction Deadlines under the Chemical Weapons Convention: An Informal Noncompliance Procedure," *American Journal of International Law* 108, no. 3 (July 2014): 459.
[7] Cupitt, "Developing Indices," 63.

serve as a deterrent, should any of them be convicted of illegally shipping precursor chemicals to Syria. More still needs to be done—particularly regarding other recent CW users. The United States should seriously consider sanctioning Russia under the Chemical and Biological Weapons Control and Warfare Elimination Act, as House Foreign Affairs Committee Chairman Ed Royce suggested.[8]

International partners should also coordinate further to maximize prosecutorial success, perhaps following the counterterrorism model. This could include expanding and better utilizing national legal pathways in a coordinated fashion with like-minded nations. National authorities should refuse to harbor CW users or facilitators of CW attacks, institute financial and economic sanctions, and engage in criminal and civil prosecution. Such national responses can also be used to act against companies or individuals that provide illicit support to chemical weapons programs or provide materials and equipment used in CW attacks, perhaps seeking ways to declare them equally responsible.

Expand Work through the 1540 Committee to Focus on WMD Use

Through the Partnership or other efforts, nations can share lessons learned, best practices, and model legislation to help bolster national legal structures. Countries can also work through the 1540 Committee to build national capacity to prevent, respond to, and prosecute CW attacks. States possessing the expertise could instruct on best practices through the 1540 Committee's matchmaking system. They could offer training academies on legal and technical hurdles, or help publicize 1540 Committee opportunities for helping build capacity to prevent and respond to CW attacks. In addition, Partnership countries should lobby for an extension to the 1540 Committee's mandate in 2021 to ensure its important work continues.

Treat CW Use as a War Crime and Demand Restitution for Victims

Countries should lay the groundwork before any Syrian peace process to ensure prosecution of those who used CW in the civil war and seek to include new declarations from the Syrian government's CW stockpile and additional inspections in Syria to ensure CWC compliance. Legal mechanisms designed to address the many humanitarian crimes of this long and brutal war must explicitly recognize CW use as a war crime and prosecute the perpetrators accordingly. Long-term mechanisms for providing justice and reconciliation for victims should be pursued with chemical weapons victims explicitly recognized and addressed.

Bolster the Importance of International Law by Using It

More broadly, countries should leverage comprehensive approaches to accountability that rely on humanitarian law, war crimes, post-conflict reconciliation, and customary international law (e.g., Rome Statute and Geneva conventions) in trials against perpetrators of CW attacks. A strong legal argument exists for declaring that the norm against CW use is customary international law. Countries should not shy away from making this argument publicly, particularly in their statements condemning CW use. These pathways could also rely on the norms against indiscriminate killing.

[8] U.S. House Foreign Affairs Committee Press Release, "Chairman Royce Urges President to Sanction Russia for Chemical Attack," March 15, 2018, https://foreignaffairs.house.gov/press-release/chairman-royce-urges-president-sanction-russia-chemical-attack/.

Countries might also explore alternate pathways for ICC referral, including through the UN Secretary General, OPCW Director-General, or even the UN General Assembly. Alternatively, the United Nations could use the Secretary-General's Mechanism to perform attribution actions.

Finally, while it might seem far-fetched, countries could also explore universal jurisdiction over CW, similar to the antipiracy model.

Engage, Expand, and Strengthen Civil Society

A robust civil society working on and concerned about these issues is essential. Such a community has shown its ability to pressure governments through the negotiation of the Treaty on the Prohibition of Nuclear Weapons (TPNW) and other international efforts on issues such as landmines and cluster munitions. And yet, regarding the repeated use of chemical weapons, this community has remained largely silent. NGOs could encourage the over 150 nations that signed the TPNW to protect the norm against CW use and uphold the principle of a weapons ban—especially one nearly universal in coverage. Several countries who signed the TPNW (or in some cases even ratified it) seem much less interested in holding accountable actual users of WMD as it relates to chemical weapons. For example, Uruguay cosponsored the TPNW but refused a U.S. request to expel Russian diplomats in response to the attack in Salisbury[9]; the full support of the 13 countries on the OPCW EC who have signed the TPNW would nearly guarantee passage of a noncompliance vote against Syria[10]; and only 3 of the 58 TPNW signatories have joined the French Partnership as of May 2018 (Côte d'Ivoire, Ghana, and Peru).

To this end, partner nations should work to foster a stronger civil society expert community to lobby their respective countries to respond to and bring attention to each CW attack.

Proactively Counter False and Misleading Narratives

Civil society should also play a role in countering conspiracy theorists and trolls that overtake the media and online discourse regarding CW use. The importance of this cannot be overstated at a time when false information may spread even faster and farther online than factual information.[11] Following the attack in the United Kingdom there was "a 2,000 percent increase in Russian trolls" online attempting to counter the narrative of Russian involvement in the incident.[12] Civil society could also help broadcast factual information, promote quality scholarship and analysis, and identify and refute false, misleading, or conspiratorial information designed to create confusion and discord. U.S. government officials should continue their recently launched efforts to improve strategic communications regarding sanctions and should engage NGOs in these efforts.

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[9] Associated Press, "Uruguay rejects US request to expel Russian diplomats," Yahoo News, April 20, 2018, https://www.yahoo.com/news/uruguay-rejects-us-request-expel-russian-diplomats-234525622.html.
[10] International Campaign to Abolish Nuclear Weapons, "Signature/ratification Status of the Treaty on the Prohibition of Nuclear Weapons," accessed May 7, 2018, http://www.icanw.org/status-of-the-treaty-on-the-prohibition-of-nuclear-weapons/. The countries on the OPCW EC are Algeria, Bangladesh, Brazil, Chile, Ivory Coast, Ghana, Guatemala, Libya, Mexico, Panama, Peru, South Africa, and Vietnam.
[11] Soroush Vosoughi, Deb Roy, and Sinan Aral, "The Spread of True and False News Online," *Science* 359 no. 6380 (2018): 1146–51.
[12] Dana White, "Department of Defense Press Briefing," U.S. Department of Defense, April 14, 2018, https://www.defense.gov/News/Transcripts/Transcript-View/Article/1493749/department-of-defense-press-briefing-by-pentagon-chief-spokesperson-dana-w-whit/.

Governments must also effectively communicate their actions to these groups and promote regular community dialogue to ensure the message spreads as widely as possible.

Increase Databases on Use and Resources

NGOs could help create databases and resources for accurate information, analysis, and resources with appropriate vetting of expertise to provide a "go to" guide of reliable experts and authorities. The recently released Syrian Archive, which has analyzed and mapped more than 200 uses of chemical weapons in Syria, serves as a prime example of this type of work that tracks the scale and frequency of attacks.[13] These smaller efforts support the ongoing efforts of organizations like the Syrian American Medical Society, Human Rights Watch, Amnesty International, and IHS Jane's Conflict Monitor. Organizations should continue to support efforts among civilians conducting open-source analysis of exposure to chemical weapons, like those undertaken by one researcher in Turkey.[14]

Work with Humanitarian Groups to Improve Immediate Responses

Technical or medical sharing with civil society organizations working on the ground could help improve immediate responses following an attack. Providing assistance, training, equipment, and other resources could thereby decrease potential benefits to an attacker by improving and distributing technology used to identify chemical agents, providing personal protective equipment, or distributing antidotes or other medical treatments more broadly.[15]

Conclusion

Efforts to date to hold accountable users of chemical weapons have relied on stovepiped approaches, with little flexibility, and inconsistent responses. As a result, many potential pathways for accountability have been clipped and existing pathways perilously narrowed. In turn, users of chemical weapons have been enabled, indeed encouraged, to skirt and test the international community's willingness to respond. The recommendations presented here provide like-minded countries with a tailorable menu of potential actions for building more diverse, flexible, scalable, and implementable options to hold accountable users of chemical weapons. Today's political leaders face a similar challenge as those in the early twentieth century: they must find the same moral obligation to stand up against multiple users of chemical weapons to reestablish the system of restraint against their employment.

[13] Syrian Archive, "Chemical Weapons Database."
[14] John Hart and Ralf Trapp, "Collateral Damage? The Chemical Weapons Convention in the Wake of the Syrian Civil War," *Arms Control Today*, April 1, 2018, www.armscontrol.org/act/2018-04/features/collateral-damage-chemical-weapons-convention-wake-syrian-civil-war.
[15] Julia Brooks et al., "Responding to chemical weapons violations in Syria: legal, health, and humanitarian recommendations," *Conflict and Health* 12, no. 1 (2018): 3.

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