



1. Science diplomacy as a means to tackle infectious diseases: The case of Zika

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List of Acronyms

AV	Czech Academy of Sciences
BMBF	Ministry of Education and Research
CEPI	Coalition for Epidemic Preparedness Innovations
Coll.	Official Journal of Laws and Regulations of the Czech Republic
CR	Czech Republic
DG	
SANCO	Directorate General for Health and Food Safety
DZIF	German Center for Infection Research
ECDC	European Centre for Disease Prevention and Control
EDCTP	European and Developing Countries Clinical Trials Partnership
ESPHC Council	Employment, Social Policy, Health and Consumer Affairs Council
EU/EEA	European Union / European Economic Area
FAPESP	Sao Paulo Research Foundation
G7/G20	Group of Seven (Canada, France, Germany, Italy, Japan, the United Kingdom and the United States), Group of Twenty (Argentina, Australia, Brazil, Canada, China, Germany, France, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom, the United States and the European Union)
GAČR	Grant Agency of the Czech Republic
GCRF	Global Challenges Research Fund
GCSA	Government Chief Scientific Advisor (in the UK)
GHPP	Global Health Protection Programme
GHSI	Global Health Security Initiative
GloPID-R	Global Research Collaboration for Infectious Disease Preparedness
HIV/AIDS	Human immunodeficiency virus infection and acquired immune deficiency syndrome
MERS	Middle East Respiratory Syndrome
MRC	Medical Research Council
ODA	Official Development Assistance
PDP	Product development partnership
PHE	Public health emergencies
PT-DLR	Project Management Agency of the German Aerospace Center
RKI	Robert-Koch-Institute
SAGE	Scientific Advisory Group for Emergencies (in the UK); Pre-SAGE = precautionary SAGE
SARS	Severe acute respiratory syndrome
TAČR	Technology Grant Agency of the Czech Republic

TFEU	Treaty on Functioning of the European Union
UK	United Kingdom
UKRI	UK Research and Innovation
UNICEF	United Nations Children's Fund
WHO	World Health Organisation
ZIG	Centre for International Health Protection

1. Infectious diseases are back on the global stage?

Regardless of scientific advancements, infectious diseases are still listed among the top causes of death compiled by the World Health Organisation (WHO), and an even more prominent position is occupied by infectious diseases in statistics applicable to low-income countries.¹

The fight against infectious diseases has frequently outreached national borders and provided a platform for deepening of international cooperation as well as for the formation of global governance in the field of medicine. In particular, the successful campaign for eradication of small-pox (variola) in the years 1959-1977, coordinated by the WHO, has been considered as a clear demonstration of technocratic optimism regarding the ability of the international community to cope (despite the Cold War political environment) with global challenges.²

The inherent evolutionary character of infectious diseases and changing political and societal environment have created new challenges in the fight against epidemic diseases. The most prominent examples include: outbreaks of new epidemics (SARS, Ebola, avian flu, swine flu, Zika), the continuation of older "low-level" epidemic diseases (malaria, AIDS), the return of almost eradicated infectious diseases to developed states (measles, tuberculosis) as well as the public health consequences of new migration patterns, erosion of governance structures in many low income countries, increase in antibiotic resistance and last but not least shift in the vaccination paradigm in developed countries.

The reaction of the EU and its Member States to the afore-mentioned challenges provides for a significant space for an interplay between diplomacy, research coordination and management of public health affairs, both in the forms of science in diplomacy and diplomacy in science, as framed in the S4D4C project. The focus of this case study is the 2015-2016 Zika epidemic due to its timing (Zika is the most recent outbreak of a global epidemic), location (Brazil as a relatively developed state) and the attention it attracted due to its proximity to the 2016 Olympic Games. However, any analysis of the Zika epidemic cannot be isolated from other recent outbreaks of epidemics since, as another Zika-focused article stated:

*"According to Tolstoy, happy families were all alike, whereas unhappy families were each unhappy in their individual ways. So it is with the emergence of new virus infections. Each new virus epidemic brings misery to affected human populations in unique ways."*³

Therefore, this study will also tackle transfer of knowledge and best (or worst) practices among individual outbreaks of epidemics in the last decades, continuity and discontinuity of the institutional patterns of the EU and national responses to epidemic crises and even the emergence of a competition between the political and scientific attention attracted by different infectious diseases. Regarding actorship, the study focuses primarily on the EU, the United Kingdom, Germany and the Czech Republic, with necessary inclusion of other actors.

¹ Three infectious diseases (lower respiratory diseases, infectious diarrheal diseases and tuberculosis) were ranked in the top ten causes of death worldwide in 2016 by the World Health Organization. In the low-income countries, infectious diseases (lower respiratory diseases, infectious diarrheal diseases, tuberculosis, HIV/AIDS and malaria) occupied half of the top ten list.

² Less known is the successful eradication of rinderpest (cattle plague) by a campaign coordinated by FAO and the World Organisation for Animal Health within the Global Rinderpest Eradication Programme in the years 1994-2010.

³ Zambon, M. (2016): Zika virus, the new kid on the block. Euro Surveill. 2016;21(23):pii=30255. <https://doi.org/10.2807/1560-7917.ES.2016.21.23.30255>

Disease	Year	Location	Distribution channels
SARS (Severe acute respiratory syndrome)	2003	China, Canada (then spread to over 30 countries)	Aerial
Swine flu (H1N1 influenza virus)	2009	(Mexico, USA)	Aerial
Ebola	2013-2016 (but a total of 24 outbreaks during 1976-2013)	Western Africa (primarily Liberia, Sierra Leone, Guinea)	Direct contact (with body fluids)
MERS (Middle East Respiratory Syndrome)	2014	Arabic peninsula	Aerial/direct contact
Zika	2015-2016	Brazil	Mosquito bite

Table 1: Most recent epidemics

2. Institutional and legal patterns

A relatively robust institutional framework for global governance of public health issues has already been established through the World Health Organisation and Global Health Security Initiative. The WHO membership more or less corresponds to the membership of the United Nations and the organisations' areas of interest, and its agenda covers a variety of health issues, albeit infectious diseases occupy a prominent role there. In contrast, the Global Health Security Initiative (GHSI) is a much less formalised joint project of G7 states, Mexico and the EU, with the WHO acting as a scientific and technical advisor. The global struggle with pandemic influenza (together with the fights against biological, chemical, and radio-nuclear terrorism) are major priorities of the GHSI.

Even a brief overview of global institutional design for infectious diseases would not be complete without mentioning the Global Research Collaboration for Infectious Disease Preparedness (GloPID-R) which coordinates the activities of key funding and research-performing bodies from all continents, including the European Commission's DG for Research and Innovation and research institutes from the UK, France, Germany, Italy, Spain, the Netherlands (WHO and the Coalition for Epidemic Preparedness Innovations/CEPI have observer status). Concerning the Zika epidemic, it is also important that three research institutes based in Brazil (Instituto Fiocruz, Sao Paulo Research Foundation/FAPESP and Instituto Butantan) are members of the GloPID-R network.

The actorness of the EU in global governance in the public health sphere corresponds to the general institutional and legal features of European integration. A reaction to a significant epidemic threat can be discussed within the European Council (details below), while the Council of the EU (sometimes in cooperation with the European Parliament) is entitled to adopt respective legislative acts or individualised decisions. The European Commission acts with its formal monopoly for drafting legally binding EU legal acts and has the largest administrative apparatus among all EU institutions. Central responsibility for public health issues is vested in the Directorate General for Health and Food Safety (DG

SANCO) within the European Commission (in particular its directorates B and C responsible for the agendas of “health systems, medical products and innovation” and of “public health, country knowledge, crisis management” respectively), but there are significant policy overlaps with other departments within the Commission.

The health policy of the EU also follows two other broader trends of European policy-making delegation of activity to specialised EU agencies and creation of flexible advisory platforms. After the outbreak of SARS in 2003, the Council established the European Centre for Disease Prevention and Control (ECDC)⁴ charged with the task of collecting, analysing and monitoring data concerning over 50 infectious/communicable diseases. Further, the Council of ministers of health is advised by the European Union Health Security Committee which is a relatively informal body composed of representatives of national executives, usually nominated by national health ministries or other key national public health authorities.

Analogously to other policy areas, the EU’s activity in health policy, including the European Union’s science diplomacy in this field, is bound by the principle of conferred powers. The Treaty on Functioning of the European Union (TFEU) enumerates “*common safety concerns in public health matters, for the aspects defined in this Treaty*” among the shared competencies of the EU where the Member States have transferred some of their competencies to the EU level. Harmonisation of national legislation by the EU law is, in principle, possible but Member States are still permitted to “*exercise their competence to the extent that the Union has not exercised its competence*” (Article 2 TFEU). The other aspects of EU health policy (i.e. those outside common safety concerns) are enumerated in the Lisbon Treaty within the residual category of the EU’s competencies where the EU is authorised to “*carry out actions to support, coordinate or supplement the actions of the Member States*” but without “hard” harmonisation of national legislation. Details of EU public health policy are specified by Article 168 TFEU whose section three provides a basis for the global reach of EU policies, declaring that “*the Union and the Member States shall foster cooperation with third countries and the competent international organisations in the sphere of public health.*”

However, the competence question of the EU is complicated by two additional factors. Firstly, the science diplomacy element can be formally performed under the umbrella of other EU policies, such as European policy for research, development policy or even the European Common Foreign and Security Policy. The respective policy framework modifies not only the material core of the science diplomatic activity but also the applicable procedural and institutional rules, including the rules determining the external dimension of the activity. Secondly, even a scenario can emerge when the EU and its institutions provide only a negotiation and socialisation platform for Member States which ultimately act formally outside the EU framework, thus avoiding the constraints of the EU institutional and legal design.

In Germany, the institutional responsibility for global health policy lies with the Ministry of Health, which also represents Germany at the WHO. However, the research and development activities on neglected tropical diseases and poverty-related diseases are quite fragmented. They are distributed across the Ministry of Education and Research (BMBF), the Ministry for Economic Cooperation and Development, and the Ministry of Health (and its specialised institutes such as the Robert Koch Institute). In 2015, global health-related research activities were still managed in the Federal Ministry of Education and Research’s “Health Research” division. With more and more globally relevant infectious diseases and related international coordination and/or negotiations happening, a new division within the ministry named “Global Health” was established after the last

⁴ European Parliament and the Council of the European Union (2004): Regulation (EC) No 851/2004 of the European Parliament and of the Council of 21 April 2004 establishing a European Centre for Disease Prevention and Control.

federal election (2018). BMBF is also responsible for German representation in GLOPID-R (Global Research Collaboration for Infectious Disease Preparedness).⁵ Traditionally, the general coordination of German foreign policy, including the network of German embassies around the world, is vested in the Federal Ministry of Foreign Affairs.

The key legislative framework in Germany is provided by the Infection Protection Act adopted in 2000 and most recently amended in 2017.⁶ In July 2013, the German government issued a national strategy paper for global health policy⁷ after a 2-year consultation process. The Strategy was formally adopted under the auspices of the whole German government but was mainly written and coordinated by the Federal Ministry of Health. Chapter 4 of the Strategy focuses on health research and particularly highlights a few European and German initiatives related to infectious diseases, like the European and Developing Countries Clinical Trials Partnership (EDCTP), product development partnerships (PDPs) and research networks for health innovation in sub-Saharan Africa. It also states that it promotes research on poverty-related and neglected diseases to a substantial extent through institutionally supported German research facilities.⁸

To address coordination and policy coherence, in 2014, the Ministry of Education and Research presented a list of measures for how to improve cooperation with African countries in health research and education (the Africa-Strategy), in particular with universities, universities of applied sciences and non-university research institutes as well as in the field of professional and advanced vocational training.⁹ Germany's "Strategy for the Internationalization of Education, Science and Research"¹⁰, which was published by the Federal Ministry of Education and Research in 2016¹¹, does not put global health as such into focus, but subsumes it under the concept of tackling global challenges through the internationalization of education, research and innovation. In this respect, it contains three traits of cooperation in this context: bilateral cooperation, EU-driven cooperation and multilateral (mostly G7/G20) oriented support and cooperation.

⁵ Representation by a ministry in the GLOPID-R is a relative exception to more frequent representation by key national institutions performing research. However, originally the GLOPID-R was designed as a consortium where research funding organisations were supposed to be represented (as it still is in the case of Germany) but most countries opted for sending organisations performing research.

⁶ Bundesgesetzblatt (2017): Gesetz zur Modernisierung der epidemiologischen Überwachung übertragbarer Krankheiten. Retrieved from: https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBl#__bgbl__%2F%2F%5B%40attr_id%3D%27bgbl117s2615.pdf%27%5D__1555578170900

⁷ Federal Ministry of Health (2013): Shaping Global Health Taking Joint Action Embracing Responsibility.

⁸ Federal Ministry of Health (2013): Shaping Global Health Taking Joint Action Embracing Responsibility. pp. 33-34.

⁹ Federal Ministry of Education and Research (2014): The Africa Strategy 2014–2018: Africa as a partner in education and research. Retrieved from: https://www.bmbf.de/pub/Afrika_Strategie_eng.pdf

¹⁰ Federal Ministry of Education and Research (2016): Strategy for the Internationalization of Education, Science and Research.

¹¹ Germany approved its first internationalization strategy in 2008. With the emergence of new global trends and challenges it was updated in 2016.

Actor	Type	Relation to diplomacy	Responsibilities
Federal Ministry of Health	Ministry	Actor (health diplomacy)	National health system; global health policy; represents Germany at WHO; research and development activities on neglected tropical diseases and poverty-related diseases
Federal Ministry of Education and Research	Ministry	Actor (science diplomacy)	Research and development activities on neglected tropical diseases and poverty-related diseases
Federal Ministry of Foreign Affairs	Ministry	Actor (all aspects of diplomacy)	Humanitarian assistance; was the coordinating body for all the activities of the German government in its response to the Ebola crisis
Federal Ministry for Economic Cooperation and Development	Ministry	Actor (health diplomacy)	Cooperation with the World Bank, the Global Fund to Fight AIDS, Tuberculosis and Malaria, UNICEF, and the United Nations Population Fund; research and development activities on neglected tropical diseases and poverty-related diseases
PT-DLR	Research funding organization and consulting body to the Federal Ministry of Education and Research	Supporting and advising actor	Research funding (programmes of the Federal Ministry of Education and Research, e.g. neglected tropical diseases and poverty-related diseases)
Robert-Koch-Institute (RKI) // Centre for International Health Protection (ZIG)	National research organisation	Supporting and advising actor	Government's central scientific institution in biomedicine research and one of the most important bodies for the safeguarding of public health in Germany
Paul Ehrlich Institute	National research organisation	Supporting and advising actor	Federal Institute for Vaccines and Biomedicines. It is the senior federal authority for medicinal products, providing services in public health
German Center for Infection Research (DZIF)	Public research organisation	Supporting and advising actor	Research on malaria, tuberculosis, AIDS, and emerging infections. It was

			established in 2012 to align translational infection research with the development of new diagnostic, preventive, and therapeutic methods
Deutsche Akademie der Naturforscher Leopoldina	German National Academy of Sciences	Advising body to German Government and G7/G20	Represents the German scientific community in international committees and assumes a nonpartisan scientific position on social and political issues. Interdisciplinary groups of experts are formed by the Leopoldina and other German, European and international academies to develop and publish official statements on issues of current interest.

Table 2: List of selected German government (and government-related) actors for global health¹²

In the Czech Republic, the institutional framework for science diplomacy and public health is formed primarily by the Ministry of Health (Ministerstvo zdravotnictví) and the Ministry of Foreign Affairs (Ministerstvo zahraničních věcí). The Ministry of Health is the key coordinating body for, among others, protection of public health, scientific research in the medical field and the medical information system.¹³ The Ministry of Health is also the institution with responsibility for international cooperation in the field of public health, including the WHO.¹⁴ Further, the Ministry of Health directly supervises a network of regional public health stations (krajské hygienické stanice) and the National Institute of Public Health (Státní zdravotnický ústav) whose objective is *"creation of the basis for national public health policy, health promotion and protection, providing methodical reference activities and monitoring related to public health, researching the environmental impact on human health, international collaboration, post-graduate education in the medical field and health-related education of the general public."*¹⁵ The chief public health officer of the Czech Republic (hlavní hygienik České republiky) also holds the rank of deputy minister of health. Within the Ministry of Health, the administrative responsibility for global public health issues is divided primarily between the unit for international affairs and the EU (with sub-units for bilateral cooperation and international organisations and for the EU) with responsibility for procedural aspects of European and international cooperation, and the unit for epidemiology (institutionally located within the section for public health protection), with responsibility for a substantial epidemiology agenda. Regarding the ECDC, the Ministry of Health is represented in the ECDC Management Board by the deputy minister of health (with alternate membership by the head of the epidemiology unit) and by experts from the National Institute of Public Health. The interconnection with the European dimension of public health policy is further strengthened by the fact that the incumbent (2019) deputy minister responsible for public health (and Czech representative in the ECDC), Eva Gottwaldová, previously acted as the attaché/counsellor for health issues

¹² Source: DLR Project Management Agency

¹³ Act. No. 2/1969 Coll. on establishment of ministries and other central institutions of the civil service (as amended), section 10 par. 1.

¹⁴ Act. No. 258/2000 Coll. on protection of public health, sec. 80.1.d.

¹⁵ Act. No. 258/2000 Coll., sec. 86.

at the Delegation of the Czech Republic to the EU (however, this is more a coincidence, not a usual career path).

The Ministry of Foreign Affairs is responsible for general coordination of Czech foreign policy, including direct management of the network of Czech embassies. The Ministry is also responsible for promotion of Czech personnel in international organisations, for general coordination of science diplomacy of the Czech Republic and for the respective science attachés allocated at the embassies in Washington and Tel Aviv. Global health policy, however, is not included within the key priorities of Czech science diplomacy. Neither are the two incumbent science attachés located in states with recent outbreaks of significant epidemics.¹⁶ Within the Ministry of Foreign Affairs, the responsibility for health aspects of science diplomacy are distributed among the policy analysis unit (with the formal task of elaborating science policy in general), regional units (such as the unit for sub-Saharan Africa concerning Ebola and the unit for Latin America concerning Zika or swine flu) and the unit for multilateral cooperation.

No Czech ministry is vested with general coordination of research. Instead, the Council for Research, Development and Innovations (Rada pro výzkum, vývoj a inovace) has been established as strategic advisor for the government. The Council operates under the auspices of the Office of the Government but without a particularly robust administrative apparatus. The Council is composed primarily of independent experts but chaired by a member of the cabinet (by the prime minister in 2019). The Council's recommendations concern the distribution of public finances to research in general policy areas and establishment of governmental research priorities, while allocation of grants to individual projects is relatively decentralised, with the dominant position of the Grant Agency of the Czech Republic and the Technology Grant Agency of the Czech Republic.

Regarding the legislative framework, the most important Czech legislation regulating science diplomacy linked with infectious diseases is act No. 258/2000 Coll. on protection of public health (regulates measures in case of an epidemic outbreak) and act no. 130/2002 Coll. on support of research, experimental development and innovations (the key document for the advanced research framework). Concerning epidemic outbreaks, the key operational framework is contained in the National Action Plan of the Czech Republic (2011), the Pandemic Plan of the Czech Republic (2011), and their elaboration in specific instructions (směrnice) for treatment of highly infectious diseases adopted by the Ministry of Health. The Pandemic Plan and instructions regulate both the distribution of competencies between Czech institutions and inter-institutional coordination as well as the outline of major operational measures, such as entrance control, vaccination plans, modernisation of laboratories and the communication strategy.

¹⁶ At present, Czech science attachés operate only in Washington and Tel Aviv.

Actor	Type	Relation to diplomacy	Responsibilities
Ministry of Health	Ministry	Actor (health diplomacy)	National health system; global health policy; research; communication with the WHO.
Ministry of Foreign Affairs	Ministry	Actor (all aspects of diplomacy)	Coordination of bilateral and diplomatic relations. Representation to the Foreign Affairs Council. Direct management of embassies, including science attachés.
Office of the Government (Úřad vlády)	De facto ministry	Actor (European diplomacy, science diplomacy)	General coordination of Czech-EU relations. Representation to the European Council and General Affairs Council. Key platform for debate of security issues (Bezpečnostní rada státu). The Office of the Government also hosts the Council for Research, Development and Innovation.
Council for Research, Development and Innovation (Rada pro výzkum, vývoj a inovace)	Expert platform presided over by a minister	Supporting and advisory body	Recommendation on general research priorities and general principles. Distribution of public funds to research. Platform for general debate on science diplomacy.
National Institute of Public Health (Státní zdravotnický ústav)	Regulatory agency under the auspices of the Ministry of Health	Supporting and advisory actor	Methodical reference activities and monitoring related to public health; researching the environmental impact on human health; post-graduate education in the medical field and health-related education of the general public. Operational cooperation with the WHO, including data collection concerning Zika.
Czech Health Research Council (Agentura pro zdravotnický výzkum)	Research funding organization under the auspices of the Ministry of Health	Supporting and advisory actor	Support for applied research in the medical field.
Czech Academy of Sciences (Akademie věd ČR)	Research platform	Supporting and advising actor	Umbrella (but not exclusive) organisation for research, including research institutes focused on public health, such as the Centre for Biology (Biologické centrum AV) and

			the Institute of Parasitology (Ústav parazitologie AV). Provides a platform for a nonpartisan scientific position on social and political issues.
Grant Agency of the Czech Republic (GAČR), Technology Grant Agency of the Czech Republic (TAČR)	Grant agencies	Funding	Allocation of grants to individual research projects. In particular, the TAČR funding is closely linked with the policy priorities of individual ministries

Table 3: List of selected Czech government (and government-related) actors for global health¹⁷

Regarding the United Kingdom, in addition to the UK governmental institutional triangle primarily responsible for public health and science diplomacy consisting of the Department of Health, Department for International Development and the Cabinet Office, the Government Chief Scientific Advisor (GCSA) is worth mentioning. The GCSA's role is to provide scientific advice to the prime minister and members of cabinet, to advise the government on aspects of policies on science and technology and to ensure and improve the quality and use of scientific evidence and advice in government. GCSA also coordinates exchange of information between specialised chief scientific advisors (located within individual governmental departments) and within the Science and Innovation Network (SIN) of science attachés. The Scientific Advisory Group for Emergencies (SAGE) then provides, as far as possible, scientific and technical advice to support government decision makers during emergencies.¹⁸

SAGE provides a platform for communication and consultation between the scientific and political (including diplomatic) community, thus enabling translation of the scientific advice into practical reaction to an epidemic or emergency. Hence, this mechanism has the potential to strengthen and calibrate the “science” element in diplomacy. SAGE also provides a platform for communication between scientists from different fields, thus having the potential to strengthen the multidisciplinary character of the UK response to global epidemics.

¹⁷ Source: Compiled by authors

¹⁸ At the local level, SAGE is supplemented by Scientific and Technical Advisory Cells (STACs) which provide advice to local Strategic Coordinating Groups (SCGs), and Recovery Coordinating Groups (RCGs) which respond to the local consequences and manage local recovery efforts.

Actor	Type	Relation to diplomacy	Responsibilities
Department of Health (including the UK Vaccine Network)	Government department	Actor (health diplomacy)	National health system; global health policy; represents the UK at WHO; research and development activities on neglected tropical diseases and poverty-related diseases. Support of the initial development of vaccines to tackle epidemics.
Department for International Development (including the Global Health Oversight Group)	Government department	Actor (science diplomacy)	Research and development activities on neglected tropical diseases and poverty-related diseases
Cabinet Office	Ministry	Actor (all aspects of diplomacy)	The Cabinet Office plays a coordinating role during new outbreaks and health crises. The Cabinet Office coordinated the government response to the Ebola crisis and the subsequent lesson-learning process. The Cabinet Office's Civil Contingencies Secretariat is responsible for emergency planning, which supports the government's emergency response committee. In 2017, the secretariat established the International Health Risks Network, with cross-departmental representation, to help determine the UK's response to new international disease outbreaks.
Public Health England	Organisation	Actor (health diplomacy)	Central to the UK aid effort because of its internationally recognised public health expertise.
Philanthropic Trusts Wellcome Trust/ Bill and Melinda Gates	Research funding organization and consulting body to the Federal Ministry of Education and Research	Supporting and advising actor	Research funding i.e. Glo-PID-R Network (Global Research Collaboration for Infectious Disease Preparedness)

Research Funders UK Research and Innovation (UKRI), Medical Research Council (MRC).	National research organisation	Supporting and advising actor	UK Research and Innovation and its councils alongside Innovate UK form the main UK funders for research and innovation. The MRC had a leading role in response to Zika in terms of funding and strategy.
Government Office for Science and Chief Scientist led Scientific Advisory Group for Emergencies (SAGE)	Ministry	Actor (science diplomacy)	SAGE provides scientific and technical advice to support government decision makers during emergencies. Chaired by the chief scientific advisor, in 2016, a precautionary SAGE (Pre-SAGE) was activated to advise on the Zika virus outbreak. ¹⁹
Department for Business, Energy and Industrial Strategy	Ministry	Supporting and advising actor	Oversees the Newton Fund and the Global Challenges Research Fund (GCRF), through which Official Development Assistance funding for research on global health threats is channelled.
Department for Environment, Food and Rural Affairs	Ministry	Supporting and advising actor	(Particularly its Veterinary Medicines Directorate) provides advice on zoonoses and antimicrobial resistance, from the perspective of how human, animal and environmental health interact ('One Health'). The department also supports the UK's international influencing activity on drug resistance.
UK Public Health Rapid Support Team (partnership between Public Health England and the London School of Hygiene and Tropical Medicine)	Network to support outbreaks, research organization	Actor (and supporting) (health and science diplomacy)	UK Public Health Rapid Support Team is a specialist team ready to respond to disease outbreaks around the world before they develop into emergencies. The team also conducts rigorous operational research to improve epidemic preparedness.

Table 4: List of selected UK government (and government-related) actors for global health and Zika²⁰

¹⁹ UK Gov. (2016): Scientific Advisory Group for Emergencies (SAGE). Retrieved from: <https://www.gov.uk/government/groups/scientific-advisory-group-for-emergencies-sage>

²⁰ Source: Independent Commission for Aid Impact (2018): Report: The UK aid response to global health threats. Retrieved from: <https://icai.independent.gov.uk/html-report/global-health-threats/>

3. Reaction to Zika epidemic

The reaction to the 2015/2016 Zika epidemic and the role of science diplomacy in it could be analysed through many potential filters. This case study chooses four of them: a) political reaction and prioritization of science diplomacy, b) data collection and data sharing, c) internalisation of research and new funding and d) operational response to the crisis.

3.1. Political reaction and prioritization of science diplomacy, science advice

In particular, the “diplomatic” element of science diplomacy cannot properly function without clear support from the political level. Therefore, the issue of political communication and prioritisation of science diplomacy concerning global health was an essential element of the reaction to the Zika epidemic.

The European Council has frequently expressed the “commitment” of the EU to combat issues of global health as well as provided political support for more specific actions (e.g. establishment of the Global Fund to fight HIV/AIDS, support of international donor conferences) and institutional novelties (establishment of the European Centre for Disease Prevention and Control, appointment of an EU Ebola coordinator). Since 2003, the conclusions of the European Council have mentioned HIV/AIDS, tuberculosis, and malaria the most frequently, followed by Ebola. Even more frequently, global health issues are mentioned in the documents of the Employment, Social Policy, Health and Consumer Affairs Council (ESPHC Council) which mention, among others influenza preparedness (2006, 2007, 2008), AIDS (2006, 2007, 2010, 2017), Ebola (2014, 2015), MERS (2013), anti-microbe resistance (2016, 2017) as well as vaccination issues (2011, 2016, 2018). The Zika outbreak was addressed in May 2016 by the Council conclusions (albeit only in the “any other business section”) which contained a call for “coordinated response efforts” covering an unsurprising mix of measures including “*reinforced research, regular risk assessments and risk management measures, such as the control of the mosquito transmitting the virus, as well as information to travellers and to healthcare providers.*” From an institutional perspective, the central role was vested in the Council and (without detailed allocation of roles to individual institutions) in the European Commission, the European Centre for Disease Prevention and Control and the European Medicines Agency.

The British Prime Minister Theresa May explicitly supported the need to protect people from Zika in 2017²¹ and to use both governmental (the government’s Global Challenges Fund and Rapid Response Initiative) and European (Horizon 2020 Research and Innovation Programme) resources to tackle the global dimension of Zika epidemic. The Scientific Advisory Group for Emergencies (SAGE) was activated to advise on the Zika virus outbreak. The SAGE network advises the government and the governmental chief scientific advisers on all aspects of policy on science and technology, including the implementation of policies on science, technology, engineering and mathematics (STEM) and exchange of good practices in the area of global health. As part of the Government Office for Science (GO Science), Chris Whitty (Chief Scientific Adviser, Department of Health and Social Care) who was greatly involved in the Zika virus issue, and Charlotte Watts (Chief Scientific Adviser, Department for International Development), formed a SAGE to respond to the Zika virus. Indirectly, the Zika epidemic was addressed also by the British Parliament when the House of Commons’ report ‘*Science in emergencies: UK lessons from Ebola*’ outlined measures that the UK could instigate to improve the capacity to withstand global disease outbreaks,

²¹ Merrick, Rob (2017): Zika virus project hailed by Theresa May on Scottish visit was funded by EU scheme which could be lost after Brexit. Independent, March 27, 2017, Retrieved from: <https://www.independent.co.uk/news/uk/politics/zika-virus-theresa-may-eu-funding-brexiteuropean-union-research-project-scotland-university-glasgow-a7652466.html>

emphasizing the importance of disease surveillance and early diagnosis in controlling the outbreak of diseases.²²

The German government stressed the connection between the domestic and global dimensions of public health in declarations at the G20 and G7 summits in Hamburg (2017) and Elmau (2015). Germany endorsed a goal to make a strategic contribution to strengthening health sustainably in international contexts. In order to achieve this goal, the Federal Ministry of Health set up a "Centre for International Health Protection (ZIG)" at the Robert Koch Institute.²³ Among the main tasks of the ZIG is information management, the development of evidence-based methods as well as providing support for the implementation of projects on international health protection. Germany also amended its domestic legislation (Infection Protection Act) in order to reflect new tasks in the area of international health protection.

The Zika epidemic and global health in general had a less prominent position within the Czech political class. Global health policy is not listed among the priorities of Czech science diplomacy and comments of Czech politicians were limited to an operational response (providing information, monitoring, observation) concerning Czech citizens and the territory of the Czech Republic. However, former chief public health officer of the Czech Republic (hlavní hygienik ČR) Vladimír Valenta mentioned the effective response to the Ebola, MERS and Zika epidemics among the most prominent successes of his agency. Indeed, during his term of office, Czech legislation and inter-institutional coordination for dealing with epidemic outbreaks was modernised and internationalised, but crucial operational activities of his office dealt with other agendas than epidemics.

3.2. Data collection and data sharing

Effective collection of data relevant for Zika epidemic and their further distribution was one of the key challenges of the European and national reactions to the outbreak of the epidemic.

The robust EU mechanism for data collection was activated in years 2015-2017. The European Centre for Disease Prevention and Control (ECDC) organised an epidemiological surveillance of Zika infection in the EU/EEA. In 2016, the European Union Health Security Committee approved an interim case definition for surveillance of Zika infection and the EU/EEA Member States reported in total 2,133 confirmed cases of Zika virus infection to ECDC, during the period of June 2015 to February 2017. The reported cases included 2,090 imported cases, 21 locally acquired non-vector borne cases and 22 cases with importation status reported as unknown.²⁴ Standard institutional channels between the national and European levels were used, such as data collection by the National Institute of Public Health in the Czech Republic.

What was more interesting was the debate on "ownership" of the data collected and the limits of their further distribution. Here, a clash between the concept of "pure" scientific data which should benefit from open access to the whole global scientific community and more blurred rules on data protection and intellectual property emerged. The WHO issued (after broad consultations) a statement supporting the establishment of global norms for data sharing during health emergencies which claimed "*that timely and transparent pre-*

²² House of Commons Science and Technology Committee (2016): Science in emergencies: UK lessons from Ebola. Second Report of Session 2015-16, Retrieved from: <https://publications.parliament.uk/pa/cm201516/cmsselect/cmsstech/469/469.pdf>

²³ Robert Koch Institut (2019): Centre for International Health Protection (ZIG). Retrieved from: https://www.rki.de/EN/Content/Institute/DepartmentsUnits/ZIG/ZIG_node.html

²⁴ Spiteri, G., B. Sudre, A. Septfons, J. Beauté, on behalf of the European Zika Surveillance Network (2017): Surveillance of Zika virus infection in the EU/EEA, June 2015 to January 2017. Euro Surveill. 22(41):pii=17-00254. <https://doi.org/10.2807/1560-7917.ES.2017.22.41.17-00254>

*publication sharing of data and results during public health emergencies must be the global norm*²⁵. However, it seems that this position has caused a certain level of uneasiness in the British academic sector. While the Wellcome Trust and many other British stakeholders (academic journals, NGOs, funders, and research institutes) have issued a commitment to data sharing in public health emergencies, including research content concerning Zika epidemic,²⁶ academics also occasionally expressed concerns regarding the vagueness of the respective legislative framework as well as the impact of a broadly interpreted data-sharing regime on their individual academic careers.²⁷ The whole ownership debate was complicated even more by the involvement of Brazilian researchers who tended to emphasise their specific “ownership” of data and samples (albeit not automatically excluding data-sharing) due to their geographical location at the core of the Zika epidemic.

In reaction to the data sharing controversy, the Global Research Collaboration for Infectious Disease Preparedness (GLOPID-R) set out an action plan to design a system for sharing data in public health emergencies (PHE), which includes mapping of the regulatory environment, developing a policy and framework for data sharing for PHE and a focus on implementation of data sharing policy and practice. This work focused on case studies, learning from past PHEs, such as Ebola, to test on potential future PHEs.

3.3. Internationalisation of research and new funding

Unsurprisingly, the Zika outbreak triggered new research on Zika treatment and prevention. From the perspective of science diplomacy, two aspects of the research are of particular interest: new funding schemes combined with internationalisation and multidisciplinary of research.

While only little research on Zika was performed before the outbreak of the epidemic in the UK, the traditional actors, such as the Wellcome Trust, the Medical Research Council and the Newton Fund, along with the UK government fast tracked funding in response to the crisis.²⁸ Overall, it is estimated that there has been a GBP 14.4 m investment in Zika virus research. One of the UK’s main funders, the Wellcome Trust claims that “*research is an essential part of being ready for and responding to public health emergencies*”.²⁹ In connection with the issue of data collection and sharing it is important that new funding also supported new platforms for data sharing, such as a data-sharing platform for images of foetal and new-born heads and improved diagnosis for Zika virus infection through shared laboratory partnerships. Regarding funding, the UK stakeholders emphasised the rapidity of the funding allocation as a key feature of the British response to Zika and to global health threats in general.³⁰ Further, there was a “lesson learned” from the Ebola outbreak for funders’ reaction to the Zika epidemic. As one of the stakeholders stated:

“At the time of the Ebola outbreak it was recognised that we needed a more robust way of evaluating the way to respond to an outbreak occurring ... Work on vaccines led to the establishment of a government response bringing

²⁵ WHO (2015): Developing global norms for sharing data and results during public health emergencies. Retrieved from: <http://www.emro.who.int/rpc/rpc-events/global-norms-for-sharing-data-and-results-public-health-emergencies.html>

²⁶ Wellcome Trust (2016): Sharing data during Zika and other global health emergencies. Retrieved from: <https://wellcome.ac.uk/news/sharing-data-during-zika-and-other-global-health-emergencies>

²⁷ One respondent remarked: “One of the concerns academics may have is that they are concerned that if they release the data elsewhere then they might not be able to publish.”

²⁸ UK Gov. (2016): Government to fast track funding for research into Zika. Retrieved from: <https://www.gov.uk/government/news/government-to-fast-track-funding-for-research-into-zika>

²⁹ Wellcome Trust (2016): Data sharing in public health emergencies. Retrieved from: <https://wellcome.ac.uk/what-we-do/our-work/data-sharing-public-health-emergencies>

³⁰ Wellcome Trust (2016): 26 Zika projects receive £3.2m funding boost. Retrieved from: <https://wellcome.ac.uk/news/26-zika-projects-receive-%C2%A332m-funding-boost>

*together a range of funders to identify a series of priority pathogens - that prioritisation activity was being undertaken by a number of organisations globally and nationally which tended to overlap, but understanding why they might be different was also very helpful.*³¹

In contrast, neither Germany nor the Czech Republic seemed to allocate extra funding for Zika research. The German Federal Ministry of Education and Research did not specifically increase Zika-related research after the outbreak. Instead, the ministry used existing funding schemes for health research that did not have a thematic focus at the time to cover Zika-related research.³² Similarly, in the Czech Republic, only one project with direct relevance for Zika was financed by standard research funding schemes during the 2016-2019 period. Even this project, with a budget over CZK 9 mil. (approx. 360,000 Eur) was focused primarily on the potential internal European dimension of the Zika infection (readiness for introduction of an exotic disease transferred by mosquitos).³³

Internationalisation and the strengthening of multidisciplinary approaches to research were other common features of the reaction both to the Zika epidemic and to broader global health protection policies. Efficiency of the reaction to an epidemic is strengthened when the medical intervention is (at least partially) performed in the proximity of the centre of the epidemic's outbreak. At the same time, the EU and European states were confronted with the necessity to balance between the advantages of local medical intervention (e.g. in Brazil) compared with the benefits of medical measures performed within medical facilities (laboratories, hospitals, research institutions) in Europe. A similar internationalisation argument is applicable to management of the mobility of persons: how to combine unilateral measures for identification and control of individuals representing a medical hazard with coordinated measures between the European States, the EU and the countries of the original epidemic outbreak. Last but not least, the measures should be communicated to the external (state) partners and the risk of incompatibility with non-European regulatory regimes must be minimised.

In Germany, the Federal Ministry of Health launched a Global Health Protection Programme (GHPP) to improve international health.³⁴ The main focus is to support partner countries in developing steps to prevent epidemics, but the involvement of research is also addressed, e.g. by supporting research cooperation and promotion of young researchers. Currently (2019), 28 research projects cooperate with 38 partner countries in Africa, Asia and South Eastern Europe.³⁵ The Federal Ministry of Education and Research has also created incentives for German universities and researchers to become more interdisciplinary in their research of global health issues.³⁶ The Robert Koch Institute supports the programme in various fields, e.g. in building capacities for tackling outbreak situations, strengthening primary healthcare systems, implementing the international health regulations and combatting antimicrobial resistance. Apart from the Robert Koch Institute, the Federal Institute for Drugs and Medical Devices, the Bernhard-Nocht-Institute for Tropical Medicine, and the Paul-Ehrlich-Institute participate in this programme.³⁷

³¹ Interview, UK Funding Council X, 29 April 2019.

³² In particular, the EU-LAC Foundation; EU-LAC. Retrieved from: <https://eulacfoundation.org/en/about-us>

³³ Přípravenost na introudkci exotických nález přenášeny komáry – přístup One Health.

³⁴ Robert Koch Institut (2019): Bundesgesundheitsminister Spahn: Globale Gesundheitsgefahren erkennen und abwehren – Neues Zentrum für Internationalen Gesundheitsschutz im Robert Koch-Institut. Retrieved from: https://www.rki.de/DE/Content/Service/Presse/Pressemitteilungen/2019/01_2019.html

³⁵ Federal Ministry of Health (2019): The Federal Ministry of Health's Global Health Protection Programme. Retrieved from: <https://ghpp.de/en/about-ghpp/>

³⁶ Napoli, I., D. Böcking (2016): Global health education in the focus of research. Berlin: Federal Ministry of Education and Research.

³⁷ Robert Koch Institut (2019): The German Federal Ministry of Health's Global Protection Programme. Retrieved from: https://www.rki.de/EN/Content/Institute/International/GHPP/GHPP_node.html

The importance of multi-disciplinary research, including the interaction between medical research and the social sciences, was also emphasised in the UK strategic documents and its new research funding structure (UK Research and Innovation - UKRI)³⁸ as well as by the WHO that explicitly acknowledges that social science is an essential part of effective risk communication and community engagement for responding effectively to the ongoing Zika outbreak (as well as to any other epidemic or pandemic). A concept of science diplomacy is not explicitly mentioned by UKRI but experts interviewed stressed that the idea of science diplomacy significantly framed the preparatory work on the document.

The importance of partnership (in contrast to the simple "export" of science and medical expertise) in research has been emphasised in the Zika-related research more frequently than in connection with Ebola research. The emphasis on a collaboration principle was also reflected in the general policy declarations framing the whole process as well as the respective funding schemes (the Zika Rapid Response Initiative, the Wellcome Trust, MRC and Newton). Last but not least, the existence of an extensive scientific community and research structure in Brazil contributed to the collaborative approach in Zika research, particularly in comparison with Ebola-focused research.

3.4. Operational response to the crisis

The science diplomacy element was present both in the long-term ("strategic") reaction to Zika epidemic and in the immediate operational ("tactical") reaction. In particular, the operational reaction included rapid exchange of information on Zika prevention and treatment, treatment of own citizens suffering from Zika and management of travel routes between the EU and Latin America.

In Germany, the Zika outbreak of 2015 led to a wave of national requests and inquiries to the Federal Ministry of Education and Research as well as the Federal Ministry for Health. It seems that it did not have the same impact in actions and responses as the Ebola outbreak did. One interviewee indicated that jurisdiction for all Zika and infectious disease-related research questions and activities was handed to the Federal Ministry of Education and Research. In the Czech Republic, the information role was distributed (not necessarily coordinated) between the Ministry of Health and the Ministry of Foreign Affairs. For instance, the Czech embassy in Brasilia communicated primarily with the Ministry of Foreign Affairs. The low intensity of operational response to Zika contrasted with a significantly more intensive reaction during the Ebola outbreak several years earlier when, for instance, an emergency centre with a medical centre operating 24/7 was established at the major international airport in Prague (regardless of the fact that no direct flights between Prague and Ebola-affected African countries were operated) and the Czech Delegation to the EU in Brussels hosted a presentation of Czech medical products designed for biological protection during epidemics.³⁹

³⁸ UKRI (UKRI. Retrieved from: <https://www.ukri.org/>) brings together the Arts and Humanities Research Council; Biotechnology and Biological Sciences Research Council; Engineering and Physical Sciences Research Council; Economic and Social Research Council; Medical Research Council; Natural Environment Research Council; Research England; and Science and Technology Facilities Council with Innovate UK.

³⁹ Ministry of Foreign Affairs (2014): Český příspěvek k boji s virem Ebola. Retrieved from: https://www.mzv.cz/brussels/cz/obchodne_ekonomicky_usek/ekonomicke_a_obchodni_aktuality/brusel_ceska_prezentace_prispevek_k_boji.html

4. Conclusions

Our case study identified four general issues of the European and national reactions to the Zika epidemic relevant for science diplomacy:

1. Zika has not been a game changer
2. Geography matters
3. National foreign policy narratives matter
4. The “Union method” matters

4.1. Zika has not been a game changer

The Zika outbreak has not caused a fundamental change in the European or national reaction to global health issues. Instead, the reaction to Zika has built upon already existing institutional platforms and narratives. If there was an epidemic which caused substantial institutional changes, it was Ebola.⁴⁰

According to German stakeholders, Zika contrasted with Ebola in terms of perception. It was perceived that Germany (as well as other EU Member States) responded to the Ebola outbreak very late but then was able to mobilise its capacities to form an efficient global response to the Ebola outbreak. The reaction also had an institutional dimension because Germany appointed a special ambassador to coordinate the German government’s response,⁴¹ and later the position of Coordinator for the Foreign Policy Dimension of Global Health Issues in the Ministry of Foreign Affairs was created. The strengthening of cooperation with Africa had also been one priority in the international cooperation activities of the Federal Ministry of Education and Research. All the above-mentioned changes had the potential to increase the role of science diplomacy in reaction to global epidemics in general and provided a platform for science diplomacy after the Zika outbreak.

Czech stakeholders share the opinion that the impact of the Zika epidemic on the national approach to science diplomacy has been significantly weaker than the impact of the Ebola outbreak. In the Ebola case, new coordination mechanisms were tested, including establishment of a crisis centre at Ruzyně International Airport and cooperation with laboratories at the Robert Koch Institute in Germany in testing samples collected by Czech authorities. Several years later, the Czech reaction to Zika epidemic was less intensive both in its operative part and regarding innovativeness of actions taken.

4.2. Geography matters

Regardless of the global impact of the Zika epidemic, geographical position and the intensity of bilateral relations with Latin America have influenced the form of reaction to the Zika outbreak. For instance, the relatively low profile of the Czech reaction to the Zika epidemic (compared to the German and British reactions) was at least partially caused by the relatively low intensity of bilateral relation between the Czech Republic and Latin American countries. Among others, the fact that no direct flights operated between Brazil and the Czech Republic during the outbreak, further enhanced the Czech perception that the effects of the Zika epidemic could be significantly “filtered” by other EU Member States with direct communication routes with Brazil.

⁴⁰ The prevalence of the Ebola impact was also (indirectly) confirmed by the fact that Ebola attracted the attention of the European Council while Zika is mentioned “only” in the documents of the Council (i.e. the ministerial level).

⁴¹ Kickbusch, I. et al. (2017): Germany’s expanding role in global health. In: *The Lancet*, 03 July 2017, p.901, Retrieved from: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(17\)31460-5/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(17)31460-5/fulltext)

4.3. National foreign policy narratives matter

Science diplomacy cannot escape the influence of the general national diplomatic narrative of a country, regardless of how obscured the narrative could be. Hence, mapping a connection between Zika and the national diplomatic narrative can be helpful for the identification of deeper and more permanent trends and structural features of the science diplomacy of the states researched.

In this context the Zika experience of Germany seems to correspond to a trend of using its domestic scientific expertise (research facilities, professional associations, science associations and an active innovative health industry) as a tool for enhancing and expanding the German diplomatic profile in global governance. The medical aspect of science diplomacy is perceived as another tool of “soft” German power and an expression of German responsibility for global challenges. In other words, one can interpret the German use of science diplomacy also as an attempt to globalise German scientific excellence, combined with some altruistic motives.

A similar narrative is present within the UK case, with a possible difference that the UK uses its scientific diplomacy within a broader catalogue of diplomatic tools. Science diplomacy is perceived as a confirmation of an already existing and expanding “Global Britain” which is able to adapt to the new global environment and its challenges, including formation of partnerships between government and the private sector.

Science diplomacy is a concept generally used and promoted both by diplomats and scientists in the UK. The Parliamentary Office of Science and Technology (POST) published a document (POST note) stressing the role of science in maintaining and further cultivating the external relationships of the UK in the post-Brexit period. At the same time, the brief declares that diplomacy is recognised by the UK government as “both driver and by-product of international science”. The science diplomacy element has an increasing role in the assessment of the “research impact” of research projects and individual scientists within the UK science system.⁴²

In Germany, while the science diplomacy concept has its place in the diplomatic and scientific narrative, it seems to be used less intensively and intuitively in the public health policy domain than in the UK. The science diplomacy concept tends to be understood as excessively vague and terms such as “health diplomacy” and “scientific policy advice” are frequently used instead by stakeholders. In other words, the science diplomacy concept is in the phase of being developed in Germany with different stakeholders searching for their role in it.

The Czech case, in contrast, demonstrates the reaction of a smaller country with limited resources⁴³ and aspirations. Therefore, the Czech reaction focused on addressing direct elements of the Zika threat to Czech citizens and territory and additional activities were either triggered by direct requests from other institutions (data collection for the ECDC) or by ad hoc research projects. The space for use of the science diplomacy concept is further reduced by a perception that Czech citizens are still underrepresented in the EU and the international institutions responsible for global health issues.

This does not mean that science diplomacy does not have a place in the Czech diplomatic narrative. However, the Zika epidemic does not occupy a priority position in Czech science diplomacy either from a topical perspective (for instance, health aspects linked with migration or water management issues receive more attention) or a geographical one (the

⁴² Grimes, R., J. Maxton, R. Williams (2017): Providing International Science Advice: Challenges and Checklists. In: Science & Diplomacy, 24 September 2017.

⁴³ For instance, the Czech diplomatic mission in Brasilia during the Zika epidemic was composed of two diplomats and one consul (and an additional consulate was located in Sao Paulo). Therefore, no Czech diplomat in Brazil was vested exclusively with health and/or the scientific agenda. Instead the health and science agendas were managed together with other “soft” agendas, such as economic relations, education or culture.

location of Czech science diplomats in Washington D.C. and Tel Aviv, the focus on the health dimension of migration from Eastern and South Eastern Europe).

At the same time, the Czech narrative is open to international cooperation and inspiration (Czech stakeholders in the area of public health mentioned the UK system in particular) or even outsourcing, such as the agreement with the Robert Koch Institute (based on explicit authorisation in the National Action Plan to conclude an agreement with a laboratory in another EU Member State on testing small-pox (variola), Ebola, Marburg, Lassa, Nipah and Hendra viruses). Additionally, the National Action Plan and the Pandemic Plan explicitly stated that their adoption (and the replacement of the older regulatory regime) was triggered by the necessity to implement the obligations of the Czech Republic under international and EU legal instruments. However, the use of the term “science diplomacy” does not appear to be integrated into the vocabulary of stakeholders within the Czech institutions responsible for public health issues. Instead, the “science diplomacy” terminology is used by the diplomatic and science community.

4.4. The “Union method” matters

Despite differences between the experience of the three countries analysed, there are at least two features shared in their reaction to Zika:

The first one is securitisation. Zika (as well as Ebola) was perceived not as an external event but as a security threat to the European continent.⁴⁴ However, the debate on the security element of infectious diseases remained on a relatively non-confrontational level, without significant frictions with other aspects of European or national policies. A more substantive debate on the security dimension of European science diplomacy would emerge in a situation when an epidemic event collides with a core internal element of European integration, such as reintroduction of internal border controls or even the mobility regime for EU citizens.

The second common element of national reactions is an institutional mix. During their reactions to the Zika epidemic, the science diplomatic efforts of the UK, Germany and the Czech Republic used national channels, the EU framework as well and other institutional platforms when available (such as the G7 and G20 by Germany and the UK). A preferential institutional pattern cannot be identified. Instead, the reaction resembles an evolving nebulous structure or the “Union Method” of governance mentioned by Angela Merkel in her Bruges speech in 2010⁴⁵, expanded by the global institutional dimension and, ideally, bound together by the principle of loyal cooperation, as defined in Article 4 (3) TFEU.

⁴⁴ Chancellor Merkel described the threat posed by the Ebola virus along the same lines as global issues such as terrorism and forced migration, and she spoke about the extent to which foreign and security policy impacts matters concerning the internal politics of societies.

Merkel, A. (2015): Speech by Federal Chancellor Angela Merkel on the occasion of the 51st Munich Security Conference. 07 February 2015, Retrieved from: https://www.bundesregierung.de/Content/EN/Reden/2015/2015-02-07-merkel-sicherheitskonferenz_en.html?nn=393812

⁴⁵ Merkel, A. (2010): Speech by Federal Chancellor Angela Merkel at the opening ceremony of the 61st academic year of the College of Europe. Bruges, 02 November 2010, Retrieved from: <https://archiv.bundesregierung.de/archiv-en/articles/speech-by-federal-chancellor-angela-merkel-at-the-opening-ceremony-of-the-61st-academic-year-of-the-college-of-europe-804002>

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