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## WHEN ARE TRANSGOVERNMENTAL NETWORKS THE BEST OPTION TO DEAL WITH BIOSECURITY THREATS? A STATE OF THE ART REVIEW\*

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### ABSTRACT

I depart from the assumption that states purposefully choose between different institutional arrangements, because they regard one or the other as more convenient for dealing with new conditions or new problems. In the case of the biosecurity domain, I argue that the choice is restricted to two institutional arrangements: transgovernmental networks (TGNs) or intergovernmental organizations. I also maintain that under certain conditions actors deliberately

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opt for TGNs because they consider them as superior institutional arrangements. Although states continue to rely on formal treaties to govern security cooperation, these have been increasingly complemented by a variety of TGNs. Owing to their flexibility, speed and low sovereignty costs, many anticipate that TGNs will be the preferred channel for international cooperation by performing many global governance functions but without having the form of more structured organizations. Hence, the aim of this paper is to evaluate the literature on transgovernmental networks, legalization and rational institutional design by intertwining and applying some of their theories to the biosecurity issue-area. Finally, I conclude by discussing two possible rival explanations to the rationalist approach.

**Keywords:** Biosecurity, GHSI, Global Health Governance, G7, G20, Institutional Design, Intergovernmental Organizations, Rational Choice, Transgovernmental Networks.

## ¿CUÁNDO LAS REDES TRANSGUBERNAMENTALES SON LA MEJOR OPCIÓN PARA TRATAR AMENAZAS EN BIOSEGURIDAD? UNA REVISIÓN DEL ESTADO DE LA CUESTIÓN

### RESUMEN

Parto del supuesto de que los Estados eligen conscientemente entre diferentes arreglos institucionales porque consideran que unos son más convenientes que otros para enfrentar nuevos problemas o condiciones. En el campo de la bioseguridad arguyo que la elección está confinada a dos tipos de organizaciones: redes transgubernamentales (RTG) y organizaciones intergubernamentales. Asimismo, sostengo que bajo determinadas condiciones los actores deliberadamente optan por las RTG debido a que las califican como arreglos institucionales superiores. A pesar de que los Estados continúan dependiendo de los tratados formales para dirigir la cooperación en seguridad, muchos de éstos han sido complementados por una variedad de RTG. Debido a su flexibilidad, rapidez y bajos costos en materia de soberanía, muchos anticipan que las RTG serán el vehículo preferido para llevar a cabo la cooperación internacional al desempeñar muchas funciones de gobernanza global pero sin tener la forma de las organizaciones más estructuradas. De ahí, que el objetivo de este ensayo sea evaluar la literatura enfocada en las redes transgubernamentales, legalización y diseño institucional racional, así como conjugar y aplicar algunas de sus teorías al área de la bioseguridad. Por último, discuto dos posibles explicaciones rivales al enfoque racionalista.

**Palabras clave:** Bioseguridad, Diseño Institucional, Elección Racional, GHSI, G7, G20, Gobernanza Global de la Salud, Organizaciones Intergubernamentales, Redes Transgubernamentales.

## QUANDO AS REDES TRANSGOVERNAMENTAIS SÃO A MELHOR OPÇÃO PARA DISCORRER AMEAÇAS DE BIOSSEGURANÇA? UMA REVISÃO DO ESTADO DA QUESTÃO

### RESUMO

Parto da suposição de que os Estados escolhem conscientemente dentre diferentes modelos institucionais, pois consideram que uns são mais convenientes do que outros para enfrentar novos problemas ou condições. No campo da biossegurança, defendo que a escolha está confinada a dois tipos de organizações: redes transgovernamentais (RTG) e organizações intergovernamentais. Também sustento que, deliberadamente e sob certas determinadas condições, os envolvidos optam pelas RTG, por as classificarem como modelos institucionais superiores. Apesar dos Estados continuarem dependendo dos acordos formais para conduzir a cooperação de segurança, muitos deles foram complementados por diversas RTG. Devido a sua flexibilidade, rapidez e baixos custos em relação a soberania, muitos antecipam que as RTG serão o caminho preferido para levar a cabo a cooperação internacional ao desempenhar muitas funções de governança Global, mas sem ter a forma das organizações mais estruturadas. A partir daí, o objetivo desse ensaio é avaliar a literatura focada nas redes transgovernamentais, legalização e modelo institucional racional, assim como combinar e aplicar algumas de suas teorias na área da biossegurança. Por fim, discuto duas possíveis explicações antagônicas na abordagem racionalista.

**Palavras-chave:** Biossegurança, Modelo Institucional, Escolha Racional, GHSI, G7, G20, Governança Global da Saúde, Organizações Intergovernamentais, Redes Transgovernamentais.

### BACKGROUND AND RESEARCH QUESTION

When are transgovernmental networks the best option to deal with biosecurity threats? I depart from the assumption that states deliberately choose between different institutional arrangements, because they regard one or the other as more convenient for dealing with new conditions or new problems. In the case of the biosecurity domain, I argue that the choice is restricted to two institutional arrangements: transgovernmental networks (TGNs) or multilateral treaties linked to intergovernmental organizations (IGOs).

Borrowing the definition from Fidler and Gostin, I define *biosecurity* as a society's collective responsibility to safeguard the population from dangers presented by pathogenic microbes, whether intentionally released as in the case of biological weapons or biological terrorist attacks or naturally occurring, as with infectious diseases such as influenza in its various kinds. In other words, building upon the definition from Fidler & Gostin, the study asks: under what conditions should governments choose a TGN instead of an IGO to effectively safeguard the population from the dangers presented by pathogenic microbes irrespective of its source? (2008).

The new International Health Regulations (hereinafter IHR, 2005) define these sorts of dangers in a broad and ambiguous way, however the scope of regulation is fundamentally the same (Fidler 2005; Nuzzo & Gronvall 2011; IHR, 2005, 2011)<sup>1</sup>. As explained in the IHR, a “public health emergency of international concern” (PHEIC) refers to an extraordinary event, including those of unknown causes or sources, which constitutes a public health risk to other states through the international spread of disease, and which requires a coordinated international response (WHA, 2005). Hence, I equate the PHEICs with the threats posed by pathogenic microbes regardless of their source as described above.

This research project fulfils the two criteria which according to King, Keohane & Verba should be satisfied by all research projects in the social sciences. First, it poses a question that is important in ‘the real world’. Second, it “makes a specific contribution to the existing social science literature by increasing our collective ability to construct verified scientific explanations of some aspect of the world” (King, Keohane & Verba 1994, p. 15). Regarding the former, there are two reasons why this question is relevant: first, neither scholars nor state leaders know which institutional design will solve a particular problem (Koremenos, Lipson & Snidal 2001); second, we do not know the conditions under which TGNs are most likely to arise and be effective (Krahmann 2005; Rathbun 2011; Eilstrup-Sangiovanni Forthcoming).

Thus, the research question helps us to compare and better understand two different kinds of international organizations dealing with PHEIC. Understanding these organizations is important because PHEIC can have significant impacts on political, social and economic life, as demonstrated by the Anthrax mail attacks against the U.S. in 2001, the fallout from SARS in 2003, the 2009 H1N1 influenza pandemic, or more recently by the E. Coli O104:H4 outbreak in Germany, or more recently by the Ebola Virus Disease (EVD) epidemic in West Africa and the outbreak of MERS coronavirus in South Korea.

By way of illustration, the 2009 influenza pandemic revealed several institutional shortcomings/challenges (Enserink & Cohen 2009, 1607). The Review Committee on the functioning of the new IHR, identified the IHR 2005 as insufficient, citing<sup>2</sup>: “vulnerabilities in global, national and

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1. One of the key issues debated during the negotiations of the IHR 2005 related to the convenience of explicitly mentioning biosecurity threats. The question then discussed was: “Should the Regulations explicitly include chemical and radiological events and events involving deliberate and accidental release?” (IHR, 2005, p. 31). Nuzzo & Gronvall point out that during these negotiations there was a deadlock because various countries objected the inclusion in the text of any precise reference to a deliberate release of a toxic or infectious agent. The negotiations continued once such references were dropped. Additionally, it was agreed that deliberate biological events would be implicitly incorporated through a broad definition of ‘disease’ without making reference to its source (2011).
  2. In May 1995 the World Health Assembly (WHA) requested the Director-General of the World Health Organization (WHO) to start a major review of the 1969 International Health Regulations. Negotiations lasted exactly ten years, and worldwide implementation was finally reached in June 2007. The IHR (2005) have two main functions: first:

local public-health capacities, limitations of scientific knowledge, difficulties in decision-making under conditions of uncertainty, complexities in international cooperation and challenges in communication among experts, policy-makers and the public” (IHR, 2005, p. 6).

Concerning the second criteria, the study makes a specific contribution to the literature on transgovernmental networks, legalization and rational institutional design by intertwining and applying some of their theories and hypotheses to the biosecurity issue-area. With this in mind, I seek to address one concern of Hemmer and Katzenstein, who consider that the rationalist central claim, i.e. that institutions arise when states foresee self-interested benefits from working together, remains in need of further testing and refinement (2002). This may prove to be helpful for both scholars and government officials seeking to design more effective institutional arrangements in a rapidly changing and poorly understood domain (Fidler & Gostin, 2008; Avery 2010; Kickbusch, Hein & Silberschmidt, 2010; Nuzzo & Gronvall 2011).

The remainder of this paper is structured in the following way. To frame the research question I start by describing the two different kinds of network approaches that have been applied to international politics. First, I concentrate on the actor-centered approach because of its relevance for analyzing transgovernmental networks (TGNs). Then, to better comprehend these particular networks, I characterize TGNs as a whole. To identify the research gap, I examine some of the most representative positions concerning the role and the features of TGNs and Intergovernmental Organizations<sup>3</sup> (IGOs) in dealing with biosecurity threats.

Drawing on rational design theory I explain the conditions under which we should expect governments to favour TGN over IGOs. My argument is twofold: First, when confronted with biosecurity threats a governments’ choice is restricted to these two institutional arrangements; second, governments will opt for a TGN because they regard it as a superior institutional arrangement. At the end of this section I offer two possible rival explanations from the constructivist camp to the rationalist approach. I move on to draw the conclusion.

### **Approaches to the study of networks**

Thus far two approaches to network-analysis have been applied to international politics: *networks-as-structures* and *networks-as-actors*. According to Miles Kahler, the first “takes networks as structures that influence the behaviour of their members, and, through them, produce

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Cont. note 2

to establish a regime for routine public-health protection and provide for the ongoing management of disease threats both within countries and at their borders [second] to provide a framework for coordinated and proportionate responses to significant and urgent disease threats, ranging from national public-health events to events of regional or global public-health significance. (IHR, 2011, pp. 30-31)

3. The terms “institution”, “organization” and “institutional arrangement” are used interchangeably.

consequential network effects” (2009a, p. 4). This approach comprises a broad definition of networks, focuses on their structural attributes and assesses the effects of network structure.

The *network-as-actor approach*, in contrast, differentiates between networks and other forms of organization such as markets or hierarchies. According to this approach, networks are usually forms of consciously coordinated action whose goal is to change international outcomes and national policies. As opposed to the *networks-as-structure* approach, the membership boundaries in the *networks-as-actors* approach are clear and not determined by simple interaction over time. Furthermore, in contrast to the structural approach, the *network-as-actor* perspective incorporates links which are defined by exchange and created by agents. The nodes or agents of these networked actors may be government agencies (TGNs, such as the ones analyzed here), human rights activists, terrorist organizations, drug cartels, or other international actors (Kahler, 2009a).

In the *network-as-actors* approach, estimating the power of networks as international actors undermines standard views of capabilities. Political networks succeed as actors if they can promote and sustain collective action on the part of their constituent agents. This success is usually dependent on two features of networked organizations: scalability and adaptability. Scalability refers to the ability of political networks to grow rapidly at relatively low cost without altering the fundamental form of the organization. Equally important is the ability to exclude troublesome prospective members who might otherwise force their way into an IGO.

Furthermore, the relatively ‘loose coupling’ that characterizes TGNs also enables members of these networks to opt out in particular instances without endangering the larger cooperative endeavour. Adaptability of organizational form over the life cycle of a network is another key dimension of successful collective action. Networked organizations often demonstrate an ability to incorporate elements of hierarchy and centralization into their networked structure. They can become more or less ‘networked’ as political demands shift or their environments change. Scalability and organizational adaptation over time are associated with more effective collective action by networks in specific environments (Kahler, 2009a).

Thus, from the network-as-actors perspective, a *network* is, “any collection of actors ( $N \geq 2$ ) that pursue repeated, enduring exchange relations with one another and, at the same time, lack a legitimate organizational authority to arbitrate and resolve disputes that may arise during the exchange” (Podolny, 1998, p. 59). In other words, unlike markets, network relations are enduring, and in contrast to hierarchies, recognized authority to settle disputes does not reside with any member of the network. Since my aim here is to analyze two transgovernmental networks with clearly stipulated boundaries, members and goals, I will use the *network-as-actors* approach provided by Kahler, and consequently will adopt Podolny’s definition of networks. Hence, I regard TGNs in the biosecurity domain as networks of consciously coordinated action, which are comprised of at least three members, lack a legitimate authority to resolve and arbitrate coordination problems, and seek to change international outcomes and national policies.

## Transgovernmental networks

TGNs are proliferating fast, but they are not new (Slaughter, 2004b; Raustiala, 2002; Zaring, 1998). Specialized international organizations such as the International Postal Union (1874) and the WHO (1945) have long brought together sub-state officials (Eilstrup-Sangiovanni, 2009). Scholars too have long analyzed this phenomenon. As early as 1974, Keohane and Nye defined transgovernmental relations as sets of direct interactions between sub-units of different governments that are not controlled or closely guided by the policies of the cabinets or chief executives of those governments (CoGs) (1974).

According to Raustiala foreign ministries and CoGs can and do step in when issues become 'hot', or when for political reasons, low-level networking needs to be brought to the fore and 'packed' for political consumption, however much of the cooperative activity is left to the discretion of substantive agencies (2002). For Slaughter this kind of interaction reveals the disaggregation of the state into its separate, functionally distinct organs. She argues that these organs, including courts and even legislatures, are constructing a dense web of relations that constitutes a new transgovernmental order that is quickly becoming the most widespread and effective mode of international governance (1997).

In their seminal work, Keohane and Nye distinguished between two kinds of cooperative transgovernmental behaviour: transgovernmental policy coordination and transgovernmental coalition building. The former refers to activities designed to facilitate smooth implementation or adjustment of policy, whereas the latter occurs when sub-units of a government ally with like-minded agencies from other governments against officials of their own administrative structures (1974).

Intergovernmental cooperation, in contrast, refers to diplomatic relations between unitary states headed by chiefs of government or foreign affairs ministries and concluded in multilateral treaties, which are frequently linked with international organizations. Therefore, the main differences between TGNs and IGOs relate to membership (conception and representation of the state), structure (degree of centralization and level of hierarchy) and degree of formality (legalization, obligation and irreversibility) (Eilstrup-Sangiovanni, 2009).

## Typologies of transgovernmental networks

Depending on the different contexts in which TGNs arise and operate, Slaughter identifies three different types and two subtypes of transnational regulatory networks. The first type relates to networks of national regulators that emerge within the context of an established IGO (e.g. the PUMA of the OECD, see table 1). Second are those networks of national regulators that develop within the framework of an executive agreement (e.g. the G20, G5, etc). Third, the "spontaneous" government networks are those which are integrated by national regulators

who voluntarily come together to deal with common problems (e.g. the Basle Committee [BCBS] or the Eurogroup)<sup>4</sup>.

The first subtype of 'spontaneous' networks are those networks that institutionalize themselves as transgovernmental regulatory organizations. The members of these TGNs are domestic agencies or even sub-national agencies such as provincial regulators. They usually operate with a minimum of physical and legal infrastructure, and most of them lack a foundational treaty. Their agreements are not legally binding, and there are usually no enforcement or implementation mechanisms. Finally, the second subtype of 'spontaneous' TGNs comprises agreements between domestic regulatory agencies of two or more states which may evolve into multilateral arrangements. These agreements contain principles that can be implemented by the regulator themselves without getting previous consent from national legislators.

The three types of TGNs are interconnected in various ways. Sometimes they are hard to disentangle from the more hierarchical IGOs (e.g. the so called Eurogroup is enmeshed with the E.U. Economic and Financial Affairs Council). In other occasions, TGNs compete directly with current or envisioned IGOs. Since I seek to determine when they are the best option to deal with a certain kind of problem, it is important to differentiate the conditions under which they arise. In this study I will compare a biosecurity TGN of the second type, that is, an institutional arrangement agreed by chiefs of government, i.e. the North American Coordinating Body for Avian and Human Pandemic Influenza (NACOBPI), and one of the third type, i.e. a "spontaneous" TGN: the Global Health Security Initiative (GHSI) (Slaughter, 2003).

What then is new about transgovernmental networks? According to Eilstrup Sangiovani, the new aspects seem to be scale, scope and the strength of their ties (2009). TGNs are rapidly increasing in all areas including finance, global environment, and security (see table 1) (Slaughter 2004b; Raustiala 2002; Zaring 1998; Bermann 2000; Kahler 2009b; Hoffman 2010). In the latter case, there has been a rapid increase in expert groups and task forces among the G7/G8, which have focused on nonproliferation, nuclear safety and counterterrorism such as the GHSI<sup>5</sup>.

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4. Kahler does not distinguish between TGNs of the second and the third type, rather he divides networks into two categories: networks that emerge from state membership in IGOs and TGNs in general (2009a).
  5. Other examples include the Lyon/Rome Group on Terrorism and Organized Crime, the Counter-Terrorism Expert Group, the G8 Non-proliferation Experts Group, the Nuclear Safety and Security Group, the G8 Global Partnership against the spread of WMDs and the Global Initiative to Combat Nuclear Terrorism (GICNT).



**Table 1.** Examples of TGNs by policy field

Actors	Biosecurity	Terrorism	Non-proliferation	Finance	Organized Crime	Environment
G8		L/R Group, CTEG	GPWMD, NSSG, HLGNP, NPEG	FATF, BCBS	L/R Group	
E.U.	EUCERD			Euro Group		
NAFTA	NACOBPI					EEN
G7+	GHSI	GHSI				
APEC	HWG					
OECD				PUMA		
Others		GICNT	MTCR, PSI, AG, NSG, CTR/MPC&A	G5 G20, FSF,		G5 INECE

\*For the meaning of the acronyms see the appendix 1

Source: Author

TGNs range from highly institutionalized organizations such as the BCBS or the annual G8 summits of leaders to more informal, undemocratic and even secretive clubs (Eilstrup-Sangiovanni 2009) such as the Eurogroup (Puetter, 2006), the Lyon/Roma Club (Scherrer, 2009) or the GHSI (Kickbusch, Hein & Silberschmidt, 2010). Owing to their flexibility, speed and low sovereignty costs, some scholars anticipate that TGNs will be the preferred channel for international cooperation by performing many global governance functions (legislation, administration, and adjudication) but without necessitating a more formalized structure (Slaughter, 1997, 2004a, 2004b; Raustiala, 2002; Krahnmann 2005; Kahler 2009b; Lipson 2006). The biosecurity realm is by no means an exception (Kirton & Mannell, 2007; Fidler & Gostin, 2008; Hoffman, 2010). In the next section I examine some of the most representative positions concerning the role of TGNs and the WHO in dealing with biosecurity threats. I concentrate on the institutional design and the effectiveness of these organizations.

### Global health governance and TGNs

Authors such as Kirton & Mannell, claim that “the old WHO has proven inadequate in addressing the major health challenges and crises of a rapidly globalizing, post-Cold War, post 9/11 world” (2005, p.1). They posit that the WHO failure is evidenced by the rapid spread of HIV/AIDS, the re-emergence of old diseases, the eruption of bioterrorism, the assault from severe acute respiratory syndrome (SARS) and the threat of an avian influenza pandemic (Kirton & Mannell, 2007). According to Fidler, these factors, amplified by accelerating processes of globalization, prompted the revision of the IHR in 1995. It became evident that new international policy and legal frameworks were required to provide more robust and sustained public health responses

from the local to the global level (Fidler, 2005). In this regard, various scholars argue that the G8 has thus far addressed some of those issues, and by doing so is either contributing to global health governance or emerging as the potential “global health governor” or as the “global health governor of last resort” (Cooper, Kirton & Schrecker, 2007; Price-Smith, 2001; Price-Smith, 2002; Bayne, 2000; Hajnal, 2002).

Nonetheless, most of the scholars who have regarded the G8 as an emerging centre of global health governance have focused on issues related to the effectiveness of their initiatives or on the group’s compliance with its commitments (Hodges, 1999; Hillmer, 2002; Fratianni, 2007; Bayne, 2000; Kirton, 2001; Kirton & Kokotsis, 2005; Kirton & Mannell, 2007). Few however, have dealt with the institutional design or the normative dimensions of the emerging global health security architecture (Aginam, 2007; Schrecker, Labonte & Sanders, 2007; Labonte, 2007; Ollila, 2005; Kickbusch, Hein & Silberschmidt, 2010).

Kickbusch et al. (2010) for example argue that the global health network requires a “superstructural node” which could coordinate all the representatives of the different health-related organizations. They regard the WHO as the only actor who could legitimately occupy that position and propose accordingly strengthening the World Health Assembly by creating a “C Committee”. Despite recognizing the importance of “club models” such as the G8 or eventually the G20, these authors disqualify them as legitimate alternatives for governing global health.

In contrast, scholars such as Hoffman (2010) posit that “the WHO lacks the authority and resources commensurate with its vast responsibilities” (p.514), and that “it is unable to coordinate all global communicable disease control activities” (Hoffman, 2010, p.514). Furthermore, He describes it as a ‘bureaucratic’, ‘complex’ and ‘outdated’. Although some authors acknowledge certain improvements brought by the new IHR, such as an expansion of its scope “regarding the number of diseases and the variety of events subject to regulation” they identify as shortcomings the lack of enforcement and verification mechanisms, the weak implementation measures, and the failure to specify how members are in fact supposed to coordinate their strategies (Hoffman, 2010; Nuzzo & Gronvall, 2011).

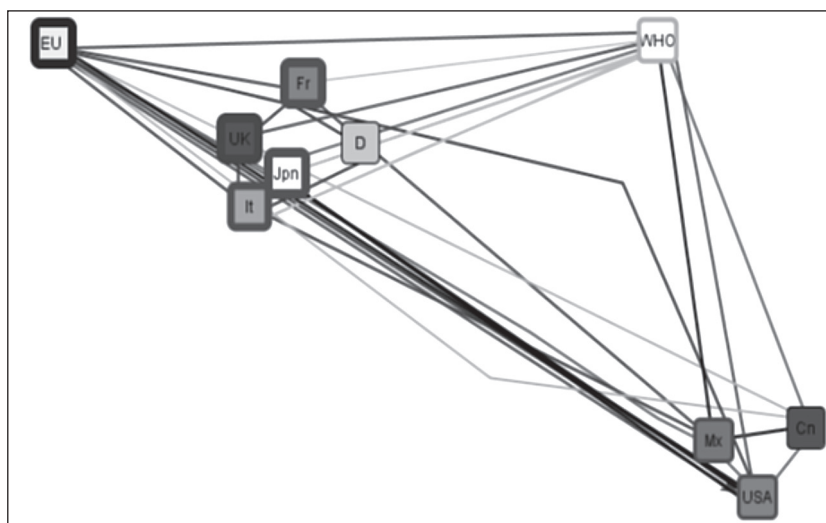
Based on this, Hoffman argues that “the existing global health security architecture is in transition and that the elements may be in place for a new global health security power to emerge” (2010, p. 514). Hoffman and others claim that a group of powerful actors such as the G8, the GHSI or the G20 could provide new solutions for governing global health security, and may have the capacity to assume leadership in this area through ‘networked governance’<sup>6</sup> (Cooper, Kirton & Schrecker, 2007; Fidler & Gostin, 2008; Hoffman, 2010; Chand et al., 2010). Additionally,

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6. Kahler defines networked governance in a three folded way: a) Governance through networks that emerge from state membership in IGOs; b) Governance by TGNs, and c) Governance that includes private actors and NGO networks in particular issue areas (2009a).

he argues that a “concert of powers” could be more effective than the WHO in making the necessarily difficult decisions and coercing others into following them (Hoffman 2010).

**Network 1.** Members of the GHSI and the NACOBPI



Source: Author made with Visone software.

Fidler & Gostin argue that an effective biosecurity policy needs to involve globalized forms of governance. They posit that “security and public health can no longer view the world through the state-centric lenses of national governments and intergovernmental coordination” (2008, p. 3). Moreover, they argue that governance mechanisms need to reflect the different roles non-state actors play in world politics. Otherwise, they warn, it will not be possible to achieve and maintain biosecurity in a sustainable way.

With this in mind, these authors advocate the creation of a “global biosecurity concert” as a mechanism to improve biosecurity and strengthening global governance in the areas of biological weapons and public health. Despite recognizing the limitations of the GHSI in terms of its membership and activities, they regard it as an important element of the “global biosecurity concert” that could be replicated and instrumented in other regions of the world (Fidler & Gostin, 2008). In a similar vein, Avery (2010) suggests that the North American Plan for Avian and Pandemic Influenza (NAPAPI) could serve as a successful model for other regions and for strengthening the global strategy of the WHO.

Although important in its own right, the governance of global health cannot be reduced to questions concerning its effectiveness. It is also critical to deal with other issues, such as the design, the representativeness, legitimacy, transparency, and accountability of the transgovernmental actors pursuing global health security. Otherwise, as Hoffman (2010) himself acknowledged, global health security runs the risk of becoming subjugated to the national security interests of a few

states as witnessed during the 2009 pandemic when Great Britain and Japan pushed the WHO to delay de declaratory of pandemic. Yet, it should be emphasized that this study only deals with the first aspect, whereas in the case of the last four, they constitute avenues for future research<sup>7</sup>.

To summarize, despite the arguments in their favor, the dynamics of government networks remain inadequately understood. This is particularly true for biosecurity TGNs<sup>8</sup>. In other words, theoretical and empirical research on security TGNs has not expanded at the same speed (Eilstrup-Sangiovanni, 2009). Avery for example claims that both in the historical and the contemporary context the subject of “emergency health security coordination” between the NAFTA partners has received scant attention from scholars (Avery, 2010). Thus far, studies have centred predominantly on areas of low politics such as financial regulation, but not on high politics. Hence, we lack a complete understanding of why TGNs develop, how they function across different policy areas and under what circumstances we can expect governments to choose them (Eilstrup-Sangiovanni, 2009).

However, I need to point out that my aim is not explaining why TGNs arise, and how they operate in different policy areas, rather to enhance our general understanding of the functioning of TGNs by conducting research in an area increasingly seen as linked to national security (Fidler, 2005; Fidler & Gostin, 2008; Hoffman, 2010; Avery, 2010; IHR, 2011). Although some may object this categorization of health, I argue *inter alia* that the presence of ministers of interior in certain biosecurity TGNs (e.g. in the NACOBPI, see table 1), and the fact that biological weapons or other biological agents can be used to commit terrorist attacks turn this otherwise low politics’ area into one related to high politics. In the following section I start by explaining the rationalist framework and conclude by briefly offering two rival explanations.

**Table 2.** Membership of the NACOBPI

Canada	United States of America	Mexico
Department of Foreign Affairs and International Trade	U.S. Department of State	Ministry of Foreign Affairs
Public Safety Canada	U.S. Department of Health and Human Services	Ministry of Health
Public Health Agency of Canada	U.S. Department of Homeland Security	
Canadian Food Inspection Agency	U.S. Department of Agriculture	Ministry of Agriculture

Source: Author

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7. For a discussion of normative aspects of TGNs see Slaughter, 2000, 2003; Picciotto, 2000; Van Kersbergen & Van Waarden, 2004; Held, 2004, Lipson 2006.
  8. Other examples of biosecurity TGNs include: the North American Coordinating Body for Avian and Pandemic Influenza (NACOBPI), the APEC Emerging Infectious Disease Network (EINet), and the European Union Network for the epidemiological surveillance and control of communicable diseases in the Community.

## Theoretical review of the literature

I depart from four broad assumptions. First, states act self-interestedly and thus deliberately choose and design international institutions to further their own goals. Second, the value of expected gains from cooperation is strong enough to support an institutional arrangement. Third, establishing and participating in international organizations is costly; and finally, states are risk-averse when creating or modifying international institutions (Koremenos, Lipson & Snidal, 2001). Following the definition by Koremenos et al., I broadly define international institutions as explicit arrangements, negotiated among international actors, which prescribe, proscribe, and/or authorize behavior (2001). I argue that when confronting biosecurity threats, states can choose between a TGN and an IGO.

To know how biosecurity TGNs operate, when they form, and why they include some states and not others, I draw on the insights of functional regime theory (Keohane & Nye, 1974; Keohane 1984), rational design theory (Koremenos, et al., 2001), as well as on the literature on networks (Slaughter, 1997, 2003; Podolny & Page, 1998; Raustiala, 2002; Kahler, 2009, Eilstrup-Sangiovanni 2009) and legalization (Lipson, 1991; Abbot & Snidal, 2000, Abbot et al., 2000). Koremenos et al. (2001) argue that many institutional arrangements are best understood through “rational design” among multiple participants. According to them states use diplomacy and conferences to select institutional features to further their individual and collective goals. They do so by creating new institutions and modifying existing ones. The difficulty of creating or modifying institutions is evidence that institutional design is deliberate (e.g. the evolution of the GATT into the WTO). Most institutions evolve as members learn, new difficulties arise and international structures change. However, even institutional evolution involves deliberate choices made in response to changing circumstances.

Prior outcomes and evolutionary forces provide the conditions for institutional development. As institutions evolve, rational design choices can arise in two ways. First, members may adjust institutions gradually, by making purposeful decisions contingent on the new circumstances, by adopting features from other institutions that work well, or by designing explicit institutions to strengthen informal cooperation. Second, institutional arrangements may change as states and other actors chose among them over time. Furthermore, Koremenos et al. contend that “even institutions that are not highly formalized and arise through informal and evolutionary processes may embody significant rational design principles” (2001, p. 7). According to them, states favor certain institutions because they regard them as more convenient for dealing with new conditions or new problems and downplay or withdraw from those that are not.

In contrast to the view held by scholars such as Raustiala (2002), who claim that TGNs are ‘supplementary’ to international treaties<sup>9</sup>, I adhere to the position that under certain conditions

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9. For similar positions see Lipson 1991; Alvarez, 2001; Eberlein & Newman, 2008. Although Lipson considers that states can choose between formal and informal agreements, he implies that “they may also complement each other as elements of more inclusive bargains” (1991, p.325).

international actors purposely choose TGNs or “soft forms of legalization”<sup>10</sup> because they regard them as superior institutional arrangements (Abbott & Snidal, 2000; Eilstrup-Sangiovanni, Forthcoming). Although TGNs and IGOs sometimes complement each other, either because they operate within the same issue-area and/or work together to enhance international cooperation, Eilstrup-Sangiovanni suggests conceptualizing these arrangements as ‘functional substitutes’ as a way of determining when a certain arrangement is likely to prevail (Forthcoming).

Authors such as Eilstrup-Sangiovanni (2009), Slaughter (2004b), and Pollack (2005) argue that in the security domain, CoGs can elect to form or prevent the formation of TGNs and set parameters for their activities. Although I mostly adhere to this view, I also argue that in the biosecurity domain, TGNs may be occasionally selected by sub state officials (e.g. Ministers of Health). Slaughter herself recognizes that depending on the issue-area sub state officials frequently play a role before the creation of the institution (2003). In other words, in some cases, I would not expect to observe an act of delegation. Thus, keeping with Slaughter’s typology of TGNs, I consider the NACOBPI as a TGN within the framework of an executive agreement, i.e. of the second type, but would categorize the GHSI as a ‘spontaneous’ TGN of the first subtype.

I argue that one of the reasons why sub state officials may select a TGN is to build coalitions with like-minded peers from other governments against elements of their own administrative structures (Keohane & Nye, 1974; Slaughter, 2003). In this respect, Avery for example points out that Canadian officials were aware that three U.S. departments, i.e. Agriculture, Health and State, were supportive of the North American Plan for Avian and Pandemic Influenza (NAPAPI) - the cornerstone of the NACOBPI -, whereas the Department of Homeland Security was against it. According to Marc Ostfield<sup>11</sup>, this opposition was counteracted by the determination of the White House “to knock heads together to obtain a coherent policy” (Avery, 2010, p.23). This raises the question: If states have a wide range of choices and they prefer different cooperative outcomes (Koremenos et al., 2001), which cooperative outcome should they choose when dealing with biosecurity threats?

To answer this question, Sangiovanni (2009) suggests combining the insights of functional regime theory with a specific theory of networks. By doing so, we can account for the specificities and the advantages of TGNs that have been largely overlooked by international regime theorists, who have long focused on cooperation among unitary States. The main assumption of functional

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10. Abbot & Snidal posit “the realm of ‘soft law’ begins once legal arrangements are weakened along one or more dimensions of obligation, precision and delegation. This ‘softening’ can occur in varying degrees along each dimension and in different combinations across dimensions”. Hence, the term ‘soft law’ encompasses this wide range of deviations, while distinguishing itself from ‘hard law’, and from entirely political agreements in which legalization is generally absent (2000). On the other hand, they define ‘hard law’ as: “legally binding obligations that are precise, and that delegate authority for interpreting and implementing the law” (2000).

11. Senior Advisor “Bioterrorism, Biodefense and Health Security”, of the US Department of State.

regime theory is that institutions exist to perform specific functions; thus it is essential to show the function an institution serves in order to explain its creation (Keohane, 1984).

According to Abbot and Snidal, the specific forms of soft law chosen by states –in their varying combinations of obligation, precision and delegation– reflect the particular problems they are trying to solve (2000). Hence, by uncovering the function of three international institutions in the biosecurity domain (the GHSI, the NACOBPI and the WHO), we can explain how these organizations work; why one institutional form was chosen over the other, and consequently, we can determine the conditions under which it is better to opt for a particular institutional arrangement.

To apply this kind of functional argument, Keohane advises establishing good reasons for assuming a causal relationship between the functions that an institution performs and its existence. Otherwise, he warns, we run the risk of wrongly extrapolating that institutions arose “because of the functions they must have served, when they in fact appeared for purely adventitious reasons”. To avoid this fallacy, Keohane recommends showing that “the actors being investigated are rational, and that the institutions and the social practices to be explained were designed to fulfil anticipated functions”. In this manner, he claims, “effects can explain causes” (1984, p.81). Eilstrup-Sangiovanni, who follows this logic, posits that investigating the proliferation of TGNs in an issue-area such as security - where formal hierarchical cooperation is to be expected - can contribute to clarify important issues regarding government networking (2009).

To sum up, drawing on rational design theories and on the literature on networks (Podolny, 1998; Kahler, 2009b), and legalization (Abbott et al. 2000), I conceptualize TGNs as highly flexible institutional arrangements of consciously coordinated action with a limited scope, a restricted membership of at least three members, a consensus-based mode, a low degree of centralization, obligation, precision and delegation<sup>12</sup>, and whose main objective is to change international outcomes and national policies<sup>13</sup>. As a consequence of this, I would expect governments to select between these kind of institutional arrangements and IGOs, which in varying degrees represent the opposite features.

### **Rival explanations: norms, identities, and generalized trust**

What are the alternatives to the theoretical framework that states rationally select institutions? According to Alexander Wendt, one alternative is that states choose institutional designs based on the “logic of appropriateness”. In other words, instead of considering costs and benefits,

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12. Abbot, Keohane, Moravcsik, Slaughter & Snidal categorized the G7 as form of international legalization of kind VIII, meaning the lowest possible degrees of “obligation, precision and delegation” (2000, p.406).

13. Both the GHSI and the NACOBPI are considered TGNs because they meet the three main characteristics that differentiate them from IGOs, i.e. membership, structure and degree of legalization (Eilstrup-Sangiovanni, 2009).

states base their decision on normative considerations. They do what is regarded as normatively appropriate. As actors become socialized to norms, they incorporate them to their identity, and that identity in turn creates a collective interest in norms as ends *per se*. As a consequence, actors follow norms not because it is in their self-interest, but because it is the right thing to do in society (Wendt, 2001).

Wendt argues that:

there are at least three ways in which normative logics might be rivals to rational explanations of institutional design. One is by supplying desiderata for institutions that make little sense on consequentialist grounds, such as a norm of universal membership or a norm of democratic control. [Another one is] by taking design options that might be instrumentally attractive off the table as 'normative prohibitions. (Wendt, 2001, p. 265)

Finally, logics of appropriateness can impact the modalities used to design institutions, which as an outcome may be historically specific. In this respect, he claims that the attainment of a certain level of collective identity might be a prerequisite for the rational design of institutions (2001).

Another rival explanation is offered by Brian Rathbun. In contrast to Koremenos et al., Rathbun (2011), argues that it is trust and not distrust what leads states to cooperate and to construct international organizations. He suggests that generalized trust is reflected in the design of institutions. Furthermore, Rathbun contends that "strategic trust has great difficulty in explaining significant forms of international cooperation such as 'qualitative multilateralism, in which states make binding commitments to take certain types of actions before they know the particulars of any given case'" (2011, p. 268). Additionally, he argues that generalized trust serves as a form of 'anarchical social capital' which contributes to create a basic system of rules and order in international relations.

Rathbun claims that the rationalist accounts of international cooperation and institutional design have great limitations. Particularly when it comes to explaining diffuse reciprocity in which exchange occurs over a longer period of time. He contends that security organizations should be more effective when they ask their members to make legally binding commitments that limit their future discretion in specific cases. Thus, whereas strategic trust follows from specific reciprocity, diffuse reciprocity over time follows from generalized trust. Furthermore, he argues that rationalism cannot explain why decision makers in the same position with the same information would make different choices in situations of security cooperation.

Rathbun argues that "generalized trusters" will be more willing to make commitments to binding security guarantees and authoritative conflict resolution procedures than "non-trusters". Finally, "non-trusters" will prefer unilateralism or limited cooperation with a smaller number of other states who have a demonstrated record of trustworthiness, shared identity, and/or closely overlapping interests. Consequently, he hypothesizes that "generalized trusters" will favour less flexible agreements than "non-trusters" (2011).



## CONCLUSION

As shown above we still lack convincing answers of why states sometimes select Intergovernmental organizations as opposed to Transgovernmental networks for their international agreements. Disagreement persists among scholars over two issues. First, we do not know under what conditions it is better to opt for a TGN to deal with biosecurity threats. Second, when (re) designing an institutional arrangement in the biosecurity domain what should we look at? What are the institutional features that we should include?

Concerning the different theoretical approaches reviewed in this paper, if as stated by Rathbun security organizations should be more effective when they ask their members to make legally binding commitments that limit their future discretion in specific cases, how can we explain the relative success of biosecurity TGNs such as the G7, the GHSI or the NACOBPI where evidence suggests that it was precisely informality and lack of binding commitments what lead to effective international cooperation?

Indeed, the 2009 influenza pandemic revealed not only some of the institutional limitations of the WHO but also some strong points of transgovernmental networks and interinstitutional cooperation. It seems that the combined work of different institutional arrangements including TGNs (e.g. the NACOBPI and the GHSI) and IGOs (the PAHO and the WHO) contributed to detect and assess more effectively the risk posed by the new virus.

What are the lessons we can draw from this experience? Echoing the work of Fidler and Gostin, should we design a “global biosecurity concert” based on regional TGNs as a mechanism to improve biosecurity? Or should we simply replicate the North American Plan for Avian and Pandemic Influenza as Avery suggests? In this respect, can a TGN among many Asian or African countries with different values, capabilities and interests be as effective as one in North America? What would be the most effective institutional design to accommodate this kind of countries? Further empirical research is needed to test the main theoretical assumptions behind the constructivist and rationalist approaches related to security cooperation.

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## APPENDIX 1. LIST OF ACRONYMS

### Transgovernmental Networks (TGNs) organized according to policy fields

#### ***Biosecurity***

EUCERD: European Union Committee of Experts on rare diseases  
NACOBPI: North America Coordinating Body for Avian and Human Pandemic Influenza  
GHSAG: Global Health Security Action Group  
GHSI: Global Health Security Initiative  
HWG: Health Working Group

#### ***Terrorism***

L/R Group: Lyon/Roma Group  
CTEG: Counter Terrorism Expert Group  
GHSI: Global Health Security Initiative  
GICNT: Global Initiative to Combat Nuclear Terrorism

#### ***Non-proliferation***

GPWMD: Global Partnership against the spread of Weapons of Mass Destruction  
NSSG: Nuclear Safety and Security Group  
HLGNP: High Level Group on Non-proliferation  
NPEG: Non-proliferation Experts Group  
MTCR: Missile Technology Control Regime  
PSI: Proliferation Security Initiative  
AG: Australia Group  
NSG: Nuclear Suppliers Group  
CTR/MPC&A: Cooperative Threat Reduction program and Materials Protection Control and Accounting program

#### ***Finance***

FATF: Financial Action Task Force  
BCBS: Basle Committee on Bank Supervision  
EG: Euro Group  
PUMA: Public Management Service of the OECD  
G8: Group of Eight  
G5: Group of Five  
G20: Group of twenty  
FSF: Financial Stability Forum

## ***Organized Crime***

L/R Group: Lyon/Roma Group

## ***Environment***

EEN: Environmental Enforcement Network

INECE: International Network for Environmental Compliance and Enforcement

G5: Group of Five

G8: Group of Eight

## ***Other acronyms***

A (H1N1): Influenza A virus subtype H1N1 (New flu)

A (H5N1): Influenza A virus subtype H5N1 (Bird flu)

APEC: Asia Pacific Economic Cooperation

CoG: Chief of Government

ECOFIN: Economic and Financial Affairs Council of the European Union

E. Coli O104:H4: Escherichia Coli O104:H4

EVD: Ebola virus disease

GATT: General Agreement on Tariffs and Trade

IGO: Intergovernmental Organization

IHR: International Health Regulations

MERS CoV: Middle East Respiratory Syndrome Corona Virus

NAFTA: North American Free Trade Agreement

NAPAPI: North American Plan for Avian and Pandemic Influenza

OAS: Organization of American States

OECD: Organization for Economic Co-operation and Development

PAHO: Pan American Health Organization

PHEIC: Public Health Emergency of International Concern

SARS: Severe Acute Respiratory Syndrome

UN: United Nations

WHA: World Health Assembly

WHO: World Health Organization

WTO: World Trade Organization