## Map of the biosecurity landscape

https://bit.ly/biosecurity-map

Last significant update: December 2023

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## Introduction

I would like to see something like <u>aisafety.world</u> for biosecurity. There already exists the Map of Biosecurity Interventions, but I want one for organizations!

This is a work-in-progress attempt to create a minimum viable product. **Please** suggest/comment on additional information, and feel free to add your name to the list of contributors.

The document was initially focused on organizations explicitly working on global catastrophic biological risks (GCBRs) but has expanded to include a wider range of organizations working on biosecurity.

Also, see <u>this Substack newsletter</u>, "GCBR Organization Updates," which provides a very useful overview and quarterly updates of biosecurity organizations.

## Policy

#### Think tanks

## Europe

Explicitly focused on catastrophic or existential risks from pandemics

• International Center for Future Generations (ICFG)

- is a European think-and-do-tank for improving societal resilience in relation to exponential technologies and existential risks.
- Based in the Netherlands and Belgium

#### • Simon Institute for Longterm Governance

- SI's mission is to increase the capacity of policy networks to mitigate global catastrophic risks and build resilience for civilization to flourish.
- o Based in Geneva, Switzerland

#### • Centre for Long-Term Resilience (<u>CLTR</u>)

- an independent think tank with a mission to transform global resilience to extreme risks
- o London, UK

#### • Center for Long-Term Policy (Langsikt)

 Oslo-based think tank, similar to CLTR and Pour Demain, focused on Norway and possibly other Nordic countries.

#### • Future of Humanity Institute (FHI)

- is a unique world-leading research centre that works on big picture questions for human civilisation and explores what can be done now to ensure a flourishing long-term future
- o Oxford, UK

#### • The Centre for the Study of Existential Risk (<u>CSER</u>)

- an interdisciplinary research centre within the University of Cambridge dedicated to the study and mitigation of existential risks
- o Cambridge, UK

#### Association for Long Term Existence and Resilience (<u>ALTER</u>)

 A think-and-do thank in Israel focused on both domestic and international policy and research related to building a safe and prosperous global future.

Focused on general pandemic preparedness/mitigation or biological weapons

- CBW network for a comprehensive reinforcement of norms against chemical and biological weapons (<u>CBWNet</u>)
  - The joint project aims to identify options to comprehensively strengthen the norms against chemical and biological weapons (CBW).
  - Collaboration between multiple German universities
  - o funded by the German Federal Ministry of Education and Research

#### • Independent Pandemic Preparedness Secretariat (IPPS)

- The IPPS is a wholly independent entity that will serve to ensure join up between relevant states, the private sector, and global health institutions in support of the 100 days mission.
- The goal of the 100 Days Mission is to prepare as much as possible so that within the first 100 days that a pandemic threat is identified, crucial interventions can be made available, safe, effective, and affordable
- o Based in London, UK

#### **USA**

Explicitly focused on biosecurity

#### • Institute for **Progress**

 a non-partisan research and advocacy organization founded in January 2022 by Alec Stapp and Caleb Watney. IFP is dedicated to accelerating scientific, technological, and industrial progress while safeguarding humanity's future.

#### • RAND Corporation (Meselson Center)

 a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous.

#### Nuclear Threat Initiative

 a nonprofit, nonpartisan global security organization focused on reducing nuclear and biological threats imperiling humanity.

#### Horizon Institute for Public <u>Service</u>

 a non-partisan, non-profit organization that helps the US government navigate our era of rapid technological change by fostering the next generation of emerging technology policy talent.

#### Johns Hopkins Center for Health <u>Security</u>

 explores how new policy approaches, scientific advances, and technological innovations can strengthen health security and save lives.

#### • 1Day <u>Sooner</u>

 a nonprofit that advocates for people who participate and want to participate in high-impact medical studies, particularly human challenge trials, where healthy volunteers are infected with a disease to test a vaccine, treatment, or to learn other important information.

#### • The Council on Strategic Risks

- a nonprofit, non-partisan security policy institute devoted to anticipating,
   analyzing and addressing core systemic risks to security in the 21st century.
- Based in Washington, DC

#### Center for Security and Emerging Technology (<u>CSET</u>)

- A policy research organization within Georgetown University's Walsh School
  of Foreign Service, CSET provides decision-makers with data-driven analysis
  on the security implications of emerging technologies. CSET is currently
  focusing on the effects of progress in artificial intelligence (AI), advanced
  computing and biotechnology.
- Generally more focused on AI but also work on biorisk

#### Bipartisan Commission on <u>Biodefense</u>

- The Bipartisan Commission on Biodefense is a privately funded entity established in 2014 to provide for a comprehensive assessment of the state of U.S. biodefense efforts, and to issue recommendations that will foster change.
- They published The <u>Apollo Program for Biodefense</u> report, which was an important effort in recommending technological priorities to fight biological threats

#### • Technologies for Pandemic <u>Defense</u>

 a nonprofit advocating for market-shaping solutions to accelerate the development and rollout of key biosecurity technologies, starting with next-generation respiratory protection.

#### • Center for Infectious Disease Research and Policy (CIDRAP)

The Center for Infectious Disease Research and Policy (CIDRAP; "SID-wrap") is a global leader in addressing public health preparedness and emerging infectious disease response. Founded in 2001, CIDRAP is part of the Research and Innovation Office at the University of Minnesota.

#### Center for International Security and Cooperation (<u>CISAC</u>) at Stanford University

- CISAC is a core partner in the new Biosecurity Initiative at the Freeman Spogli
   Institute for International Studies
- This initiative will focus work in biosecurity at Stanford, deepening connections among diverse experts and disciplines, including biology, engineering, medicine, law and the social sciences. Our ultimate goal is to protect humanity while advancing the science of biology and global health in positive, constructive ways.

#### • Brown University Pandemic Center

 The Pandemic Center at the Brown University School of Public Health works to ensure that the world better understands these catastrophic threats, their far-reaching casualties, and develops the tools, policies, and practices to mitigate and prevent their impact

#### Georgetown University Center for Global Health Science and Security (<u>CGHSS</u>)

- Mitigating the threat of public health emergencies globally by building the evidence base for informed decision-making and sustainable capacity development.
- Center for Arms Control and Non-Proliferation (CACNP): Scientists Working Group on Biological and Chemical <u>Security</u>
  - At present, the defining goals of the Working Group are reinforcing the norm against biological weapons, broadening the norm to encompass all misuse of biology, and supporting all of components of the Biological and Chemical Weapons Conventions
- **James Martin Center for Nonproliferation Studies (CNS)**: Chemical and Biological Weapons Nonproliferation <a href="Program">Program</a>
  - CNS strives to combat the spread of weapons of mass destruction (WMD) by training the next generation of nonproliferation specialists and disseminating timely information and analysis. It is the largest nongovernmental organization in the United States devoted exclusively to research and training on nonproliferation issues

Traditional think tanks with some relevant work in biosecurity

- Carnegie Endowment for International Peace: Technology and International Affairs – Biotechnology
  - Carnegie seeks to understand how international actors, especially China and India, view the opportunities and risks of biotechnology, and to explore how to reduce the potential that evolving biotechnologies will be weaponized or otherwise used to cause harm.
- **Atlantic Council**: Geotech Center Biosecurity and Health <u>Program</u>
  - the Atlantic Council is a nonpartisan organization that galvanizes US leadership and engagement in the world, in partnership with allies and partners, to shape solutions to global challenges.
- Center for Strategic and International Studies (CSIS): Global Health Policy Center
  - a bipartisan, nonprofit policy research organization dedicated to advancing practical ideas to address the world's greatest challenges.

- CSIS' Global Health Policy Center (GHPC) is the leading research institution focused on building bipartisan awareness and shaping policy debate about global health and its importance to U.S. national security
- Center for a New American Security (CNAS): Task Force on Biotechnology and American Competitiveness
  - Bringing together experts from government, industry, and academia, the CNAS Biotech Task Force develops pragmatic policy recommendations to address acute biosecurity challenges such as bioterrorism and bolster American competitiveness across the biotechnology landscape—from synthetic biology to pharmaceuticals to genomic editing.
- Council on Foreign Relations (CFR): Public Health Threats and Pandemics
  - The Council on Foreign Relations (CFR) is an independent, nonpartisan membership organization, think tank, and publisher dedicated to being a resource for its members, government officials, business executives, journalists, educators and students, civic and religious leaders, and other interested citizens in order to help them better understand the world and the foreign policy choices facing the United States and other countries. Founded in 1921, CFR takes no institutional positions on matters of policy.

## (Inter)governmental actors

#### **USA**

- White House
  - Office of Science and Technology Policy (OSTP)
- Administration for Strategic Preparedness and Response (ASPR)
  - Biomedical Advanced Research and Development Authority (BARDA)
  - HHS Coordination Operations and Response Element (H-CORE)
  - Strategic National Stockpile (SNS)
- Department of Defense (DoD)
- Defense Advanced Research Projects Agency (DARPA)
- Advanced Research Projects Agency for Health (ARPA-H)
- Centers for Disease Control and Prevention (CDC)
- (National Institute for Occupational Safety & Health (NIOSH))
- National Institutes of Health (NIH) National Institute of Allergy and Infectious Diseases (NIAID)

- Biodefense and Emerging and Re-emerging Infectious Diseases: NIAID
  research provides the foundation for developing medical products and
  strategies to diagnose, treat, and prevent a wide range of infectious diseases,
  whether those diseases emerge naturally or are deliberately introduced as
  an act of bioterrorism.
- National Biodefense Analysis and Countermeasures Center (NBACC)
  - NBACC is a one-of-a-kind facility dedicated to defending the nation against biological threats. Its work supports intelligence assessments, preparedness planning, response, emerging threat characterization and bioforensic analyses.

#### Europe

- European Health Emergency Response Authority (HERA)
  - The department's mission is to prevent, detect, and rapidly respond to health emergencies.
  - HERA, created in the aftermath of the COVID-19 pandemic, supports innovation for stockpiling and manufacturing of countermeasures (budget €1bn/year).
  - Based in Brussels, Belgium (at the European Commission)
- European Centre for Disease Prevention and Control (ECDC)
- Germany
  - o Federal ministries: Health, Research, Defence, Robert Koch Institute
  - Bundesagentur für Sprunginnovationen (<u>SPRIND</u>): Federal innovation agency, 2 programs on antivirals (€25mn and €60mn)
  - Zentrum für Pandemie-Impfstoffe und -Therapeutika (ZEPAI):
     Implementing German Pandemic Preparedness Plan (€3bn for vaccine manufacturing capacity reservation)
- National governments (Ministries of Health, Civil protection, stockpiling authorities)

#### International actors

- Pandemic Action Network (PAN)
  - A network of organizations working to build better global pandemic prevention, preparedness, and response.
- Biological Weapons Convention (<u>BWC</u>)

#### • World Health Organization (WHO)

- WHO <u>Hub</u> for Pandemic and Epidemic Intelligence
  - Based in Berlin

#### • Coalition for Epidemic Preparedness Innovations (CEPI)

- is an innovative global partnership working to accelerate the development of vaccines against epidemic and pandemic threats.
- Their core business is distributing funding
- o Offices in Oslo, Norway (HQ), London, UK, and Washington, USA
- founded in Davos by the governments of Norway and India, the Bill &
   Melinda Gates Foundation, Wellcome, and the World Economic Forum.

## • Global Partnership Against the Spread of Weapons and Materials of Mass **Destruction** (the <u>Global Partnership</u>)

- G7-led, 31-member international initiative aimed at preventing the proliferation of chemical, biological, radiological, and nuclear (CBRN) weapons and related materials.
- has delivered more than US\$ 25 billion in tangible threat-reduction programming and continues to lead international efforts to mitigate all manner of CBRN threats around the world.

#### • The Australia Group (AG)

- an informal forum of countries which, through the harmonisation of export controls, seeks to ensure that exports do not contribute to the development of chemical or biological weapons.
- Coordination of national export control measures assists Australia Group participants to fulfill their obligations under the Chemical Weapons Convention and the Biological and Toxin Weapons Convention to the fullest extent possible.

#### • Riesgos Catastróficos Globales (<u>RCG</u>)

o Only partly focused on biosecurity, and mostly in Latin America

#### Global Shield

 Global advocacy organization focused on all-hazard global catastrophic risk, including convergent risk

#### • International Biosecurity & Biosafety Initiative for Science (IBBIS)

- Works with global partners to strengthen biosecurity norms and develop innovative tools to uphold them
- o Releasing Common Mechanism for DNA Synthesis Screening

#### • Future Matters

 Nonprofit strategy consultancy that supports organizations and governments trying to advance biosecurity through policy, politics, coalitions, and/or social movements

#### • Stockholm International Peace Research Institute (SIPRI)

- Independent international institute dedicated to research into conflict, armaments, arms control and disarmament.
- Research on technical, institutional and legal aspects of chemical and biological arms control, non-proliferation and disarmament; on historical and current use of chemical weapons; and on biological safety and security issues.

#### Global Health Security Agenda (GHSA)

 a group of more than 70 countries, international organizations and non-government organizations, and private sector companies that have come together to achieve the vision of a world safe and secure from global health threats posed by infectious diseases.

## Technical R&D

While there are GCBR-focused or EA-aligned organizations working directly on technical biosecurity interventions, the majority of relevant work is being done in academia and, to a lesser extent, industry/startups. A strong tail-risk awareness is still very relevant in policy, but after having identified promising technical interventions, it is now more important to interface with existing domain expertise. We'd thus recommend newcomers interested in working on technical biosecurity to explore traditional careers focussed on relevant biosecurity-relevant R&D.

## Non-profits

#### SecureBio

- SecureBio's in-house team of researchers and technologists work with experts in academia, industry and government to develop new technologies and policy proposals to delay, detect, and defend against any catastrophic pandemic, whether natural or engineered.
- Metagenomic surveillance (Nucleic Acid Observatory)
- SecureDNA
- Far-UVC
- Some smaller policy projects

#### • Blueprint Biosecurity

- Tech roadmapping and funding
- Focusing on far-UVC, next-gen PPE, and transmission suppression in the built environment.

#### • Convergent Research

- Incubating focused research organizations (FROs)
- Only partly focused on biosecurity

#### Kaido Labs

 a research group that aims to combat the critical absence of biodefense research. Kaido has two primary objectives: directly contribute to biodefense research, and train the next generation of biosecurity leaders.

#### Cavendish <u>Labs</u>

 Research nonprofit working on AI safety and computational biosecurity projects

#### • International Gene Synthesis Consortium (IGSC)

 industry-led group of gene synthesis companies and organizations formed to design and apply a common protocol to screen both the sequences of synthetic gene orders and the customers who place them

#### • (Rethink <u>Priorities</u>)

- a research and implementation group that identifies pressing opportunities to make the world better
- Have done some work on biosecurity in the past, but aren't currently focusing on it

#### • (Charity Entrepreneurship)

- "Our mission is to enable more effective charities to exist in the world. We strive to achieve this goal through our extensive research process and Incubation Program"
- So far, they only focused on biosecurity during one application round in the summer of 2023 and might not do so again
- Alliance for Reducing Microbial Resistance (ARMOR)
  - EA-adjacent charity focused on reducing AMR burden, not GCBR-focused but also in the biosecurity space

## Relevant for-profits

#### • Gryphon <u>Scientific</u>

 a consulting practice that uses rigorous scientific analyses to address problems of global health and security.

#### • Amodo Design

 British engineering consultancy with built-environment improvements and PPE in their portfolio

#### • Concentric by Ginkgo

 NGS-based COVID-19 testing (including at schools and airports) has now spun into a biosecurity-focused arm of Boston-based Ginkgo Bioworks

#### Academic labs

- Dr. Nicole Wheeler's lab at the University of Birmingham
  - Dr Wheeler's work focuses on the development of computational screening tools for identifying DNA from emerging biological threats, establishing genomic pathogen surveillance in resource-limited settings, One Health surveillance of antimicrobial resistance, and the ethical development of artificial intelligence (AI) for health applications.

## **Upskilling** (fellowships)

#### Focused on newcomers

- BlueDot Impact Biosecurity Fundamentals
  - "We run courses to empower driven individuals with the knowledge, community, and opportunities to solve the world's most pressing but neglected problems."
  - Introduction, suitable for both newcomers and for more experienced / mid-career people

#### Stanford Existential Risks Initiative (<u>SERI</u>)

 a collaboration between Stanford faculty and students dedicated to mitigating existential risks, such as extreme climate change, nuclear winter, global pandemics (and other risks from synthetic biology), and risks from advanced artificial intelligence

#### • Existential Risk Alliance (ERA) Cambridge Fellowship

 "Through our summer research fellowship programme, we aim to identify and support aspiring researchers in this field, providing them with the resources and the mentorship needed to succeed."

#### Swiss Existential Risk Initiative (<u>CHERI</u>)

 supports bachelors, masters and PhD students looking to have a positive impact with their career in global catastrophic risk mitigation.

#### Oxford Biosecurity Group (OBG)

- Student-led team of researchers dedicated to addressing issues related to biosecurity
- o OBG runs multiple 7-week projects and meets weekly every Oxford term

#### • Cambridge Biosecurity Hub

#### • Non-Trivial

- a non-profit enabling ambitious teenagers to start solving the world's most pressing problems.
- Focused on pre-university students (14-20 years old)
- They run an 8-week online fellowship to start an impactful research, policy, or entrepreneurial project.

## E-learning resources

#### Emerging Technology Policy Careers website on Biosecurity policy

- o A project of the Horizon Institute for Public Service
- This page lists resources on biosecurity policy, think tanks, fellowships, and congressional committees.
- Focused on the US

#### • Next Generation Biosecurity: Responding to 21st Century Biorisks

 Learn about biosecurity, biosafety and bioethics, and why they're vital inside and outside of the lab.

#### • Nuclear Threat Initiative Education Center

 The place for educational content related to nuclear, biological, radiological and cyber-nuclear threats for undergraduate and graduate courses in international relations, security studies, sciences, and more.

#### EU Non-Proliferation and Disarmament eLearning <u>Course</u>

- "This course aims to cover all aspects of the European Union's non-proliferation and disarmament agenda and provide a comprehensive knowledge resource. Both the course and the certification are offered free of charge."
- Learning Unit 3 is focused on biological weapons

#### WHO Courses

 Courses on things like response preparedness for zoonotic disease outbreaks, etc.

## Focused on people with some experience

#### International

- Emerging Leaders in Biosecurity (ELBI) Fellowship
  - inspires and connects the next generation of biosecurity leaders and innovators.
  - Launched in 2012, ELBI is a highly competitive, part-time program that
    provides an opportunity for talented graduate students and professionals to
    deepen their expertise, expand their network, and build their leadership
    skills through a series of events coordinated by the Johns Hopkins Center for
    Health Security.
  - For people who are already experienced in biosecurity
- Council on Strategic Risks (CSR) Fellowship for Ending Bioweapons **Programs** 
  - "In this one-year program, Fellows work with leading experts from CSR's team and network to generate ideas for ending the threat of state biological weapons programs."
  - "Together, the CSR team collaborates with the Fellows to explore wide-ranging ideas that governments, nonprofits, or other private organizations could pursue for addressing bioweapons threats. The Fellows work to deepen our understanding of motivations for bioweapons programs, and foster creative ideas and options for the use of technologies, international cooperation, and engagement of non-traditional actors for the purpose of reducing biological weapons risks."
- United Nations Office for Disarmament Affairs (UNODA) Youth for Biosecurity <u>Initiative</u>
  - "An interactive training and awareness-raising programme gathering competitively selected young biosecurity specialists from the Global South to reflect on how they envision an innovative and bio-secure future in connection with the BWC. In that regard, the project seeks to empower and motivate youth to promote sustainable change in their professional and academic communities, in line with the BWC's objectives."
- RAND Corporation Technology and Security Policy (TASP) <u>Fellowship</u>

- "develops new generations of policy analysts and implementors at the intersection of technology and security issues. Fellows perform in-depth, independent research on an area of technology and security policy and receive mentorship from RAND policy experts."
- "The specific focus areas are AI threat assessment and the national and international governance of broadly capable artificial intelligence and of narrower artificial intelligence for synthetic biology."
- "Candidates are welcome from all experience levels, from undergraduate students to mid-career professionals. Fellowship durations will typically start at one year with the possibility of up to two additional years. Fellowships can be full- or part-time. Fellows must be based in the United States or United Kingdom, working remotely or at one of RAND's U.S. or U.K. offices (Santa Monica, CA; Washington, DC; Pittsburgh, PA; Boston, MA; Cambridge, UK)."

### Europe

#### • European Commission Blue Book <u>Traineeships</u>

- o 5-months, full-time, paid
- "Trainees work all over the European Commission, its services and agencies, mostly in Brussels, but also in Luxembourg and elsewhere across the European Union."
- While this is a very broad opportunity to start working in EU policy, it is possible to choose to work on biosecurity-relevant projects

US policy focused (mostly pulled from Emerging Technology Policy Careers)

#### • Horizon Institute for Public <u>Service</u> (Horizon Fellowship)

- "Through our flagship Horizon Fellowship, we place fully-funded fellows at host organizations to help tackle policy challenges related to artificial intelligence, biotechnology, and other emerging technologies."
- "Fellows selected for our program receive policy-focused training, mentorship, and support in matching with a host organization for a full-time, fully-funded fellowship based in the Washington, DC area. Potential host organizations include executive branch offices, congressional offices, and think tanks."
- Probably the best program to get into US policy work around biosecurity

### <u>AAAS Science and Technology Policy Fellowships</u> (American Association for the Advancement of Science)

 a 12-month fellowship in DC with four separate tracks, that places fellows within the executive branch, judicial branch, legislative branch, or in a nonprofit. The fellowship is for individuals with a doctoral-level degree.

#### • Congressional Innovation Fellowship (TechCongress)

 a 10-12 month full-time fellowship for early and mid-career professionals involving placements with a Member of Congress or a Congressional Committee.

#### • Epidemic Intelligence Service (Centers for Disease Control and Prevention)

 a "2-year post-graduate fellowship in applied epidemiology...EIS officers help public health officials investigate and control infectious disease outbreaks"

#### • Health Policy Fellowship (Robert Wood Johnson Foundation)

 a 1-year full-time executive branch job placement program focused on health and biosecurity policy for mid-career professionals.

#### • Scoville Peace Fellowship

- a 6-9 month full-time security policy fellowship with DC-based NGOs (including some working on biosecurity, like NTI) for early-career bachelor's or master's graduates.
- Mirzayan Science & Technology Policy Graduate Fellowship (National Academies of Sciences, Engineering, and Medicine)
  - a 12-week full-time science and technology policy training and networking program in Washington DC for early career for graduate degree holders and current graduate students

# • <u>Biotechnology Innovation & International Security Fellowship</u> (Center for International Security and Cooperation, Stanford University)

- an academic research fellowship for predoctoral and postdoctoral students, and junior faculty, for applicants from the US and abroad.
- <u>Science Policy Fellowship</u> (Research!America)
  - a 1-year paid fellowship for individuals with a PhD or other terminal degree who seek science policy experience in the areas of biomedical research, health services research and other health research disciplines

## Funders of work on biorisk mitigation

Major funders explicitly focused on catastrophic biorisk

#### • Open Philanthropy Biosecurity & Pandemic Preparedness program

o 110+ grants made, \$200+ million given

#### Survival and Flourishing <u>Fund</u>

- "Survivalandflourishing.fund is a "virtual fund": we organize application submission and evaluation processes to help donors decide where to make donations. Our goal is to bring financial support to organizations working to improve humanity's long-term prospects for survival and flourishing."
- Previous grants seem to have been more focused on Al safety, but they seem interested in biorisk mitigation as well

#### Effective Giving

- Philanthropic advisor and grantmaker focused on mitigating global catastrophic risks.
- Since 2021, EG has recommended grants totaling approximately €26M to support work across a wide range of areas within biosecurity and pandemic preparedness.
- Primarily recommends grants to well-established organizations (as opposed to, e.g., scholarships to individuals). A few examples of their grantees include:
  - Brown University Pandemic Center
  - Gryphon Scientific
  - International Biosecurity & Biosafety Initiative for Science
  - Johns Hopkins University Center for Health Security
  - Nuclear Threat Initiative
  - Parliamentarians for Global Action

#### • Longview Philanthropy

 "We provide grantmaking services to donors who want to do the most good possible with their giving."

# Smaller funders with some part of their portfolio dedicated to catastrophic biorisk

#### Long-Term Future <u>Fund</u>

 aims to positively influence the long-term trajectory of civilization by making grants that address global catastrophic risks, especially potential risks from advanced artificial intelligence and pandemics

#### • Lightspeed **Grants**

 looking for projects that have a chance of substantially changing humanity's future trajectory for the better • The first round closed on July 6th, 2023

#### Manifund regranting

- Manifund is the charitable arm of Manifold Markets
- (University of Chicago's Market Shaping Accelerator <a href="Challenge">Challenge</a>)
  - A program that funds pull mechanisms to solve problems in climate tech and biosecurity
  - o It might have been just a one-off thing

#### Emergent <u>Ventures</u>

- A fellowship and grant program from the Mercatus Center, seeks to support entrepreneurs with highly scalable, "zero to one" ideas for meaningfully improving society.
- Not explicitly focused on biosecurity but potentially relevant for individuals looking for small grants to jumpstart highly scalable biosecurity projects

# Funders that are focused on pandemic preparedness more broadly

#### Bill & Melinda Gates Foundation

- o more focused on Global Health
- Some relevant work on medical countermeasures, e.g., vaccines, antivirals (also part of PAD), wastewater surveillance

#### FluLab

- Main funder Larry Page
- Their grants are quite substantial, up to dozens of millions of dollars
- Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (the Global Partnership) (also listed above)
  - has delivered more than US\$ 25 billion in tangible threat-reduction programming and continues to lead international efforts to mitigate all manner of CBRN threats around the world.
  - They have a dedicated biosecurity branch
  - I am unsure how they provide grants and whether there are open application rounds

#### • <u>balvi.io</u>

 "Balvi is a scientific investment and direct gifting fund for deploying quickly to high-value COVID projects that traditional institutional or commercial funding sources tend to overlook for being too early or "outside the box", or because there's no financial incentive."

- Main funder Vitalik Buterin
- focused on Covid-19 specifically

#### • Schmidt <u>Futures</u>

- o philanthropic initiative of Eric and Wendy Schmidt.
- "We are building a network of the sharpest minds on Earth helping them
  to solve hard problems in science and society by connecting them across
  fields, bringing multiple types of capital to bear, and applying modern tools
  and technology thoughtfully."

#### Novo Nordisk <u>Foundation</u>

- "Our vision is to improve people's health and the sustainability of society and the planet"
- seem more focused on global health but have collaborated with Open Philanthropy on a Pandemic Antiviral Discovery (PAD) initiative

#### Global Health Investment Corporation (GHIC)

- "a nonprofit organization, has been investing in global health innovation for over a decade. Through investments in life sciences and healthcare technology companies, we accelerate the development and accessibility of products with the potential to improve global public health and health equity, and generate sustainable financial returns."
- seem to be more focused on global health but recently expanded their mission to include global health security and pandemic preparedness.

#### • Wellcome Trust

- We fund curiosity-driven research, and we're taking on three of the biggest health challenges facing humanity – climate change, infectious disease and mental health.
- £37.8 billion investment portfolio
- Previous grants have focused on vaccines, drug-resistant infections and Covid-19

#### • Rockefeller Foundation

- "We're a philanthropic foundation that promotes the well-being of humanity by finding and scaling solutions to advance opportunity and reverse the climate crisis."
- Some biosecurity relevant work with the "Global Vaccination Initiative" and "Pandemic Prevention Initiative"

#### • The World Bank Pandemic Fund

 "A multi-stakeholder global partnership, with its Secretariat hosted by the World Bank. It is governed by a Board comprising representatives from

- sovereign contributors, non-sovereign contributors, sovereign co-investors and civil society organizations."
- "Provides a dedicated stream of additional, long-term financing to strengthen pandemic prevention, preparedness and response (PPR) capacity and capabilities in low- and middle-income countries and to address critical gaps through investments and technical support at the national, regional, and global levels."
- As of February 2023, financial pledges to the Pandemic Fund total more than
   US\$ 1.6 billion from 25 donors.