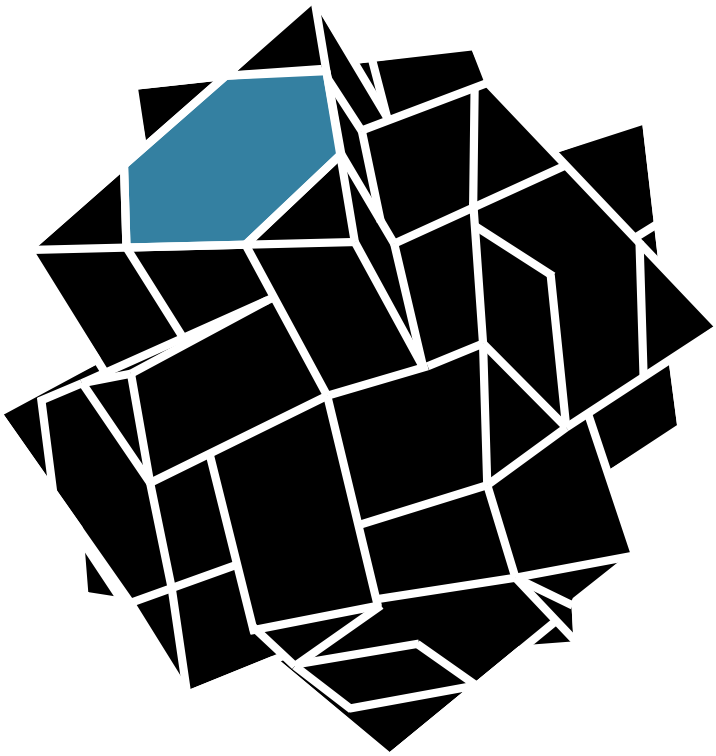
WORKSHOP REPORT

Ninth Review Conference of the Biological Weapons Convention: Where Next for the UK?



CSER – Workshop Report Series – 2023

The Centre for the Study of Existential Risk is an interdisciplinary research centre within the University of Cambridge dedicated to the study and mitigation of human extinction-level risks that may emerge from technological advances and human activity.

Report written by Alexandra Klein, Tom Hobson, and Lalitha Sundaram; reviewed by Drs Jochem Rietveld and Alex McLaughlin, and Paul Ingram. We gratefully acknowledge the contributions of the workshop participants.

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Contents

Acronyms

AMR: Anti-microbial Resistance

BTWC: Biological and Toxin Weapons Convention

CWC: Chemical Weapons Convention

IGO: Inter-Governmental Organisation

ISU: Implementation Support Unit

MSP: Meeting of States Parties

NGO: Non-Governmental Organisation

S&T: Science and Technology

SP: States Parties

WG: Working Group

1. Overview of the Workshop

In April 2023, a group of 19 experts gathered at the University of Cambridge to discuss the outcomes of the Ninth Review Conference of the Biological Weapons Convention, and the implications for biosecurity and non-proliferation in the UK. The meeting included representatives from:

- academia
- civil society and NGOs
- government and the civil service

Attendees were largely UK based, though the meeting also had representation from the United States. Together, they brought expertise in:

- biological security policy and implementation
- governance of life sciences research
- non-proliferation and disarmament
- innovation and technology policy

The gathered participants discussed a broad range of issues, but centred on the core issues of:

- recent progress and stagnation at the Ninth Review Conference of the Biological Weapons Convention;
- recent (2018 onwards) efforts within the UK to develop an effective national biosecurity strategy;
- the myriad interactions between national and international fora and mechanisms for biosecurity governance and non-proliferation;
- and those between governments, NGOs, civil society, and practising scientists.

Discussions at the meeting ranged from highly pragmatic issues related to the challenges of effective implementation (national and international) and those posed by emerging technologies, through to more foundational conversations about the functional or symbolic nature of different types of formal documentation, policy instruments, diplomatic engagements, and national strategies.

In terms of progress and the (im)possibility of improving or advancing international biosecurity governance, discussions ranged from ambitious and speculative proposals to enhance the meaningful participation of relevant civil society actors and practitioners, through to the *realpolitik* difficulties of international agreements and diplomacy in specific arenas of negotiation - including the Review Conference itself.

This document provides a summary of the key themes and discussions that took place, aiming to locate them within the context of relevant policy or debate. The report also summarises some key ongoing challenges for those of us in the field.

2. Outcomes of the Ninth Review Conference & a Brief History of the UK's Engagement with the BTWC

2.1. The UK at the BTWC

The history of the United Kingdom's relationship with the BTWC requires an understanding of the broader context of non-proliferation negotiations. Though the Geneva Convention had been in force since the mid-1920s, it was seen as incomplete, effectively prohibiting only first uses of both chemical and microbiological weapons. Negotiations between States, following the Second World War tended to group chemical and biological weapons together: a United Kingdom proposal in 1968 based on Foreign and Commonwealth Office (FCO) research was the first to suggest that these be formally separated (a particularly timely move, given the shadow of the Vietnam War). A draft treaty followed, and after a few years of negotiations, the BTWC came into being.[1]

Since then, the UK has positioned itself as a highly engaged figure at the BTWC in a number of ways, in part by working intensively during Inter-sessional Periods with different strategic partners: the EU, the Western Group and in cross-regional initiatives. This has included substantial work on "closing the compliance gap" (which might be viewed as a hallmark of the UK's approach to the BTWC), notably in leading the United Nations Secretary-General's Mechanism (UNSGM) Friends' Group initiative on strengthening investigation.[2] It has also made good use of its national scientific expertise, notably drawing on research at laboratories such as Porton Down to inform its position on Science and Technology (S&T).

The UK States Party delegation to the Ninth Review Conference stated that the threats posed by biological weapons have evolved and diversified; and that attention must be paid to rapid advances in science and technology, and their dual use potentials. The UK also noted the challenge of disinformation, and the strong need to enhance cooperation on Articles X and VII to enhance peaceful uses and enable preparedness for disease outbreaks. It was also noted that a science and technology review system was essential for the future of the treaty.[3]

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[1] Spelling A, McLeish C, Balmer B (2015). Where Did The Biological Weapons Convention Come From? Indicative Timeline and Key Events, 1925-75. (Online) Accessed from: https://www.ucl.ac.uk/sts/sites/sts/files/whereididbwccomefrom.pdf

[2] Yassif JM, Korol S, Kane A (2023). Guarding Against Catastrophic Biological Risks: Preventing State Biological Weapon Development and Use by Shaping Intentions. *Health Security.* Ahead of print: https://doi.org.10.1089/hs.2022.0145

[3] Lillie, S (2022). Ninth Review Conference of the Biological and Toxin Weapons Convention: UK statement. Accessed from: https://www.gov.uk/government/speeches/uk-national-statement-at-the-ninth-review-conference-of-the-biological-and-toxin-weapons-convention

2.2. The Ninth Review Conference

Despite misgivings that the meeting would be overshadowed by the ongoing invasion of Ukraine by Russia and the related Russian allegations against the United States and Ukraine, the Ninth Review Conference nevertheless hoped to make notable progress. Whilst some commenters have described the RevCon's agenda as ambitious, it is also notable that the Chair of the Ninth RevCon, Ambassador Bencini of Italy, had previously expressed hope at the prospect of making progress on some relatively low-hanging fruit.[4]

While the 'bare minimum' for continued operation – a renewed mandate for the ISU and continued work in the inter-sessional period – was achieved, a disappointment at the RevCon was the inability of States Parties (SPs) to reach consensus regarding the customary article-by-article review. In light of this, the most salient outcome was thus the establishment of a "Working Group on the Strengthening of the Biological Weapons Convention".

As noted in the Final Document, the topics to be addressed by the WG include: cooperation and assistance under Article X; scientific and technological review systems; confidence-building and transparency; compliance and verification; national implementation; assistance, response and preparedness (Article VII); and organisational and financial arrangements of the convention. However, it remains unclear how the WG will make progress on these issues given the failure of SPs to do so in the Review Conference.

Alongside the BTWC WG, it is important to note that the inter-sessional period sees many other important BTWC-related activities on the international agenda, and these are likely to require significant coordination both within and between SPs. In particular, the Pandemic Treaty is set to be negotiated during this period, as are amendments to the International Health Regulations (2005).

3. A UK National Biosecurity Strategy and the BTWC

In 2018, the UK Government published a Biological Security Strategy, aiming to draw together the work taking place across Government to protect the country and British interests from biological risks.[5] A national strategy, in principle, ensures a co-ordinated whole-of-government approach to biological threats while also allowing the UK to position itself as a global leader in biosecurity. A refresh of the strategy is now underway and due to be released this year. It is therefore a

[4] Bencini, L (2022). Meeting of the President-designate, Ambassador Bencini, with Civil Society groups. 1 November 2022. (Online)

[5] HMG (2018). Biological security strategy. Accessed from: https://www.gov.uk/government/publications/biological-security-strategy

timely moment to consider the aims and priorities of the UK's national biosecurity strategy and how it could complement the aims of the BTWC.

The strategy addresses a number of key themes, including an awareness of the evolving risk landscape, the global nature of biosecurity, and the necessity to balance opportunities in S&T with potential risks. These themes closely correlate to recurring priorities for implementation of the BTWC. Indeed, during a BTWC Meeting of Experts in 2018, the UK used the strategy as an example of how to translate the BTWC's object and purpose into co-ordinated national policy.[6] Underrepresented in the Strategy, however, are specific mechanisms to assign and ensure institutional accountability, and detailed guides to the implementation of the Strategy's objectives. Other issues have become more obviously prominent and crucial since the COVID-19 pandemic and now need to be accounted for, such as the need for clear public communications campaigns that can be effective in countering dis/misinformation.

4. Themes emerging from the workshop

4.1. Diplomacy, Continuity & Political Will

The challenges of advancing cooperation on compliance and verification, and of making significant changes to international treaties remain prominent. The COVID-19 pandemic and other international events have demonstrated the global nature of the challenges that the BTWC and national approaches to biosecurity aim to address, yet the invasion of Ukraine by Russia and rising international tensions have hampered deliberation and agreement at a number of international fora, including at the BTWC.

The influence of not only geopolitical factors, but also of straightforward political will, prioritisation and allocation of resources remain important limiting factors for international BTWC efforts. At the national level, the relative short-term focus of elected administrations, and attendant shifts in political prioritisation have been clearly observed in the UK context. Resource allocation has been impacted in different ways by a range of external factors including Brexit, the ongoing effects of the COVID-19 pandemic, pressing economic concerns, and the challenges posed by successive short-lived administrations.

On a practical level, the importance of accounting for the relatively short tenure of national diplomats, and the loss of tacit knowledge and technical expertise, featured prominently in workshop discussions.

There are also notable structural hurdles specific to the BTWC, chiefly the consensus rule and the absolute necessity for consensus to be achieved for the

[6] United Kingdom of Great Britain and Northern Ireland submission to the Meeting of Experts on Strengthening National Implementation. (2018) Strengthening national implementation: The UK Biological Security Strategy 2018. Accessed from: https://documents-dds-ny.un.org/doc/UNDOC/GEN/G18/237/75/PDF/G1823775.pdf?OpenElement

continued operation of the ISU (this is unlike other non-proliferation agreements such as the Chemical Weapons Convention (CWC)). This has resulted in two main outcomes for negotiations: consensus by deletion, or by deferral, each of which pose risks.

When points of contention are deleted from publicly available reports of the RevCon (as they are when no consensus has been reached on them), this belies their importance: it is often precisely *because* they are so important, and perhaps so divisive, that they are absent from the record. Consensus by deferral on the other hand, while less obviously pernicious, nevertheless results in little action, instead overloading subsequent meetings, notably those of the WG, with impossible-to-achieve agendas.

Opportunities and challenges for academia & civil society

Our discussants noted that civil society experts could make valuable contributions to this area in a number of ways. It was suggested that experts could provide information and informed analysis to diplomats and to civil servants. Similarly, several of our attendees proposed that academic and NGO experts could play a valuable role in either shaping or conducting the oft-proposed S&T review process for the BTWC. At a national level, this proposal is mirrored by suggestions that civil society should be actively engaged in the development of biosecurity governance and in processes of horizon scanning technologies and governance tools.[7]

A number of challenges remain, of course. Foremost among these in our discussions were the *practical* challenges of engaging effectively and meaningfully with busy diplomatic teams and politicians, and the *political* challenges concerning what kind of role civil society and academic experts should play either at the BTWC or in the development of national biosecurity policies. Concretely, it was noted that academics and civil society experts should endeavour to engage meaningfully with policymakers and diplomats over time, and not focus their efforts on "headline events" where busy delegations are likely to be preoccupied, and where positions and policies have already (largely) been decided upon in advance.

4.2. Coordination, Consensus & Collaboration

Coordination and the challenges of "connecting up" different pieces of the biosecurity puzzle were a consistent theme throughout the day. How, for example, should international non-proliferation aim to interact with governance and implementation of biosecurity practices in industry or commercial settings? Industry engagement with the BTWC remains rare (though it has increased in recent years, as demonstrated by involvement of commercial actors such as Ginkgo BioWorks and some DNA synthesis companies) and the main challenges

[7] Hobson T, Sundaram L, Aldridge D, Christie A, Edwards B, Dando M, et al. (2022) Submission of Evidence to The Cabinet Office Enquiry on The Biological Security Strategy. Accessed from: https://www.cser.ac.uk/resources/submission-evidence-uk-biosecurity-strategy-call-evidence/

that are faced in this context are seen as regulatory.[8] However, regulation obviously has an important part to play in biosecurity, and this connection—and opportunity to render biosecurity relevant to industrial actors—remains underexplored.

In terms of international cooperation and collaboration, it is clear that a great deal of work on the substance of the BTWC and its articles is done bilaterally or regionally, as evidenced by numerous co-organised Side Events and co-authored Working Papers. These multiple efforts need to be co-ordinated more broadly, however, and this remains a challenge.

Another challenge for coordination is that the COVID-19 pandemic has prompted a flurry of activity across several international fora, such as the Pandemic Treaty and amendments to the IHR (2005). Each of these will need skilled and assiduous negotiators, at a period where these will also be sorely needed in the context of the BTWC's WG.

The international governance of different aspects of biosecurity (coarsely: health security, weaponisation, biodiversity, and biosafety) have in the past been somewhat siloed, often for very good diplomatic reasons, such as a reluctance to 'securitise' matters of global public health. However, the boundaries between these areas are now being viewed as more porous, and the pandemic has brought more urgency to issues such as the appropriate implementation of Article VII. As a result, there will need to be significant coordination in these efforts, each of which has a long history and consequently significant bodies of institutional knowledge and memory.

This coordination may be more achievable at the national level. A national biosecurity strategy (as the UK's) may encompass the spectrum of biological risks; it is hoped that the refreshed strategy will more clearly delineate how efforts may be harmonised and administered. Moreover, as was noted by one participant, at the country-level, capacity for implementation of the BTWC can overlap significantly with that under the Cartagena Protocol on Biosafety. Though this may be a marker of a lack of appropriate in-country personnel or resourcing, the outcome of this may well end up being an approach to biosecurity that is more joined up and works to fulfil obligations spanning multiple international agreements.

Opportunities and challenges for academia & civil society

Unlike diplomats with traditionally relatively narrow portfolios, academics in the biosecurity space are afforded much more latitude in thinking across silos,[9] and can pursue biosecurity work that is 'treaty-agnostic'. This is reminiscent of 'all-

[8] Sundaram L, Ajioka JW, Molloy JC. (2023) Synthetic biology regulation in Europe: containment, release and beyond. *Synthetic Biology,* 8(1): https://doi.org/10.1093/synbio/ysad009

[9] Kemp L, Aldridge DC, Booy O, Bower H, Browne D, Burgmann M, et al. (2021) 80 questions for UK biological security. *PLoS ONE,* 16(1): e0241190. https://doi.org/10.1371/journal.pone.0241190

hazards' approaches to risk and resilience that have become increasingly prominent in risk-governance in recent decades.[10]

While it is of course necessary and desirable for there to be a significant focus *for some* on bioweapons *per se*, a broader reading of biosecurity–as in the UK's national strategy, for example–might represent an opportunity for correspondingly broad engagement. This might involve looking at questions of biosecurity from diverse angles including education and the responsible conduct of practitioners, equality and justice in technology development, sustainability, the OneHealth Agenda, and environmental protection/management.

For civil society, there are a number of questions that remain. Our participants devoted particular attention to questions of coordination and consensus among civil society actors – and how desirable these goals were. Discussions also questioned what the use of consensus on certain issues might be and how best to maximise impactful participation in national or international governance fora.

4.3. Knowledge & Expertise

The challenge of developing and maintaining adequate technical and political expertise in the context of the BTWC was noted by several participants. In parallel, the issue is also reflected in national efforts to build non-proliferation or security expertise at various levels. This might entail, for example, locating more technical expertise in branches of government, or enhancing the training and education of practising life scientists.[11]

While the maintenance of expertise amid shifting staff roles and a degree of rapid turnover is key, there also remains an ongoing real challenge related to the monitoring and evaluation of relevant scientific and technological developments, and parallel developments of governance, assessment, and risk management of emerging biotechnologies. At a practical level, a number of our attendees noted that civil servants and diplomats are simply unable to keep up to date with developments in tech or with best practices or proposals for future oriented biosecurity. The Ninth RevCon saw an agreement between States Parties to create a new position at the ISU, which will likely enhance the treaty's capacity in this area.

It was additionally noted that many governments, including the UK, possess significant and broad-ranging expertise in biosecurity and non-proliferation. This includes expertise in policymaking, regulation, preparation, and response. Experts and stakeholders outside government should not ignore the depth of this expertise, and those within government – particularly those charged with

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[10] Maas MM, Cooke D, Hobson T, Sundaram L, Belfield H, Mani L, et al. (2021) Reconfiguring Resilience for Existential Risk. Submission of Evidence to the Cabinet Office on the new UK National Resilience Strategy. Accessed from: https://www.cser.ac.uk/media/uploads/files/Maas_et_al._-_2021_-_Reconfiguring_Resilience_for_Existential_Risk_Sub.pdf

[11] Shang L, Mprah M, Ravi I, Dando M. (2022) Key issues in the implementation of the Tianjin Biosecurity Guidelines for codes of conduct for scientists: A survey of biosecurity education projects, *Biosafety and Health,* 4(5): https://doi.org/10.1016/j.bsheal.2022.08.003

developing an overarching strategy – should do their best to effectively map these networks and ensure that expertise is best utilised.

Opportunities and challenges for academia & civil society

While the need for S&T review processes at the international level have been noted, they have also been noted as politically challenging to implement. Horizon scans, foresight and other techniques are tools that can help a variety of stakeholders to keep up with the aforementioned flood of new developments. There may be scope for pursuing these efforts at the margins of the BTWC or indeed as BTWC-independent exercises that feed in through informal means. This is where civil society can take a leading role.[12]

Part of the challenge in accessing the kinds of technical knowledge and expertise necessary for S&T is that the BTWC is not (outside specific targeted engagement efforts) seen as relevant for most life science researchers. Nor is this kind of policy engagement necessarily rewarded in the traditional academic system. Indeed, there may even be reticence to engage from some, who may see engagement as tacit admission that their own research is "risky".

The result may be a marginalisation of biosecurity work, seemingly at odds with the 'growth narrative' that often surrounds biotechnology. However, there doesn't need to be a conflict—a prosperous bioeconomy is likely to be a safe and secure one—and work needs to be done to reconcile these sometimes entrenched views.

At the same time, it is vitally important to note and commend the massive amount of work that has gone before in this area. A number of engagement initiatives have taken place or are ongoing. Many of these are catalogued, through efforts such as the Stimson Center to facilitate civil society's support of Article X.[13] Effective and meaningful engagement with policymakers and institutions might have rather less to do with innovating new fora or techniques, and rather more to do with supporting ongoing hard work, commitment, knowledge, and trusted relationships.

4.4. National Strategy and/or International Leadership

The development of a national biosecurity strategy in the UK must be understood against the backdrop of how it seeks to align with the goals of BTWC and how the

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[12] Kemp L, Adam L, Boehm CR, Breitling R, Casagrande R, Dando M, et al. (2020) Point of View: Bioengineering horizon scan. *eLife* 9: https://doi.org/10.7554/eLife.54489;

Hobson T, Edwards B (2021). *Submission of Evidence to the Foreign Affairs Committee Inquiry on Tech and the future of UK Foreign Policy*. https://doi.org/10.17863/CAM.73736

[13] Georgetown University Center for Global Health Science and Security, and Henry L. Stimson Center (2020). Catalogue of Civil Society Assistance to States Parties In Support of Article X of The Biological Weapons Convention. Accessed from: https://www.stimson.org/wp-content/uploads/2020/03/2020-CATALOG-OF-CIVIL-SOCIETY-ASSISTANCE-TO-STATES-PARTIES.pdf

UK sees itself, and historically has been, a leader and agenda-setter in biosecurity and non proliferation efforts. National implementation is a cornerstone of the treaty. At the same time, best practice development in UK national implementation can, provide a chance to lead new innovations in the life sciences and non-proliferation internationally.

There is a significant amount yet to be resolved about the UK's biosecurity strategy and the position the state might seek to take in leading international efforts. Our attendees noted that there are historic reasons to be frustrated both with inactivity and with replication of work that has been done before. It is also the case that renewed funding and commitment can make a significant difference to both the necessary work of implementing processes of biosecurity and biosafety, but also to enhance the capacity of states such as UK to lead in specific areas of policy and norm development.

As our presenters discussed there are several points around which a consensus appears to have formed in civil society. Our discussion covered the various ways that the UK's approach to non proliferation domestically and internationally already identifies its overlaps with the goals and principles of the BTWC. A number of questions remained open as to the ways that a national strategy for biosecurity should specifically orient itself with reference to these treaties, or the ways that the treaty should be identified as one core element of a web of prevention approach.

Our discussions considered the function and purpose of a national biosecurity strategy and how it might complement the aims of the BTWC. Few countries currently have a national biosecurity strategy, and the UK may thus be in a strong position to demonstrate the utility of this. The very existence of the strategy, and its development over multiple iterations and refreshes, might serve to demonstrate "what works" and, more importantly, to highlight gaps and areas requiring more attention both in the UK and elsewhere.

It was noted that the UK's strategy is also somewhat unique in its broad conception of biosecurity, including topics from health and infection, environmental protection, and biodiversity all the way through to the weaponisation of the life sciences. The discussions at the workshop were fairly positive about the general aim and themes of the strategy, with the caveat that the strategy must be clearly implemented; there is currently no formal structure of responsibilities. The strategy may act as a way to identify gaps in governance and accountability, and demonstrate the need for more resources in the UK. Additionally, the strategy can be seen as an example of effective national implementation of the BTWC, which may help the UK to advocate internationally.

A number of limitations to the 2018 strategy were noted. These primarily concerned the lack of a coordinating body, and the lack of a detailed plan for implementation or financing. At the same time, we discussed at length whether such levels of granularity were desirable in a national strategy document such as this, or if a high-level set of commitments and postures was preferable. Should such a document strive for granularity and prescriptive guidance or set out broad principles or normative commitments? Should political and financial capital be expended on developing robust processes or should the document serve as a key

stone for departments in government, pursuing their own mandates, 'under their own steam'?

This led to further discussions of openness, secrecy, and the complexities of negotiating the (sometimes competing) demands of innovation, safe and secure science, national security, and international cooperation.

Additionally, our participants discussed the fragmentation of themes throughout the 2018 strategy - though much of this may be due to the lack of organisational framing in the document. For example, while Anti-Microbial Resistance (AMR) is pointed to as a serious biosecurity threat in several places in the strategy, there is little sustained emphasis on this topic. There exists, of course, a separate 5-year national action plan in the UK to tackle AMR[14]: is the national biosecurity strategy then supposed to be a means to organise other component strategies, or is it intended to set out novel strategy itself? This remains unclear, for AMR and for many other of the covered topics.

Opportunities and challenges for academia & civil society

One difficulty to overcome, is that it is unclear how and at what level civil society input is welcome. Obviously, it is often visibly sought in the form of Calls for Evidence: this was done for the UK's Strategy in 2022.[15] However, the extent to which this input is incorporated into policy will only be apparent when the UK's Refreshed Strategy is released.

The path to other kinds of engagement is much more opaque. While participants at the workshop expressed how much policymakers valued interactions with civil society, especially in informal conversations, these meetings are effectively restricted to those who already have some degree of access. Similarly, the participation of government figures in workshops and exercises (such as this one) is often highly regarded and valued by all the parties involved, but this participation is often the result of chance encounters. Very practically, in the absence of clearly available (even anonymised) contact information on government materials, even the act of extending invitations to relevant government figures requires the existence of pre-existing personal relationships. One possible consequence of this, insofar as these engagements influence government policy at all, is the risk it will be shaped by a relatively small group of 'usual suspects' who are already known. Whereas it is clear from both discussions surrounding national implementation or around the BTWC itself that a diversity of civil society voices can only enrich the conversation.

[14] Department of Health and Social Care (2019). Tackling Antimicrobial resistance 2019 to 2024: the UK's 5-year national action plan. Accessed from: https://www.gov.uk/government/publications/uk-5-year-action-plan-for-antimicrobial-resistance-2019-to-2024

[15] HMG (2022). Biological Security Strategy: summary of public response. Accessed from: https://www.gov.uk/government/consultations/biological-security-strategy-call-for-evidence/public-feedback/biological-security-strategy-summary-of-public-response

5. Next Steps

This workshop is one of a series held in the UK in the first half of 2023, organised and attended by relevant experts in UK academia, civil society, and government. These events represent an important opportunity for stakeholders within and outside of government to reflect on the state of play in our field, to enhance the strength of our efforts to collaborate and cooperate, and ultimately, to ensure that the hard and at times stochastic work of non-proliferation and biosecurity governance continues in a form fit for the challenges of the present and the future.

Alongside the production of this report, the workshop led to strong interest in the renewal and refresh of CSER and BioRISC's 80 Questions for UK Biosecurity project; news on the implementation of this will follow in the coming months. Expert elicitation projects such as this allow us to quickly grasp the breadth of challenges facing us in biosecurity and offer us some suggestions on how to manage them, both at the level of foundational research and of policy-making.

Our research into the UK's development of a national biosecurity strategy is ongoing. A longer, academic, publication is forthcoming and will be circulated to attendees.

Finally, efforts in our community to enhance education and strengthen the expertise and amplify the voice of civil society experts in the fields of biosecurity and non-proliferation are being continued by a number of our valued colleagues.

6. Appendix : List of Participants

Joshua Blake	PhD Researcher, University of Cambridge
Chris Chyba	Professor of Astrophysical Sciences and International Affairs, Princeton University
Gurpreet Dhaliwal	PhD Researcher, University of Cambridge
Brett Edwards	Senior Lecturer in Politics, Languages & International Studies, University of Bath
Alex Ghionis	Research Fellow in Chemical and Biological Security (SPRU - Science Policy Research Unit), University of Sussex Business School
Richard Guthrie	CBW Events Co-ordinating Editor
Tom Hobson	Research Associate, Centre for the Study of Existential Risk
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Alexandra Klein	Research Assistant, Centre for the Study of Existential Risk
Kathryn Millett	Director, Biosecure
Jonas Sandbrink	Biosecurity Researcher, University of Oxford
Lalitha Sundaram	Senior Research Associate, Centre for the Study of Existential Risk
Shrestha Rath	Biosecurity Researcher at Effective Ventures
Catherine Rhodes	Head of Operations and Engagement, SPRITE+
Ryan Teo	Research Assistant, University of Birmingham
John Walker	Former Head of the FCO's Arms Control and Disarmament Research Unit
Hailey Wingo	Research Assistant, VERTIC
Isabel Webb	CSaP Fellow, Head of Technology Strategy at Department for Science, Innovation and Technology

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