

Temporalities and Power in Public Sector Coordination

Opportunity and constraint in the long-term fight against
Antimicrobial Resistance

Time, Martin Stangborli
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Oslo, November 2021
Martin Stangborli Time

Summary

The threat of Antimicrobial Resistance (AMR) is a considerable challenge to public policy and administration. This doctoral thesis calls attention to two aspects of this challenge; a) AMR's slow-burning growth which suggests the preventive action is to be long-lasting; and b) AMR's global scale and versatility which bring demands for the coordination of preventive action across policy sectors and levels of governance. The thesis combines the literatures on coordination, temporality, power, and cognition thus advancing two frameworks for the analysis of coordination on AMR and threats with similar attributes. These are illustrated by qualitative case studies of the multisector and multilevel coordination on AMR. The thesis is guided by the following research question: *How does public organizations at various levels of governance coordinate the preventive action on AMR? What are the impacts of temporality on such coordination and what can explain dynamics of power in AMR coordination?* The thesis' contributions are embedded in three research papers which in the synopsis go under the labels "the Sweden-", "the Nordic-", and "the EU paper". "The Sweden paper" addresses a gap in the literature on the impact from exogenous and endogenous temporal properties on public sector coordination. Its framework theorizes how, a), the temporality of AMR, and b), the formal rules on timetables and time horizons affect the actor interactions in coordination. The paper argues that government agencies who have discretion in the setting and administering of coordinative time rules are more likely to coordinate voluntarily. Providing support for this view are the insights the paper derives from its study of Swedish interagency coordination on AMR. "The EU paper" contributes to the literature on public governance under turbulence and transboundary threats. It first sets out a typology on the enabling and constraining power dynamics in coordination, then a framework theorizing their emergence through actors' sensemaking of ideas. The argument of "the EU paper" is that progression in multilevel and multisector AMR coordination depends on a presence of 'power to' – everybody wins – dynamics. The opposite, coordination by 'power over' – i.e., enforced from the EU-level – gets precluded by the different allocations of competence in the health (the Member States), food and veterinary (the EU and the Member States) sectors. The ambition of "the Nordic paper" is to trace the administrative system adaptations in Norway, Sweden and frameworks for Nordic cooperation to 'One Health' – the global template for

AMR governance. The paper shows these adaptations to be incremental thus supplementing existing structures for disease prevention and control. Thus far, the initiatives of the Nordic cooperation have not represented major leaps forward in strengthening cooperation on AMR. All in all, the three papers underscore two points. Firstly, the authoritative structures to which the participants primarily submit condition the scope of coordinated action on slow-burning, transboundary, challenges. Secondly, there is enhanced opportunity for the coordination to endure when participants are jointly responsible to develop and run the mission. Entrusting the participants with ‘the hands on the coordination mission’s wheel’ does not guarantee success but enables their finding of ‘everybody wins’ solutions that encourage long-lasting coordination.

Sammendrag

Trusselen fra Antimikrobiell Resistens (AMR) er en betydelig utfordring for offentlig politikk og administrasjon. Denne doktoravhandlingen retter søkelyset mot to aspekter ved denne utfordringen; a) AMRs sakte, men tiltagende vekst som impliserer at det forebyggende arbeidet må vedvare over tid, b) AMRs globale utstrekning og mikrobers tilpasningsevne som skaper et koordineringsbehov mellom politikkområder og styringsnivåer. Gjennom å kombinere forskningslitteraturen på koordinering, temporalitet, makt, og kognisjon utleder avhandlingen to rammeverk til å analysere koordineringen på AMR samt trusler med lignende egenskaper. Hvert av rammeverkene blir illustrert med kvalitative case studier av flersektor og flernivå koordineringen på AMR. Følgende problemstilling ligger til grunn for avhandlingen: *Hvordan koordineres kampen mot AMR mellom offentlige organisasjoner og mellom styringsnivåer? Hva er virkningene fra temporalitet på denne koordineringen og hva kan forklare maktdynamikkene i koordinering på AMR?* Bidraget til avhandlingen er nedfelt i tre forskningsartikler som i sammenfatningen refereres til som "Sverige artikkelen", "Norden artikkelen", og "EU artikkelen". Merkelappene gjenspeiler søkelyset i hver av artiklene på, henholdsvis, Sveriges flersektorielle myndighetskoordinering på AMR, politikkutvikling og administrativ organisering på AMR i Sverige, Norge og Nordisk ministerråd, og EUs AMR koordinering på tvers av politikkområder og styringsnivåer. De tre artiklene i avhandlingen fremhever to poenger især. For det første, handlingsrommet i koordineringen på en saktebrennende og grenseoverskridende trussel, er betinget av de autoritative strukturene som deltakerne primært er underordnet. For det andre, det er større mulighet for en vedvarende koordinering når deltakerne har det felles ansvaret for å utvikle og drive oppdraget. Å betro deltakerne "hendene på koordineringsoppdragets hjul" garanterer ikke suksess. Likevel gjør det det mulig for dem å finne "hver og en vinner" løsninger som oppmuntrer til en vedvarende koordinering på AMR.

Contents

Acknowledgements	1
Summary	3
Sammendrag	5
1 Introduction	9
1.1 Antimicrobial Resistance: the Coordination Challenge	9
1.2 Research questions.....	11
1.3 Study limits	12
1.4 Findings	13
1.5 Antimicrobial Resistance: urgent crisis, or persistent turbulence?.....	15
2 Contribution and Literature Review	19
2.1 The thesis' contribution	19
2.1.1 Theoretical contribution.....	19
2.1.2 Empirical contribution	23
2.2 Literature review	24
2.2.1 Public sector coordination: definitions, mechanisms, and barriers.....	24
2.2.2 Temporality in the study of politics and administration	33
2.2.3 Power in the study of politics and administration.....	41
3 Methodology	49
3.1. Philosophy of Science.....	49
3.2 Methodology and Case selection	53
3.3 Sources.....	54
4 Main Findings.....	55
5 Concluding remarks.....	59
List of references	61
Appendices	75
Research Papers.....	91

Figures and tables

Figure 1. Propositions P1ab and P2ab on the likely interaction-pattern of agencies involved in coordination to prevent challenges with uncertain time frames (Appendix A).

Figure 2. How the Actor Makes Sense of Ideas Displayed in Coordination (Appendix A).

Table 1. Power Dynamics in Coordination (Appendix A).

1 Introduction

1.1 Antimicrobial Resistance: the Coordination Challenge

Our societies anno 2021 are heavily burdened with the coronavirus' far-reaching consequences. The novel virus emanated late 2019 (hence, covid-19) from the Chinese province Wuhan. A few months later, on March 11 2020¹, the outbreak was recognized a full-scale pandemic by the World Health Organization (WHO). Given the considerable, and rightly so, efforts of politicians, bureaucrats, and experts to contain the virus, the global dangers that were spotlighted before covid-19 might receive less attention. This doctoral thesis (“thesis” hereafter) addresses one of those global dangers, antimicrobial resistance (AMR), that if unchecked is projected to “[...] have disastrous impact within a generation” (Interagency Coordination Group on Antimicrobial Resistance [IACG] 2019: 4). The international community calls for “urgent” action in order to maintain “[...] a century of progress in health and achievement of the [United Nations'] Sustainable Development Goals” (ibid.: 4, 7). The thesis adds to research on this (and similar) preventive action by advancing two frameworks for the analysis of temporalities and power dynamics in public sector coordination on AMR.

Antimicrobial resistance (AMR) denotes the phenomenon where pathogens (bacteria, viruses, parasites, and fungi causing disease in humans and/or animals) develop drug-resistance. AMR is a source of major concern to epidemiologists, microbiologists, veterinarians, etc., primarily because antimicrobial medicines are essential to modern-day health care, farming and veterinary care. This thesis emphasizes one aspect of the AMR problem that transcends the health sciences, namely the interorganizational coordination to prevent (or fight against) the coming of the “[...] post-antibiotic era — in which common infections and minor injuries can kill [...]” (WHO 2014: IX). In so doing, it connects AMR with the purported ““philosopher’s stone”” for students of public administration (Jennings and Krane 1994, Bouckaert et al. 2010: 13, MacCarthaigh and Molenveld 2018: 655). Coordination concerns the interactive process to “enhance the [...] alignment of tasks and efforts [...]” of individuals

¹ The WHO has put together a comprehensive timeline of the coronavirus-outbreak, https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline?gclid=Cj0KCQjwuL_8BRCXARIsAGiC51CnzWh2pojxYmkqxyNQLQb1k3pkCMM_a2fP30oIAqh9UmYXKpuidIaAIT8EALw_wcB#! (accessed 21 October 2020).

or collectives (Bouckaert et al. 2010: 16). When it comes to AMR, the WHO's Global Action Plan (GAP²) on Antimicrobial Resistance states that,

“everybody – in all sectors and disciplines – should be engaged in the implementation of the action plan, and in particular in efforts to preserve the effectiveness of antimicrobial medicines [...]” (WHO 2015: 5).

Translated to the vocabulary of the public administration literature, the coordination of preventive action against AMR should be transboundary thus transgressing policy sectors, territories and levels of governance (Ansell et al. 2010, Boin and Lodge 2016). The literature, however, show that such cross-border coordination is easier said than done (Peters 1998, 2015, Egeberg and Trondal 2016, Adam et al. 2019, Molenveld et al. 2020). Employing the governance on AMR as case to illustrate its theoretical claims, the thesis addresses two gaps in the public administration literature. Firstly, in focusing on the public sector coordination of AMR preventive action, the thesis contributes to a research agenda – the challenges to building resilient societies towards transboundary threats – where “more extensive and systematic attention” from the research community is encouraged (Boin and Lodge 2016: 290). The thesis thus theorizes the role of power dynamics in making multilevel and multisector AMR coordination endure or stagnate. Borrowing from the theories on actor sensemaking (Weick et al. 2005) and translation of ideas (Wedlin and Sahlin 2017), it advances a framework where the power dynamics that emanate from “everybody wins” sense makings, foster endurance. The thesis argues that having such power dynamics is a necessary condition for the multilevel and multisector coordination on AMR to survive the wearing and tearing of time. Secondly, although the coordination to pursue a shared objective – such as the prevention of the post-antibiotic era – has pronounced temporal features, there is less explicit theorizing of the time-coordination compound within the public administration literature. Key interviewees to this thesis emphasize that participants carry temporal modes of operation which the coordination's administration must

² In May 2015, the World Health Assembly, i.e., the decision-making body of the WHO, endorsed a Global Action Plan (GAP) on Antimicrobial Resistance. The GAP establishes the guiding principles for how nation states, international, and supranational organizations should put up their fight against AMR. One of the GAP's guiding principles is the “One Health” approach which is based in the idea that the health of humans, animals, and the environment is interconnected.

consider. Moreover, the thesis argues that temporal governance affects the quality of interaction in coordination. Through temporal governance there is regulation of the temporal discretion entrusted to the coordinating actors. The thesis theorizes the influence on actor interactions from, a), the temporal properties of the policy problem (AMR), and b), the formal time rules that regulate coordination's timetable (frequency, sequencing and timing of events) and time horizon (duration). The resulting framework provides a set of expectations on the significance of the policy problem (AMR) being long-term, and the formal time rules in coordination being more or less strictly set.

Preceding the thesis' research papers is the synopsis, which outlines the research questions (1.2), study limits (1.3), theoretical, and empirical contribution (2.1) of the thesis. The synopsis' section 1.5 engages with the question of what kind of policy problem AMR represents. The rationale is to clarify why the prevention and control of AMR is demanding to coordinate. Section 2.2 covers the review of the three bodies of literature that make up the thesis' theoretical base. Section 3 elaborates on the thesis' philosophy of science foundation, while sections 4 and 5 summarize the thesis' main findings and concluding remarks.

1.2 Research questions

The thesis' investigation of the public sector coordination on AMR is guided by one primary and three secondary research questions. The primary research question is formulated so as to indicate the empirical and theoretical contribution of the thesis. It reads the following:

RQ1: How does public organizations at various levels of governance coordinate the preventive action on AMR? What are the impacts of temporality on such coordination and what can explain dynamics of power in AMR coordination?

The first part of RQ1 reflects the thesis' concern with the public sector's management of a threat that is transboundary and persistent. The second part reflects the thesis' theoretical contribution, which is to combine literatures and distil analytic lenses on the temporality – see RQ2a – and cognitive foundations of power – see RQ2c – in coordination.

The thesis consists of three individual research papers where no. 1 and 3 address RQ1's second part. The secondary research questions set the stage for

one research paper each. Paper no. 1 on Sweden's state-level coordination on AMR ("the Sweden paper") connects the literatures on public sector coordination and temporality in politics and administration. The Sweden paper raises the following research question:

RQ2a: What are the temporal features of AMR coordination processes where agencies from multiple policy sectors participate? How do formal time rules influence the interaction-patterns of government agencies involved in such coordination on AMR?

Paper no. 2 on AMR public sector coordination in Norway, Sweden, and the Nordic Cooperation ("the Nordic paper"), primarily speaks to RQ1's first part. Guided by historical institutionalist expectations, the Nordic paper traces administrative system adaptations to the global template epitomizing the appropriate *modus operandi* of AMR governance (the "One Health" principle). Hence, the research question:

RQ2b: How have the central administrative systems of Norway and Sweden adapted to the AMR challenge? Has the adaptation to AMR strengthened Nordic cooperation or has Nordic cooperation been surpassed by international influence (EU, WHO) and/or by unique national characteristics?

Paper no. 3 on the EU's multisector and multilevel coordination on AMR ("the EU paper") connects the literature on public sector coordination with the political science literature on power. The paper addresses the role and coming about of power dynamics in coordination. Its theoretical framework emphasizes how the involved actors' processing of ideas conditions the making of power dynamics. The paper's research question is the following:

RQ2c: What role does power dynamics play in public sector coordination? What are the cognitive mechanisms behind power dynamics' coming about in AMR coordination?

1.3 Study limits

The empirical focus of this thesis is the "public governance" (Egeberg and Trondal 2020: 1) of AMR prevention and control. "Public governance" denotes the "process through which the steering of society takes place" (*ibid.*). Public sector coordination is *one* way of achieving the steering that is public governance (Mayntz and Scharpf 1995, Börzel 2010: 194). The thesis' approach to AMR public governance is thus confined to the public sector coordination of preventive

action at the European (EU) level, in the Nordic Co-operation, and at the national level in Sweden and Norway (see case selection in section 3.2).

The above gives rise to two study limitations. Firstly, the emphasis on the public sector means the private actors that are involved in AMR preventive action - e.g., the pharmaceutical industry, interest groups such as farmers' unions and medical associations, self-employed veterinarians, etc. – fall beyond the scope of the analysis. Private sector actors are vital participants in the work to prevent the “post-antibiotic era”. The limitation is nevertheless made so as to cultivate a public administration approach and narrow down the scope of possible units (organizations) of analysis. Secondly, the emphasis on coordination at the European, Nordic, and national level implies a focus on certain kinds of coordinated activities (ref. the question of what is coordinated). Thus, public administrations at national, inter- or supranational level typically work on policy formulation, implementation, or evaluation. In the context of AMR preventive action, this points to activities such as the drafting of guidelines or regulations on antibiotics consumption, and the management of AMR stewardship and surveillance programs. Meanwhile, the execution of policy typically occurs at the local or regional administrative level. Thus, whether and how local administrations, local hospitals, veterinary practitioners, etc., operationalize (supra)national policies - on antibiotics prescription, AMR monitoring, etc. - conditions the functioning of those policies. Furthermore, these operationalizations can easily differ across municipalities and regions. Hence, the need for coordination structures also at the level of AMR policy execution. Unfortunately, the thesis does not cover the local-level coordination on AMR. That said, the framework propositions of this study are derived from generic theory and thus should be applicable at the local administrative level as well.

1.4 Findings

Listed below are the abstracts of each research paper. The abstracts briefly summarize the ambitions, method and findings of the papers that make up the thesis' contribution.

“The Sweden paper”

How Temporal Discretion supports Interagency Coordination: Sweden's Intersectoral fight against Antimicrobial Resistance

Comparative European Politics 19(3): 360-379.

This paper advances a theoretical framework on the impact of time rules on the administrative coordination of policies that deal with long-term, transboundary challenges. Its empirical focus is on the fight against antimicrobial resistance - AMR. The paper's framework concerns how government agencies employ time rules in coordination so as to respond to this open-ended policy challenge. To illustrate the framework's usefulness to studies of coordination, the paper examines Sweden's intersectoral coordination on AMR. The case study draws on interviews and policy documents. Its findings give support to the paper's argument, namely that government agencies are more likely to coordinate voluntarily if they have discretion in setting and administering coordinative time rules.

“The Nordic paper”

Adapting to a Global Health Challenge: Managing Antimicrobial Resistance in the Nordics

Co-authored with Frode Veggeland, Professor, Department of Health Management and Health Economics, University of Oslo

Politics and Governance 8(4): 384-395.

This article explores the adaptation of Norway and Sweden to one of the major challenges to global public health, antimicrobial resistance (AMR). Guided by assumptions derived from institutional theory, the article investigates whether, and, if so, how the AMR problem has affected the two Nordic countries' administrative systems and frameworks for Nordic cooperation. The article builds on selected literature, expert interviews, and public documents. The findings suggest that the international impact on Norway and Sweden's managerial adaptation to AMR is limited. Instead, adaptation takes place through incremental change within existing structures for disease prevention and control and follows traditional ways of organizing political and administrative systems.

“The EU paper”

Power Dynamics in Multisector and Multilevel Coordination: the case of Antimicrobial Resistance

Chapter is part of in the book *Governing Complexity in Times of Turbulence*, co-editors: J. Trondal, R. Keast, D. Noble and R. Pinheiro, set for publication in April 2022 (Edward Elgar).

What role does power dynamics play in public sector coordination? Reflecting on this puzzle, the chapter first elaborates on the turbulent properties of its case study – EU multisector and multilevel coordination on antimicrobial resistance (AMR). Secondly, the chapter identifies four power dynamics that feature in coordination – influence, domination, inspiration, and empowerment. The chapter contends that EU coordination on AMR depends on the presence of power dynamics that enable everyone involved. The chapter thirdly advances a cognitive framework theorizing how power dynamics in coordination come about. The case study shows the empirical relevance of this framework. Drawing on expert interviews and grey literature, it illustrates how the EU’s action on AMR is conditioned by different power dynamics in the health, food and veterinary sectors. The chapter finally concludes with a reflection on the relation between power dynamics and resilience in the coordination on AMR.

1.5 Antimicrobial Resistance: urgent crisis, or persistent turbulence?

In order to assess the magnitude of the challenge that is to coordinate preventive action on AMR, we need a firmer understanding of the threat to our societies. One point of entry is provided by the Director-General of the WHO’s foreword to the Global Action Plan (the GAP),

*“[a]ntimicrobial resistance is a **crisis** that must be managed with the utmost urgency. As the world enters the ambitious new era of sustainable development, we cannot allow hard-won gains for health to be eroded by the failure of our mainstay medicines” (WHO 2015: VII, author’s emphasis).*

Echoing this assessment, the ad hoc Interagency Coordination Group on Antimicrobial Resistance with high-level representatives from the WHO, FAO, OIE, OECD, UNEP, WTO, etc., states that,

*“[a]ntimicrobial resistance is a **global crisis** [...]. Unless the world acts urgently, [AMR] will have disastrous impact within a generation” (IACG 2019: 1, author’s emphasis).*

Given the ramifications of escalating AMR, there is ample reason for experts to apply the crisis term. Thus, by 2050, it is estimated that 10 million people will die each year from causes related to AMR (currently 700 000 on a worldwide scale) (O’Neill 2016: 10-11). These might be the same infections that today are routinely treated with medicines. AMR threatens to make treatment options (of infectious disease, cancer, organ failure, etc.) obsolete, tremendously increase public expenditure on health care, jeopardize the safety of food supplies, and interfere with ecosystems (FAO 2016, OIE 2016, UNEP 2017, OECD 2018). In addition, pharmaceutical companies have low incentives to invest in the development of new antimicrobials (innovations must likely be kept in reserve thus lowering returns on economic investment). Thus, the medical remedy is likely to be some way down the pipeline (WHO 2015: 2, O’Neill 2016: 12, Ciabuschi et al. 2020).

Despite of AMR’s tremendous potential for destruction, the thesis recommends caution in treating it as a present crisis. This is for two reasons that relate to AMR’s temporal properties.

Firstly, the AMR crisis scenario is projected to materialize in the future (“within a generation”, IACG 2019: 1). This represents a deviation from Rosenthal et al.’s (1989: 10) commonly cited definition of crisis as,

... a serious threat to the basic structures or the fundamental values and norms of a social system, which - under time pressure and highly uncertain circumstances - necessitates making critical decisions.

While AMR fits the first description, it differs from the crisis since for the time being it does not have the element of unprecedented temporal compression. According to recent scholarship in the crisis management literature, problems such as AMR and climate change share the temporal property of “slow-burning-ness” (as opposed to “fast-burning-ness”) (Boin et al. 2020: 118-119). The authors refer to the former type of problems as “creeping crises” with long incubation phases and sudden tipping-points to full-scale crisis (ibid.: 121-123, Rosenthal and Kouzmin 1997: 279). Although these properties fit the AMR phenomenon, the thesis’ reservation to employ the crisis term remains. Thus, if we extend the crisis concept to long-term threats, we risk conceptual overstretch away from the utmost urgency (“do or die” situation) that characterizes crisis. Besides, Boin et al. (2020: 124) presume the creeping crisis to “[...] typically

develop under the radar”. In the case of AMR, the “professional crisis watchers” (ibid.) have known of the threat for quite some time. Concerns about the hazards of overusing antibiotics were raised by clinicians and infectious disease experts in the early 1950s (Podolsky et al. 2015: 27). This was less than a decade after the introduction of the first “miracle drug” – Fleming’s ground-breaking penicillin – in the treatment of humans and animals (Edqvist and Pedersen 2001: 93). 50 years later, on 11 September 2001 (!), the publication of the WHO Global Strategy for Containment of Antimicrobial Resistance affirmed that “[AMR] is a global problem that needs urgent action“ (WHO 2001: 11, 2011). Despite the repeated warning flags, the fight to tame the AMR surge is still at some distance from being won. This brings us to the thesis’ second reservation towards employing the crisis term for AMR.

Mankind has a long history of counteractive and preventive initiatives to mitigate the threat from pathogenic bacteria, viruses, etc. Think of Jenner’s 1796 discovery of the smallpox vaccine³, Pasteur’s 1885 rabies vaccine, and the 19th century International Sanitary Conferences – the precursors to today’s international health cooperation (WHO 2020a). The mid-20th century introduction of antibiotics added a new chapter to mankind’s history of infectious disease prevention and control. However, the subsequent rise of AMR showed the backside of this story, namely that nature (the pathogens) is capable of finding ways to bypass mankind’s medical defences. At least two key insights can be derived from the above. First, AMR is closely linked to modern-day societies’ consumption of antimicrobials, and second, AMR is endemic in the sense that it does not simply wither away some day (the conventional crisis meanwhile has a start and end point). The prospect of a definite victory over the adaptable pathogens thus seems utopian. This suggests that the concepts of “wicked” (Rittel and Webber 1973) or “superwicked” (Levin et al. 2012) problems apply less to AMR. These concepts, it is argued, come with a normative element that implies the problem “must, and [...] can be solved [...]” (Peters 2017: 386). Because of the AMR phenomenon’s persistency, the thesis instead considers it to bear resemblance with the concept of turbulence (Ansell et al. 2017a: 3, see further discussion in the “EU paper”). Ansell et al. (2017a: 7) circumscribe turbulence “[...] to situations where events and demands interact in

³ See, e.g., the timeline on the history of vaccines developed by The College of Physicians of Philadelphia, <https://www.historyofvaccines.org/timeline/all> (accessed 12 November 2020).

a highly variable, inconsistent, unexpected, and/or unpredictable manner.” These characteristics are overwhelmingly present in conventional crises too. What the concept of turbulence still opens for is that AMR unfolds at different speeds and shifting perceptions of urgency. Bacteria, viruses, etc., are constantly evolving, but the dynamism in antimicrobial resistance is one of acceleration as well. The present urgency of AMR seems to be somewhat lower than that of, e.g., the coronavirus-outbreak. However, if the AMR surge is allowed to swell, one could face dangerous escalation and consequences that are even worse than the covid-19-pandemic (Ross et al. 2021, Senneset 2021, Spjeldnæs 2021, Berild and Müller 2020). Hence, the need to find ways to *live with* the turbulence of AMR and build societies with a resilience to prevent this turbulence from becoming a crisis. It is in the light of this that strategies on AMR call for “better coordination” to get policy sectors and territorial jurisdictions to join the preventive action (WHO 2015, 2018, 2019, Boin and Lodge 2016, Ansell et al. 2017b: 46).

2 Contribution and Literature Review

2.1 *The thesis' contribution*

2.1.1 Theoretical contribution

The thesis combines a selection of literatures with the literature on public sector coordination. Some of these literatures, the literature on social time in particular, are yet to be systematically utilized in studies of public sector coordination. This thesis most humbly aspires to do so. In what follows, the thesis elaborates on the temporality literature's contribution to research on transboundary policy coordination. Finally, it elaborates on why the thesis sets out a cognitive approach to the power dynamics in coordination.

The Temporalities of Coordination

The process of public sector coordination involves multiple actors (e.g., politicians, ministry and/or agency officials) who interact over time to align their preferences and behaviour. Through the interaction, the actors are expected to (they may also want to) produce an output (regulation, recommendation, action plan, etc.) that either avoids conflict with current policies or practices (“negative coordination”) and/or adds something new “[...] that can benefit all the organizations involved, and their clients” (“positive coordination”) (Scharpf 1994, Peters 2018: 2). The temporality of interactive processes is usually seen as constantly drifting forwards in a linear fashion (from present to future). This thesis highlights that there is more to the time concept than the linearity induced by clock time (Adam et al. 2002: 3, 25, Pollitt 2008: Ch. 2). It specifically focuses on two temporal features that influence the coordination process to achieve shared objectives⁴.

The first feature concerns the temporal property of the phenomenon that causes the policy problem (or in light of 1.2, the turbulence). The human activity of too intensive (mis-)usage of antibiotics adds fuel to the AMR threat. All the same, AMR is a natural (humanly propelled) phenomenon that plays out in the external surroundings of public officials, experts, etc. (hence the thesis' reference

⁴ During times of crisis, a mismatch between, on the one hand, the objective (exogenous) time of the problem and, on the other hand, the crisis manager's (endogenous) estimation of the time left for interception, turns fatal in no time (Fleischer 2013: 317, Veggeland 2019: 5).

to exogenous time). As was noted in section 1.2, the full-blown crisis scenario (the post-antibiotic era) is yet to reach the shores of present time. This provides for an exogenous time property characterized by slow (compared to that of crisis) but steady acceleration – i.e., rise “[...] in [AMR prevalence] per unit of time” (Rosa et al. 2017: 58). This slow-moving surge of AMR holds the potential to burst out in sudden, local, crises. Thus, if a multidrug resistant bacterium, that is known for its ability to diffuse (pace) and grow exponentially (future trajectory), gets detected in a hospital⁵, the hospital management must act immediately to contain its spread. AMR, in other words, develops at multiple, changing, speeds.

To public officials involved in the coordination on AMR, the exogenous time properties, especially the long-term aspect, can be read as if there is time enough to weigh and discuss alternative actions against each other (Brunsson 2000). This may produce the somewhat paradoxical situation where decision-making on what to do, drags on to severely delay the preventive action itself (ibid., Alexander 1993: 333, Jacobs 2011). Drawing on this temporal paradox, the thesis takes as a base that the long-term AMR “crisis-in-the-making” makes the coordination of preventive action vulnerable to competing, more short-term, demands. These demands are represented in the thesis by government agencies’ primary responsibilities and schedules (see “the Sweden paper”). In emphasising that which for the agencies can become a balancing act of time spending, the thesis provides a temporal perspective on the distinction between “primary” and “secondary” time of organizations (Egeberg and Trondal 2020: 8).

The second temporal feature concerns endogenous time, i.e., the temporal properties of the process where agencies coordinate the preventive action on AMR. The coordination process’ extension in time necessitates some formal or informal stipulation of frequency, sequencing, timing, and duration, in order to ensure the fulfilment of coordination objectives. Thus far, the temporal structuring that is endogenous to the process is yet to receive broad attention from scholars of public administration. This thesis does so by focusing on the procedural time rules in coordination. The time rules can be decided from above by a competent authority and/or be agreed upon by the coordinating agencies

⁵ One example is the outbreak in 2014-2015 of Extended Spectrum β Lactamase (ESBL)-producing *Klebsiella pneumoniae* (a multidrug resistant bacteria) at the University Hospital of North Norway, Tromsø. A highly readable account of the outbreak can be found in Martiniussen (2020: Ch. 1, in Norwegian).

themselves. The decisive point, nevertheless, is the ability of the involved to use time as a device to influence how the coordination process should “tick” forwards (Goetz 2009). This involves the establishment of a coordination “Eigenzeit” (own time) (Nowotny 1994, 2017, Goetz 2009: 212), which either requires accommodation from the agencies (at the expense of agency schedules, i.e., rhythms), or whose level of discretion enables resonance (Rosa et al. 2017: 67-68) with the existing schedules of partaking agencies. To highlight the significance of time rules to coordination, the thesis’ “Sweden paper” deduces propositions on the likely agency interaction-patterns from having less to more fixed time rules.

The Power Dynamics in Coordination

In addition to emphasizing the temporal features of coordination, the thesis advances a theoretical framework on the role and coming about of power dynamics (see “the EU paper”). The framework utilizes two distinctions in the literature – agency vs. structure and ‘power to’ vs. ‘power over’ (see table 1 of the paper) – to arrive at four categories of power dynamics in coordination. These make up the dependent variable of “the EU paper’s” proposition on how the power dynamics in coordination emerge through actor translation and sensemaking of ideas (Weick et al. 2005, Wedlin and Sahlin 2017). In the following, the thesis adds justification for why it takes a power dynamics and cognitive approach to coordination.

Coordination is a relational activity. Thus, for coordination to progress, there needs to be some level of interaction among the involved – or at least a subset of the involved. However, the synchronizing of AMR preventive action also requires coordination processes that are enduring (Dowding 2008: 26). To this end, mere interaction is not necessarily sufficient. Thus, the partakers’ commitment to the coordination (of preventive action on AMR) may vary from enthusiastic pro-activism to fervent opposition or mutual disregard (Oliver 1991, Scharpf 1994: 44). To capture this varying effect of social relations, the thesis utilizes the relational phenomenon that is power (Lawrence and Buchanan 2017: 480).

Power occupies a prominent, if not always explicit, conditioning role in the scholarly work on coordination. For instance, Bouckaert and colleagues highlight that “the instruments and mechanisms [of the coordination process] aim to enhance the *voluntary* (author’s emphasis) or *forced* (author’s emphasis)

alignment of tasks and efforts of organizations [...]” (Thompson 1967, Metcalfe 1994, Alexander 1995, Peters 1998, Bouckaert et al. 2010: 16). In order to unpack the voluntariness and forced-upon-ness of coordination, the thesis builds on the political science literature on power (Lukes 2005, Dowding 2008, 2012, Göhler 2009). The thesis’ approach extends thus the notion of power to not only encompass the constraining (‘power over’) but also the enabling (‘power to’) effects of social interaction. Concerning the public sector coordination on AMR, the thesis suggests that the presence of ‘power to’ dynamics is a necessary condition for the preventive action to progress.

The thesis’ cognition approach to the power dynamics in coordination springs out of its philosophy of science embedding in critical realism (see section 3.1). This line of thinking acknowledges the significance of causal mechanisms which in themselves may be unobservable but generate observable implications (Bennett and Checkel 2015: 10-11). The inferences we make of a causal mechanism (e.g., the coming about of power dynamics in coordination) should “[...] be consistent with the finest level of detail we observe [...]” (ibid.: 11). Searching for the finest level of detail may however be futile since one can always argue there is a finer level of detail. By theorizing the cognitive foundations of the observed we at least approximate the principle. The thesis importantly does not set out a research agenda that is pure micro-level. Instead, what it aspires is to theorize the process that links a micro-level phenomenon (the actor’s cognitive processing of ideas) with a macro-level phenomenon (the power dynamics in interorganizational coordination) (Barney and Felin 2013: 144, Kamkhaji and Radaelli 2019: 3). The thesis’ “EU paper” assumes that the relational power dynamic(s) amounts to a coordination macro challenge or opportunity driven partly by micro-level processes. Macro change – e.g., in how the coordination process is administered – thus is conditioned by changes at the micro-level. The framework of “the EU paper” aspires to grasp this micro to macro linkage in coordination. It seeks thus to evade the potential shortcoming of macro to macro propositions to “[...] preclude[...] us from actually understanding the role that individuals [...] play in generating, sustaining, and changing institutions [...]” (Selznick 1996, Barney and Felin 2013: 145).

2.1.2 Empirical contribution

The thesis offers a case study of the public sector, transboundary, coordination to slow down the surge of Antimicrobial Resistance (AMR). Despite the “substantial” increase in scientific outputs on AMR in recent years, bibliometric data suggest that contributions from the social sciences are “peripheral” and “spread thin” (Frid-Nielsen et al. 2019: 1-2). This also applies to political science and public administration, where works that focus the attention on AMR are rare to come across (Hannah and Baekkeskov 2020 is one out of few exceptions to this pattern).

The thesis’ three papers illuminate barriers and enablers to make AMR action transgress the health, food and veterinary and environment sectors (ref. the “One Health” principle). The papers investigate the horizontal, cross-sectorial, coordination on AMR at different levels of governance (the EU, the Nordics, and the nation-states of Sweden and Norway). Combined they capture the vertical, multilevel, dimension of AMR governance, as well (Hooghe and Marks 2001, Piattoni 2015, Schakel et al. 2015).

“The Sweden paper” illustrates the relative (to most other countries) success of government agencies in coordinating AMR preventive action (at state level) across Sweden’s health, and food and veterinary sectors. That said, the paper also shows the potential difficulty of engaging agencies in the cross-sectorial coordination, that are new to the policy problem (AMR).

“The Nordic paper” traces the adaptations in policy and administrative structures in Norway, Sweden, and the Nordic Cooperation to meet the AMR threat. The paper shows that the Nordic countries, and Sweden in particular, have taken a leading role in the global fight against AMR. Despite the cross-country concurrence in political and administrative culture, there is notable variation in Norway and Sweden’s adaptation to the One Health global template for AMR governance (see section 1.1). This corresponds with cross-country differences in competence allocation, thus showing the accommodation of the One Health principle to national governance principles. Moreover, despite the recent political announcements of a strengthened Nordic coordination on AMR, these are yet to bring major change to the Nordic health cooperation - which seems more to focus on the exchange of policy experiences than the formulation of interstate policy.

“The EU paper” finally illustrates the demanding nature of EU-level coordination on AMR. The paper thus emphasizes the different scopes of EU

coordination that emanate from the health, food and veterinary sectors' location of policy-making competence at different levels of governance - health policy is a member state competence, food and veterinary policy is a shared competence between the EU- and member state level.

2.2 Literature review

The theoretical base of this thesis builds on three literatures⁶. This section provides a broad presentation of the three literatures – public sector coordination, temporality, and power in politics and administration. The presentation does not meet the standards of an extensive literature review – after all, these literatures have been reviewed before (see e.g., Pollitt 2008, Dowding 2011, MacCarthaigh and Molenveld 2018). Instead, the review focuses on key contributions within each literature and how they relate to this thesis.

2.2.1 Public sector coordination: definitions, mechanisms, and barriers

As was mentioned in the synopsis' introduction (section 1.1), coordination has evolved into a “‘philosopher’s stone’ for government” (Jennings and Krane 1994, Bouckaert et al. 2010: 13). This is not least because the state, and thus the public administration, was expanded throughout the 20th century to cover more spheres of society – albeit, as illustrated by welfare services, with considerable cross-country variation in build-up and scope (Esping-Andersen 2006). With additional and diversified state responsibilities, the need for coordination to maintain a coherency in the public sector became more evident (Bouckaert et al. 2010: Ch. 1). This section gives a brief introduction to how public administration scholars have approached the issue of coordination. The focus is mainly on approaches to the process and methods of coordination, as opposed to the policy output of coordination (Alexander 1993, 1995). This corresponds with the thesis' theoretical angle (see section 2.1.1) and seems also to accord the state-of-the-art literature on coordination (Bouckaert et al. 2010: 15, Cejudo and Michel 2017, MacCarthaigh and Molenveld 2018, but see Peters 1998, 2015).

A quick search in the Oxford University Press' (2020) UK Dictionary reveals that the coordination term stems from the mid-17th century and the French or late Latin “‘coordinatio(n)’”. Derived from the Latin “‘ordo” i.e.,

⁶ “The EU paper” also draws inspiration from the literatures on sensemaking (Weick et al. 2005) and translation of management ideas (Wedlin and Sahlin 2017).

“order”, coordination referred to the activity of “placing in the same rank” (ibid.). One of the earliest approaches to coordination in public administration was the pioneer work by Gulick. Gulick (1937), an American political scientist, saw “co-ordination” as an integral part of the organization. Thus, whereas “work division [was] the foundation of organization” [...], “[...] co-ordination [was] mandatory [...]” in order to preserve “[...] the [organizational] whole” (ibid.: 2, 4-5). From this, Gulick (1937: 5) deduced two ways to achieve coordination,

firstly, by *organization* or the “interrelating of subdivisions of work [according to] a structure of authority” – note the parallel to the German sociologist Weber and his conception of the modern bureaucracy as authoritative, rule-based, practice (Weber 1922/1978, Anter 2014: 192) – secondly, by nurturing an *idea* to achieve “[...] a singleness of purpose in the minds and will of those who are working together [...]”.

Of Gulick’s legacy on public administration scholarship, the most influential seem to be his thoughts on organization structure and principles of work division. Thus, the structuring of the organization followed in two spatial directions, the vertical division, from the upper level of leadership to the lower level of ground workers, and the horizontal division of each level into subdivisions. In turn, the horizontal subdivision followed one or more of Gulick’s (1937: 16, Egeberg and Trondal 2020: 6) four principles of specialization,

the *purpose* of the task,
the *process* used to deliver on the task,
the *persons* or clientele dealt with through the task,
and the *place* or territory for which the task is meant.

These principles were seen as means to alleviate the fact that the individual’s overall knowledge of the organization workplace is limited. Hence, the principles to help bend the attention of the workforce (ibid.). Gulick also emphasized the potential downsides of organizational specialization – especially if two or more organizational principles operate at once. Thus, he associated the principles of specialization with challenges of coordination. In a much later study, Bouckaert et al. (2010: Ch. 1) also showed that swinging the pendulum too much in the direction of work specialization – think of the New Public Management (NPM) administrative doctrine – gives rise to fragmentation, incoherency, and needs of re-balancing through coordination.

Following the work of Gulick, a string of American scholarship on organization and coordination ensued. In 1946, the political scientist Simon

launched a sticking critique of the alleged “proverbs of administration” (Simon 1946). Simon questioned the scientific utility of Gulick’s principles of specialization. “A scientific theory should tell what is true [and] false [...]”⁷ (ibid.: 53). Still, Gulick’s principles gave no direction as to which specialization is the more efficient for maximizing organizational output (ibid.: 54). According to Simon (ibid. 63-64), administrative theory and analysis “[...] must turn to [...] the conditions which underlie the application of the proverbs of administration”. It was on this premise that Simon (ibid.: 64-65) introduced his view on the “administrative man” as rationally bounded, thus making decisions on the basis of knowledge filtered to him via the organization. “The EU paper” builds on this conception when theorizing the participant’s processing of ideas exchanged during the interaction with fellow coordinators. Where “the EU paper” seems to differ from Simon, is on its greater emphasis on individual attributes – i.e., self-perception.

Selznick (1948: 25) shed light on what he termed “[...] the non-rational dimensions of organizational behaviour”. Selznick (ibid.) argued that formal structures – such as the ones identified by Gulick – while “indispensable” to the organization’s functioning, become a source of friction to coordination. Thus, the organization consists of people who “[...] interact[ing] as *wholes* [...]” may object the “depersonalisation” implicit in formal organization (ibid.: 26). The consequent cultivation of “unwritten laws” (ibid.: 27), i.e., informal structures codifying the interpersonal dynamics within the organization, could hamper the achievement of coordination’s stated objectives. This is also evident in the thesis’ “Sweden paper”, where the formal time rules of interagency coordination on AMR, encounter the “Eigenzeiten” (Nowotny 1992, 2017) of semi-autonomous government agencies.

Fast forward to 1955, and Lindblom’s essay on bargaining as “the hidden hand in Government”. Lindblom (1955: 139-140) argued from a market – “private vices, public virtues⁸” – perspective that the method of bargaining or negotiation held “[...] great and inadequately recognized possibilities of social coordination”. In emphasising the sometimes vicious activity of bargaining, Lindblom highlighted a method of coordination devoid of the hierarchical

⁷ Simon was influenced by the neo-positivist philosophy of science (Ongaro 2020: 116, c.f. section 3.1).

⁸ After the Anglo-Dutch philosopher Bernard de Mandeville’s book from 1714, *The Fable of the Bees or Private Vices Public Benefits*.

organizing principle. Hence, his referral to bargaining as “[...] a residual category of controls in government [...]” (Lindblom 1955: 140). Ten years later, in 1965, Lindblom came up with “(probably the first)” definition of coordination (Alexander 1993: 330). Accordingly, coordination “[...] is mutual adjustment between actors or a more deliberate interaction produces positive outcomes to the participants and avoids negative consequences (Lindblom 1965: 23, 154, Bouckaert et al. 2010: 15). Lindblom’s market-dynamics approach to coordination mainly falls beyond the scope of this thesis. That said, the case of AMR is a reminder that market dynamics can cause stagnation and coordinated in-action. Thus, the pharmaceutical industry’s lack of incentive to develop new antibiotics (discovery rates have fallen “dramatically” since the 1980s) has been labelled “an area of clear market failure” (O’Neill 2016: 12, European Court of Auditors [ECA] 2019: 4, WHO 2020b, Financial Times 2020).

Another notable approach from this time period is Thompson’s (1967: 1, 51) study of organizations’ structural adaptation to the uncertainties arising from their environments (external factor) and technical core (internal factor). Thompson (1967: 54) sided with Simon (1946, 1957) in that structure “is a fundamental vehicle by which organizations achieve bounded rationality”. Accordingly, the rationale of organization was to alleviate the individual’s “limited cognitive capacity” to comprehend the scope of environments and the alternative courses (and consequences) of action (Thompson 1967: 9, 54, Egeberg and Trondal 2020: 4). Thompson’s (1967: 56) approach to coordination drew on March and Simon’s (1958) specification of coordination devices, i.e., “standardisation” (routines or rules to constrain action), “coordination by plan” (schedules for the interdependent units), and “coordination by feedback” which Thompson replaced with “coordination by mutual adjustment” – Mintzberg (1979) later referred to five coordination mechanisms, i.e., mutual adjustment, direct supervision, standardisation of, a), work processes, b), work outputs, and c), worker skills. Thompson (1967: 54-55) set March and Simon’s (1958) coordination devices in connection with three types of within-organization interdependence (ranging from less to more complexity). Thus, he suggested the appropriate method to alleviate certain types of interdependence. However, he also indicated that with each method comes “[cumulatively rising] burdens on

communication and decision⁹” (Thompson 1967: 56). In AMR – the thesis’ empirical topic – “problem-solving” organizations face a highly complex threat. This is substantiated by the thesis’ empirical base (see section 2.1.2) involving all the three coordination devices set out by March and Simon (1958), and Thompson (1967).

The 1980-90s brought an additional stream of coordination research, this time pioneered by European scholarship. Based on studies of the British government, the “Anglo-governance school” (Rhodes 1996: 661, 2012: 34) identified a “hollowing out of the state”. By this, Rhodes and likeminded colleagues argued that government by hierarchical administration was a flawed conception of the state apparatus’ *modus operandi*. Instead, the state relied on modes of governance – which Rhodes (1996: 660, 2012: 35) conceived of as “self-organizing” networks of sets of organizations – to fulfil its responsibilities. In light of the previous public administration scholarship on organizational subdivision and coordination, the “governance school” stood out through its emphasis on the network as a distinctive coordination mechanism. Thus, progression in network coordination was neither the result of hierarchical command and control (Weber 1922/1978, Gulick 1937) nor the result of market dynamics (Lindblom 1955). Rather, it was driven by interorganizational interdependence and mutual trust (Rhodes 2012: 35).

Subsequent scholarship in public administration took issue with Rhodes and the Anglo-governance school’s rendering of the hierarchical state organization as obsolete. According to Scharpf (1994), the hierarchical state organization was actually a precondition for network governance. Thus, Rhodes’ emphasis on self-organizing networks reflected the state’s indirect steering – instead of direct controlling – of interactions within the public administration. Scharpf (1994: 28) saw two basic forms of coordination, i.e., hierarchical (“democratically legitimated, contract-based, or authoritarian”) and negotiated (“voluntary or compulsory”). The latter form, he divided in two subcategories according to level of aspiration.

⁹ Thompson assumed a Guttman-scale, cumulative, logic in which the *most* complex type of interdependence also holds the characteristics of the two preceding, *less* complex, types of interdependence.

Positive coordination aspired to joint outputs “[...] by exploring and utilizing the joint strategy options of several [organizational] portfolios” (ibid.: 38).

Negative coordination aspired to non-interference by “[...] ensur[ing] that any new policy initiative designed by a specialized subunit within the [...] organization will not interfere with the established policies and the interests of other [organizational] units” (ibid.: 39).

Scharpf (1994: 40) implied that negotiated self-coordination was more likely to succeed if embedded within a hierarchy or network structure. This was because structure “[...] defines the context [of] negotiations [...]” and so embeds the negotiation game¹⁰ within an overriding set of rules (ibid.). The positive (more aspirational) self-coordination was most likely to work in a shadow of structural hierarchy. Illustrating the argument, Scharpf (1994: 37-38) made reference to Mayntz and Scharpf’s (1975) finding of a “‘dialogue model’” in the West-German ministerial bureaucracy. The model anticipated decision-making on the basis of actor “[...] agreement, rather than hierarchical fiat” (ibid.). The network structure, meanwhile, was a better fit for negative, less aspirational, self-coordination, but a lesser fit for positive, more aspirational, self-coordination¹¹ (ibid.: 47). Applied to the thesis’ study, positive self-coordination in the shadow of network would rely on a limitation in numbers to the organizations with tangible, reciprocal, and lasting needs in AMR coordinated action (Scharpf 1994: 36, 47). The thesis’ “Sweden paper” illuminates the challenge that is to extend a coordination network to additional organizations. Thus, the actors inside the cross-sectoral network of Swedish government agencies recount difficulty with engaging the partakers whose roles in AMR preventive action are unclear.

The “governance turn” (Frederickson 2005) within the literature brought a widening of scope to include levels of governance beyond the public administration of the nation state. Thus, Metcalfe (1994: 271) suggested that intragovernmental policy coordination at the national level is an important conditioner of effective policymaking at the international level. Metcalfe (1994: 275, 280-82) introduced a nine-point scale to measure the degree of European policy coordination inside the member-state governments of the EU. The

¹⁰ Scharpf applied game theory to clarify his line of reasoning.

¹¹ Thus, a precondition for positive coordination in the shadow of network was the congruence between the needs of coordination and the interests of the networking organizations.

approach underlined his argument that “[...] co-ordination is not an all or nothing matter, it involves the choice of combinations of processes and methods appropriate to the problems to be solved” (Metcalf 1994: 279). Echoing the coordination devices by March and Simon (1958) and Thompson (1967), each scale resembled a given capacity to manage the problem-generated interdependence of the coordinating organizations. The coordination scales were as follows (Metcalf 1994: 281, MacCarthaigh and Molenveld 2018: 658),

9. Government strategy
8. Establishing central priorities
7. Setting limits on ministerial action
6. Arbitration of policy differences
5. Search for agreement among ministries or agencies
4. Avoiding divergences among ministries or agencies
3. Consultation with other ministries or agencies (feedback)
2. Communication to other ministries or agencies (information exchange)
1. Independent decision-making by ministries or agencies

Later studies raised doubts about the validity of the cumulative logic¹² that underpinned the Metcalfe scale (Jacob et al. 2008, Jordan and Lenschow 2010, Candel and Biesbroek 2016: 214). The scale was nevertheless important because it categorized coordination on a continuum of scales (instead of exclusive categories), and moreover, assumed a multilevel architecture in which the national level is interconnected with the European (EU) level of governance.

The 1990s and 2000s brought a stream of research focusing on the multi-levelness of supra- and international EU governance. A few observations of relevance to the thesis’ study are briefly noted. The main point is the MLG literature’s conceptualisation of “[...] policy co-ordination across territorial levels of government (Börzel 2010: 194, Benz et al. 2016: 999). MLG takes into consideration that decision-making competencies are “[...] shared by actors at different levels rather than monopolized by national governments” (Hooghe and Marks 2001: 3, Schakel et al. 2015). Piattoni (2015: 326) defined MLG,

“[...] as a type of policymaking arrangements [whose key characteristic is] the simultaneous activation of governmental

¹² Similar to March and Simon (1958) and Thompson (1967), Metcalfe applied the cumulative Guttman logic, whereby each scale builds on, and thus presupposes, the existence of the preceding scales.

and non-governmental actors at different jurisdictional levels and such that the interrelationships thus created defy existing hierarchies and rather take the form of non-hierarchical networks”.

Scholars such as Bauer and Trondal (2015) and Benz et al. (2016) have added the notion of multilevel administration (MLA) to highlight the interaction of public administrations across the European, national and local level. The coordination between public administrations at different governance levels is also the focus of “the EU paper”. The paper shows how multilevel and multisector coordination on AMR gets adjusted to the different power structures of policy sectors. The latter is due to the location at different levels of governance of competence to make binding decisions on AMR prevention and control – public health with national authorities, food and veterinary policy with European and national authorities. The EU’s multilevel coordination on AMR, especially its public health pillar, thus “[...] depends on the capacity [of administrators at the (sub)national level] to mobilize [the proper] values, ideas and people” (Piattoni 2015: 331).

The coordination literature: contemporary debates

The above section gives a glimpse of the voluminous research on coordination since the 1920-30s. It thus captures the essence of the state-of-the-art categorizations of coordination mechanisms into three types: hierarchy, market, and network (Bouckaert et al. 2010: Ch. 3). This typology has been applied by, e.g., Alexander (1993, 1995), and Bouckaert et al. (2010) to unpack the different modes of interorganizational coordination. Here, the typology is used to summarize the predominant research streams on coordination.

Coordination by hierarchy is the conception of organization and bureaucracy as top-down administration by a competent authority which enforces rule-based instructions onto its subordinates (Weber 1922/1978). Gulick’s (1937) principles of specialization exemplify such attempts to dictate the behaviour of lower-level agencies with structural instruments. Bouckaert et al. (2010: 55) moreover point out that coordination by hierarchy can be realised with “non-structural instruments”, including “[...] planning, budget, evaluation [...], or the creation of common cultural values”.

Coordination by market derives from Lindblom (1955, 1965) and likeminded scholars' emphasis on public sector coordination by the "invisible hand". Competition thus underpins the interaction of the coordinating actors whose realisation of a coordinated output follows from bargaining and the exchange of goods.

Coordination by network captures the "Anglo-governance-school's" conception of state administration as primarily based in modes of horizontal coordination (Rhodes 1996, 2012). Thus, the interactions in coordination are rooted in the voluntary collaboration of actors who are (semi-) autonomous, but nevertheless, depend on each other to manage the policy task in question (Klijn 2008, Bouckaert et al. 2010: 44).

Besides identifying types and typologies, the coordination literature lays bare the many barriers to progression and fulfilment of coordination outcomes. One such barrier is when extensive inter- or intraorganizational specialization creates blind spots (Bach and Wegrich 2019) and public administration that is highly fragmented (Bouckaert et al. 2010: Ch. 1). Another barrier which often goes hand in hand with extensive specialization, is when actors pursue partisan politics in order to preserve and/or expand their organizational turf (Peters 1998: 300, 2015: Ch. 2). Furthermore, there is the potential uncertainty and conflicting understandings among coordinators about the nature of the policy problem, and the proper course of action to respond to the problem (Koppenjan and Klijn 2004: 6-7, MacCarthaigh and Molenveld 2018: 664). The synopsis' section 1.2 shows this barrier to be highly present in the coordination of AMR preventive action. Finally, the time dimension has been highlighted as a potential coordination problem (Bouckaert et al. 2010: 31, Peters 2015: 39). The argument is that longer time spans (e.g., in the coordination of food safety regulation), heighten the risk for failure in the synchronisation of tasks designated to the partakers. There is scholarship that emphasize the impact from temporal durability on actor performances in coordination (Dyckman 2004, Coleman 2005). However, the exogenous clock time (that which unfolds independently of the coordination process) is not the only time feature of relevance to coordination (Adam et al. 2002: 3, 25). The next section introduces the predominant takes on temporality in the public administration literature. It includes the time dimension that is endogenous to the coordination process, and thus can be structured, amended, and ignored by the actors involved.

2.2.2 Temporality in the study of politics and administration

The time dimension played for some time a peripheral, at most implicit, role in political science, and public administration inquiry (Pollitt 2008: 4, 7-8). The dominant understanding of time was that of a linear, unidirectional (past, present, future), entity which decisionmakers had come to measure by the objective clock (Adam et al. 2002: 3-5). Correspondingly, the aim of modern (rational) organization and management was to find ways to “control [the time barrier], not to problematize it” (ibid.: 3).

Notable insights on the relation between time and the organizing of public administration were still present from the outset of public administration scholarship. Thus, Gulick (1937: 6) saw time and size as the major limitations to the coordination of tasks within organizations. The interrelation between the time available to set up an enterprise and the workers’ habits, was “[...] extraordinarily important in co-ordination [...]”. According to Gulick (ibid.),

“[t]he factor of habit, which is [...] an important foundation of co-ordination when time is available, becomes a serious handicap when time is not available, that is, when change rules”.

March and Simon’s (1958) notion of coordination by plan (see section 2.2.1), which Thompson (1967: 54-56) termed sequential interdependence¹³, was identified as one way for the rational organization to control subunit interactions over time. This scheduling approach is noticeable in the thesis’ “Sweden paper”, whose concern is the impact of time rules on interagency/-sector coordination on AMR.

One major approach within the public administration literature that theorizes on the time dimension, is Cohen et al.’s (1972) garbage-can (g-c) model of organizational decision-making. The g-c model drew inspiration from late-1960s observations of unrest in the higher education institutions of California (Cohen et al. 2012, Sætren 2016: 24). Its authors challenged the assumption of rational-choice organization by theorizing decision-making as the “[...] outcome or interpretation of [more, or less, rational] interrelations of [...] streams within [the] organization” (Cohen et al. 1972: 2-3, Sætren 2016: 23).

¹³ Actor Y cannot act before Actor X has performed its task properly.

There were four streams, each of which “relatively independent and exogenous to the system” (Cohen et al. 1972: 2-3):

Problems

Solutions

Participants

Choice opportunities

How the streams entered the garbage-can of decision-making was seen to be a function of time (Cohen et al. 1972: 3). In addition, certain traits of the organization structure (hierarchical, specialized, open/unsegmented) were seen to influence the decision-making,

“by (a) [...] affecting the time pattern of the arrival of problems choices, solutions, or decision makers, (b) [...] determining the allocation of energy by potential participants in the decision, and (c) [...] establishing linkages among the various streams”
(Cohen et al. 1972: 4).

Aspects of the g-c model are evident in more recent theorizations on time. Firstly, concerning the thesis, what especially comes to mind is Cohen et al.’s (1972: 1) conception of “fluid participation”, whereby “[p]articipants vary in the amount of time and effort they devote to different domains”. “The Sweden paper” thus assumes that officials participating in interagency coordination have primary (first priority) and secondary (second priority) times to attend to. Secondly, concerning the political science and public administration literature, Kingdon (1984: 86) applied a modified g-c model to study process streams and agenda setting in the US federal government. Kingdon’s (1984: 87) model built on three (instead of the g-c model’s four) process streams, i.e., problem recognition (1), formation and refining of policy proposals (2), politics (3). With Kingdon’s modification, the g-c model’s organizational-structural dimension arguably was omitted (Sætren 2016). This drawback relates, arguably, to Kingdon’s replacement of the g-c model’s third and fourth streams, participants and choice opportunities, with a single stream, “politics” (ibid.: 24-25). Kingdon thus added an explicit concern with policy-entrepreneurship (human agency) and policy-window (the critical juncture, i.e., point in time when the streams get coupled) (Kingdon 1984: 87, Sætren 2016: 22). The differences put aside, Cohen et al. (1972: 3) and Kingdon’s (1984: 87-88) theorization of time – as the exogenous entity that provides “choice opportunities” or “policy-windows” for

decision-making – pointed toward the later development of historical institutionalism in political science and public administration. Moreover, both the g-c model and multiple streams framework show the potential for entrepreneurship when ambiguity hits the fight against AMR.

Historical institutionalism (HI) emerged out of the “new institutionalist turn” in late 1980s scholarship (March and Olsen 1989, DiMaggio and Powell 1991). HI scholars thus started out from the assumption that actor behaviour follows the logic of appropriateness. Actor preferences were not the outcome of calculations on what behaviour is the most utility maximizing. Instead, the preferences were shaped by the institutional context of the actor. Hence, the assumption that institutions, i.e., the structural carriers of ideas that guide behaviour, are anterior to the preference formation of the actor (Steinmo et al. 1992, Blyth et al. 2016: 5, Fioretos et al. 2016: 5-6) – see Blyth et al. (2016) on the ensuing dispute on whether institutions are ontologically real (material). The H of HI persisted in the assumption that “[...] institutions [are] the political legacies of concrete historical struggles” (Mahoney and Thelen 2010: 7). This theorizing of historical time (Goetz and Meyer-Sahling 2009: 181) built on two assumptions.

Firstly, the assumption that institutions are path dependent. Thus, actor preferences – such as what constitutes the appropriate action on AMR – become durable and more difficult to change as time goes by. Pierson (2000, 2004) suggested path dependency to follow the economists’ logic of “increasing returns”. Thus, feedback got more positive the longer the actor continued down a distinct behavioural path. Hence, Pierson’s emphasis on paying attention to timing and the early sequences during which the behaviour-guiding paths are more amenable to change.

Secondly, change in the durable paths was the causal effect of critical junctures, i.e., “[time] period[s] of significant change, which typically occurs in distinct ways in different countries (or in other units of analysis) [...]” (Lipset and Rokkan 1967, Collier and Collier 1991: 29, Fioretos et al. 2016: 8). Still, the question of how [endogenous or within-path] change comes about remained a point of contention (Pollitt 2008: 40-51, Mahoney and Thelen 2010: 4, 7, Blyth et al. 2016: 14). Most HI scholars would agree that during critical junctures the equilibria (the possible paths to pursue) exist in the multiple. Some, however, retained that there is also contingency as to which of the paths gets chosen (Mahoney 2000, Pierson 2000: 263). Thus, they maintained a structural – ‘time is

exogenous to the actor’ – perspective, where emphasis is on the random, accidental, and small events whose ramifications may significantly rise over time (Mahoney 2000, Fioretos et al. 2016: 10). Another approach was that of Streeck and Thelen (2005, Pollitt 2008: 46, 49, see also Mahoney and Thelen 2010), who argued that small, within-path, steps may over time produce major transformation. Echoing Lindblom’s (1959, 1979, Pollitt 2008: 49-50) thinking on incrementalism, Streeck and Thelen (2005) seemed to open for an actor-centred approach. Thus, major transformation depended not necessarily on the critical juncture, it could be gradually engineered as well.

The eclecticism of this thesis leaves it attentive to both structure – ‘time is exogenous to the actor’ – and actor – ‘time is a resource to the actor’ – centred perspectives on the temporality of institutional change. The “Nordic paper” suggests Norway, Sweden and the Nordic cooperation’s response on AMR to instantiate the incremental, path dependent, change. Thus, continuity, not the abrupt change of a critical juncture, has been the story thus far. The “Sweden paper” reflects deeper on the incrementalism observed at the system level. Drawing on the “reactive sequencing” perspective of Haydu (1998: 355), Baumgartner and Jones (2002), Howlett and Goetz (2014: 484-485), it illustrates how agency officials use their historically accumulated know-how to manage the present and the forthcoming AMR. Compared to the above-mentioned perspectives on change, the contingency of the critical juncture is a lesser feature of the actor decision to adjust course (behavioural path). This points to the alternative conception of time in this thesis, namely the temporality that is structured by the actor. This perspective features particularly in sociological accounts on time.

In her essay on time and social theory, the sociologist Nowotny (1992: 424) drew attention to the notion of pluritemporalism. Accordingly, there is “[...] a plurality of different modes of social time [...]” which coexist, and yet are different from the time of physics [objective clock time] or that of biology (ibid.: 424, 426). “Social time” is “[...] the temporality that results from [subjective] adaptations to seasons or other kinds of natural (biological, environmental) rhythm” (ibid.: 428). It gets constituted by the humans inside a social system (ibid.: 429), and hence is temporality that is endogenous. With “Eigenzeit”, Nowotny (1994) added a social time conception of her own. Thus, she emphasized the human inclination “[to] long[...] for the now and [...] desire to have more time available to oneself [...]” (Nowotny 2017: 64). Modern devices

or activities such as smartphones and mindfulness illuminate this inclination as they enable temporary escapes from everyday life (ibid.: 78-80).

In what ways are Nowotny's scholarship relevant for political science and public administration research? According to Pollitt (2008: 61), one immediate answer to that question is the assumption "[...] that time can and is used strategically, that, handled by skilful agents, [time] is an instrument of power". Adam et al. (2002: 24, Pollitt 2008: 59) extended this line of thought to management studies. In theorizing the conception of a timescape, they allotted the temporal complexity of management along four features or Cs (Adam et al. 2002: 12-22):

C1) the *creation* of time to human design ("clock time"),

C2) the *commodification* of time ("time is money"),

C3) the *control* of time (speed adjustment),

C4) the human *colonization* with and of time (past, present and future).

The political scientist Ekengren (1996, 2002) utilized the perspectives on social time and pluritemporalism in order to study the EU's influence on the Swedish state administration (i.e., Europeanization). Ekengren (1996: 394-395) sought to show "[...] how actors through the means of structure create meaning *in* time." "Euro-time", according to Ekengren (1996: 402), had a different structure – timetables, time horizons, speed – than the social time inside the Swedish state administration. Moreover, "Euro-time" had a disciplining effect on the "time consciousness"¹⁴ (ibid.: 398) of Swedish state officials. Thus, officials working with EU affairs came to emphasize "'quickness', 'flexibility' and 'informality'" for better to keep up with the different EC/EU time (ibid.: 398-400). Like Ekengren, the "Sweden paper" of this thesis uses insight from the Swedish state administration in order to illustrate its take on temporal governance. However, where Ekengren theorized the impact from time ideologies on the vertical, EU – national, interconnection of politics and administration, the "Sweden paper" theorizes how government time rules impact on the horizontal coordination of public agencies. In both instances – the vertical and the horizontal – the autonomy of actors to decide how to use their time is a potential obstacle to sustained interaction on AMR.

¹⁴ Time consciousness denoted "'an ideology of everyday time practice, that is as a set of accounts of (or conversations about) temporal practice through which people interpret/construct what "time" is"' (Thrift 1988: 54, Ekengren 1996: 398).

The political scientists Goetz and Meyer-Sahling (2009: 181, Meyer-Sahling and Goetz 2009) approached the time dimension with a view to uncover the temporal features of the EU. One of their initial observations was that previous attempts at launching a research agenda on political time had run out of steam possibly because the time concept is ubiquitous (Goetz and Meyer-Sahling 2009: 182). The political time of Goetz and Meyer-Sahling (ibid.: 181) did not address development “[...] *over* time [...]” – one of the main concerns of historians and historical institutionalists (Pollitt 2008: Ch. 2). Instead, political time concerned the “[...] very diverse range of rules, norms, conventions and understandings that serve as a resource and constraint for political institutions and actors regardless of their spatio-temporal location and affect many aspects of political and policy-making behaviour [...]” (Howlett and Goetz 2014: 478). The components of political time were divided across three recognized distinctions of a political system (Goetz and Meyer-Sahling 2009: 184-191):

Polity – terms (length and configuration), time budgets, and time horizons.

Politics – the utilization of time in decision-making.

Policy – the stipulation of sequence and allocation in time of costs and benefits.

Nowotny’s (1994) thinking on social time was, perhaps in particular, evident in the polity dimension of political time. Thus, EU political time was among other things marked by the absence of a dominant political cycle (Goetz 2009: 202-203), and, concerning the EU Commission, a “[...] considerable differentiation of organisational time” (Goetz 2014: 594). One implication of this pluritemporalism (Nowotny 1992: 424) was the “[...] difficult[y] [to achieve] mobilization and synchronization of actors” (Goetz 2009: 203) and, furthermore, the “[...] clear limitations to centralised steering by the [EU Commission’s] Secretariat-General” (Goetz 2014: 594). With the politics dimension, Goetz and Meyer-Sahling (2009) added a rational, decision-making, perspective to their theorizing. The craft of politics and administration thus involved actors utilizing “[...] the[ir] discretion to make time-related choices in order to gain an advantage in political processes” (ibid.: 187). This emphasis on strategic decision-making served to elucidate the relationship between political time and power (ibid.: 191, 194) – see section 2.2.3. Finally, the third dimension, that of policy or time rules, referred to governance means that regulate actor prioritizations of time-spending. It is this governance through time rules that constitutes the “Sweden paper’s” centre of attention. The “Sweden paper”

elaborates on the conditions under which time rules can accommodate the presence of multiple timetables in interagency coordination. Thus, it connects the policy dimension with the polity and politics dimension of political time and sets these in connection with the literature on coordination.

The temporality literature: final observations

This review of the temporality literature has emphasized the inclusion of time as a variable in research on politics and administration. Firstly, in the garbage-can model and historical institutionalist tradition the time dimension has been treated as an exogenous, unruly (Ansell and Bartenberger 2017), force that occasionally presents itself in events shattering the status quo of political systems – the covid-19 outbreak is a prime example. Secondly, the notion of social time forms part of a research agenda where time is an instrument utilized to structure the proceedings of politics and administration – think, e.g., of how the timing of elections confines politicians’ time horizons. How actors structure their behaviour through time presumably is a function of their own – and/or the influence from other actors’ – interpretation of time’s unfolding – hence, the linkage between time and power in this research.

The notion of time’s unfolding hints at a temporal feature, acceleration, which has gone unnoticed in this literature review. Acceleration in this thesis is treated as a property of AMR. Thus, acceleration forms part of the thesis’ empirical focus and not its theorizing on public sector coordination. Nevertheless, because it is a central concern of contemporary (and previous¹⁵) research on time, this section ends with a brief elaboration on acceleration.

The sociologist Rosa and political scientist Scheuerman labelled “[...] *acceleration* [...] as a striking feature of prominent diagnoses of contemporary social development” (Rosa and Scheuerman 2009: 2). Conceptually, however, the phenomenon of “[...] acceleration remain[ed] elusive and poorly defined” (ibid., Rosa 2009: 78). One of the social scientists who addressed acceleration was Nowotny (1994). Her argument was that present time – the now – is appropriating our perception of the future. The “extended present” involved a

¹⁵ Rosa and Scheuerman (2009) present scholarship (Henry Adams, Georg Simmel, etc.) on acceleration which date back to the early 20th century. They thus show that “[...] early analysts of the high-speed texture of modern society were quick to grasp its potentially deleterious consequences for democratic politics” (ibid.: 22).

shift from the modern emphasis on steady progression and future prosperity towards future predictions of gloominess (Nowotny 2017: 88-89). The “future full of problems” could neither be reduced to a distant, irreproachable, threat (Pollitt 2008: 61). Hence, the calls for action “now” – c.f. the reasoning that features in policymaking on AMR (section 1.2 of the synopsis).

Nowotny (1994, 2017: 65) emphasized the role of scientific-technological development in driving acceleration onwards. High-speed innovation in science and technology provided instruments through which mankind sought improvement of its ability to anticipate the future – think, e.g., of weather forecasting and the projections of future scenarios amid the coronavirus pandemic (Nowotny 2021). Nevertheless, Nowotny (2017: 67) acknowledged there was more to the concept than mere technological acceleration. Thus, she sided with Rosa’s (2009: 81) three distinct categories of acceleration:

1. *Technological acceleration*, i.e., “the speeding up of [...] transport, communication, and production [...]” (ibid.: 82).
2. *Acceleration of social change* through “contraction of the present”, i.e., shortening of the time span where past experience and future expectation coincide (ibid.: 82-83, Lübbe 2009). The expectation for tomorrow thus turns into reality much sooner than what used to be the case.
3. *Acceleration of the pace of life*, i.e., the individual experience of time’s passing and the social compression, i.e., ability of humans to “[...] do more [and more] things simultaneously [...]” (Rosa 2009: 86-87).

What is the role of acceleration in the public sector coordination to prevent the “post-antibiotic era” (WHO 2014: IX)? First and foremost, there is the repeated warnings of AMR prevalence rising towards alarming levels. These warnings are accompanied by calls for an accelerated implementation of national action plans and the “One Health” principle (IACG 2019, see section 1.2 of the synopsis). Accordingly, the process of making multiple policy sectors and levels of governance pull together on AMR needs a speeding-up. If, however, more actors imply more difference and difficulty with synchronization (Rosa 2009: 104), the outcome may actually be the opposite; coordination slowdown. Hence, the possible paradox where action that is sought accelerated loses momentum and decelerates (ibid.: 92-94).

2.2.3 Power in the study of politics and administration

Power is “[...] the central concept of the [political science] discipline [...]” (Drezner 2021: 31). In section 2.2.2 on temporality, we thus reviewed scholarship that aim to unpack the time-power relationship. Mahoney and Thelen (2010: 4) saw the function of institutions to be the power distributional. This, they argued, provided “a basic motor for [gradual, i.e., endogenous,] change” (ibid.). Pierson (2016: 3) stressed the usefulness of the HI perspective to uncover difference in political power distributions. HI’s combination of two focuses – “(1) [...] processes [that] unfold over time; and (2) [...] the ways in which core institutional arrangements—including policy arrangements—typically advance the interests of particular political coalitions” (ibid.) – were thus essential to the systematic analysis of political power relationships. Goetz and Meyer-Sahling (2009: 191-192) on the one hand emphasized how time that is institutionalized – the longevity of political mandates, the timing of elections, etc. – influences the power distributions in politics, on the other hand, how time is a strategic device that actors employ to achieve political ends.

Power is also one of those concepts which “[...] scholars cannot agree on how to define or measure [...]” (Drezner 2021: 31). The solution for many a scholar, for instance in EU and ideational research, has been to avoid or refer to power without an explicit mentioning of what power implies (Durant 2015: 207, Carstensen and Schmidt 2016: 318-319, 2018: 610). This thesis enters power’s “[...] muddied conceptual waters” (Drezner 2021: 31) to illuminate the role of power dynamics in coordination. In the following, the thesis sketches out what lies within these conceptual waters. The review begins by highlighting some of the prominent contributions and scholarly debates on power. Finally, it presents viewpoints on whether the myriad of power conceptualizations should spark concern .

One scholar whose understanding of state, bureaucracy and power gained prominence in the social sciences of the past century is Weber (Hanke et al. 2019). According to Weber – who in addition to social science worked on legal and economic history – power implied a relation i.e., “[...] “a specific meaningful connection between two actions,” namely, on the side of the commander [...] and on the side of the obedient party [...] (Breuer 2019: 2-3). Power, then, became

“sociologically relevant [...] when the ['opportunity' or 'chance'¹⁶] occurs that “a command with a given specific content will be obeyed by a given group of persons (ibid.).” Weber took a firm interest in the phenomenon of domination (Herrschaft) which he denoted “a special case of power (Macht)” (ibid.). In capturing one of the modern state’s essences, Weber precisely referred to its successful “*monopol[izing] of legitimate physical force*” (Anter 2019: 2) – the latter resembling one expression of domination. Here we observe the close linkage of Weber between domination and the obeying’s belief in the legitimacy of that domination (Breuer 2019: 3). Three “pure types” of legitimate domination were singled out by Weber:

[Legal domination, i.e.,] “the “belief in the legality of enacted rules and the right of those elevated to authority under such rules to issue commands”

[Traditional domination, i.e.,] “the “established belief in the sanctity of immemorial traditions and the legitimacy of those exercising authority under them”

[Charismatic domination, i.e.,] “the belief in “an extraordinary quality of a person” [...]” (ibid.).

Since legitimacy is not the explicit focus of the thesis, this review does not dive into the vast literature on the topic. Still, Weber’s linkage of domination and legitimacy is commented because its reasoning echoes some of the thesis’ basic assumptions. According to Weber, the belief in legitimacy is

a “superadditum” that does not bring about domination as such but simply supports and stabilizes it. If this belief is missing, then we are dealing with simpler, that is to say, non-legitimate domination based on “the appeal to material or affectual or ideal motives as a basis for its continuance.” Such domination may be more unstable when compared with legitimate domination (Breuer 2019: 3).

Weber’s conception of domination (and by implication power) is referred to in this thesis as a ‘power over’ dynamic (see table 1 in “the EU paper”). The above reasoning is, however, quite similar to what recent scholarship suggests is the

¹⁶ Weber referred to the German ‘die Chance’, whereas the subsequent translations of Weber into English referred to ‘probability’ (Breuer 2009: 14).

utility of a ‘power to’ dynamic (see below), namely that institutions become more enduring and less vulnerable to exogenous shocks (Dowding 2008: 26). Thus, we see the influence from Weber on this thesis since both its theoretical frameworks align with the argument by Dowding (ibid.).

Where Weber theorized “‘Herrschaft’”, the American political scientist Dahl (1957: 202) sought to “[...] to explicate the primitive notion that seems to lie behind all [...] concepts [of power]” – e.g., “[...] influence, control, and authority“. Writing from a behaviouralist position (see section 3.0 on philosophy of science), Dahl (ibid.: 201) made the case for power to be studied as “[...] Thing[s] [that] exist in a form capable of being studied [...] systematically”. Dahl’s (ibid.: 202-203) definition of power – “A has power over B to the extent that he can get B to do something that B would not otherwise do” – had a clear ‘power over’ logic. Thus, power relations brought winners and losers. Dahl did not stop with the mere identification of which actors come out on top. He also sought to uncover

- (a) the *base* (source, domain) of A’s power,
- (b) the *means* (instruments) used by A to exert that power,
- (b) the *amount* (extent) of that power compared to that of B,
- (d) the *scope* (range of B’s responses) (Dahl 1957: 203).

Importantly, Dahl did not treat conditions (a) to (d) as power in their own right. Instead, they were the passive sources that if exploited by actor A or B could cause the effect that is power (Dahl 1957: 203). This emphasis on power as the effect of actor relations corresponds neatly with “the EU paper’s” take on power dynamics. However, in extending the concept to include ‘power to’, the thesis goes beyond Dahl’s – too narrow according to critics (Lukes 2015) – definition.

‘Power to’ in this thesis is the effect “[...] that enables the actor to pursue its objective(s) *without* the constraining of others” (Göhler 2009: 31-32, see “the EU paper”: 6-8). One central divide in the ‘power to’ literature is between those who pin the concept to individual action only (e.g., Pitkin 1972: 277, cited in Göhler 2009: 28, Morriss 2012), and those who argue it is generated in actor relations (e.g., Parsons 1963, Arendt 1970¹⁷, Pansardi 2012, Battezzorre 2017: 282-283). Focusing on the power dynamics in coordination, the thesis enters the

¹⁷ Arendt’s understanding of power arguably encompasses ‘power to’, whereas she rejects ‘power over’ due to its correspondence with violence (Lukes 2005: 32-33, Göhler 2009: 32). This understanding appears too narrow for the thesis’ approach to power, and thus is not covered any further in the review.

latter end of this divide. Hence, this review's mentioning of the American sociologist Parsons (1963: 258, 237), who perceived power as "[...] a phenomenon of coercion [and] of consensus" taking place within "[...] a relational system [...]". Parsons (ibid.: 232) criticized the likes of Dahl (1957) for exclusively maintaining a zero-sum conception of power. According to Parsons (1963: 237),

[p]ower [...] is generalized capacity to secure the performance of binding obligations by units in a system of collective organization when the obligations are legitimized with reference to their bearing on collective goals and where in case of recalcitrance there is a presumption of enforcement by negative situational sanctions—whatever the actual agency of that enforcement.

In emphasizing the need of legitimation – i.e., to “inspire “confidence”” (Parsons 1963: 240) – Parsons extended a core tenet of Weber (see above). Legitimation was necessary in order for binding obligations to be complied with, but according to Parsons (ibid.: 242) the result¹⁸ was not always ‘power over’. Thus (ibid.: 241),

[...] for power to function as a generalized medium in a complex system, i.e. to mobilize resources effectively for collective action, it must be "legitimized" which [...] means that in certain respects compliance [...] is not binding, [...] but is optional.

To achieve such voluntariness meant overcoming the “zero-sum” problem where the power in actor relations is of a fixed quantity and is asymmetrically distributed. Reflecting on this problem, Parsons coincide with “the EU paper’s” concern with the conditions for transboundary coordination on AMR. Thus,

[t]he crucial point is that this can only happen if the collectivity and its members are ready to assume new binding obligations over and above those previously in force. The crucial need is to justify this extension and to transform the "sentiment" that

Parsons (1963: 237-238) applied the term «generalized» to emphasize that power “[can]not solely [be] a function of one particular sanctioning act which the user is in a position to impose”. Thus, power to Parsons is not a possession but something that is realized.

something ought to be done into a commitment to implement the sentiment by positive action, including coercive sanctions if necessary (Parsons 1963: 255).

Parsons' power conceptualization had its critics. This review highlights the political scientist Lukes (2005[1974]) due to his understanding of power as embedded in social structure. The assumption is present in "the EU paper", albeit in a more agency-oriented version than Lukes' structuralist position. Lukes' critique was wide-ranging. He criticized Weber and Dahl for having established "[...] too methodologically individualist a view of power" (ibid.: 26). Of Parsons [and Arendt], he (ibid.: 34) suggested that their "focus on the locution 'power to' [brought] ignor[ance of] 'power over'". According to Lukes (ibid.: 34-36), power involved a conflict of interest – i.e., the "zero-sum" phenomenon – among the actors involved. However, contrary to Dahl's position, the conflict needed not to be observable in order to qualify as power. Thus, conflicts could be latent with the involved actors displaying no apparent action. Lukes (ibid.: 12) added such latency to his conception of domination¹⁹ which he referred to as "[...] capacity not the exercise of that capacity [...]". Thus, different from Weber, Dahl, Parsons – and this thesis – Lukes seemed to treat power as the explanatory variable, not the outcome in need of explanation. Power, i.e., domination, was at work in social structures [...] where [e.g.] the mobilization of [individual] bias results [...] from the form of organization" (ibid.: 26). Hence, Lukes' critique of associating power with individual exercises when power, after all, was an attribute of the collective.

In contrast to Lukes, the political scientist Dowding's view on power seemed to constitute a middle-ground between the conflictual – power is zero-sum – and the consensual – power is positive-sum – direction. Writing from a rational-choice institutionalist perspective, Dowding et al. (1995: 266, 272) argued that "[...] social relations involving power [...] cannot be argued *a priori* to have either zero-sum or positive-sum outcomes across the board. Instead they are variable sum, depending on many detailed situational effects [...]. Dowding questioned Lukes' structuralist view on domination. Thus, "[i]f any and every influence outside of a person [is] autonomy²⁰ reducing, then there [can] be no

¹⁹ Domination according to Lukes (2005[1974]: 12) was "only one species of power".

²⁰ Dowding (2006: 140) understood the autonomous actor as someone who «acts through her own self-will".

autonomy since everyone is constantly assailed by influences from the world around them” (Dowding 2006: 140). Autonomy reducing domination was still a possibility “[i]f we are systematically affected by aspects of the world that are *intended* by others to affect us in some ways [...]” (ibid.: 141, author’s emphasis). Dowding’s view on structural power corresponds with “the EU paper”, which, among other things, presumes the possible EU domination over the Member States in AMR food and veterinary policy. The EU holds a systematic influence in that policy sector because of its regulatory competence – this gives EU the entitlement to add legislative constraints on sector businesses and authorities at national level. That said, the domination of the EU in AMR governance first becomes power – i.e., effect – when national-level stakeholders abide by its policies. Hence, “the EU paper’s” view on domination as possibility that relies on actor agency to become realized.

The power literature: final observations

The power concept has been portrayed as largely left behind by mainstream political science (Jordan and Richardson 1987, Guzzini 2000: 53, Dowding 2008: 32). Still, the above literature review gives only a glimpse of the manifold conceptualizations of power. The fuzziness of the power concept arguably makes it less suitable for empirical research (Drezner 2021: 31). Drezner (ibid.) thus notes “[an] enormous gap between theoretical debates about power and efforts to operationalize the concept” – a gap which “the EU paper” addresses through theorization on the power dynamics in public sector coordination. Taking as base that there is conceptual fuzziness, we might ask whether this constitutes a problem. The final section of the literature review rounds off by emphasizing some viewpoints on the matter.

Dowding’s argument springs out of his critique of Lukes (2005: 30), who saw power as “ineradicably value-dependent” and an “essentially contested concept”. According to Dowding (2012: 121), “all definitions of power have normative implications [...]”. Still, he warned against “seeing [...] disputes [over the definition of power] as simply expressions of moral preference [...]” (ibid.). To enable a clear expression of wherein our normative disputation lies, we should keep “basic concepts [such as power] as non-normative as possible [...]” (ibid.). Dowding thus did not see the existence of manifold power conceptualizations as problematic in itself. He preferred certain ways to others of looking at power but maintained that “non-rival but different accounts of power

can be used in different contexts depending upon the research question (ibid.: 122).

Drezner (2021: 31) – whose scholarship is in international relations (IR) – considered the power concept to be “poorly defined” and thus problematic for scholars and practitioners. With regards to the former, having a multiplicity of power definitions contributed to intellectual monocultures (McNamara 2009) and “less inter-theoretic debates across [...] isms” (Dunne et al. 2013: 406). With regards to the latter, disagreement about the perception and distribution of power could lead to “real-world disputes” (Drezner 2021: 32) – think, e.g., of the zero-sum world view held by former US President Trump. Thus, Drezner (ibid.) maintained, “[i]f scholars cannot agree on the distribution of power, neither policymakers nor publics are likely to share a consensus view”. Translated to AMR governance, the policies on preventive action might get shaped by the power definitions which the policymakers adhere to – and which inform them on what power dynamics are possible (and desirable) in public sector coordination.

3 Methodology

This section gives a brief outline of the philosophy of science foundations of the thesis. In sketching out its ontological and epistemological point of view, the section clarifies the thesis' embedding in critical realism. Finally, the section reflects on the case selection and data material of the three papers included in the thesis.

3.1. Philosophy of Science

It appears being rare to make the connection between literature on the philosophy of science and the literatures on public administration and public governance (Ongaro 2020: 1). Nevertheless, philosophical issues arguably are of “utmost significance” for public administration (ibid.: 4). Digging into why this is the case goes beyond the scope of the thesis (see Ongaro 2020 for an in-depth scrutiny). The thesis simply maintains that the assumptions scholars make about reality in their work, have a philosophy of science foundation. Thus, if what we seek is a clearer understanding of the assumptions beneath literatures – the tradition they stem from, etc. – the philosophy of science is a good place to start.

According to Delanty and Strydom (2003: 3), “the philosophy of [...] science concerns the principles regulating the search for and acquisition of knowledge [...] about reality [...] through a series of intersubjectively accessible and justifiable methodological steps”. Being concerned with knowledge and knowledge production, the philosophy of science encompasses three philosophical disciplines, i.e., methodology (see section 3.2), epistemology, and ontology. Epistemology (‘the theory of knowledge’) denotes the philosophical investigation of “possibility, limits, origin, structure, methods and validity (or truth) of knowledge” (Delanty and Strydom 2003: 4-5). Hence, the key question in epistemology is “‘how to know/what we know’” (Kenny 2010, cited in Ongaro 2020: 6) or “‘how we can know this [...] fact’” (Bouckaert 2020: viii). Ontology (‘the theory of the nature of reality’) is the philosophical (and different) delineations of what constitutes social reality (Delanty and Strydom 2003: 6). In science, the key ontological question is “‘what there is’” to inquire into (Kenny 2010, cited in Ongaro 2020: 6, Bouckaert 2020: viii). The ontology beneath theories thus affects what scientists see as knowledge or a fact.

According to Ongaro (2020: 188) there is heterogeneity in the philosophy of science perspectives that underpin the public administration literature. Still,

there is cleavages which they all relate to, most notably the one between rationalism and empiricism (ibid.: 188-189). At the one end of the spectrum, rationalism acknowledges deductive reasoning – from a priori²¹ knowledge embedded in theory perspectives or mental “‘experience’” (ibid.) – as a source of knowledge alongside observation. At the other end of the spectrum, empiricism sees inductive reasoning – from empirical observation alone – as the “‘proper’” source of knowledge (ibid.). The thesis’ critical realism foundation places it closer to the rationalism end of the spectrum. The following paragraphs outline the ontological and epistemological positions of critical realism. For matters of clarity, comparisons are made with two approaches – neo-positivism and social constructivism – which, alongside critical realism, seem to dominate research on public administration (ibid.: 187).

Ontology: The thesis’ anchoring in critical realism implies taking as base the existence of an external reality which is independent of human consciousness but can be known to us – although to observe every facet of this external reality comes with “‘major limitations’” (Ongaro 2020: 204, Delanty and Strydom 2003: 376). For instance, pathogenic bacteria, viruses, etc., live around (and sometimes inside) us regardless of our awareness of their existence. The above is characteristic of the ontology which ascribes truth value to objects (e.g., microbials) in themselves (Ongaro 2020: 205). The thesis’ ontology still goes wider in that it ascribes truth value to the subject, i.e., the human interpretation of what is real (ibid.). Here we see the hybrid trait of critical realism whose ontology emphasizes both the universally observable (akin to empiricism) and the subjective view on reality (akin to rationalism). This dualism is evident in the thesis’ emphasis on, i), exogenous AMR properties (its temporality and versatility) and, ii), endogenous actor perceptions of time rules in the coordination on AMR.

In comparison, the neo-positivism ontology retains the observable – e.g., the behaviour of coordinating actors (see section 2.2.3 on Dahl) – as *the* source of knowledge. The social constructivism ontology maintains that knowledge, indeed, the very uncovering of knowledge springs out of subjective (more or less creative) processes of construction (Delanty and Strydom 2003: 373). The objective fact that is devoid of human interpretation does not exist.

²¹ Rationalism assumes that “‘ideas are, at least partly, innate, and hence that reason can proceed, at least to some extent, ‘on its own’ in knowing the world’” (Ongaro 2020: 188).

Epistemology: The critical realism epistemology of the thesis assumes that explanation of social phenomena is what science should strive for. What it does not assume is that explaining merely involves the uncovering and testing of single cause-effect models²² (see Ongaro, 2020: 206-209, on the integration in critical realism of Aristotle’s four types of causes, i.e., material, formal, efficient, final). Reality according to critical realism is “emergent”, “layered”, and in some instances unobservable (Delanty and Strydom 2003: 376). Hence its epistemological concern with the underlying structures in society and the causal mechanisms that bridge changes at the micro- to changes at the macro-level. The causal mechanism has multiple, competing, definitions (see the outline in Bennett and Checkel 2015: 10-13). Bennett and Checkel’s (2015: 10-13) definition coincide with the assumptions in critical realism. Thus, they view the causal mechanism as an ontologically real “[process of] physical, social, or psychological [...]” character (George and Bennett 2005: 137-138, Bennett and Checkel 2015: 12). The process is unobservable yet generates observable implications for the individuals who make it happen. Propositions founded on critical realism epitomize the rationalism logic of deduction from existing knowledge and/or mental experience. Accordingly, to establish knowledge about a causal mechanism – ref. the ‘how to know/what we know’ question – we, first, need to deduce propositions about its elements, functioning, etc., then, refine these propositions in accordance with the mechanism’s observable implications. The thesis’ research papers build on this logic, especially “the EU paper” whose theorizing of the connection between actor sensemaking and power dynamics relies on existing theories and case study observations (see section 2.1.1).

In comparison, the neo-positivism epistemology maintains that the discovery of “scientific knowledge” – the objective facts that exist beyond and independent of the human observer – goes through the methods of the natural sciences²³ (Delanty and Strydom 2003:16, Ongaro 2020: 201). Similar to critical realism, the neo-positivism epistemology builds on the logic of deduction – a major break with positivism’s initial emphasis on induction. That said, neo-

²² Explanation in critical realism is not all about the “causal effect” – i.e., “the expected value [and magnitude] of the change in outcome if we could run a perfect experiment in which only one independent variable changes” (George and Bennett 2005: 138). To explain a causal mechanism is also to uncover the spatial contiguity and temporal succession, i.e., sequence of the process (ibid.: 140).

²³ The gold standard is the experimental method which allows for controlled, even manipulated, observations.

positivism prescribes more stringently the kind of existing knowledge that deductions draw from. This knowledge is “pure” – devoid of human subjectivity – formulated in the “one intersubjective language of science” and thus founded on logics that are universal (Delanty and Strydom 2003: 16). Hence, the “emphasis [in works founded on neo-positivism] for expressing concepts through mathematical formulas and for elaborating analyses in ways patterned on mathematical modelling” (Ongaro 2020: 203).

Building on the epistemology in critical realism, the thesis sides with the realist critique of deduction in neo-positivism. A thorough elaboration on the disagreement is beyond the synopsis’ scope. Still, one aspect is mentioned because it exposes the difficulty with elevating parsimony (at best through mathematics) in the social sciences. The human agent is a reflective being capable of contemplation, anticipation and pursuits of short- and long-term objectives (George and Bennett 2005: 129). Thus, if parsimony through scientific language is the gold standard (Ongaro 2020: 101), we risk downplaying the multifaced-ness of human behaviour. Moreover, we risk the false pretension that social science theory is capable of predicting future human behaviour – humans are less law-abiding than the logic in mathematics.

To better accommodate for human reflectivity, the thesis includes human understanding – i.e., subjective interpretation – of reality to its base for deductive reasoning. On this point, it approximates (but still differs) from the epistemology in social constructivism. In social constructivism, knowledge gets constructed through social practices, e.g., research, which in turn get shaped by dominating structures (ref. section 2.2.3 on Lukes’ view on power). Different from critical realism, the ambition in social constructivism is not explanation but understanding of the formation of intersubjective opinion (Ongaro 2020: 108). The social constructivist view on human agents and social structures is of two entities that constitute one another (Delanty and Strydom 2003: 373, Bennett and Checkel 2015: 14-15). Hence the difficulty with distinguishing the anterior cause from its posterior effect, and, aligning social constructivism with an epistemology focused on causal mechanisms. In social constructivism, things can be “[...] real in their consequences but not in their causes” (Delanty and Strydom 2003: 377).

3.2 Methodology and Case selection

The philosophy of science's third pillar is methodology which translates into "theory of the way in which knowledge is acquired" (Delanty and Strydom 2003: 3-4). The thesis' concern with micro (individual) to macro (interorganizational) changes and the significance of time in coordination suggests process tracing²⁴ is a methodological fit. Process tracing is beyond the thesis' mainly theoretical contribution. All the same, through deduction of theoretical frameworks the thesis prepares the ground for the future process tracing of coordination initiatives. The thesis' theoretical frameworks are nevertheless accompanied with illustrative case studies. These are instances²⁵ – one national (Sweden) and one supranational (EU) – of the public sector coordination on AMR and serve to demonstrate the empirical relevance of the framework propositions (Eckstein 1975: 109, cited in Levy 2008: 6-7). Two additional cases – one national (Norway) and one international (the Nordic Cooperation) – are included in the thesis' "Nordic paper". The resulting combination of all four case studies –Norway, Sweden, the Nordic Cooperation, and the EU – highlights, on the one hand, the cross-border diffusion of management ideas on AMR, on the other hand, how and why their impact is limited at the domestic administrative level.

The thesis' case selection can be criticized for having a too narrow focus on public administration experiences in the Nordic region. Against this one can argue that the Nordic countries constitute the best-performing region in Europe on AMR prevention and control – see "the Nordic paper's" reference to surveillance data showing low levels of AMR prevalence and antimicrobial consumption in the Nordic countries. "The Sweden paper's" study of inter-agency/-sector coordination on AMR thus constitutes a critical, most-likely, case (Levy 2008: 12) for the thesis' theoretical framework on time rules. To further advance the framework will require new observations beyond the most-likely case. (Un)fortunately, the cross-European variation in AMR prevalence and

²⁴ Process tracing is "[...] the analysis of evidence on processes, sequences, and conjunctures of events within a case for the purpose of either developing or testing hypotheses about causal mechanisms that might causally explain the case" (Bennett and Checkel 2015: 7).

²⁵ This refers to George and Bennett's (2005: 17) understanding of "[the] case as an instance of a class of events" where "class of events" refers to "a phenomenon of scientific interest".

medicine consumption (see “the EU paper”) suggests we need not look far beyond Sweden for tougher, less-likely, cases to study.

3.3 Sources

The critical realism foundation of the thesis implies a relatively wide scope of information sources that qualify as knowledge. The thesis thus accepts “[...] a priori knowledge, mental ‘experience’, [and] deductive reasoning [...] as sources of knowledge proper alongside the knowledge that derives from the senses” (Ongaro 2020: 188-189). The theoretical frameworks of “the Sweden-” and “the EU paper” build on the prior contributions of scholars from different literatures and academic debates (see sections 2.1.1 and 2.2). The data on the public governance on AMR stem primarily from the four case studies. This knowledge derives from the senses, but not the investigator’s direct observation of coordination on AMR. Instead, it builds on the theory-guided analysis of, a), policy documents stemming from the coordination process and, b), written transcripts of interview recordings (see the list of interviewees in Appendix A). The interviewees are experts and senior executives with first-hand experience from coordination on AMR – see the elaborations of each paper on how they were selected. During the interviews, they shared their thoughts on the administering of action against AMR – how it works, strengths, challenges, the history behind current schemes, etc. The data make for invaluable insights into the politics and administration on AMR. Still, they are subjective reproductions which coexist with other, possibly diverging, interpretations of the administrative work on AMR. Hence, where possible, the thesis matches interviewee statements with the information that is written in policy documents (annual reports, legal texts, minutes, strategies, etc.).

4 Main Findings

The following paragraphs present the main findings on RQ1, i.e., the primary research question that guides the investigation of the thesis:

RQ1: How does public organizations at various levels of governance coordinate the preventive action on AMR? What are the impacts of temporality on such coordination and what can explain dynamics of power in AMR coordination?

Concerning RQ1's first part, the finding each paper encounters is that coordination on AMR is conditioned by the authoritative structures which the participants primarily submit to.

“The Sweden paper” illustrates the state-level and cross-sector coordination on AMR where action plans must be interwoven with the participating agencies' timetables. This interweaving of coordination and agency timetables is maintained by the participants on a voluntary basis – despite the few additional Government funds to manage the coordination scheme. However, the Swedish case not only is a story of agency commitment to AMR preventive action. The story is also of Sweden's government structure where decisions by the Government Office are unanimous (agreed to by all the ministries), and competence is dispersed across multiple, highly specialized, Government agencies. The structuring of authority thus continues to necessitate cross-sectoral coordination in the Swedish public sector – see e.g., Pierre (2020: 481-482) on Sweden's covid-19 response which apparently reflected a belief in ‘the strength of weak ties’ (Granovetter 1973) as the better coordinating arrangement.

“The Nordic paper” extends the empirical scope to include the Swedish state-level, the Norwegian state-level (incl. the regional but state-owned and state-governed health enterprises), and the Nordic cooperation. Norway just as Sweden is renowned internationally for its successful containment of the AMR surge. Similar to Sweden, Norway's policy on AMR has a pronounced cross-sector, One Health-holistic, element. However, the Norwegian structuring, i.e., allocation of competence at state-level complicates the realization of cross-sectoral coordination on AMR. The decision-making of the Norwegian Government is shaped by the ministerial rule where each minister answers to Parliament on the affairs in his/her sector. Norwegian ministries are more actively involved in the formulation and follow-up on AMR action plans than is the case in Sweden – see Askim and Bergström (2021: 14) who make similar remarks on Norway and Sweden's covid-19 responses. Moreover, the

coordination of the follow-up on Norway's AMR strategy mainly takes place within each sector. Thus, there is one action plan (2015-2020) specific to the health sector and one action plan (2015-2020) specific to the food and veterinary sector. AMR's inter-sectoral element has not been neglected by the Norwegian bureaucracy. The accommodation to the One Health principle is rather pragmatic with cross-sectoral work being most pronounced on food-borne diseases and zoonoses – i.e., where the animal-food-human interconnection is evident (see also Kirkby et al., 2021: 69-75, on One Health, zoonoses, and AMR). In the Nordic cooperation, there is ambition for a closer inter-state cooperation on AMR prevention and control (see e.g., Könberg 2014). However, the ambition is yet to manifest in concrete initiatives – beyond the recurring discussions of politicians, state representatives, and experts. Such mode of discussion marks a continuation of the Nordic cooperation on health – where competence to decide on policy rests entirely with the nation state.

“The EU paper” illustrates how EU institutions – most notably the EU Commission, the EU agencies on health and food affairs, and member state envoys – manoeuvre the multisectoral and multilevel coordination on AMR. It involves the crossing of two policy sectors where the EU is entitled to make binding decisions on one (food and veterinary) while on the other (health) it shall respect the competence of the member states (c.f. Art. 168 TFEU). Given the authority structure where regulatory competence rests with different governance levels, the EU Commission “play[s] on th[e] piano keys which it has access to” (“the EU paper”: 16). Hence, the introduction of EU law that is to regulate the use of antimicrobials in food and feed production, and EU guidelines for the prudent use of antimicrobials in health care. Following a request from the EU Council (c.f. CoEU 2016), the EU Commission instigated the EU AMR One-Health Network to facilitate coordination, knowledge exchange and peer review of national action plans. The network of expert representatives from the member states, the EU, and IOs enables regular conversation on AMR across the scope of administrative bodies in Europe. Thus far, it has led to a Joint Action on AMR and Healthcare-Associated Infections (EU-JAMRAI, 2017-2021). It remains to be seen whether conversations within the network translate into more transboundary action on AMR.

With regards to RQ1's second part, the thesis' theoretical frameworks suggest the following. “The Sweden paper” distinguishes between the exogenous and endogenous temporal properties of coordination. The former relates to the

phenomenon – in this case, AMR – which triggers the need for coordinated action. In the Sweden case, the emphasis is on AMR’s long-term-ness that makes mobilization difficult to “sell” and preventive action difficult to maintain over time. The latter, endogenous time, captures the coordinating actors’ use of time to support or evade the interaction. The theoretical framework of “the Sweden paper” theorizes how the level of time rule fixation contributes to voluntary and/or imposed horizontal agency coordination. “The EU paper” sets out two supplementary propositions on how the actors’ sensemaking of ideas pave the way for power dynamics in coordination on AMR. Focusing on the link (mechanism) between cognition (micro-level) and power (macro-level) “the EU paper” theorizes how the actors’ “[...] hearts and minds [...]” (Weick et al. 2005: 418) condition the emergence of power dynamics in coordination.

The power dynamics identified in “the EU paper” are either zero-sum – one or a subgroup of actors are constrained – or positive-sum – participation in the coordination on AMR is a win-win to everyone involved. This points to the insight emphasized in both the frameworks of the thesis. Accordingly, there is enhanced opportunity for the coordination to endure when participants are jointly responsible to develop and run the mission. Entrusting the participants with ‘the hands on the coordination mission’s wheel’ does not guarantee success but enables their finding of ‘everybody wins’ solutions that encourage long-lasting coordination. This approach to state-level coordination on AMR seems to work satisfactorily in the Sweden case. Whether it can also promote positive-sum coordination at the EU-level is less clear. The EU’s coordination on AMR rests on the support of the member states (especially when it concerns the health sector). The member states already from the outset hold their hands on the coordination mission’s wheel. To have lasting EU multilevel and multisector coordination on AMR thus requires their continuous support. Such Community-wide engagement on AMR – provided it manifests – coincides with ‘power to’ dynamics in transboundary coordination.

5 Concluding remarks

In March 2021²⁶, the EU Commissioner for Health and Food Safety, Kyriakides, made the following remark to the EU AMR One-Health Network (European Commission 2021):

[...] The [covid-19] pandemic demonstrated the dimension that a health crisis can inflict on our societies and economies, and highlighted the importance of decisive, coordinated actions. The global AMR threat is expected to grow in coming years and, in the long term, its impact will likely be worse than the current crisis.

Rounding up her remark, Kyriakides “[...] highlighted the need to take concrete coordinated actions in a holistic manner” (ibid.). However, to realize such multisector and multilevel coordination on AMR is no easy exercise. This thesis emphasizes the significance of temporal governance and power dynamics to the coordination on transboundary threats such as AMR. Both dimensions play into an ongoing debate in the literature on the challenges to building societies that cope with transboundary threats and long-lasting turbulence (Boin and Lodge 2016, Duit 2016, Ansell et al. 2017a, 2017b). Writing on the temporal governance of society, Nowotny (2017: 85-86, see section 2.2.2) argues that

[t]he institutions we have today were created as frameworks of reference and as means of regulation for the problems of the past. Their capacity for providing the kind of “temporal governance” required today is woefully underdeveloped. First, the long-term perspective is missing. Second, they lack what it would take to counter the neoliberal pressure for improvements in efficiency [...].

Nowotny puts her finger on two crucial challenges to building societies that are resilient. The first one, the long-term perspective, is thoroughly addressed in the thesis’ elaboration on AMR. The second one underscores the difficulty with realizing antibiotics consumption that is more prudent. Thus, antibiotic medicine has become essential not only for its ability to treat illness, but also because it

²⁶ Due to the covid-19 pandemic the network had not met since late October 2019.

enables swift recoveries (thus shortening the number of sick days, i.e., loss of production) and, concerning food production, more intensive farming. Antibiotic medicine thus has been used to facilitate efficiency improvements and, by implication, social acceleration (Rosa 2009).

Addressing AMR involves finding ways to *live with* the challenge so that instead of global disaster it remains a natural phenomenon. The public administration of health services, food safety, trade, environmental protection, etc., must be part of this preventive action. Hence, there is need for coordination transcending sectorial and territorial boundaries, and furthermore, research into the opportunities and constraints for a lasting coordination embedded in ‘power to’ dynamics.

List of references

- Adam, B., Whipp, R. and Sabelis, I. (eds.) (2002) *Choreographing Time and Management: Traditions, Developments, and Opportunities*. In: *Making Time. Time and Management in Modern Organizations*. Oxford: Oxford University Press, pp. 1-28.
- Alexander, E.R. (1993) *Interorganizational Coordination: Theory and Practice*. *Journal of Planning Literature* 7(4): 328-343.
- Alexander, E.R. (1995) *How Organisations Act Together. Interorganisational Coordination in Theory and Practice*. Amsterdam: OSA.
- Ansell, C. and Bartenberger, M. (2017) *Tackling Unruly Public Problems*. In: C. Ansell, J., Trondal and M. Øgård (eds.) *Governance in Turbulent Times*. Oxford: Oxford University Press, pp. 107-136.
- Anter, A. (2019) *The Modern State and Its Monopoly on Violence*. In: E. Hanke, L. Scaff and S. Whimster (eds.) *The Oxford Handbook of Max Weber*. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780190679545.013.13
- Arendt, H. (1970) *On Violence*. London: Allen Lane, Penguin. New York: Harcourt, Brace and World.
- Askim, J. and Bergström, T. (2021) *Between lockdown and calm down. Comparing the COVID-19 responses of Norway and Sweden*. *Local Government Studies*, doi: 10.1080/03003930.2021.1964477.
- Bach, T. and Wegrich, T. (eds.) (2019) *The Blind Spots of Public Bureaucracy and the Politics of Non-Coordination*. Palgrave Macmillan, Cham.
- Barney, J. and Felin, T. (2013) *What are Microfoundations?* *The Academy of Management Perspectives* 27(2): 135-155.

- Bauer, M.W. and Trondal, J. (eds.) (2015) *The Palgrave Handbook of the European Administrative System*. Basingstoke and New York: Palgrave Macmillan.
- Baumgartner, F.B. and Jones, B.D. (eds.) (2002) Positive and Negative Feedback in Politics. In: *Policy Dynamics*. Chicago: Chicago University Press.
- Bennett, A. and Checkel, J.T. (eds.) (2015) Process tracing: from philosophical roots to best practices. In: *Process Tracing. From Metaphor to Analytic Tool*. Cambridge: Cambridge University Press, pp. 3-37.
- Benz, A., Corcaci, A. and Doser, J.W. (2016) Unravelling multilevel administration. Patterns and dynamics of administrative co-ordination in European governance. *Journal of European Public Policy* 23(7): 999-1018.
- Berild, D. and Müller, F. (2020) Antibiotikaresistens er en enda mer alvorlig og langvarig pandemi enn covid-19. *Aftenposten*, 13. April, <https://www.aftenposten.no/meninger/kronikk/i/9v4X11/antibiotikaresistens-er-en-enda-mer-alvorlig-og-langvarig-pandemi-enn>, accessed 13 November 2020.
- Blyth, M., Helgadottir, O. and Kring, W. (2016) Ideas and Historical Institutionalism. In: O. Fioretos, T.G. Falleti, and A. Sheingate (eds.) *The Oxford Handbook of Historical Institutionalism*. Oxford Handbooks Online, May 2016, doi: 10.1093/oxfordhb/9780199662814.013.8
- Bouckaert, G. (2020) Foreword. In: E. Ongaro (ed.) *Philosophy and Public Administration: An Introduction* 2nd edition. Cheltenham, UK and Northampton, MA: Edward Elgar, pp. vii-x.
- Breuer, S. (2019) The Relevance of Weber's Conception and Typology of Herrschaft. In: E. Hanke, L. Scaff and S. Whimster (eds.) *The Oxford Handbook of Max Weber*. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780190679545.013.14
- Candel, J.J.L. and Biesbroek, R. (2016) Toward a processual understanding of policy integration. *Policy Sciences* 49(3): 211–231.

Carstensen, M.B. and Schmidt, V.A. (2016) Power through, over and in ideas: conceptualizing ideational power in discursive institutionalism. *Journal of European Public Policy* 23(3): 318-337.

Carstensen, M.B. and Schmidt, V.A. (2018) Power and changing modes of governance in the euro crisis. *Governance* 31: 609–624.

Cejudo, G.M. and Michel, C.L. (2017) Addressing fragmented government action: coordination, coherence, and integration. *Policy Sci*, doi: 10.1007/s11077-017-9281-5.

Ciabuschi, F., Baraldi, E., and Lindahl, O. (2020) Joining Forces to Prevent the Antibiotic Resistance Doomsday Scenario. *Academy of Management Perspectives*, advance online publication 29 May 2020, doi: <https://doi.org/10.5465/amp.2019.0018>.

Cohen, M.D., March J.G. and Olsen, J.P. (1972) A Garbage Can Model of Organizational Choice. *Administrative Science Quarterly* 17(1): 1-25.

Cohen, M.D., March, J.G. and Olsen, J.P. (2012) “A Garbage Can Model” At Forty: A Solution that Still Attracts Problems. In: A. Lomi and J.R. Harrison (eds.) *The Garbage Can Model of Organizational Choice: Looking Forward at Forty* (Research in the Sociology of Organizations 36). Bingley: Emerald Group Publishing Limited, pp. 19-30.

Coleman, W. (2005) Globality and Transnational Policy-Making in Agriculture: Complexity, Contradictions and Conflict. In: E. Grande and W. Pauley (eds.) *Complex Sovereignty*. Toronto: University of Toronto Press.

Collier, R.B. and Collier, D. (1991) *Shaping the Political Arena: Critical Junctures, the Labor Movement, and Regime Dynamics in Latin America*. Princeton, NJ: Princeton University Press.

Delanty, G. and Strydom, P. (eds.) (2003) *Philosophies of Social Science. The Classic and Contemporary Readings*. Berkshire, UK: Open University Press.

DiMaggio, P.J. and Powell, W.W. (eds.) (1991) *The New institutionalism in organizational analysis*. Chicago: University of Chicago Press.

Dowding, K., Dunleavy, P, King, D. and Margetts, H. (1995) Rational Choice and Community Power Structures. *Political Studies* XLIII: 265-277.

Dowding, K. (ed.) (2011) *Encyclopedia of Power*. Melbourne: SAGE Publications, Inc.

Drezner, D. (2021) Power and International Relations: a temporal view. *European Journal of International Relations* 27(1): 29-52.

Dunne, T., Hansen, L. and Wight, C. (2013) The end of international relations theory? *European Journal of International Relations* 19(3): 405-425.

Durant, R.F. (2015) Whither Power in Public Administration? Attainment, Dissipation, and Loss. *Public Administration Review* 75(2): 206-218.

Dyckman, L.J. (2004) *Federal Food Safety and Security System: Fundamental Restructuring is Necessary*. Washington, DC: US General Accountability Office.

ECA. (2019) EU action to fight antimicrobial resistance. Audit preview: Information on an upcoming audit, European Court of Auditors, February 2019, https://www.eca.europa.eu/lists/ecadocuments/ap19_03/ap_amr_en.pdf, accessed 7 December 2020.

Eckstein, H. (1975) Case studies and theory in political science. In: F. Greenstein and N. Polsby (eds.) *Handbook of political science* vol. 7. Reading, MA: Addison-Wesley, pp. 79-138.

Egeberg, M. and Trondal, J. (2016) Why strong coordination at one level of government is incompatible with strong coordination across levels (and how to live with it): the case of the European Union. *Public Administration* 94(3): 579-592.

Egeberg, M. and Trondal, J. (2020) The Organizational Basis for Public Governance. *Oxford Research Encyclopedia, Politics*. Oxford: Oxford University Press, doi: 10.1093/acrefore/9780190228637.013.1491.

Ekegren, M. (1996) The Europeanization of State Administration. Adding the Time Dimension. *Cooperation and Conflict* 31(4): 387-415.

Esping-Andersen, G. (2006) Three Worlds of Welfare Capitalism. In: C. Pierson and F.C. Castles (eds.) *The Welfare State Reader 2*. ed. Cambridge: Polity Press, pp. 160-174.

European Commission. (2021) *Minutes*. Meeting of the EU AMR One-Health Network – virtual meeting, 25 March 2021.

FAO. (2016) *The FAO Action Plan on Antimicrobial Resistance 2016-2020*. Rome: Food and Agriculture Organization of the United Nations.

Financial Times. (2020) War on superbugs must follow defeat of Covid-19. Editorial, 28. December, <https://www.ft.com/content/db57fb35-1ee6-4b45-a53a-67aa1c33984e>, accessed 01.01.2021.

Fioretos, O., Falleti, T.G. and Sheingate, A. (eds.) (2016) Historical Institutionalism in Political Science. In: *The Oxford Handbook of Historical Institutionalism*. Oxford Handbooks Online, May 2016, doi: 10.1093/oxfordhb/9780199662814.013.1

Fleischer, J. (2013) Time and Crisis. *Public Management Review* 15(3): 313-329.

Frederickson, H.G. (2005) What happened to Public Administration? Governance, Governance Everywhere. In: E. Ferlie, L.E. Lynn Jr. and C. Pollitt (eds.) *The Oxford Handbook of Public Management*. Oxford: Oxford University Press, pp. 282-304.

Frid-Nielsen, S.S., Rubina, O. and Baekkeskov, E. (2019) The state of social science research on antimicrobial resistance. *Social Science & Medicine* 242, doi: <https://doi.org/10.1016/j.socscimed.2019.112596>.

George, A.L. and Bennett, A. (2005) *Case Studies and Theory Development in the Social Sciences*. Cambridge, Massachusetts: MIT Press, pp. 137-145.

Goetz, K.H. (2009) How does the EU tick? Five propositions on political time. *Journal of European Public Policy* 16(2): 202-20.

Granovetter, M.S. (1973) The strength of weak ties. *American Journal of Sociology* 78(6): 1360-1380.

Gulick, L. (1937) Notes on the theory of organisations. In: L. Gulick and L.F. Urwick (eds.) *Papers on the science of administration*. Oxfordshire, UK: Taylor & Francis Group, 2003, pp. 1-49.

Guzzini, S. (2000) The use and misuse of power analysis in international theory. In: R. Palan (ed.) *Global Political Economy: Contemporary Theories*. London: Routledge.

Hannah, A. and Baekkeskov, E. (2020) The promises and pitfalls of polysemic ideas: 'One Health' and antimicrobial resistance policy in Australia and the UK. *Policy Sciences* 53: 437-452.

Hanke, E., Scaff, L. and Whimster, S. (eds.) (2019) Max Weber Past, Present, and Future. In: *The Oxford Handbook of Max Weber*. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780190679545.013.1

Hooghe, L. and Marks, G. (2001) *Multi-Level Governance and European Integration*. Boston: Rowman & Littlefield Publishers, Inc.

Jacob, K., Volkery, A. and Lenschow, A. (2008) Instruments for environmental policy integration in 30 OECD countries. In: A. Jordan and A. Lenschow (eds.) *Innovation in environmental policy? Integrating the environment for sustainability*. Cheltenham: Edward Elgar.

Jennings, E.T. and Crane, D. (1994) Coordination and welfare reform: the quest for the philosopher's stone. *Public Administration Review* 54(4): 341-48.

Jordan, G. and Richardson, J. (1987) *British politics and the policy process*. London: Unwin Hyman.

Jordan, A. and Lenschow, A. (2010) Environmental Policy Integration: a State of the Art Review. *Environmental Policy and Governance* 20(2010): 147-158.

Kenny, A. (2010) *A New History of Western Philosophy*. Oxford: Oxford University Press.

Kingdon, J.W. (1984) *Agendas, Alternatives, and Public Policies*. Boston, MA and Toronto: Little, Brown & Co.

Kirkby, V., Bron, G., Fresco, L and McKee, M. (2021) One Health – a concept needed at all levels. In: M. McKee (ed.) *Drawing light from the pandemic: A new strategy for health and sustainable development*. A review of the evidence for the Pan-European Commission on Health and Sustainable Development. Copenhagen: WHO Regional Office for Europe, pp. 69-75.

Klijn, E-H. (2008) Governance and Governance Networks in Europe. *Public Management Review* 10(4): 505-525.

Koppenjan, J. and Klijn, E-H. (2004) *Managing Uncertainties in Networks: A network approach to problem solving and decision making*. London: Routledge, pp. 1-16.

Levin, K., Cashore, B., Bernstein, S. and Auld, G. (2012) Overcoming the tragedy of super wicked problems: Constraining our future selves to ameliorate global climate change. *Policy Sciences* 45: 121-152.

Lindblom, C.E. (1955) Bargaining: The Hidden Hand in Government. In: *Democracy and Market System*. Oslo: Norwegian University Press, 1988, pp. 139-170.

Lindblom, C.E. (1965) *The intelligence of democracy*. New York: Free Press.

Lindblom, C.E. (1979) Still Muddling, Not Yet Through. *Public Administration Review* 39(6): 517-526.

Lipset, S. and Rokkan, S. (eds.) (1967) Cleavage Structure, Party Systems, and Voter Alignments: An Introduction. In: *Party Systems and Voter Alignments: Cross-National Perspectives*. New York: Free Press, 1-64.

Lukes, S. (2015) Robert Dahl on power. *Journal of Political Power* 8(2): 261-271.

Lübbe, H. (2009) The Contraction of the Present. In: H. Rosa and W.E. Scheuerman (eds.) *High-speed society: social acceleration, power, and modernity*. Pennsylvania: Pennsylvania State University Press, pp. 159-178.

MacCarthaigh, M. and Molenveld, A. (2018) Coordination in Europe. In: E. Ongaro and S. van Thiel (eds.) *The Palgrave Handbook of Public Administration and Management in Europe*. London: Palgrave MacMillan, pp. 653-670.

Mahoney, J. (2000) Path Dependence in Historical Sociology. *Theory and Society* 29(4): 507-548.

Mahoney, J. and Thelen, K. (eds.) (2010) A Theory of Gradual Institutional Change. In: *Explaining Institutional Change. Ambiguity, Agency, and Power*. New York: Cambridge University Press, pp. 1-37.

March, J.G. and Simon, H. (1958) *Organizations*. New York: Wiley.

Martiniussen, E. (2020) Sykehuspesten. In: *Krigen mot bakteriene. Helsekrisen som truer oss og hvordan vi kan løse den*. Oslo: Forlaget Press, pp. 15-37.

Mayntz, R. and Scharpf, F.W. (1975) *Policy-Making in the German Federal Bureaucracy*. Amsterdam: Elsevier.

Mayntz, R. and Scharpf, F.W. (eds.) (1995) Steuerung und Selbstorganisation in staatsnahen Sektoren. In: *Gesellschaftliche Selbstregulierung und politische Steuerung*. Frankfurt, New York: Campus, pp. 9-38.

McNamara, K. (2009) Of intellectual monocultures and the study of IPE. *Review of International Political Economy* 16(1): 72-84.

Metcalfe, L. (1994) International policy co-ordination and public management reform. *International Review of Administrative Sciences* 60(1994): 271-290.

Meyer-Sahling, J-H. and Goetz, K.H. (2009) The EU timescape: from notion to research agenda. *Journal of European Public Policy* 16(2): 325-336.

Mintzberg, H. (1979) *The Structuring of Organizations*. Englewood Cliffs, N.J: Prentice-Hall, pp. 1-16.

Molenveld, A., Verhoest, K., Voets, J. and Steen, T. (2020) Images of Coordination: How Implementing Organizations Perceive Coordination Arrangements. *Public Administration Review* 80(1): 9-22.

Morriss, P. (2012) A response to Pamela Pansardi. *Journal of Political Power* 5(1): 91-99.

Nowotny, H. (1992) Time and Social Theory: Towards a Social Theory of Time. *Time & Society* 1(3): 421-454.

Nowotny, H. (1994) *Time: The Modern and Postmodern Experience*. Cambridge: Polity Press, first published 1989.

Nowotny, H. (2017) Eigenzeit. Revisited. In: *An Orderly Mess*. Budapest-New York: Central European University Press, pp. 61-95.

Nowotny, H. (2021) In AI We Trust: How the COVID-19 Pandemic Pushes us Deeper into Digitalization. In: G. Delanty (ed.) *Pandemics, Politics, and Society. Critical Perspectives on the Covid-19 Crisis*. Berlin/Boston: De Gruyter, pp. 107-121.

OIE. (2016) *The OIE Strategy on Antimicrobial Resistance and the Prudent Use of Antimicrobials*. Paris: World Organisation for Animal Health.

O'Neill, J. (ed.) (2016) *Tackling Drug-resistant Infections Globally: Final Report and Recommendations*. London: HM Government and Wellcome Trust. The Review on Antimicrobial Resistance.

Ongaro, E. (2020) *Philosophy and Public Administration: An Introduction* 2nd edition. Cheltenham, UK and Northampton, MA: Edward Elgar.

Oxford University Press. (2020) Definition of coordination [online], <https://www.lexico.com/definition/coordination>, accessed: 4 December 2020.

Pansardi, P. (2012) *Power to and power over: two distinct concepts of power?* *Journal of Political Power* 5(1): 73-89.

Parsons, T. (1963) On the Concept of Political Power. *Proceedings of the American Philosophical Society* 107(3): 232-262.

Peters, B.G. (1998) Managing Horizontal Government: The Politics of Coordination. *Public Administration* 76: 295-311.

Peters, B.G. (2017) What is so wicked about wicked problems? A conceptual analysis and a research program. *Policy and Society* 36(3): 385-396.

Peters, B.G. (2018) The Challenge of Policy Coordination. *Policy Design and Practice* 1(1): 1-11, doi: <https://doi.org/10.1080/25741292.2018.1437946>.

Piattoni, S. (2015) Multi-level governance: underplayed features, overblown expectation and missing linkages. In: E. Ongaro (ed.) *Multi-Level Governance: The Missing Linkages*. UK: Emerald Books, pp. 321-342.

Pierre, J. (2020) Nudges against Pandemics: Sweden's COVID-19 Containment Strategy in Perspective. *Policy and Society* 39(3): 478-493.

Pierson, P. (2016) Power in Historical Institutionalism. In: O. Fioretos, T.G. Falleti, and A. Sheingate (eds.) *The Oxford Handbook of Historical*

Institutionalism. Oxford Handbooks Online, May 2016, doi:
10.1093/oxfordhb/9780199662814.013.7

Pitkin, H.F. (1972) *Wittgenstein and Justice*. Berkeley: University of California Press.

Podolsky, S.H, Bud, R., Gradmann, C., Hobaek, B., Kirchhelle, C., Mitvedt, T., Santesmases, M.J., Thoms, U., Berild, D. and Lie, A.K. (2015) History Teaches Us That Confronting Antibiotic Resistance Requires Stronger Global Collective Action. *Journal of Law, Medicine & Ethics* 43(S3): 27-32.

Rhodes, R.A.W. (1996) The New Governance: Governing without Government. *Political Studies* XLIV: 652-667.

Rhodes, R.A.W. (2012) Waves of Governance. In: D. Levi-Faur (ed.) *The Oxford Handbook of Governance*. Oxford: Oxford University Press, pp. 33-48.

Rittel, H.W.J. and Webber, M.M. (1973) Dilemmas in the general theory of planning. *Policy Sciences* 4: 155-169.

Rosa, H. and Scheuerman, W.E. (eds.) (2009) Introduction. In: *High-speed society: social acceleration, power and modernity*. Pennsylvania: Pennsylvania State University Press, pp. 1-29.

Rosenthal, U., Charles, M. T. and 't Hart, P. (eds.) (1989) *Coping With Crises*. Springfield, IL: Charles C Thomas.

Ross, I.S., Nordstrand, K., Hauge, J., Hedstein, O. and Hugo, T.G. (2021). Antibiotikaresistens: Den neste globale helsekrisen. *Dagbladet*, 22. June, <https://www.dagbladet.no/meninger/den-neste-globale-helsekrisen/73935025>, accessed 2. July 2021.

Schakel, A.H., Marks, G. and Hooghe, L. (2015) Multilevel Governance and the State. In: S. Leibfried, E. Huber, M. Lange, J.D. Levy, F. Nullmeier and J.D. Stephens (eds.) *Oxford Handbook on the Transformation of the States*. Oxford: Oxford University Press, pp. 269-285.

- Scharpf, F.W. (1994) Games Real Actors Could Play. Positive and Negative Coordination in Embedded Negotiations. *Journal of Theoretical Politics* 6(1): 27-54.
- Selznick, P. (1948) Foundations of the Theory of Organization. *American Sociological Review* 13(1): 25-35.
- Selznick, P. (1996) Institutionalism old and new. *Administrative Science Quarterly* 41: 270-277.
- Senneset, I. (2021) Pesten kommer. *Aftenposten*, 22. June, <https://www.aftenposten.no/meninger/kommentar/i/WOn0dr/pesten-kommer>, accessed 22 June 2021.
- Simon, H. (1946) The Proverbs of Administration. *Public Administration Review* 6(1): 53-67.
- Simon, H. (1957) *Models of Man, Social and Rational: Mathematical Essays on Rational Human Behavior in a Social Setting*. New York: John Wiley and Sons.
- Spjeldnæs, A.H. (2021) Resistens roper på revolusjon. *Tidsskrift for Den norske legeforening*, doi: 10.4045/tidsskr.21.0070.
- Steinmo, S., Thelen, K. and Longstreth, F. (eds.) (1992) *Structuring Politics: Historical Institutionalism in Comparative Analysis*. Cambridge: Cambridge University Press.
- Streeck, W. and Thelen, K. (eds.) (2005) *Beyond Continuity: Institutional Change in Advanced Political Economies*. Oxford: Oxford University Press.
- Thompson, J.D. (1967) *Organizations in Action*. New York: Mc Graw-Hill Book Company, pp. 54-56.

Thrift, N. (1988) *Vivos Voco*. Ringing the Changes in the Historical Geography of Time Consciousness. In: M. Young and T. Schuller (eds.) *The Rhythms of Society*. London: Routledge.

Veggeland, F. (2019) *Multilevel Governance and Horizontal Coordination in Crisis Management*. Draft paper presented at the ECPR General Conference, Wroclaw, 4-7. September 2019.

WHO. (2001) *WHO Global Strategy for Containment of Antimicrobial Resistance*. Geneva: World Health Organization.

WHO. (2020a) *Origin and development of health cooperation*. Global Health Histories, https://www.who.int/global_health_histories/background/en/, accessed 12 November 2020.

WHO. (2020b) Lack of new antibiotics threatens global efforts to contain drug-resistant infections. News release, 17 January, <https://www.who.int/news/item/17-01-2020-lack-of-new-antibiotics-threatens-global-efforts-to-contain-drug-resistant-infections>, accessed 8 December 2020.

Appendices

- A. Figures and Table
- B. List of interviews
- C. Interview guide (general outline)
- D. Interview guide – specific to the Sweden case
- E. Information letter to the interviewee
- F. Norwegian centre for research data (NSD) – Notification Form 133899

Appendix A. Figures and Table

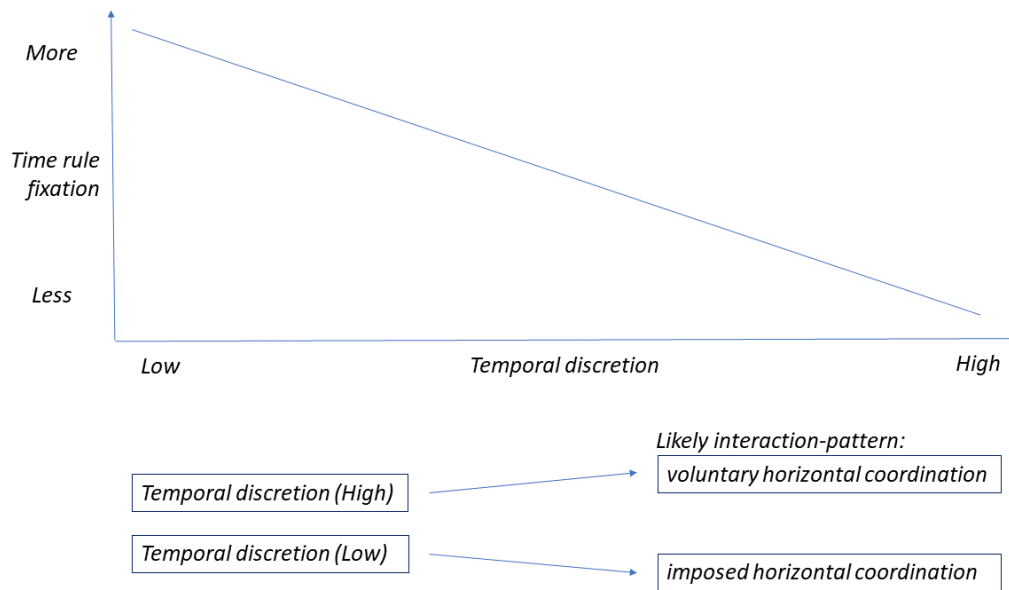


Figure 1. Propositions P1ab and P2ab on the likely interaction-pattern of agencies involved in coordination to prevent challenges with uncertain time frames.

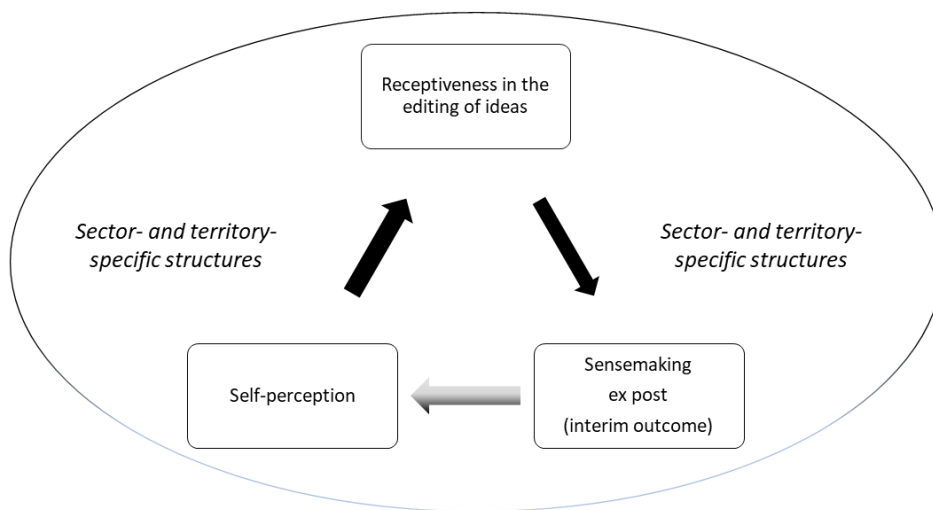


Figure 2. How the Actor Makes Sense of Ideas Displayed in Coordination.

	Agency	Structure
Power over	Influence	Domination
Power to	Inspiration	Empowerment

Table 1. Power Dynamics in Coordination.

Appendix B. List of interviews

Position	Organization	Date
Senior executive officers	Swedish Ministry of Enterprise and Innovation	16.02.2017
Senior executive officer	Swedish Ministry of Enterprise and Innovation	15.05.2019
Senior executive officer	Swedish Ministry of Health and Social Affairs	28.02.2017 (by phone)
Senior executive officer	Swedish veterinary agency	15.06.2017, 14.05.2019
Senior executive officer	Swedish Board of Agriculture	21.02.2017 (via Skype)
Senior executive officer	Swedish Board of Agriculture	09.07.2019
Senior executive officer	Swedish health agency 1	15.02.2017, 14.06.2017, 15.05.2019, 03.07.2020 (e-mail correspondence)
Senior executive officer	Swedish health agency 2	05.07.2019 (via Skype)
Senior executive officer	Swedish environment agency	24.09.2019 (via Skype)
Senior expert	European agency	15.02,2017
Senior executive officer	EU Commission, Brussels	05.04.2017
Senior executive officer	World Health Organization, Geneva	25.11.2019
Senior executive officers (2x)	Brussels diplomatic corps 1	04.04.2017
Senior executive officer	Brussels diplomatic corps 2	05.04.2017
Senior executive officer	Geneva diplomatic corps 1	25.11.2019
Senior executive officer	Geneva diplomatic corps 2	26.11.2019
Senior executive officer	Norwegian Ministry of Health and Care Services	09.06.2020 (by phone)
Department leader	Norwegian health enterprise	08.01.2020
Senior executive officer	Norwegian health agency	30.06.2020 (via Zoom)

Appendix C. Interview guide (general outline)

Background/context [*bakgrunnsinformasjon, kontekst*]

- Position [*stilling i organisasjonen du tilhører*]
- Tenure (years in office) [*tid i denne stillingen*]
- Previous positions [*tidligere ansettelsesforhold*]
- Education [*utdannelse*]

Power dynamics in coordination [*maktdynamikker i koordinering*]

- How do you experience the effect on your organization's operation from taking part in AMR coordination process(es)? (Enabling/disabling/indifferent) [*Hvordan opplever du effekten på din organisasjons aktiviteter fra å delta i AMR koordineringsprosesser? (muliggjørende / et hinder / liten til ingen innvirkning)*]
- What, in your view, is the better way to approach stakeholders (e.g. agencies from other policy sectors, nation-states) with no legal obligations, if the ambition is to have them "on board" in the coordination of AMR containment? (hypothetical question) [*Hva, etter ditt skjønn, er den foretrukne måten å tilnærme seg aktører (f.eks. byråer fra andre politikkområder, andre stater) uten rettslige forpliktelser, dersom ambisjonen er å ha dem aktivt med i koordineringen av AMR bekjempelsen? Hypotetisk spørsmål.*]
- Is there something else you would like to add? [*Er det noe mer du ønsker å tilføye?*]

The temporal property of coordination [*temporale egenskaper i/ved koordinering*]

- What is your understanding of the expression "the way a person or organization ticks"? [*Hva er din forståelse av uttrykket "måten en person eller en organisasjon tikker»?*]
- How would you describe your typical work calendar? (week, month, year) [*Hvordan vil du beskrive din typiske arbeidskalender (ref. forrige spørsmål)?*]
- Is it possible to identify a distinctive rhythm in your annual work calendar? Are there periods in a typical year that are more hectic than others? Are they related to certain activities/objectives? How often do they recur?
Comment: Internal (intra) and external (inter) coordination. [*Er det mulig å identifisere distinkte temporale rytmer i arbeidskalenderen din gjennom ett år? Går det an å peke på tidsperioder i løpet av et typisk arbeidsår, som er mer hektiske enn andre? Relaterer disse periodene seg til visse aktiviteter/oppgaver? Hvor ofte forekommer disse periodene?*]

Kommentar: spør for både intern koordinasjon og ekstern koordinasjon.

- How many coordination processes (internal, inside your organization, and external, with other organizations) do you find yourself involved in?
[Hvor mange koordineringsprosesser deltar du i? (internt i egen organisasjonen og/eller eksternt, med flere organisasjoner)]
- To what extent are you able to control the “plotting” of your work calendar/schedule? (what am I to do? When am I to do it? In which order?)
[I hvilken grad vil du si at du har kontroll over oppsettet av din egen arbeidskalender og tidsplan? (hva er det jeg skal gjøre? Når skal jeg gjennomføre det? I hvilken rekkefølge?]
- Who decides on the temporal structuring of your work calendar? (What am I to do? When am I to do it? In which order?)
Comment: Ask for both Internal (intra) and external (inter) coordination.
[Hvem er det som avgjør den temporale struktureringen av arbeidskalenderen din? (hva er det jeg skal gjøre? Når skal jeg gjennomføre det? I hvilken rekkefølge?)]
Kommentar: spør for både intern koordinasjon og ekstern koordinasjon.
- The pace of life is widely held to be in a state of acceleration (according to some, also in a state of deceleration)? What, if any, is your experience of this phenomenon in your working hours/days? (Comment: can be illustrated with peoples’ feeling of time pressure)
[Det er nokså utbredt å hevde at livstempoet er i en tilstand av (tiltagende) akselerasjon (noen vil også trekke frem det motsatte, at livstempoet er i deselerasjon), hva er din opplevelse av dette fenomenet? Hvordan kommer dette i så tilfelle til uttrykk i arbeidshverdagen din? Kommenter: Kan f.eks. vise til tidspress på jobb.]
- How do you cope with such acceleration (alt. deceleration)? How do you cope with participating in several (+1) coordination processes at the same time?
[Hvordan håndterer du slike opplevelser av akselerasjon (alternativt deselerasjon)? Hvordan håndterer du det å delta i flere (+1) koordineringsprosesser på samme tid?]
- What elements (socio-cultural/physical/technical/structural/temporal) in your view is *necessary / advantageous / counteractive* for coordination with other individuals/organizations to function?
[Hvilke faktorer (f.eks. sosiokultur, fysisk/teknisk infrastruktur, formell organisering, tid) er etter ditt skjønn fordelaktige at er tilstede for at koordineringen med andre aktører skal fungeere? Kommenter: I oppfølgingsspørsmålet, bytt ut fordelaktig med kontraproduktiv.]
- Is there something else you would like to add?
[Er det noe mer du vil tilføye, som ikke vi har snakket om?]

Appendix D. Interview guide – specific to the Sweden case

Bakgrunnsinformasjon

- Type stilling i organisasjonen du tilhører
 - Tid i denne stillingen
 - Tidligere ansettelsesforhold
 - Type utdanning

- Hva er hovedansvaret til myndigheten? (på generell basis/i bekjempelsen av antibiotikaresistens)
- Hvor mye av din jobb/ansvarsportefølje knytter seg til oppfølging av aktiviteter inn mot antibiotikaresistens / nasjonale samverkansfunksjonen? hvor mye tid har du til rådighet? Er dere flere som jobber med AMR frågan? Hvem fastsetter tiden du har til rådighet?
- Hvor lenge har du / organisasjonen du tilhører deltatt i samverkan på antibiotikaresistens/Evt. strukturer før 2011/12?
- Hvilke erfaringer har du / organisasjonen du tilhører fra å delta i den nasjonale samverkansfunksjonen mot AMR? Læringsutbytte? Motiverende? ytre styrt forventning om å delta? utvikling over tid? T.ex. med instruks direkte til hver myndighet (muliggjørende / et hinder / liten til ingen innvirkning)
- Hva er nåværende status med hensyn til implementeringen av myndighetenes handlingsplan mot AMR i Sverige?

- Hvordan gjennomføres koordineringen av AMR på statlig nivå i Sverige? (i form av samskapelse av ny politikk, nye virkemidler, nye budskap OG/ELLER i form av gjensidig tilpasning til hverandres eksisterende oppdrag og gjeldende mandater (for å unngå å trå hverandre på tærne)?)
- Hvordan er koordineringen på AMR mellom policy sektorer i Sverige bygget opp (strukturert), hvordan utføres den? Mellom nasjonale myndigheter / mellom departement
- Hvordan fastsettes tidspunkter for når koordineringssammenkomster og eventuelle tidsfrister for leveranser av «bestillinger» finner sted? Hvem er det som eventuelt fastsetter dem?
- Hvor detaljert er koordineringen som skjer på nasjonalt nivå (mellom nasjonale ekspertorganer) med hensyn til praksis som foregår på lokalt og regionalt nivå? (f.eks veterinærpraksis på gårdsbruk, kennel, kontrollvirksomhet på slakteri, grensekontroll av mat-/dyreinnførsel, overvåkning av antibiotikaforekomster i miljøet (vann ++))

- Hvordan er koordineringen på AMR mellom styringsnivåer innad i Sverige bygget opp (strukturert), hvordan utføres den? (stat, länsstyrelsen/län, kommune)

- Deltar organisasjonen du tilhører også i koordinering på internasjonalt nivå hva gjelder antibiotikaresistens? Hvilke int. organisasjoner? Koordinering

mellom nasjonale agenturer/ministerier med hensyn til internasjonal deltakelse (EU/FAO/Codex/OIE) på AMR området

- Hvordan foregår den? Hvem deltar?
- Hva fungerer / finnes det stadig utfordringer med hensyn til denne typen koordinering?

- Tidsdimensjonen i kampen mot antimikrobiell resistens: den seneste rapporten på AMR i FN-systemet har fått tittelen «No Time to Wait» (ICGA, april 2019, jeg har limt inn noen direkte sitater fra rapporten nederst i dokumentet), hva er ditt inntrykk av hastegrads (urgency) elementet i arbeidet med å bekjempe antibiotikaresistens? Hvordan virker opplevelsen av hastegrad eventuelt inn på arbeidet til deg og dine kolleger på dette området + i samspillet med andre nasjonale agenturer og departementer?
- Hvordan sammenfaller «urgency» bildet som tegnes opp med det dagligdagse arbeidet med AMR-spørsmål? Finnes det et paradoks her?

- Er det mulig å peke ut typiske tidsrytmer i arbeidshverdagen din (din organisasjon) over ett år? Er det tidsperioder i løpet av et arbeidsår, som er mer hektiske enn andre? Relaterer disse periodene seg til visse aktiviteter/oppgaver? Hvor ofte forekommer disse periodene? Tiden det vanligvis tar fra en beslutning er fattet, til vedtaket iverksettes.
- Andre intervjuobjekter til dette prosjektet har vært inne på at organisasjoner som er med i den nasjonale samverkansfunksjonen (AMR) opererer med «årshjul» / kalendrer (jf. øvrige «objectives» som organisasjonene leverer på, når på året aktiviteter finner sted innad i en organisasjon/policy sektor, når på året planene for neste år legges fast, verksamhetsplanering, når på året det rapporteres tilbake til departementet).
 - Hvordan fremstår årshjulet som organisasjonen du tilhører opererer etter?
 - Hva er din opplevelse av ulikheter i tid/årshjul mellom myndigheter sett fra ditt ståsted?
 - Hvis det er forskjeller i tid mellom organisasjonene som er involvert (jf. spørsmål over), får det noen slags betydning for deg og din organisasjons arbeid på AMR-området? Hvordan avpasses eventuelle forskjeller mellom tidsplaner internt i organisasjoner og eksternt i samverkansfunksjonen?

- Hvilke faktorer (f.eks. fysisk/teknisk infrastruktur, formell organisering (ansvarsoppgaver), tydelig organisering i tid, kjennskaper til hverandre, motivasjon, økonomiske ressurser) er etter ditt skjønn fordelaktige at er tilstede for at koordineringen med andre myndigheter og organisasjoner skal fungere? Kommentar: I oppfølgingsspørsmålet, bytt ut fordelaktig med kontraproduktiv.]

- Er det noe mer du vil tilføye, som ikke vi har snakket om?

- Jf. illustrasjonen under (Lancet Infectious Diseases, Cassini et al. 2018: 7) finnes det tydelig variasjon hva angår belastningen fra resistente bakterier målt i sykелighet og dødelighet ([DALY](#))²⁷, likedan er det påvist betydelig variasjon mellom EU medlemsland hva angår antibiotika anvendelse i matproduksjon (140x forskjell mellom «best» og «verst» for å produsere 1 kg biomasse). Hvorfor ser vi denne variasjonen mellom landene (nord-sør / øst-vest)? Og, rent hypotetisk, hvordan kan man gå frem dersom målet er å få praktiserende veterinærer og anvendere (bønder, fiskeoppdrettere, etc.) til å anta en fornuftig bruk av antibiotika?
- Hvordan kan det ha seg at vi ser dette angivelige paradokset hvor det er større variasjon på dyresiden enn på humansiden med hensyn til antibiotika anvendelse, til tross for større grad av harmonisering av regelverk mellom landegrensene på dyresiden?

“[u]nless the world acts urgently, antimicrobial resistance will have disastrous impact within a generation” (ICGA 2019: 1).

“So before the alarm bells become a deafening siren, let’s make sure that we increasingly act all together, in every country and across the public health, animal health and environment sectors under the One Health approach umbrella.” Vytienis Andriukaitis, EU Commissioner for Health and Food Safety (2019)

27

Metrics: Disability-Adjusted Life Year (DALY) - Quantifying the Burden of Disease from mortality and morbidity
 Definition. One DALY can be thought of as one lost year of "healthy" life. The sum of these DALYs across the population, or the burden of disease, can be thought of as a measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability.

DALYs for a disease or health condition are calculated as the sum of the Years of Life Lost (YLL) due to premature mortality in the population and the Years Lost due to Disability (YLD) for people living with the health condition or its consequences:
 (https://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/)

Appendix E. Information letter to the interviewee

Are you interested in taking part in the research project

”Power and Temporality in the cross-border coordination to combat Antimicrobial Resistance”?

This is an inquiry about participation in a research project where the main purpose is to explore how power dynamics and properties of temporality come about in coordination within and across public organizations. In this letter we will give you information about the purpose of the project and what your participation will involve.

Purpose of the project

Our research project departs from the observation of a multitude of grand scale, systemic, challenges to global society which cannot be dealt with by single states or single policy fields alone (c.f. climate change, pandemics). Empirically, the project explores the public authorities’ response to one such challenge, antimicrobial resistance (AMR). The governance of AMR rests on the One Health approach, which implies that everybody – in all sectors and disciplines – should engage in the implementation of objectives laid down in the WHO’s (2015) Global Action Plan. A multitude of actors, policy sectors and governance levels, are thus involved in coordination on this topic. This project takes as a starting point that knowledge about the configuration of certain features, i.e. power dynamics and temporal properties, is significant if we are to understand why actors act the way they do in coordination. Thus, the project takes initial steps to develop a research agenda on the significance of power and temporality to coordination between public agencies. The main output of our investigation is a series of peer-reviewed journal articles, three of which will form part of a doctoral thesis.

Who is responsible for the research project?

The Department of Political Science and Management, University of Agder, Norway, is the institution responsible for the project.

Martin Stangborli Time, PhD Research Fellow, Dept. of Political Science and Management, University of Agder, is principal investigator. The project is done in cooperation with Frode Veggeland, Professor, Dept. of Health Management & Health Economics, University of Oslo, and co-supervisor of Time’s PhD project.

Why are you being asked to participate?

The main reason why you are being asked to participate in this project is because of your work employment in an organization and unit which is involved in coordination processes to combat AMR. The identification of informants has been done by examining information (organization structure, organizational departments) available on the respective organization’s web pages. You have been identified on the grounds of your experience from participating in initiatives towards AMR, including coordination within and beyond your organization.

What does participation involve for you?

Besides examination of written qualitative data sources (policy documents, legal texts, communications, strategies, and secondary literature), the project utilizes qualitative semi-structured interviews. Each interview is scheduled to last about 45-60 minutes, and, depending on the informant's approval, will be recorded on tape. After the interviews the tape recordings will be transcribed into text by the project investigators, for then to be examined by way of thematic analysis. The information we seek to collect relates to your experiences with working in AMR coordination settings (inside your own organization and/or externally with other organizations).

Participation is voluntary

Participation in the project is voluntary. If you chose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you chose not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data

We will only use your personal data for the purpose(s) specified in this information letter. We will process your personal data confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act).

- Besides the two investigators, Martin Stangborli Time and Frode Veggeland, one additional staff at the responsible institution, Professor Jarle Trondal, will be entitled access to the data. Trondal is the main supervisor of Time's PhD project.
- I will replace your name and contact details with a code. The list of names, contact details and respective codes will be stored separately from the rest of the collected data. The data will be stored on a research server, in a locked away/encrypted folder.

Participants in this study will not be recognizable in publications.

What will happen to your personal data at the end of the research project?

The project is scheduled to end 31.12.2020. All personal data, including the digital recordings, the list of names and the contact details will be deleted at the end of the project.

Your rights

So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you
- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Data Protection Officer or The Norwegian Data Protection Authority regarding the processing of your personal data

What gives us the right to process your personal data?

We will process your personal data based on your consent.

Based on an agreement with the University of Agder, NSD – The Norwegian Centre for Research Data AS has assessed that the processing of personal data in this project is in accordance with data protection legislation.

Where can I find out more?

If you have questions about the project, or want to exercise your rights, contact:

- Dept. of Political Science and Management, University of Agder, via Martin Stangborli Time.
- Our Data Protection Officer: Målfrid Tangedal, University of Agder.
- NSD – The Norwegian Centre for Research Data AS, by email: (personverntjenester@nsd.no) or by telephone: +47 55 58 21 17.

Yours sincerely,

Project Leader
Martin Stangborli Time

Consent form

I have received and understood information about the project, Power and Temporality in the cross-border coordination to combat Antimicrobial Resistance, and have been given the opportunity to ask questions. I give consent:

- to participate in an interview
- to the audio recording of this interview

I give consent for my personal data to be processed until the end date of the project, approx. 31.12.2020.

(Signed by participant, date)

Appendix F. Norwegian centre for research data (NSD) – Notification Form 133899

03.11.2021, 23:47

Meldeskjema for behandling av personopplysninger



NSD sin vurdering

Prosjektittel

Makt og Temporalitet i Grensekryssende Koordinering. Kampen mot antimikrobiell resistens (AMR)

Referansenummer

133899

Registrert

02.05.2019 av Martin Stangborli Time - martin.s.time@uia.no

Behandlingsansvarlig institusjon

Universitetet i Agder / Fakultet for samfunnsvitenskap / Institutt for statsvitenskap og ledelsesfag

Prosjektansvarlig (vitenskapelig ansatt/veileder eller stipendiat)

Martin Stangborli Time, martin.s.time@uia.no, tlf: 40013495

Type prosjekt

Forskerprosjekt

Prosjektperiode

04.04.2019 - 01.11.2021

Status

03.11.2021 - Avsluttet

Vurdering (5)

07.10.2021 - Vurdert

NSD har vurdert endringen registrert 07.1.2021

Vi har nå registrert 01.11.2021 som ny sluttdato for behandling av personopplysninger. Vi gjør oppmerksom på at forlengelsen ikke kan påregnes uten at utvalget informeres om dette.

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet med vedlegg den 06.07.2021. Behandlingen kan fortsette.

OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!

Med vennlig hilsen
Henriette N. Munthe-Kass

06.07.2021 - Vurdert

NSD har vurdert endringen registrert 02.07.2021. Med endring menes at dato for prosjektslutt er endret fra 30.06.2021 til 01.10.2021. NSD bemerker at dersom varigheten utvides ytterligere, bør de registrerte informeres om dette.

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet med vedlegg den 06.07.2021. Behandlingen kan fortsette.

OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!

Tlf. Personverntjenester: 55 58 21 17 (tast 1)

04.01.2021 - Vurdert

NSD har vurdert endringen registrert 01.01.2021. Med endring menes at dato for prosjektslutt er endret fra 29.05.2020 til 30.06.2021. NSD bemerker at dersom varigheten utvides ytterligere, bør de registrerte informeres om dette.

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet med vedlegg den 04.01.2021. Behandlingen kan fortsette.

OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!

Tlf. Personverntjenester: 55 58 21 17 (tast 1)

29.05.2020 - Vurdert

NSD har vurdert endringen registrert 29.05.2020. Med endring menes at dato for prosjektslutt er endret fra 29.05.2020 til 31.12.2020.

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet med vedlegg den 29.05.2020. Behandlingen kan fortsette.

OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!

Tlf. Personverntjenester: 55 58 21 17 (tast 1)

03.05.2019 - Vurdert

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet den 03.05.2019 med vedlegg. Behandlingen kan starte.

MELD VESENTLIGE ENDRINGER

Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til NSD ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde:

https://nsd.no/personvernombud/meld_prosjekt/meld_endringer.html

Du må vente på svar fra NSD før endringen gjennomføres.

TYPE OPPLYSNINGER OG VARIGHET

Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til 29.05.2020.

LOVLIG GRUNNLAG

Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke tilbake. Lovlig grunnlag for behandlingen vil dermed være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

PERSONVERNPRINSIPPER

NSD vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om:

- lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen
- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke behandles til nye, uforenlige formål
- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet
- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

DE REGISTRERTES RETTIGHETER

Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: åpenhet (art. 12), informasjon (art. 13), innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), underretning (art. 19), dataportabilitet (art. 20).

NSD vurderer at informasjonen om behandlingen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER

NSD legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og/eller rådføre dere med behandlingsansvarlig institusjon.

OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er

03.11.2021, 23:47

Meldeskjema for behandling av personopplysninger

avsluttet.

Lykke til med prosjektet!

Kontaktperson hos NSD: Mathilde Hansen
Tlf. Personverntjenester: 55 58 21 17 (tast 1)

Research Papers

Presented in the following order:

Paper No. 1 – “the Sweden paper”

Time, M.S. (2021) How Temporal Discretion supports Interagency Coordination: Sweden's Intersectoral fight against Antimicrobial Resistance. *Comparative European Politics* 19(3): 360-379.

Paper No. 2 – “the Nordic paper”

Time, M.S. and Veggeland, F. (2020) Adapting to a Global Health Challenge: Managing Antimicrobial Resistance in the Nordics. *Politics and Governance* 8(4): 384-395.

Paper No. 3 – “the EU paper”

Time, M.S. Power Dynamics in Multisector and Multilevel Coordination: the case of Antimicrobial Resistance. In: J. Trondal, R. Keast, D. Noble and R. Pinheiro (eds.) *Governing Complexity in Times of Turbulence*, set for publication in April 2022 (Edward Elgar).

How Temporal Discretion supports Interagency Coordination: Sweden's Intersectoral fight against Antimicrobial Resistance¹

This paper advances a theoretical framework on the impact of time rules on the administrative coordination of policies that deal with long-term, transboundary challenges. Its empirical focus is on the fight against antimicrobial resistance - AMR. The paper's framework concerns how government agencies employ time rules in coordination so as to respond to this open-ended policy challenge. To illustrate the framework's usefulness to studies of coordination, the paper examines Sweden's intersectoral coordination on AMR. The case study draws on interviews and policy documents. Its findings give support to the paper's argument, namely that government agencies are more likely to coordinate voluntarily if they have discretion in setting and administering coordinative time rules.

Keywords: horizontal coordination; temporality; government agencies; transboundary challenge; antimicrobial resistance; Sweden

Introduction

Global challenges such as climate change and antimicrobial resistance (AMR) come with predictions of unprecedented damage in the (not so) distant future (Review on

¹ Reprinted by permission from Springer Nature: Comparative European Politics 19, How temporal discretion supports interagency coordination: Sweden's intersectoral fight against antimicrobial resistance, Time, M.S., © The Author, under exclusive licence to Springer Nature Limited (2021)

AMR, 2016, Lenton et al., 2019). To steer clear of the worst-case scenarios, the international community is calling for urgent and coordinated cross-sectoral/-territorial action (Intergovernmental Panel on Climate Change [IPCC], 2018, UN Interagency Coordination Group on Antimicrobial Resistance [IACG], 2019: 1). This paper focuses on a challenge to temporal governance that rarely is touched upon in the literature, i.e., the management of the distinct temporal schedules of organisations coordinating to prevent a transboundary, long-term (“creeping”), challenge – instanced in the paper with AMR.

The ambition of the paper is twofold. It first introduces a less studied relationship within the public administration literature of the impact from time rules on government agencies’ interaction-patterns in coordination. Drawing on the temporality and coordination literatures, it sets out a framework with propositions on the expected “type” of coordination (horizontal – imposed vs. horizontal – voluntary) from adding temporal demand (through rules stipulating the time horizon and timetable in coordination) to agencies’ recurring responsibilities (embodied in their annual cycles). Secondly, it illustrates the usefulness of the theoretical framework to the study of coordination. The paper thus examines a case study of Sweden’s inter-agency/-sector fight against the surge of pathogenic resistance to antimicrobial medicine. The combination of extensive usages of antimicrobials in healthcare, farming, etc., and pathogens’ high versatility means the fight against AMR cannot be isolated to one policy sector or territory. AMR thus poses a coordination challenge requiring the involvement of manifold actors in synchronous problem-solving.

Adam et al. (2019: 501) remark that “even firms [with] complete confidence in each other must still invest time and effort in coordinating and synchronising their actions across institutional boundaries”. The paper connects this investment to agencies’

temporal discretion to sustain or minimise participation in coordination. The temporal discretion of an agency concerns its ability to decide when, in what order, for how long tasks are carried out by the organisation. Temporal discretion means there *always* is *some* possibility to avoid or differently address the demands set by time rules and issue-specific time frames (Oliver, 1991, Goetz and Meyer-Sahling, 2009: 187). Granting it to agencies in long-term, transboundary, coordination thus easily spurs association to deviation and delay. This paper's approach is nevertheless different. It argues that agencies entrusted with temporal discretion are more likely to develop commitment and voluntariness to the coordination process (even if it comes second to agencies' primary responsibilities). Temporal discretion probably needs complementing by other measures to give momentum (financing and so on). However, the voluntary interactions experts deem necessary to achieve transboundary coordination (cf. World Health Organization [WHO], 2019: 18, 25), suggests partakers with a positive-sum perception of the temporal demand from coordination and primary, organisation-specific, operations (Göhler, 2009: 31). This study argues that this is more likely to manifest when agencies are entrusted temporal discretion to administer the endogenous time rules in coordination.

The paper examines the influence from politically formalised time horizons (longer to shorter) and timetables (less to more fixed) on agencies' likely interaction-patterns in coordination (Bouckaert et al., 2010: 35). Its contribution is thus to combine the literatures on the temporality of exogenous policy problems (Haydu, 1998, Pierson, 2000, Jacobs, 2011) and the temporality endogenous to problem-solving processes (Goetz and Meyer-Sahling, 2009, Howlett and Goetz, 2014: 478, 486). Theorising the interconnection between these elements of time (Adam, 1998, Bulmer, 2009), the paper sets forth a comparative approach to study temporality as a conditioner of cross-sectoral

and/or cross-territorial coordination. The paper finally adds to the literature on agency management of (sometimes deviating) primary and secondary structures – embodied in this paper by the temporal schedules of agencies (primary responsibilities) and coordination (secondary task) (Egeberg and Trondal, 2018).

Theoretically, the paper draws on two reverse interaction-patterns in coordination, i.e., imposed vs. voluntary horizontal¹ coordination. The former category holds a marked element of hierarchy, in that the objectives and procedures of horizontal coordination are narrowly stipulated by a competent authority (Bouckaert et al., 2010: 36-37). The coordinating agencies are “time-takers” (Goetz, 2014a: 578) who receive instructions on when, how often, for how long they are to interact. The agencies more likely display reactive behaviours, encompassing interactions (particularly cross-sectoral ones) that are less voluntary and limited to what is formally required (Oliver, 1991). The paper captures this interaction-pattern by referring to agency usage of temporal discretion in accordance with a zero-sum logic. The time allocated to coordination (secondary task) is thus weighted carefully by the agency in order not to hurt progress on primary responsibilities. The latter category, voluntary horizontal coordination, suggests agencies with a willingness to invest time and resources in the task plus hold a sense of solidarity towards each other (Bouckaert et al., 2010: 44). There may be instructions from a competent authority, but these are broad and open for revisions by the coordinating agencies. The interaction-pattern of the agencies is more likely distinguished by proactiveness with agency officials taking the initiative to interact and plan how to pursue the coordination task. Thus, they assume the role of “time-setters” (Goetz, 2014a: 578) in coordination. In terms of temporal discretion, the agencies take a positive-sum approach thus investing time voluntarily into coordination

(secondary task). The presumption is that they understand coordination to help realise their primary responsibilities too (Dowding, 2008, Göhler, 2009).

Of significance to these interaction-patterns in coordination is whether the formal regulation of time horizon (the duration of the task) and timetable (the timing, frequency, sequencing of interactions and intermediate tasks) is more or less fixed. This establishes the agencies' scope of temporal discretion to decide how to manage the coordination against a long-term, "creeping", challenge (how long to coordinate, when/how often to interact/exchange information, in what order to introduce preventive measures). If granted the necessary freedom of manoeuvre, the agencies get more opportunity to work out the time horizon and timetable to accommodate primary annual cycles. This, presumably, establishes agency commitments to the coordination process.

The problem of AMR generates a plethora of technical issues related to disease prevention and control, hence the substantial presence of experts and professions in the efforts to contain its spread. The central units of this paper are government agencies, which in the case of Sweden possess the major share of technical expertise within the central administration (Niklasson, 2012: 246). Government agencies operate one administrative level below their parent ministries (Verhoest et al., 2012). This presumably gives them a better position to take the longer view because of less exposure to the electoral clock (Majone, 1996, Goetz and Meyer-Sahling, 2009: 186, Goetz, 2014b: 385). Whereas this feature is well documented, less is known of whether and how time rules and temporal discretions condition interagency coordination (Peters, 2015, Molenveld et al., 2020). The paper's case study illustrates, first, how the formal time rules in Sweden's coordination on AMR provide the partaking government agencies with temporal discretion. Second, how the government agencies cooperate to formulate the coordinating mission's objectives and timetables. Third, how there is variation in the

presence of the government agencies designated for participation in AMR coordination. The latter observation indicates a potential caveat to the paper's propositions, namely the agencies' varying ability to allocate time or keep pace with coordination's progression. The paper suggests this to be revealing of variation in the historically accumulated know-how of the agencies: of managing disease prevention and control and AMR particularly (Haydu, 1998). This provides the agencies with different starting points in knowing how to employ temporal, granted, discretion in coordination.

The paper sets out by first outlining the temporal and transboundary properties of the AMR challenge. Secondly, it introduces the framework to study formal time rules' influence on interaction-patterns in horizontal coordination. Thirdly, the Swedish case study is presented and applied to illustrate agency interaction-patterns in coordination with less time rule fixation. The paper concludes by recounting the essence of the proposed framework, and by suggesting ways to further advance it.

The long-term, transboundary, challenge of Antimicrobial Resistance

Antimicrobial resistance (AMR) happens when pathogens (bacteria, viruses, parasites, or fungi causing disease) become resistant to treatment with antimicrobial medicines (WHO, 2015). The introduction of antibiotics after world war II revolutionised mankind's ability to treat infectious disease in humans and food-producing animals. However, the ever-increasing use of the "miracle drugs" has brought about AMR, which now is recognised "a global crisis that risks reversing a century of progress in health" (Edqvist and Pedersen, 2001: 93, IACG, 2019: 4). By 2050, an estimated 10 million people worldwide will die yearly from causes related to AMR (currently 700 000). Moreover, 100 trillion USD of accumulated economic output will be at risk (Review on Antimicrobial Resistance, 2016: 4).

Unlike the conventional conception of crisis (Rosenthal and Kouzmin, 1997: 279), AMR does not hold the element of (evident) time compression which tends to “fast-track” critical (“do or die”) decisions on the situation. Although in some corners of the world the situation is already alarming (c.f. WHO, 2014), the scenario where one loses the efficacy of antimicrobial medicine entirely is yet to manifest in our time. AMR is a “creeping” challenge which foreshadows “disastrous impact within a generation” (Rosenthal and Kouzmin, 1997: 279, Boin and 't Hart, 2003: 545, IACG, 2019: 1, Boin et al., 2020: 122). This creates a troublesome temporal challenge to problem solving, namely the uncertainty of how much time there is left to avoid the “antibiotic apocalypse” (McKie, 2017). Agencies involved in the fight against AMR, could thus be expected to partake in preventive action for the unforeseeable future (Bouckaert et al., 2010: 30-31, Jacobs, 2011, Peters, 2015: 18-19). To sustain such time allocation can be difficult if there is intersection with, a), the agencies’ recurring, sometimes pressing, primary responsibilities (Linz, 1998, Molenveld et al., 2020), or b), additional crises such as the coronavirus pandemic (Interview G, 2020, personal communication, COVID-19 Health System Response Monitor, 2020²).

The missing element of (evident) time compression suggests that partakers in coordination have more time for discussion (or disagreement) on how to prevent AMR (Brunsson, 2000). This is further complicated by AMR being a transboundary challenge that transcends policy sectors and territorial borders (Ansell et al., 2010). Thus, antimicrobial medicines are not only essential to health care provision, but also to disease prevention and control in farming. Pathogens developing resistance to antimicrobial medicines also hold the potential to spread across the ecosystem (humans, animals, water, etc.). Hence, the emphasis to involve actors from the health, food and veterinary, and environment policy sectors, in the fight against AMR (cf. WHO, 2015:

5). However, with multiple voices come substantial potential for disagreement and stalemate on the contents (what to do) and procedures (when, in what order) of AMR coordination. For agencies less eager to partake in the endeavour, there is ample opportunity to curtail time investment in favour of primary responsibilities.

Agency interaction in horizontal coordination

To capture variation in how agencies interact in coordination, the paper makes a distinction between *imposed* and *voluntary* horizontal coordination and connects them to two reverse logics behind agency usage of temporal discretion, “zero-sum” and “positive-sum” (Göhler, 2009: 28).

The interaction-patterns of voluntary, horizontal, coordination, are based in solidarity across the partaking agencies. This suggests the kind of commitment experts deem necessary to mount comprehensive fights against AMR (WHO, 2019: 1-2). The impetus to such interaction-patterns is rooted in agency perceptions of secondary tasks and primary responsibilities as positive sum (Göhler, 2009: 31-32). Each coordinating agency thus perceives a combined participation in the fight against AMR and management of primary responsibilities to have mutual benefits. The paper identifies two agency uses of temporal discretion that it considers indicative of this logic. Firstly, the discernible allocation of time by the agency leadership to enable staff to prioritise tasks beyond their primary responsibilities. This pattern is likely sustainable because commitment to the coordination task comes from within the agency (Dowding, 2008: 26, Peters, 2015: 19). Secondly, if the agencies’ annual cycles interfere with coordination’s progress, the agencies engage in the collective design of measures to improve time management in coordination. This underlines their interest in making coordination progress optimally.

The reverse spectrum of interaction-patterns, and presumably not so conducive to the fight against AMR, encompasses agencies' more reactive, in some cases evasive, participation in coordination. If the follow-up of coordination adds too much weight on primary operations, the agencies may use temporal discretion to minimise the time allocated to secondary tasks (i.e., coordination) and preserve progress on primary responsibilities (Oliver, 1991: 164, Linz, 1998: 22, Molenveld et al., 2020: 10).

Interaction, then, is accompanied by a zero-sum perception of the temporal demands of secondary tasks and primary responsibilities. The underlying rationale can be outright inability, meaning agency officials cannot prioritise both or lack of commitment to the coordination process. The more moderate expression is to adopt a reactive *modus operandi* in the interactions with coordination partners. The less moderate expression is to knowingly miss out on set timetables and time horizons. This eventually fosters interaction-patterns in coordination that are less stable (Dowding, 2008: 26).

Time rules in horizontal coordination

Whereas the paper's dependent variable focuses on the likelihood of certain usages of temporal discretion by the coordinating agencies, the independent variables concern the time rules (time horizon and timetable) that regulate the agencies' temporal discretion and, ultimately, freedom of manoeuvre in coordination. Initially emphasised by Goetz and Meyer-Sahling (2009), time horizon concerns the polity and timetable the politics-dimension of coordination. To regulate the former is to stipulate the temporal outlook of the agencies (how long to perform the task), the latter, the temporal schedule of the coordination process (the timing, frequency, or sequencing of interactions and intermediate tasks). The conceptual distinction reflects the assumption that behaviour vis-a-vis a timetable leaves more room for agency (usage of temporal discretion) than

vis-à-vis a set time horizon. Thus, to bypass a time horizon can have serious consequences, especially if the one in question concerns a threatening challenge.

Time horizon

In the formative phase of coordinated action against a policy challenge, the competent authority – e.g., a government ministry – usually introduces a time horizon stipulating the duration of the coordination task. A secondary time horizon is thus added to the temporal outlook of agencies, whose primary time horizons serve organisation-specific demands (Goetz and Meyer-Sahling, 2009: 187). Longer time horizons in coordination suggest extended temporal discretion for the agencies to accommodate the added temporal demand to their primary deadlines. Shorter time horizons add pressure on the agencies to meet expectations sooner rather than later, thus narrowing temporal discretion and scope for internalising beyond the “mechanical achievement of [secondary] tasks” (Selznick, 1957: 27, Peters, 2015: 19).

The temporal properties of the challenge – its course of development (acceleration) and estimates of a) damage potential (short to long-term) and b) time frame before it is too late to intercept – underlie the stipulation of the coordinated response’ time horizon. If there is escalation (Rosa, 2009: 86), and the short-term consequences from a failed interception are severe, the response’ time horizon is likely to be short. One typical example is the wildfire (think of the seasonal eruptions in California, US, and the 2019-2020 bushfire season in Australia) which if unchecked can spread at high speeds and burn up almost everything in its path. To contain the fire, rescue people, animals, and treat the wounded, require immediate and coordinated actions. The wildfire’s temporal properties thus make for a shorter time horizon to put up the coordinated response. Such “all hands on deck” mobilisation requires the

partaking agencies (fire brigades, health services, state administrations, etc.) to give less priority to, or ultimately set aside, their follow-up of primary responsibilities. Agencies are likely to do just that if they expect the added constrain on temporal discretion to apply for a limited time span. Thus, the concerted shift to “inferno prevention” mode is, on the one hand, likely instigated by the wildfire’s suddenness, on the other hand, likely sustained by the expectation that “all hands on deck” mobilisation is temporary³ (the fire will burn out at some point). Translated to the theoretical framework of this paper, interagency action to manage wildfire does not add a lasting constrain on the agencies’ capacity to follow-up primary responsibilities.

If the policy challenge’s damage potential is projected to materialise in the long-term, adding shorter time horizons to its coordinated response enhances the likelihood for reactive agency interaction-patterns (Jacobs, 2011: 5, Peters, 2015: 19). The AMR challenge is on the increase (European Centre for Disease Prevention and Control [ECDC], 2019a), however, its acceleration is less visible than the eruption of, e.g., a wildfire. The urgency factor being less evident (“for all to see”), presumably gives the agencies higher thresholds to accommodate the added temporal demand from, secondary task, coordination. It furthermore is less easy to establish the time frames for preventive work against challenges such as AMR. The situation with AMR worsens continuously, and the long-term consequences from failed interception are disastrous (IACG, 2019). Still, it is not evident how much time there is left to prevent the worst-case scenarios from AMR (McKie, 2017). Given the temporal properties of AMR, governments may decide to introduce longer time horizons to the agencies coordinating its containment. The most evident implication is the signalling to the agencies that they are in this for the long-term. Thus, the agencies get more opportunity for deliberation on how to accommodate the time horizon(s) in coordination to their primary time horizons.

This is not to say that longer time horizons automatically facilitate voluntary interactions in horizontal coordination. The assumption is rather that longer time horizons in coordination, make the agencies more likely to discover positive-sum linkages, or win-wins, between their follow up of primary responsibilities and coordination as secondary task.

Propositions P1a and P1b summarise the argument. They apply to long-term policy challenges where the time frame to prevent worst-case scenarios is uncertain.

- P1a: The longer the formal time horizon in coordination, the higher temporal discretion of the coordinating agencies. Agencies granted higher temporal discretion are more likely to interact voluntarily in horizontal coordination.
- P1b: The shorter the formal time horizon in coordination, the lower temporal discretion of the coordinating agencies. Agencies granted lower temporal discretion are less likely to interact voluntarily in horizontal coordination.

Timetable

The timetable in coordination establishes the schedule showing how the process is to be organised across time. It encompasses the frequency and density of meetings to exchange information, grids specifying the timing and sequencing of intermediate tasks, and procedures for when or how to adjust future operations. In laying out these directions, the timetable guides the agencies on mobilisation to achieve synchronous interaction in coordination (Goetz and Meyer-Sahling, 2009: 189).

Given the plausible need for longer time horizons in the fight against AMR, timetables with higher levels of fixation might aid the competent authority with keeping the agencies' behaviour in check. A timetable that is more fixed adds to the constrain on partaking agencies from (secondary task) coordination. The fixed timetable is likely to

be a better match to some (not all) agency primary timetables (embodied in their annual cycles). Echoing Oliver's (1991: 164) theorisation on how organisations respond strategically to institutional pressures for conformity, the agencies that find coordination's constrain on primary operations is too invasive, use temporal discretion to reduce their participation in agency interaction. Timetable fixation could still generate anticipatory behaviour in coordination, especially if deviations from the formal schedule trigger serious repercussions (economic, reputational). However, agency interactions incentivised by fear of the "stick" are less likely voluntary, thus endangering coordination's progression in the long run (Dowding, 2008: 26).

The alternative approach is for the competent authority to introduce a coordination timetable that is less fixed. The competent authority gets less opportunity to control for agencies breaking ranks or paying lip service to the schedule in coordination. The agencies, meanwhile, get more discretion to decide internally and with fellow coordinators, how to organise the preventive action over time. While acknowledging the risk for less synchronous interaction, this paper assumes less timetable fixation to make the agencies more likely to cultivate a commitment to the process and objectives of coordination. Thus, a timetable with less discretionary constrains not only make the agencies more likely to acquiesce – the prediction by Oliver (1991: 160, 166) – but also to contribute by filling in the gaps of the competent authority's time rule. Flexibility in how to organise to meet the time horizon of coordination, calls on agency inputs to the drafting of timetable specificities. The agencies are thus more likely to use their temporal discretion to negotiate a coordination timetable that goes with their primary timetables. Hence, the stronger likelihood that they discover the secondary task of coordination is a positive sum "carrot" to promote.

Propositions P2a and P2b summarise the argument which applies to long-term policy challenges where the time frame to prevent worst-case scenarios is uncertain.

Figure 1 illustrates the expectations in P1ab and P2ab.

- P2a: The less fixation of formal timetables in coordination, the higher temporal discretion of the coordinating agencies. Agencies granted higher temporal discretion are more likely to interact voluntarily in horizontal coordination.
- P2b: The more fixation of formal timetables in coordination, the lower temporal discretion of the coordinating agencies. Agencies granted lower temporal discretion are less likely to interact voluntarily in horizontal coordination.

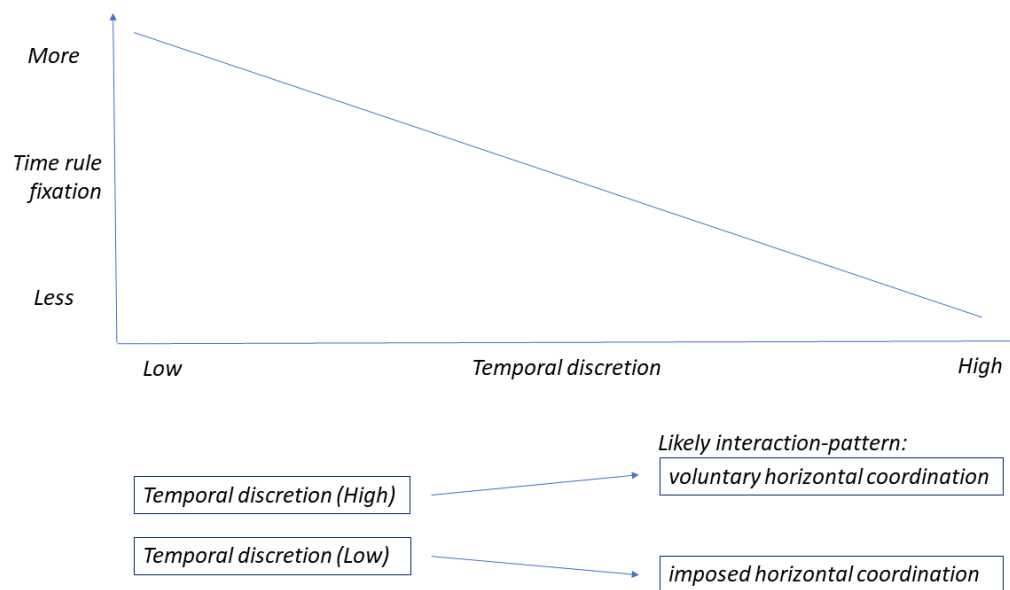


Figure 1. Propositions P1ab and P2ab on the likely interaction-pattern of agencies involved in coordination to prevent challenges with uncertain time frames.

Case study rationale and data material

The remainder of the paper is devoted to empirical illustration of the above propositions on formal time rules and agency interaction in coordination. The ambition is to show the usefulness of the paper's theoretical framework to comparative studies of coordination.

To this end, the paper draws on a qualitative case study of Sweden's intersectoral coordination to prevent AMR from proliferating. Sweden's inclusion of 20 semi-autonomous government agencies with distinct temporal outlooks, suggests difficulty with establishing and sustaining coordination on AMR. Still, Sweden is recognised as one of the leading countries in the fight against AMR (Interview J, 2019). The rationale behind the Swedish case is to illustrate how formal time rules in coordination come to influence partaking agencies' use of temporal discretion, and thus, way of interacting in coordination. Observing variation in the agencies' accommodation of coordination's temporal demands, the case study is a reminder that propositions P1ab and P2ab are not given. According to one interviewee (G 2019, author's translation),

many [agency representatives] are very active, very much proactive coordinators, whereas others are more like 'one does what one is supposed to, but not so much more'. For my own part, we [s/he's unit] are slightly short on resources now, which again makes that kind of work [proactivity] more difficult. Focus then falls back on doing what has already been formalised.

The main bulk of data comes from policy documents and interviews with Swedish senior officials (N=13) in 2017 and 2019. The interviewees were selected on basis of a pre-screening of which agencies and government ministries (i.e., competent authorities) participate in Sweden's coordination on AMR. The relevant organisations were then approached by e-mail, on which the interviewees consented to contribute to the study. Most of the interviews (all except three through Skype and one by phone) were completed face-to-face, and all except one were audio recorded. The analysis of the interview transcripts followed a deductive-inductive strategy where the paper's propositions P1ab-P2ab provided direction. Each interview has been anonymised and allotted a capital letter to ease the in-text citations (see below references for a comprehensive list of interviews which includes the assigned in-text capitals).

The quality of data makes for one noteworthy limitation of the study. Thus, the dependent variable only refers to *likely* interaction-patterns in coordination. This follows from the application of interview data encompassing senior officials' historical reproductions and impressions of Sweden's work on AMR. However rich in detail, these data essentially express the attitudes, not the behaviour of the interviewees. To support the interviewees' observations, the analysis draws on insights from policy documents (action plans, strategies, evaluations) generated during the coordination process.

Sweden's intersectoral fight against AMR

Sweden belongs to the group of countries⁴ with low levels of pathogenic resistance. At the bedrock of Sweden's approach to AMR is a state-level coordinating mechanism (mechanism) established in 2012 to accommodate a recommendation by the EU Council (Public Health Agency of Sweden [PHAS], 2017, 2014: 23). The main objective has been to establish a structure to facilitate intersectoral information exchange and preventive action against AMR (Government Offices of Sweden [GOS], 2012: 3, PHAS, 2017, 2014: 23). Three sectors are especially present in the mechanism: health, food and veterinary, and environment. There are 25 participating actors: 20 government agencies, the Association of county (regional) communicable disease officers, the County administrative boards, plus two professional networks, STRAMA⁵ and ReAct. This reflects Sweden's specialised state apparatus, where agencies administer narrow, sometimes close to overlapping⁶, jurisdictions (Interview F, 2019).

Two politico-administrative features (both constitutionally embedded) are particularly relevant to the imposition of time rules in Sweden. First, local self-government limits the capacity of the government (agencies included) to instruct local municipalities and regional county councils (Hall, 2015: 9). In the health sector,

competence is shared between the central state and the 20 regions and 290 municipalities (PHAS, 2017, 2014: 20). In the food, veterinary, and environment sectors, the government shares competences with regional, local, *and* European institutions, thus adding another locus of authority (and potential “time-setter”) to attend to (Ekengren, 2002, Goetz, 2014a, Interview D, 2019). Local self-government limits the scope of the mechanism to state-level activities where two or more agencies are involved (PHAS, 2017: 5). Agencies may, and do, produce policy guidelines and recommendations⁷, but their implementation at regional and local levels follows mainly on a voluntary basis (Niklasson, 2012: 252, Interview H, 2019).

Second, Sweden’s central state has a dualist structure that gives agencies a considerable degree of autonomy vis-à-vis their parent ministries (Hall, 2015: 3). This is evident in, a), the discretion of agency managers (directors generals) to decide on issues pertaining to internal organisation and recruitment (Niklasson, 2012: 252, Hall, 2015: 4), b), the government’s missions to the AMR mechanism emphasising the preservation of agency fields of responsibility (GOS, 2012, 2017), and c), decisions at the ministerial level needing consent from all ministers within the government. The implication is a difficulty for individual ministers and ministries to subordinate the agencies to their exclusive will (Hall, 2015: 2). In principle, the time rules of the AMR mechanism are a concern for the entire government collegium (hence, the paper’s reference to government when mentioning Swedish ministries). In practice, the follow-up of the mechanism rests with the Ministry of Health and Social Affairs and the Ministry of Enterprise and Innovation (food and veterinary policy) (National Board of Health and Welfare [NBHW], 2015: 14).

Time horizons

Sweden at present holds a favourable position vis-à-vis the global surge of AMR (WHO, 2014: X, ECDC, 2019b). One interviewee (F, 2019) drawing parallels between the challenges of AMR and climate change, remarks there still is time to plan and prepare for future, less favourable, circumstances. Emphasis in Sweden is on the long-term, complex, task of preserving the efficiency of antimicrobial medicines (Interviews D, 2019, F, 2019, G, 2019).

When the government instructed two of its agencies - the National Board of Health and Welfare (NBHW) and the Swedish Board of Agriculture (SBA) - to set up a mechanism to facilitate inter-agency/-sector coordination on AMR, it stipulated a six-year time horizon (2012-2017) of the mission (GOS, 2012). The NBHW and SBA were to report to the government (Ministry of Health and Social Affairs) at each year's closing on the mechanism's activities and overall progress. The 2016 report was to include an evaluation by all the partaking agencies on the functioning of the mechanism (GOS, 2012). According to one interviewee (H, 2019), introducing the mechanism was no easy task due to some agencies' reluctance to engage in the coordination of AMR preventive actions. Overall sentiments towards the coordinating mechanism (a secondary mission to most participants) appear since to have changed for the better. The first evaluation of the mechanism thus recommended the mission to be made permanent (PHAS, 2016). The government chose to accommodate most of the evaluation's recommendations, but the renewed mission cut the mechanism's time horizon down to three years (2018-2020) (GOS, 2017).

Some explanatory leverage for this move may be found in the government's finalising of a Swedish AMR-strategy the previous year (GOS, 2016). The government stipulated the mechanism's mission to be linked up with the strategy and thus to run

until 2020 (GOS, 2017). Extending the mechanism's time horizon by making it permanent would weaken the government's ability to follow-up and interfere with eventual deviations from its strategy. Synchronising the mechanism's time horizon with that of the strategy (both until 2020) thus added authoritative grip on the agencies' temporal discretion. Contrary to proposition P1b, the shortening of the time horizon was apparently not followed by less voluntary interactions among the agencies to the mechanism. The mechanism was at the time (2017) about to enter its second mission. The deviation from P1b could thus be down to the agencies having yet to cement the time rules of the mechanism. In their recent evaluation, the agencies emphasised "[the mechanism's] great value in coordinating Sweden's work against antibiotic resistance" (Swedish Board of Agriculture [SBA], 2019: 5, author's own translation). What they nevertheless recommended, was for the mission's time horizon to be extended (SBA, 2019: 6).

Timetables

For a process involving 20 agencies with distinct annual cycles, the government's regulation of the coordination timetable appears rather "hands-off". Besides annual reporting and preparations for the annual AMR Awareness Day, it has been for the partaking agencies to decide on the mechanism's timetable (Interview F, 2019).

According to proposition P2a, giving the agencies temporal discretion to decide on timetables, more likely brings about voluntary interaction in coordination. The recent evaluation (SBA, 2019: 5) stresses that agency officials with less AMR-related tasks to their primary responsibilities, see participation in the mechanism to enable work on the issue. Timetable flexibility is likely not the exhaustive explanation but shows formal rules not merely to work in constraining, but also enabling ways (Sætren, 2016: 29).

The government's initial mission (GOS, 2012) neither specified how the mechanism was to be structured nor all the agencies to be involved (its mentioning of policy sectors gave some direction). The agencies on the receiving end of the mission, the NBHW and SBA, were given much discretion to stake out the course of the initiative. In collaboration with agencies voluntarily drafted to the mechanism, they decided on a split structure encompassing a preparatory group (operational core consisting of nine agencies) and a "greater" group (all 25 actors) to decide on matters pertaining to the mission (Interview G, 2019). The latter group was to convene twice a year (fall and autumn), the former two times more⁸ (Interview F, 2019). With the renewal of the mechanism's mission (2018-2020), it was decided to introduce monthly Skype-meetings for the preparatory group. This self-initiated change to the mechanism's timetable was made to sustain the continuity in interagency information exchange (Interview D, 2019). Yet another amendment to the timetable came from the government's decision to make the chair of the mechanism a shared mission of the Public Health Agency of Sweden (PHAS) and the SBA (GOS, 2017). The initial arrangement had seen the NBHW, then the PHAS (since 2015) as the main chair. Starting in 2018, the two agencies were to preside over the mechanism one year each. This meant participation on an equal standing for the health and food and veterinary policy sectors.

Central to the mechanism's initial mission was to work out an action plan and communications strategy to guide the intersectoral work against AMR. The action plan was introduced in 2015 and revised in 2017 in conjunction with the renewed government mission. The latest version ran parallel to the mission's time horizon (2018-2020). It added operationalisations, including time estimates for completion on the seven objectives established by the government's AMR-strategy (GOS, 2016, PHAS,

2017). Although narrowing the scope for ad hoc initiatives from the mechanism, the government strategy provided welcome direction on what objectives to concentrate (GOS, 2016, Interviews G, 2019, H, 2019). The mechanism still amounted though to a secondary structure with few additional funding resources. This meant the activities of the action plan had to be interwoven with the primary timetables (annual cycles) of the agencies. Progress in coordination thus relied on their using temporal discretion to reconcile primary (agency-specific) and secondary (mechanism-specific) timetables.

According to one interviewee (F, 2019),

[...] it is difficult. 25 agencies are many, [...] 25 agencies work with very many different matters, and everything is very urgent, and everything is very important. Clearly, in certain instances, we compete with the regular operations [of the agencies] (author's translation).

The challenge is illustrated by the variation in how the agencies *sequence* their internal planning process, thus finalising their activity plan(s) for the upcoming year.

Accordingly,

one has different planning cycles, [...] different ways of making decisions on budget resources, [and] completely different times of the year when things are important [...]. Some of the agencies lay down next year's overriding activity plan during spring, and then add the details during fall. Other agencies plan the other way around. During spring, they gather suggestions to next year's activity plan from within the organisation. During fall, they decide on the overriding activity plan for next year. [...] If I am to suggest something new to that agency, I need to bring it up in March/April at latest, because then we can come to an agreement. Hence, the need to understand each other's planning cycles (Interview D, 2017, author's translation).

The contents of the mechanism's annual plan are agreed upon every autumn (Interview G, 2019). Experience thus far suggests amendments to the annual plan are difficult to realise unless announced well in advance to all the agencies (PHAS, 2017). At the

year's closing, when progress on set targets is reported to government, it is too late to make changes to the schedule for the upcoming year (Interview G, 2019). On basis of agency calls for improved future planning (PHAS, 2016: 7), the government decided to open for annual updates to the mechanism's overriding, multi-annual, action plan (GOS, 2017). This was to accommodate AMR's dynamism, which complicates the prediction of developments in pathogenic resistance (PHAS, 2017: 14).

The discretion granted to the agencies through less timetable fixation seems however to be a double-edged sword to the mechanism's functioning. On the one hand, it creates leeway to establish a timetable voluntarily acted on by the coordinating agencies, on the other, it opens for deviation or delay. To mitigate the latter, the first evaluation of the mechanism recommended steps to secure the anchoring at the management level of each agency (PHAS, 2016: 6). In response, the government's renewal of the mission went out to all 20 agencies (not merely the co-chairs) of the mechanism (GOS, 2017, Interview D, 2019). Starting in 2018, each agency was to answer directly to government on their participation in the mechanism (Interviews D, 2019, F, 2019, G, 2019). This did not prevent one agency from the environment sector from withdrawing its participation in the mechanism (Interviews D, 2019, F, 2019, G, 2019). To strengthen participation from more agency constituents, the second evaluation suggested reporting requirements to be extended to additional agencies⁹ (SBA, 2019: 6). More partakers needing to document their follow-up of mechanism tasks, suggests a tightening of the agencies' temporal discretion. This *could* lead more agencies to partake in the interactions of the mechanism, not least since the recommendation comes from the agencies themselves. However, according to proposition P2b, such time rule amendment is less likely to bring more agencies into the fold of voluntary interactors. Instead, agencies already less present in the mechanism,

are more likely to opt for a continuation, even entrenchment, of their stance. This response pattern remains hypothetical but serves to illuminate that tightening the temporal discretion of coordinating agencies is not without risk.

Agency know-how – limitation and resource

Partakers in Sweden's coordination on AMR seem well accustomed, at least within their own policy sectors, to the interagency coordination of tasks. One contributing factor is the specialised agency-structure with narrowly defined jurisdictions (Interview I, 2019). Coordination has thus been necessary to ensure policy coherence (Interview F, 2019). Sweden's agencies from the health, veterinary and food policy sectors have a history with zoonotic¹⁰ disease prevention and control dating back to the late 1920s¹¹ (Interview D, 2017, Wierup et al., 2021). To them, the introduction in 2012 of the intersectoral mechanism on AMR, was "not really new" territory (Interview D, 2017). In comparison, the agencies from the environment sector (third policy pillar of AMR) were quite new to the issue when joining the mechanism (NBHW, 2015: 15). During the mechanism's two preliminary missions (2012-2017, 2018-2020), what seemingly has manifested is cross-sectoral variation in the agencies' presence. Hence, the paper suggests a potential caveat to its propositions: the cross-agency/-sectoral distribution of knowing how to manage AMR and, thus, to employ temporal, granted, discretion in coordination on AMR.

Of the health, veterinary and food agencies summoned to the mechanism, many had previously been part of bottom-up initiatives on AMR (thus indicating pre-2012 commitment to the cause). In 1994, following a rise in AMR-incidences, the medical profession together with health agencies and the National Veterinary Institute (NVI) convened to form STRAMA (Mölstad et al., 2008, PHAS, 2014: 30-33, Gröndal 2018).

Starting out as a voluntary network (one state-level and one in nearly all counties), STRAMA¹² facilitated relationship building between the health, veterinary and food sectors. Gradually assuming the function of a hub for expert knowledge, STRAMA in 2000 contributed to Sweden's first drafting of an action plan on AMR (Mölstad et al., 2008, PHAS, 2014: 30-33). Thus, when given the mission to convene the mechanism in 2012, the health, food and veterinary agencies held knowledge of how to monitor and prevent AMR (Interview F, 2019).

In comparison, no systematic approach to AMR existed in the environment sector (PHAS, 2017: 19). Bearing in mind the positive agency evaluations of the mechanism since 2012 (SBA, 2019: 5), officials from the environment sector have seemingly grappled with uncertainty on how to contribute. The granting of temporal discretion to set up the mechanism's timetable seems neither to have generated a proactiveness in the environment agencies' interactions. One interviewee (G, 2019, author's translation) puts it this way:

[...] Much work goes on in the human, animal, and food sector. [...] There is movement, which also makes it possible to coordinate because there are people to involve on various matters. The environment sector [...] does not have the same tradition. [...] Practically, it is unclear where, what and how to address [AMR] in the environment¹³, [which] also makes it very difficult to actively coordinate since there is no concrete mission. There are not that many resources and personnel to draw on [from the environment sector].

The withdrawal from the mechanism by one of the environment agencies has coincided with losses of energy and efficiency for the remaining to follow up the tasks of the environment sector (Interviews F, 2019, I, 2019). The agencies to the mechanism thus stress the need for more active involvements from the environment sector (PHAS, 2016: 6, SBA, 2019: 7, Interviews F, 2019, G, 2019, H, 2019, I, 2019). The environment

agencies however seem to require further clarification of the mission and future direction of the mechanism (Interview I, 2019, SBA, 2019). This suggests more clarity (and possibly time rule fixation) in the government's mission to the mechanism.

Concluding remarks

This paper has suggested a framework for how to study time rules' influence on agency interaction-patterns in the coordination of long-term, transboundary, challenges. The management of challenges such as AMR requires manifold actors to coordinate their actions for unconceivable time spans. This follows from the uncertain time frames to prevent the worst-case scenarios from manifesting. To government agencies, AMR management is potentially a secondary task adding temporal demand to their primary responsibilities. To ensure the progress they anticipate, governments may add formal time rules to the coordinated fights of the agencies. The paper presented four propositions on the agencies' likely interaction-patterns from different time rule fixation in coordination. These applied to time rules that stipulate the time horizon (duration) and timetable (timing and sequencing) in coordination. The paper argued that in coordination on AMR (and the like), introducing time rules with less fixation make the agencies more likely to commit to the process and interact voluntarily. Agencies granted the temporal discretion to work out coordination's structuring over time, more likely developed positive-sum perceptions of time investments in horizontal coordination vs. primary responsibilities. Time rules tightening the temporal discretion of the coordinating agencies, suggested zero-sum perceptions and reactive interaction-patterns.

To illustrate the paper's framework, the paper conducted a case-study of Sweden's intersectoral fight against antimicrobial resistance. The presence of multiple and distinct agency temporal schedules complicated the work of Sweden's coordinating

mechanism on AMR. The government agencies nevertheless appeared willing to invest time to sustain the process. The study showed how, under less time rule fixation, the agency representatives used their temporal discretion to develop the timetables of coordination on AMR. This self-organisation by agencies who voluntarily administer the coordination timetable to go with their primary timetables, seemed a persistent feature of the Swedish intersectoral mechanism on AMR. The study also suggested that the agencies with less pre-knowledge of how to manage the AMR-issue (compared to that of the other coordinating agencies) struggled more to keep pace with coordination's progression (despite being granted the temporal discretion to do so). Overall, the paper considered the Swedish case to give support to its propositions, but recognised variation in the agencies' historically accumulated subject knowledge to be a potential caveat.

Having presented a theoretical framework and case-study of how time rules impact on agency interaction-patterns in coordination, the pertinent question is where to go from here. The Swedish case, with agencies showcasing experience in the skill of interagency coordination, is arguably a most likely case for the paper's theoretical framework. Thus, "if [the paper's propositions] cannot make it [in Sweden], [they] cannot make it anywhere" (Levy, 2008: 12). Hence, the paper's invitation to apply its propositions in comparatively tougher (less likely) public administration settings, and, moreover, compare coordinated actions on issue-areas whose time horizons vary (climate change, AMR, COVID-19, etc.). Time rule multiplicity proved after all a challenge to interagency coordination in Sweden and should thus be a noticeable (perhaps even more pronounced) challenge elsewhere, too.

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- ¹ The paper focuses on horizontal lines of interaction to highlight the challenge to coordination from separate policy jurisdictions.
- ² Available at <https://www.covid19healthsystem.org/mainpage.aspx>.
- ³ This might change if the wildfire seasons get ever longer as has been predicted by the Intergovernmental Panel on Climate Change (IPCC, 2019: 14).
- ⁴ Other notable exceptions are Finland, the Netherlands and Norway.
- ⁵ Swedish Strategic Programme for the Rational Use of Antimicrobial Agents and Surveillance of Resistance.
- ⁶ For instance, the Swedish Board of Agriculture's responsibilities in disease prevention and control is confined to *living* animals, whereas zoonosis outbreaks fall under the remit of the National Food Agency (Interview E, 2017).
- ⁷ Besides maintaining a few binding regulations such as hygiene in health care facilities and veterinary practice, agencies in the main provide policy guidelines and recommendations for local and regional authorities to adopt voluntarily (Interviews F, 2019, H, 2019).
- ⁸ A fifth summoning takes place at the Antibiotic Awareness Day in November.
- ⁹ Up to this point in time, the reporting to government had been carried out by the two agency chairs.
- ¹⁰ Pathogens that are transmissible from animals to humans through direct contact or through food, water, and the environment (who.int/zoonoses/en/, accessed 6 September 2020).
- ¹¹ Sweden was one of the first countries to initiate steps to eradicate tuberculosis in cattle at the end of the 1920s.

¹² Its overarching goal is to preserve the efficiency of antibiotics.

¹³ The environmental aspects of AMR have been lifted higher onto the international agenda (cf. UNEP, 2017), but there are presently more questions unaccounted than accounted for. UNEP together with FAO, OIE and WHO are to present a report in 2021 on how to address AMR in the environment (Interviews B, 2019, F, 2019).

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References

Adam, B. (1998) *Timescapes of Modernity*. London: Routledge.

Adam, C., Hurka, S., Knill, C., Peters, B.G. and Steinebach, Y. (2019) Introducing Vertical Policy Coordination to Comparative Policy Analysis: The Missing Link between Policy Production and Implementation. *Journal of Comparative Policy Analysis: Research and Practice* 21(5): 499-517.

Ansell, C., Boin, A. and Keller, A. (2010) Managing Transboundary Crises: Identifying the Building Blocks of an Effective Response System. *Journal of Contingencies and Crisis Management* 18(4), 195-207.

Boin, A., Ekengren, M. and Rhinard, M. (2020) Hiding in Plain Sight: Conceptualizing the Creeping Crisis. *Risks, Hazards & Crisis in Public Policy* 11(2): 116-137.

Boin, A. and 't Hart, P. (2003) Public Leadership in Times of Crisis: Mission Impossible? *Public Administration Review* 63(5): 544-553.

-
- Bouckaert, G., Peters, B.G. and Verhoest, K. (eds.) (2010) *The Coordination of Public Sector Organizations: Shifting Patterns of Public Management*. Hampshire, UK: Palgrave MacMillan.
- Brunsson, N. (2000) *The Irrational Organization. Irrationality as a basis for organizational action and change*. Bergen: Fagbokforlaget.
- Bulmer, S. (2009) Politics in Time meets the politics of time: historical institutionalism and the EU timescape. *Journal of European Public Policy* 16(2): 307-324.
- ECDC. (2019a) *Antimicrobial resistance shows no signs of slowing down*. Joint press release, European Centre for Disease Prevention and Control and European Food Safety Authority, <https://www.ecdc.europa.eu/en/news-events/zoonoses-antimicrobial-resistance-shows-no-signs-slowing-down>, accessed 5 May 2020.
- ECDC. (2019b) *Surveillance of antimicrobial resistance in Europe 2018*. Stockholm: European Centre for Disease Prevention and Control. Annual report of the European Antimicrobial Resistance Surveillance Network (EARS-Net).
- Dowding, K. (2008) Agency and structure: Interpreting power relationships. *Journal of Power* 1(1): 21-36.
- Edqvist, L-E and Pedersen, K.B. (2001) Antimicrobials as growth promoters: resistance to common sense', Late lessons from early warnings: the precautionary principle 1896-2000. Copenhagen: European Environment Agency. *Environmental issue report* 22: 93-100.
- Egeberg, M. and Trondal, J. (eds.) (2018) *An Organizational Approach to Public Governance. Understanding and Design*. Oxford: Oxford University Press.

-
- Ekengren, M. (2002) *The Time of European Governance*. Manchester: Manchester University Press.
- Goetz, K.H. and Meyer-Sahling, J-H. (2009) Political time in the EU: dimensions, perspectives, theories. *Journal of European Public Policy* 16(2): 180-201.
- Goetz, K.H. (2014a) Time and Power in the European Commission. *International Review of Administrative Sciences* 80(3): 577–596.
- Goetz, K.H. (2014b) A Question of Time: Responsive and Responsible Democratic Politics. *West European Politics* 37(2): 379-399.
- GOS. (2012) *Uppdrag inom strategin mot antibiotikaresistens och vårdrelaterade infektioner* [Government mission concerning the strategy against antibiotic resistance and healthcare associated infections] (S2010/7655/FS). Stockholm: Ministry of Health and Social Affairs.
- GOS. (2016) *Swedish strategy to combat antibiotic resistance*. Stockholm: Ministry of Health and Social Affairs.
- GOS. (2017) *Uppdrag angående samverkansfunktion och handlingsplan för arbetet mot antibiotikaresistens* [Government mission concerning the coordinating mechanism and the action plan for the work against antibiotic resistance] (S2017/01706/FS). Stockholm: Ministry of Health and Social Affairs.
- Gröndal, H. (2018) The Emergence of Antimicrobial Resistance as a Public Matter of Concern: A Swedish History of a “Transformative Event”. *Science in Context* 31(4): 477-500.
- Göhler, G. (2009) ‘Power to’ and ‘Power over’. In: S.R. Clegg and M. Haugaard (eds.) *The SAGE Handbook of Power*. London: SAGE Publications Ltd., pp. 27-39.

-
- Hall, P. (2016) The Swedish Administrative Model. In: J. Pierre (ed.) *The Oxford Handbook of Swedish Politics*. Oxford: Oxford University Press, DOI: 10.1093/oxfordhb/9780199665679.013.17.
- Haydu, J. (1998) Making use of the past: time periods as cases to compare and as sequences of problem solving. *American Journal of Sociology* 104(2): 339–371.
- IACG. (2019) *No Time to Wait: Securing the Future from Drug-Resistant Infections*. Interagency Coordination Group on Antimicrobial Resistance. Report to the Secretary-General of the United Nations.
- IPCC. (2018) Summary for Policymakers. In: *IPCC Special Report on the Impacts of Global Warming of 1.5°C*. Geneva: The Intergovernmental Panel on Climate Change.
- IPCC. (2019) Summary for Policymakers. In: *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*. Geneva: The Intergovernmental Panel on Climate Change.
- Jacobs, A.M. (2011) *Governing for the Long Term. Democracy and the Politics of Investment*. New York: Cambridge University Press.
- Lenton, T.M, Rockström, J., Gaffney, O., Rahmstorf, S., Richardson, K., Steffen, W. and Schellnhuber, H.J. (2019) Climate tipping points - too risky to bet against. *Nature* 575: 592-595.
- Linz, J. (1998) Democracy's time constraints. *International Political Science Review* 19(1): 19–37.

-
- Majone, G. (1996) Temporal Consistency and Policy Credibility: Why Democracies Need Non-Majoritarian Institutions. Florence: European University Institute. EUI Working Paper ESC 96/57.
- Mölstad, S., Erntell, M., Hanberger, H., Melander, E., Norman, C., Skoog, G., Stålsby Lundborg, C., Söderström, A., Torell, E. and Cars, O (2008) Sustained reduction of antibiotic use and low bacterial resistance: 10-year follow-up of the Swedish Strama programme. *Lancet Infectious Diseases* 8(2): 125–132.
- McKie, R. (2017) ‘Antibiotic apocalypse’: doctors sound alarm over drug resistance. *The Guardian*, 8 October:
<https://www.theguardian.com/society/2017/oct/08/world-faces-antibiotic-apocalypse-says-chief-medical-officer>, accessed 5 May 2020.
- Molenveld, A., Verhoest, K., Voets, J. and Steen, T. (2020) Images of Coordination: How Implementing Organizations Perceive Coordination Arrangements. *Public Administration Review* 80(1): 9-22.
- NBHW. (2015) *Handlingsplan mot antibiotikaresistens och vårdrelaterade infektioner* [Action plan against antibiotic resistance and healthcare associated infections]. Stockholm: National Board of Health and Welfare.
- Niklasson, B. (2012) Sweden. In: K. Verhoest, S.V. Thiel, G. Bouckaert and P. Lægreid (eds.) *Government Agencies. Practices and Lessons from 30 Countries*. London: Palgrave Macmillan UK, pp. 245-258.
- Oliver, C. (1991) Strategic responses to institutional processes. *Academy of Management Review* 16(1): 145-179.

-
- Peters, B.G. (2015) *Pursuing Horizontal Coordination. The Politics of Public Sector Coordination*. Lawrence, Kansas: University Press of Kansas.
- Pierson, P. (2000) Increasing Returns, Path Dependence, and the Study of Politics. *American Political Science Review* 94(2): 251-267.
- PHAS. (2014) *Swedish work on containment of antibiotic resistance – Tools, methods and experiences*. Solna/Östersund: Public Health Agency of Sweden.
- PHAS. (2016) *Åtterrapportering av samordningsuppdrag antibiotikaresistens och vårdrelaterade infektioner, årsrapport 2016 samt utvärdering av samverkansfunktionen* [Report to government on the coordinating mission against antibiotic resistance and healthcare associated infections, annual report for 2016 plus evaluation of the coordinating mechanism]. Solna and Östersund: Public Health Agency of Sweden.
- PHAS. (2017) *Reviderad tvärsektoriell handlingsplan mot antibiotikaresistens 2018–2020 – underlag för samverkansgruppens fortsatta arbete* [Revision of the cross-sectoral action plan against antibiotic resistance 2018–2020: Basis for the continued work of the coordinating mechanism]. Solna and Östersund: Public Health Agency of Sweden.
- Review on Antimicrobial Resistance. (2016) *Tackling Drug-resistant Infections Globally: Final Report and Recommendations*. Review commissioned by the UK Prime Minister.
- Rosa, H. (2009) Social Acceleration: Ethical and Political Consequences of a Desynchronized High-Speed Society. In: H. Rosa and W.E. Scheuerman (eds.)

-
- High-Speed Society. Social Acceleration, Power, and Modernity.* University Park, PA: The Pennsylvania State University Press, pp. 77-111.
- Rosenthal, U. and Kouzmin, A. (1997) Crises and Crisis Management: Toward Comprehensive Government Decision Making. *Journal of Public Administration Research and Theory: J-PART* 7(2): 277-304.
- Selznick, P. (1957) *Leadership in Administration: A Sociological Interpretation.* Evanston, IL: Row, Peterson.
- SBA. (2019). *Återrapportering av samordningsuppdrag antibiotikaresistens samt årsrapport 2019* [Report to government on the mission of the national coordinating mechanism plus annual report for 2019]. Jönköping: Swedish Board of Agriculture.
- Sætren, H. (2016) Lost in Translation: Re-conceptualising the Multiple-Streams Framework Back to its Source of Inspiration. In: R. Zohlnhöfer and F.W. Rüb (eds.) *decision-making under ambiguity and constraints. assessing the multiple-streams framework.* Colchester: ECPR Press, pp. 21-33.
- UNEP. (2017) *Frontiers 2017. Emerging Issues of Environmental Concern.* Nairobi: United Nations Environment Programme.
- Verhoest, K., Thiel, S.V., Bouckaert G. and Lægreid, P. (eds.) (2012) Introduction. In: *Government Agencies. Practices and Lessons from 30 Countries.* London: Palgrave Macmillan UK, pp. 3-17.
- WHO. (2014) *Antimicrobial resistance: global report on surveillance.* Geneva: World Health Organization.

WHO. (2015) *Global Action Plan on Antimicrobial Resistance*. Geneva: World Health Organization.

WHO. (2019) *Turning Plans into Action for Antimicrobial Resistance (AMR). Working Paper 2.0: Implementation and coordination*. Geneva: World Health Organization.

Wierup, M., Wahlström, H. and Bengtsson, B. (2021) Successful Prevention of Antimicrobial Resistance in Animals — A Retrospective Country Case Study of Sweden. *Antibiotics* 10(129): 1-24.

List of interviews

- (A) Senior executive officers, Swedish Ministry of Enterprise and Innovation, 16.02.2017
- (B) Senior executive officer, Swedish Ministry of Enterprise and Innovation, 15.05.2019
- (C) Senior executive officer, Swedish Ministry of Health and Social Affairs, 28.02.2017 (by phone)
- (D) Senior executive officer, Swedish veterinary agency, 15.06.2017 & 14.05.2019
- (E) Senior executive officer, Swedish Board of Agriculture, 21.02.2017 (through Skype)
- (F) Senior executive officer, Swedish Board of Agriculture, 09.07.2019
- (G) Senior executive officer, Swedish health agency 1, 15.02.2017, 14.06.2017, 15.05.2019, 03.07.2020 (e-mail correspondence)

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- (H) Senior executive officer, Swedish health agency 2, 05.07.2019 (through Skype)
 - (I) Senior executive officer, Swedish environment agency, 24.09.2019 (through Skype)
 - (J) Senior executive officer, World Health Organization, Geneva, 25.11.2019

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Article

Adapting to a Global Health Challenge: Managing Antimicrobial Resistance in the Nordics

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Abstract

This article explores the adaptation of Norway and Sweden to one of the major challenges to global public health, antimicrobial resistance (AMR). Guided by assumptions derived from institutional theory, the article investigates whether, and if so, how the AMR problem has affected the two Nordic countries' administrative systems and frameworks for Nordic cooperation. The article builds on selected literature, expert interviews, and public documents. The findings suggest that the international impact on Norway and Sweden's managerial adaptation to AMR is limited. Instead, adaptation takes place through incremental change within existing structures for disease prevention and control and follows traditional ways of organizing political and administrative systems.

Keywords

antimicrobial resistance; disease control; disease prevention; Europeanization; Nordic cooperation; Norway; public administration; Sweden

Issue

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1. Introduction

The Coronavirus pandemic in 2020 appeared as a defining global health crisis facing national governments with extreme challenges of crisis management and cooperation. The crisis revealed that nation-states chose a variety of different approaches to the management of the same major health threat. Even in a relatively homogenous region such as the Nordic region, there was variation among the countries' approaches. The crisis demonstrated the need for effective mechanisms of preparedness, coordination, and management in health governance. This article will explore the management of one of the other big challenges to global public health identified by the World Health Organisation (WHO), namely

antimicrobial resistance (AMR). The WHO's prioritization of AMR management became particularly apparent in 2015 when the WHO's Global Action Plan was published (WHO, 2015). The Global Action Plan represented a key event in global health governance by providing guidelines for AMR management and encouraging all WHO members to implement national action plans for AMR. Thus, the WHO provided a framework for global influence on AMR management. The increase of AMR implies that a growing number of antibiotics become ineffective and thus contribute to an increasing number of deaths worldwide. It is estimated that within the EU, annually, AMR is responsible for approximately 33,000 deaths and approximately EUR 1.5 billion in healthcare costs and productivity losses (Cassini et al., 2018; Organisation

for Economic Co-operation and Development [OECD], 2018). Some estimates show that, without effective policies, by 2050 as many as 10 million people may die each year from causes related to AMR (O'Neill, 2014). Managing the problem of AMR is a complex endeavour as it (similar to Covid-19) both spreads across national borders and affects different sectors. Thus, AMR represents a major challenge to all levels of governance, including Nordic cooperation. This article investigates Norwegian and Swedish adaptation to the AMR problem, with an emphasis on the two countries' administrative systems and frameworks for international (Nordic, European, global) cooperation. The main research questions are: (a) How have the central administrative systems of Norway and Sweden adapted to the AMR challenge? And (b) has the adaptation to AMR strengthened Nordic cooperation or has Nordic cooperation been surpassed by international influence (EU, WHO) and/or by unique national characteristics? The key puzzle, which the article addresses, is whether, and, if so, how and why nation-states' adaptation to a major common challenge leads to changes in domestic administrative structures, as well as in cooperation patterns across national borders. Thus, the article aims to increase the understanding of the conditions for collective action and institutional adaptation in the face of common external threats. The study reveals barriers against standardized responses to crosscutting challenges such as AMR and highlights the need for country-specific historical and institutional contexts to be taken into account when managing major cross-border challenges.

The Nordic countries have a long tradition of cooperation on health-related matters. Of particular importance has been the common Nordic labour market, established in 1954, and the related social security agreement from 1955 giving Nordic citizens more or less the same welfare services when working in other Nordic countries (Pedersen, Røed, & Wadensjö, 2008). Beyond this, Nordic cooperation on health has been characterized by 'soft modes of cooperation,' i.e., by non-binding commitments and network activities, involving in particular experts and researchers. One example of such networks is the Northern Dimension Partnership in Public Health and Social Well-being (NDPHS), which, among other things, includes an expert group on AMR. The EU has added important elements to the Nordic cooperation by requiring that all members implement EU law. Norway is required to implement such rules through the EEA Agreement. However, even though network activities are included also in EU cooperation, the EU's formal competences in health are limited. Thus, the core responsibilities for national health systems remain in the hands of the nation-states. Hence, when dealing with major health challenges such as AMR, Norway and Sweden have been relatively free to choose which tools and measures to use within their administrative systems. In the following paragraphs, derived from institutional theory, we generate assumptions about the adaptation to

the AMR challenge within the Nordics—with a particular focus on Norway and Sweden.

2. Institutional Approach to Adaptation: Internal and External Factors

Based on institutional theory, this section aims to generate assumptions about the Nordic adaptation to the AMR problem by presenting two perspectives, which emphasize internal and external factors, respectively.

The *internal perspective* lends inspiration from historical institutionalism and the concept of path dependency and emphasizes factors rooted in the historical development and specific institutional characteristics within the nation-states. Here, adaptation takes place through incremental steps (Lindblom, 1959; Mahoney & Thelen, 2010) or path-dependent choices (Pierson, 2000; Pollitt, 2008) and is characterized by stability and institutional continuity. One of the (indirect) basic assumptions within this literature is that dramatic change is primarily triggered by shocks, major events, or critical junctures which create 'windows of opportunity' for innovation and transformative change (Kingdon, 1995; Pierson, 2004). Derived from the *internal perspective*, we pose two alternative assumptions:

- (i) Adaptation to the AMR challenge is path-dependent, based on well-established and unique administrative structures and routines for handling the same types of problems. Thus, managing AMR is characterized by incremental changes and minor adjustments, which only add to (and do not replace) pre-existing structures and routines within the Nordic administrative systems.
- (ii) The AMR challenge represents a major event—a critical juncture—which strengthens the efforts to learn from each other within the Nordics and which leads to the establishment of innovative and new administrative structures within Nordic cooperation.

The *external perspective* lends inspiration from theories of diffusion and Europeanization-emphasizing factors, which are rooted in events taking place outside of the Nordic cooperation, as well as outside national governments' direct control. Two sets of factors are highlighted: First, the EU influences domestic administrations through the adoption of binding, as well as non-binding commitments. This relates to the idea that the EU may be a source of influence that contributes to a "central penetration of national systems of governance" and leads to the adaptation of "national and sub-national systems of governance to a European political centre and European-wide norms" (Olsen, 2002, pp. 923–924). Here, adaptation takes place by implementing and adhering to authoritative decisions and recommendations adopted at the EU level (Bondarouk & Mastenbroek, 2018; Treib, 2014). The second set of exter-

nal factors are rooted in global ideas and initiatives. Here, influence is not channelled through one particular central authority above the nation-states (such as the EU), but instead via horizontal mechanisms such as epistemic communities (Haas, 2016), cooperative networks, and information exchanges between governments, thus triggering a potential for diffusion of common global ideas and norms (Boxenbaum & Jonsson, 2017). Thus, adaptation takes place on the basis of peer pressure, learning, and imitation/copying. A key concept in the context of AMR, and relevant to the article's external perspective, is the 'One Health' principle, which pervades international strategic documents on the issue (c.f. European Commission, 2017; European Council, 2016; WHO, 2015). 'One Health' is here understood as a global template for administrative adaptation to enable the fight against AMR. Accordingly, "stemming the superbug tide" (OECD, 2018) necessitates the engagement of "everybody—in all sectors and disciplines—in the implementation of the [global] action plan on AMR" (WHO, 2015, p. 5). Adapting management structures to 'One Health,' thus places demand on public administrations to extend their horizontal (cross-sector) and vertical (multi-level) lines of coordination. Derived from the *external perspective*, we pose two alternative assumptions:

- (i) EU influence surpasses unique Nordic approaches and contributes to the implementation of European specific solutions to the management of the AMR crisis.
- (ii) Global initiatives lead to the diffusion of global norms, standards, and ideas, which surpass Nordic cooperation and contribute to the convergence of national systems of AMR management in line with the 'One Health' principle.

3. Methods and Data

The article presents a study of Norway, Sweden, and the Nordic cooperation's response to the AMR challenge. The article's ambition is mainly empirical, but it also seeks to substantiate a number of assumptions derived from institutional theory in order to establish whether, and, if so, how and why the AMR problem has affected the administrative systems and cooperative framework of the Nordic countries. Norway and Sweden are both: (a) part of the Nordics, (b) small and wealthy welfare states with modern administrative systems and similar cultures, and (c) strongly linked to the EU (Sweden as a member, Norway as part of the EEA Agreement). There is a long tradition of learning from each other within the Nordic cooperation, hence the likelihood of cross-border policy diffusion regarding AMR management. For the time being, the Nordic countries seem able to keep the burdens of AMR at bay (c.f. Cassini et al., 2018, p. 6). Furthermore, all four countries score below average (with Sweden scoring lowest) in the EU/EEA-area measurement on antimicrobial consump-

tion in the primary care and hospital sector (2018 data; European Centre for Disease Prevention and Control [ECDC], 2020). Measured by sales of veterinary antimicrobial agents marketed mainly for food-producing animals (2017 data), the Nordic countries also seem to be on the right path. Thus, Norway reports the lowest numbers in Europe (3.1 mg sold per population correction unit [PCU]) with the numbers for Sweden, Finland, and Denmark being 11.8, 19.3, and 39.4 mg/PCU, respectively. In comparison, the highest-scoring member state reported 423.1 mg/PCU (European Medicines Agency, 2019, p. 24). All Nordic countries score well below the mean for Europe with regard to AMR prevalence (ECDC, 2018), even though Denmark continues to have a greater problem than the others regarding some multi-resistant bacteria in humans, food animals, and meat (DANMAP, 2019, p. 2). Nonetheless, compared to other regions in Europe, the Nordic region as a whole so far stands out as successful in maintaining a low prevalence of AMR. Both Norway and Sweden are active participants in the international work on AMR and both countries stress the importance of international cooperation in this area. Thus, one key question raised in this article is whether this active international engagement has paved the way for international rules and recommendations on AMR management to influence AMR management and administrative structures in the Nordics. The data of the article consists of selected literature, written transcripts from 20 expert interviews (see Supplementary File for a comprehensive overview) and 'grey' literature (legal documents, strategies, action plans, reports). The interview data were generated over a three-year period (2017–2020). Interviewees were selected either on basis of a mapping exercise of the public organizations involved in Norway and Sweden's management of AMR, or after having been identified as key persons by other interviewees. Most interviews were face-to-face, but due to geographical distance and (more lately) the Covid-19 outbreak, some were completed by phone or video conferencing. A potential weakness of the article relates to the breadth of the interview data. Especially the Norwegian case could have benefitted from more interviewee accounts. However, since many of the interviewees are key senior personnel with long-standing contributions to the management of AMR, we consider the overall accounts to cast invaluable light on the article's research questions.

4. Findings

4.1. Sweden's Responses to AMR

4.1.1. Basic Administrative Structures

Swedish public administration is, among other things, characterized by dualism and local self-government (Hall, 2016). Dualism implies that most state-level resources and expertise are located at the agency-administrative

level. The ministries, in turn, are relatively small. All decisions by the Government ministries are settled collectively. This means a “ban on ministerial rule” of the agencies (Bäck & Larsson, 2008, p. 176; Hall, 2016, p. 3). Swedish state agencies are thus entitled to autonomy, especially in recruitment and internal organization (Hall, 2016, p. 4). Swedish local-self-government constrains the state’s access to instruct the public administration at local and county level. Agencies in the health and food and veterinary sectors are active in issuing guidelines and recommendations for voluntary adoption at local- and county-level (Interviews D and F, 2019). In the health sector, competence is shared between the municipalities, county councils (organizing, financing and provision of care), and the state (responsible for the national health policies; Public Health Agency of Sweden [PHAS], 2014, p. 20). The county medical officer manages communicable disease prevention and control within their county, whereas PHAS coordinates communicable disease prevention and control at state-level (Swedish Parliament, 2020, Chapter 1, para. 7–10). In the food and veterinary sector, the state shares competence with the counties and the EU-level. The county council with the county veterinarian manages disease prevention and control on delegated authority from the Swedish Board of Agriculture (SBA; state-level management of risks to animal health) and the Swedish Food Agency (SFI; state-level management of risks to food safety). The National Veterinary Institute manages the monitoring of risk, assessment of and preparedness for animal- and food-borne disease. The Government, including the agencies, respond to the European Commission which enforces the EU’s food and veterinary policies.

4.1.2. AMR Pre-2015

The first Swedish action plan on AMR (the SPAR-plan) came in 2000. Written by the National Board of Health and Welfare (NBHW; state-level coordinator of disease prevention and control until 2014) together with relevant authorities, organizations, and the Swedish Strategic Programme Against Antibiotic Resistance (STRAMA; see below), the SPAR-plan emphasised “adequate” monitoring procedures, prudence in antibiotic consumption, and a cross-sectoral approach to AMR (PHAS, 2014, p. 23). In 1999 and 2001, Sweden initiated national programs to monitor AMR and antibiotic consumption in the food and veterinary (SVARM under the National Veterinary Institute) and the health (SWEDRES under PHAS) sectors. These were to provide data to the European surveillance networks on AMR and antibiotic consumption (initiated in the late 1990s). In 2006, the Swedish Parliament endorsed the Government’s strategy on AMR and healthcare-associated infections (HAIs; PHAS, 2014, p. 23). The strategy was a continuation of the SPAR-plan. It was published by the Ministry of Health, and complemented by Ministries such as Enterprise (agriculture, food

and veterinary) and Environment (Government Offices of Sweden, 2005). In 2010, the Government commissioned the NBHW to evaluate and issue recommendations on further steps. The NBHW then invited the EU’s agency for disease prevention and control (ECDC) to assess Swedish work on AMR. Emphasising previous Recommendations (European Council, 2001, 2009), the ECDC identified shortcomings in the inter-sectoral structuring of what were otherwise very good sector accomplishments (Government Offices of Sweden, 2012, p. 2; Interview H, 2019). Thus, the Government Offices of Sweden (2012) instructed the NBHW and SBA to set up a coordinating mechanism to facilitate inter-sectoral activities and information exchange on AMR. The mechanism was, however, a formalization of pre-existing patterns of interaction (PHAS, 2014, p. 33). These had been promoted by the profession-driven initiation in 1995 of the STRAMA, to transcend the human and food and veterinary sectors and preserve antibiotics’ efficiency (PHAS, 2014, p. 30). STRAMA came to consist of local, informal, networks (one in all counties) and one state-level network with state agencies and professional associations. By 2010, the state-level STRAMA had been incorporated into the state to facilitate information exchange across sectoral and territorial boundaries (PHAS, 2014, p. 31).

4.1.3. AMR Post-2015

Shortly before the Global Action Plan on AMR (GAP; WHO, 2015) was published, the agencies of the mechanism presented a new action plan on AMR and HAIs (NBHW, 2015). The six objectives (NBHW, 2015, pp. 17–19) of the action plan contained inter-sectoral (I–II), and sector-specific activities (III–VI) in the health, food and veterinary, and environment sectors. The 20 agencies of the mechanism voluntarily committed to follow-up the action plan. There was no additional funding from the Government; hence, the emphasis on activities to involve a minimum of two agencies, and being in line with agencies’ jurisdictions and activity plans.

In 2016, the Government Offices of Sweden (2016) issued a new Swedish strategy on AMR, published by the Ministry of Health, but, referring to One Health, signatories also included the Ministers for Health, Rural Affairs, and Higher Education. The inter-ministerial coordination on AMR had, puzzlingly, given the rule on collective decision-making, been considered insufficient for some time (Interviews F and H, 2019). Responding to agency calls (PHAS, 2016, p. 7), the Government enacted an inter-ministerial working group to facilitate information sharing and follow-up of the strategy. The Government Offices of Sweden’s (2016, p. 2) seven strategic objectives provided welcome direction for the mechanism’s agencies on what/where to focus efforts at national and international levels (Interviews G and H, 2019). In conjunction with the renewal of the mechanism’s mandate (2018–2020), the agencies revised their action plan to accommodate objectives and activities to the strategy (Government Offices of

Sweden, 2017, p. 1; PHAS, 2017, p. 5). The Government Offices of Sweden (2017) simultaneously decided to designate both the PHAS and SBA as chairs of the mechanism (annual rotation). Compared to the 2012–2017 mandate where PHAS was chair, the food and veterinary, and health sectors with the new mandate were recognized as equals (Interview D, 2019). Finally, to strengthen participation in the follow-up of activities within the mechanism, the Government Offices of Sweden (2017) forwarded the instruction to all 20 agencies. Despite the added constraint on agency autonomy, this move was asked for in two consequent evaluations by the agencies themselves (PHAS, 2016, p. 6; SBA, 2019, p. 7).

The Government Offices of Sweden (2016, p. 17) strategy stipulated that Swedish leadership was to promote the AMR issue within the EU and in international cooperation. Thus, “if overuse of antimicrobials brings harmful effects in Sweden, it has similar effects elsewhere” (Interview D, 2017). In parallel to the ‘EU-track,’ where Swedish efforts focus on keeping AMR on the European Council and Commission’s agenda (Interview M, 2017), Sweden has raised the issue within the Nordic Council of Ministers. However, Nordic cooperation does not seem to constitute the main pillar of Swedish AMR diplomacy (Interviews M, 2017; O, 2019). Collaboration instead is found in alliances such as the Swedish-launched Alliance of Champions from 2015, with participation from Nordic (Norway), European (Germany, the Netherlands, the UK), African, American, and Asian partner countries (Government Offices of Sweden, 2015, 2020, pp. 15–17).

4.2. Norway’s Responses to AMR

4.2.1. Basic Administrative Structures

Norway, much like Sweden, has a public administration characterized by local self-government. The primary healthcare services (such as nursing homes and the General Practitioner [GP] scheme) in Norway are run by the local municipalities with the municipal medical officer managing local-level disease prevention and control (Norwegian Parliament, 2020, para. 7–1, para. 7–2). The specialist care institutions (hospitals, laboratories, etc.) are run by four health enterprises each with a relatively high degree of autonomy within its region. These are owned and governed by the Ministry of Health and Care Services. The main state-level agencies involved in disease prevention and control are the Norwegian Directorate of Health (NDH; manages the health policies set by the ministry) and the Norwegian Institute of Public Health (NIPH; monitors the national epidemiological situation, provides knowledge for the NDH’s managerial functions, has operative responsibility for national infectious disease outbreaks). The overall responsibility for health policies lies with the Ministry of Health. The food and veterinary sector has less local self-government. Thus, the Norwegian Veterinary Institute monitors and

assesses the risk from animal- and food-borne disease. The Norwegian Food Safety Authority (NFSA) is the competent authority in Norway for ensuring that plants, fish, animals, and foodstuffs are safe. NFSA is subordinate to the Ministry of Health, Ministry of Agriculture and Food, and Ministry of Trade, Industry, and Fisheries, all of which have specific responsibilities for the food and veterinary sector. Norwegian ministers are subjected to ministerial responsibility. Thus, each minister answers directly to Parliament on the affairs within their designated sector. This implies a clear subordination of food and veterinary agencies to their parent ministry, but also the EU/EEA-legal regime to which corresponding Norwegian regulations must comply.

4.2.2. AMR Pre-2015

Prepared in 1999 by an inter-agency working group led by the NIPH, the first Norwegian action plan (2000–2004) on AMR was depicted as being “pioneering work” due to its cross-sectoral perspective (NIPH, 1999, 2005, p. 3). Five ministries were behind the plan whose overriding goal was the preservation of antibiotics’ efficacy (NIPH, 1999, p. 12, 2005, p. 6). The objectives covered knowledge needs, antibiotic consumption, infection control, and included the provision of data to European surveillance networks. In 2000, two programs to monitor AMR and antibiotic consumption were established: one for humans (NORM, coordinated by the University Hospital of North Norway) and one for animals (NORM-VET, coordinated by the Norwegian Veterinary Institute). The siting of NORM at a University Hospital ended a dispute between hospital laboratories (longstanding performers of AMR monitoring) and the NIPH over the program’s location (Interview Q, 2020). In 2003, the NDH drafted another action plan (2004–2006) on hospital infections. Finalized by the Norwegian Ministry of Health (2004), one out of three objectives covered antibiotic consumption and AMR. After these two action plans expired, the activity level dropped, however (Interview Q, 2020). Thus, under the coordination of NIPH, a national strategy (2008–2012) was drafted (Norwegian Ministry of Health and Care Services [Norwegian Ministry of Health], 2008, pp. 8–9). Finalized by an interministerial steering group with five ministries, the strategy marked a continuation of the intersectoral approach to AMR. Noteworthy, at some stage, it was decided not to copy the Swedish STRAMA model to coordinate the implementation of AMR measures (Interview Q, 2020). The transboundary nature of AMR meant the potential intrusion into several policy sectors with marked jurisdictions. There was also uncertainty as to the county medical office’s suitability to both support the municipalities with AMR and perform its function as a supervisory authority (Interview P, 2020). Whereas in Sweden the county medical officer provides a linkage between the local, regional, and statal, many in Norwegian primary care consider the office a “proxy state police authority not to be dealt with” (Interview Q,

2020). Ultimately, it was decided to work with the existing organizational structures, thus implementing measures sector by sector (Interviews P and Q, 2020).

4.2.3. AMR Post-2015

Aided by the momentum at the international level (Interview Q, 2020), agency personnel and experts in 2013 were instructed to prepare a new national strategy on AMR. The interim expert group was yet again intersectoral. New was the emphasis on ‘One Health’ as reflected in the expert participation from agriculture, fishery, environment, and health (NIPH, 2014, p. 6). The final report identified knowledge gaps in Norway’s approach to AMR. Referring to the urgency of the AMR problem plus the limited time to complete the report, the expert group identified cross-sectoral measures amenable to swift implementation (NIPH, 2014, pp. 5–6). The national strategy was finalized in 2015 with the Minister of Health, the Minister of Fisheries, the Minister of Agriculture and Food, and the Minister of Environment as signatories—emphasising its accordance with the GAP (Norwegian Ministry of Health, 2015, p. 7). Different from the previous policy approaches, the national strategy had measurable and verifiable objectives (Norwegian Ministry of Health, 2015, p. 7; Interview Q, 2020). The Norwegian Parliament had decided for the strategy to target a 30 percent reduction by 2020 (compared to the 2012 level) in the population’s antibiotic consumption (Interview P, 2020). By 2018, the reduction was reportedly 24 percent (Norwegian Directorate of Health, 2019, p. 4). The strategy had four cross-sectoral objectives, including one on international, normative work, plus sector-specific objectives and eight prioritized areas of action (Norwegian Ministry of Health, 2015, pp. 8–19). An interministerial working group was to follow up on the strategy’s implementation. It was decided that action plans should be drafted on the objectives specific to the health and food and veterinary sectors. In the health sector, the NIPH, together with agencies and expert communities, drafted the action plan for the ministry (Norwegian Ministry of Health, 2016, pp. 3, 22). The action plan targeted primary, specialist, dental care, the general population, and the state-level organizing of work (Norwegian Ministry of Health, 2016, p. 4). The ministry decided for an inter-agency steering group—the NDH (lead), NIPH, Norwegian Medicines Agency, and Norwegian Directorate of eHealth—to coordinate the follow-up of the action plan. In 2019, yet another action plan (2019–2023) was added by the Norwegian Ministry of Health (2019, p. 6). Besides a situation report on Norwegian infection control (NIPH, 2018), this action plan built on the ECDC’s (2019, p. 2) recommendation of a “rapid step-up of infection prevention and control in [Norway, to contain] VRE, CRE, and other emerging multidrug-resistant bacteria.” The action plan on the objectives specific to the food and veterinary sector was published by the Norwegian Ministry of

Agriculture and Food (2016) with inputs from the NFSA, Norwegian Veterinary Institute, and industry representatives. Structured around the national strategy’s eight areas of action, it was to be dynamic, thus allowing for amendment while respecting the existing budgetary limits (Norwegian Ministry of Agriculture and Food, 2016, pp. 1–2). Different from the approach in health, the ministry coordinated the implementation, and emphasised in its reporting both the national and international objectives of the national strategy.

Like Sweden, Norway’s national strategy addressed the need to be a driver of international, normative work on AMR (Norwegian Ministry of Health, 2015, p. 8). Norway stressed the need for Nordic collaboration to promote joint positions at the EU and international level (Norwegian Ministry of Health, 2015, p. 17). In 2017, during its presidency of the Nordic Council of Ministers, the Norwegian Government hosted a Nordic seminar on AMR (to which the EU Commissioner for Health and Food safety gave the opening speech; Norwegian Ministry of Education and Research, 2018, p. 23). After the seminar, the Norwegian Government (2017) conveyed its ambition to take a leading role in the global fight against AMR. Echoing Sweden, Norway’s diplomatic work on AMR at the international level seems largely structured around broader alliances, such as Friends of AMR (including Norway, Sweden, Denmark, and a number of other Western countries) and the Alliance of Champions.

4.3. Adapting Nordic Cooperation to AMR

Nordic cooperation on health has primarily been a “platform for inter-Nordic diffusion and transnational learning” (Kettunen, Lundberg, Østerberg, & Pedersen, 2016, p. 69), thus, developing what can be labelled a “Nordic epistemic community” (Haas, 2016; Kettunen et al., 2016, p. 69). Although Nordic health systems share some key characteristics such as an emphasis on the active role of the state and universal health coverage, they have also chosen different ways of organizing their health sectors regarding, among other things, the role of private service providers and the allocation of responsibilities between levels of government. The Nordic countries have established a framework for cooperation on health and social affairs based on ‘soft’ coordination mechanisms. The Nordic Council’s Secretariat is responsible for the day-to-day running of intergovernmental cooperation. The Nordic Committee of Senior Officials for Health and Social Affairs consists of representatives from all Nordic countries, meets several times each year, and prepares the meetings of the Nordic Council of Ministers for Health and Social Affairs.

The AMR problem has been discussed among health bureaucrats and professional experts in the Nordics for many years. A Nordic expert group was established in 2013, followed by a strategy group in 2015. The strategy group was given the mandate “to use the Nordic collaboration to support the work being coordinated inter-

nationally in e.g., the EU, WHO, FAO and OIE in order to address antimicrobial resistance” (Nordic Council, 2017, p. 9). However, as of 2017, no proper proposal from this group had been submitted. Thus, the first real attempt to “outline political initiatives and specific proposals for Nordic solutions in the fight against AMR” was not made until 2017 when the Nordic Council published a white paper on Nordic initiatives in the area of AMR (Nordic Council, 2017, p. 9). The white paper was published on the background of the report from 2014 on the future Nordic cooperation on health (Könberg, 2014), and the Nordic Council of Ministers for Health and Social Affairs’ *Declaration on Antimicrobial Resistance through a One Health Perspective* from September 2015. The Declaration stated, among other things, that the Nordic countries agree “to strengthen the Nordic collaboration to maintain a low level of antimicrobial resistance and prudent use of antimicrobials,” “support exchange of best practice and ensure an efficient use of the Nordic resources,” and “use the Nordic collaboration to support the work being coordinated internationally” (Nordic Council of Ministers for Health and Social Affairs, 2014). The white paper of 2017 outlines twelve initiatives for Nordic cooperation on AMR, including an emphasis on solutions that utilize existing and new instruments, stakeholders that would help find the solutions, as well as the Nordic Region’s role in a broad global response to AMR (Nordic Council, 2017, p. 11). Most of the initiatives (1–7, 9) are related directly or indirectly to medical practices and innovations. However, some of the initiatives also refer to administrative and institutional issues: 8) Nordic institutions and online database in the area of microbiology; 10) Co-ordination of food control and allocating responsibilities between national bodies in the Nordic Region; 11) A coordinated approach to the impact of relevant EU regulation and legislation, and to the international dissemination of Nordic experiences in combating AMR; 12) A joint Nordic action plan, complete with details of funding, reporting and political control. The white paper further states that “it may prove impossible to cover all of the points,” but also that it is “crucial to draw up a Nordic action plan for dealing with any epidemic or similar immediate health disaster” (Nordic Council, 2017, p. 41).

In accordance with the EU’s action plans and GAP, the plans for Nordic cooperation are framed within the ‘One Health’ approach. However, the Nordic Council does not in the white paper specify how this approach can be operationalized in the context of Nordic cooperation. Generally, the Nordic initiatives do not represent any major changes in Nordic cooperation. The initiatives are mostly in line with previous cooperation on health, containing proposals for joint research, funding, information exchange, and flexible coordination, primarily supplementing and building on existing arrangements. Despite the ambition of using Nordic collaboration in international AMR diplomacy, few joint initiatives have emerged since the white paper of 2017. There is a regu-

lar exchange of written reports and collaboration on joint statements, but, as yet, no further specification of Nordic measures has been made (Interview N, 2019).

5. Discussion: Nordic Adaptation to AMR Management

5.1. Adaptation: Internal Factors

The stories of Norway and Sweden’s administrative approach to AMR neatly meet the characteristics of an incremental course of development. Besides constituting step-by-step evolving formations of the late 1990s, the two countries’ trajectories highlight how distinct institutional settings enable and/or constrain ‘better coordination’ on AMR. Thus, the upper tier of administration, the ministries, seem more closely involved in AMR policy and management in Norway (ministerial responsibility) than Sweden (collective decision-making). In Norway, public health officials in the Ministry of Health have repeatedly elevated the AMR issue onto the Ministry’s agenda (Interview Q, 2020). In Sweden, the Government’s lead on the AMR issue seems to rest with the agencies to a greater degree—hence, the pronounced expert rule on the matter. Building on STRAMA and longstanding cooperation on zoonoses, the agencies in the health, food and veterinary sectors have created an intersectoral coordination structure (also including environmental agencies). Norway’s approach to AMR seems less streamlined regarding coordination structures; there is an emphasis on the inter-sectoral ‘One Health’ principle, but the agency structures to follow up the national strategy and action plans (2015–2020) mainly facilitate coordination *within* policy sectors. Thus, we observe that the organization of AMR management, to a high degree, follows sector competence and responsibilities. Norway’s subordination of the state administration to sector ministries is suggestive of a ‘sector first’ mindset, which reflects a threshold to intersectoral coordination beyond the necessary. This sentiment also is alive and well at the agency-administrative level in Sweden (Time, 2019). However, ‘the sector first’ mindset is likely to be weaker in Sweden given the collective decision making within the Government Office. Swedish agency officials might thus be more accustomed to coordination that goes beyond their sector, at least within the upper tiers of the administration.

In light of these observations, the article finds limited support for the assumption that AMR constituted a major event—a critical juncture—that brought major changes to administrations in Norway and Sweden and to Nordic cooperation. However, the article provides support to our assumption that adaptation to the AMR challenge is path-dependent as our findings reveal that AMR initiatives have been added to (and do not replace or radically change) the existing governance structures relating to disease prevention and control. This addition has in turn been elevated to become a global, European, and Nordic issue.

5.2. Adaptation: External Factors

Since the beginning of the 2000s, the AMR problem has received increased political attention (Kahn, 2016). International organizations have become important as arenas for information exchange and as sources of proposals on how to manage AMR. The question is whether, and, if so, how the global and European work on AMR has influenced AMR management in the Nordics.

It is important to make a distinction between the management of AMR within the food and veterinary sector, where EU competences are strong, and management of AMR within the health sector, where EU competences are weak (Hervey & McHale, 2015). Both Sweden and Norway are part of the Europe-wide system for food and animal inspection and control and are thus required to implement and adhere to EU/EEA legislation in this area (Ugland & Veggeland, 2006). However, even in these sectors, there is wide variation within Europe regarding the use of antibiotics for animals, the prevalence of AMR in livestock, and how to manage the problems (Interview J, 2017). Thus, although the EU has ‘penetrated’ national systems of governance on selected areas, national administrations have preserved their distinct national characteristics.

According to Art. 168 of the *Treaty on the Functioning of the European Union*, the “responsibilities of the Member States shall include the management of health services and medical care and the allocation of the resources assigned to them” (Consolidated version of the Treaty on the functioning of the European Union, 2012, article 168). Thus, the EU relies mostly on non-binding methods of coordination in the health sector. This takes place through a number of meetings and networks involving politicians, senior officials, and experts. Two examples are the Health Security Committee (includes the health sector) and the EU AMR One-Health Network (includes both the health and veterinary sectors) where Commission officials and national representatives meet (Norway as an observer). The Health Security committee is designated to support information exchange and to coordinate the management of and responses to health crises, including AMR. The task of the AMR One-Health Network is to “present national action plans and activities, share best practices, discuss policy options and enhance coordination” (European Commission, 2019). In the context of European cooperation, however, Norway and Sweden seem to perceive themselves more as role models than as passive receivers of EU influence when it comes to AMR management. Sweden, for example, had an active role (supported by the other Nordic countries) in the process leading up to the 2006 EU ban on the use of antibiotics as growth promoters in food animals (Edqvist & Pedersen, 2001; European Council, 1998; European Commission, 1998; Interview D, 2017). All Nordic countries have emphasized international dissemination of Nordic experiences in combating AMR and all have agreed on the ambition of using Nordic collab-

oration to promote Nordic AMR strategies internationally (Nordic Council, 2017). Thus, although Norway and Sweden so far appear as the most active among the Nordic countries, ‘Nordification’ of AMR strategies in Europe may, in fact, better characterize the development than ‘Europeanization’ of Nordic strategies.

The WHO created momentum for its role in AMR management when it published the GAP in 2015. Two elements stand out in this plan: the urge for member states to have in place national action plans within two years, and the emphasis on a ‘One Health’ approach. Norway and Sweden have developed national action plans in accordance with the WHO recommendation and both countries emphasize the ‘One Health’ approach. However, on closer examination of the details of strategies/action plans and the (lack of) operationalization of the ‘One Health’ approach, it becomes clear that the influence of global ideas on national management strategies and administrative structures is limited.

The Nordic initiatives for strengthening cooperation on AMR include both the emphasis on ‘One Health’ and the aim of developing a Nordic action plan. However, so far, these initiatives have not really contributed to any substantial change in the framework for Nordic cooperation; AMR management remains a national prerogative and Nordic cooperation in the health area remains limited. The limited convergence of administrative structures and the limited progress in further developing the Nordic cooperation can be explained by governments’ protection of national sovereignty in the health area, as well as by path-dependent ways of organizing and managing emerging health challenges. In the Nordic response to AMR, there is much emphasis on the advantages of the ‘Nordic model’ and the success of Nordic countries in fighting AMR. Nordic adaptation to AMR is, however, more characterized by ambitions of exporting ideas and solutions to international organizations than on the need for the Nordics to implement ideas and recommendations from the international level. A comment made by a Norwegian public official illustrates this point: “If the whole world had been like Norway and Sweden, then the consumption of antibiotics and management of disease prevention would have been a phenomenon, not a problem” (Interview Q, 2020). Generally, external factors seem to have limited importance for Nordic systems for AMR management. Thus, the article’s findings do not support the assumption that EU influence surpasses Nordic approaches and lead to European specific solutions to the management of the AMR crisis. Neither do the findings support the assumption that global initiatives and diffusion of norms, standards, and ideas, have contributed to the convergence of national systems of AMR management. Even though the Nordic countries, as well as the EU, lend support to the idea of adapting AMR management to the ‘One Health’ principle, so far this idea seems to be characterized more by ‘branding’ than as an operational guiding principle for converging developments in the administrative structures for AMR management.

6. Summarizing Conclusions

The central administrative systems of Norway and Sweden have adapted to AMR by supplementing sector responsibility with coordinating mechanisms within the upper tiers of government while leaving the operative responsibility to sector authorities. For Norway, AMR management is mainly taking place within existing administrative structures with only weak coordination mechanisms. Sweden has over time established a more comprehensive coordination system for ministries and agencies (cf. 'the coordinating mechanism'/STRAMA). However, even in Sweden, the operative AMR work takes place according to sectoral lines in government and according to the basic established administrative system for disease prevention and control. The Nordic countries have responded to AMR by emphasising the need for strengthening Nordic cooperation. However, the Nordic Council responded late, coming up with new initiatives as late as 2017, and the initiatives moreover do not really represent major steps forward in strengthening cooperation. Instead, the Nordic initiatives signal an incremental approach where ambitions are relatively low. AMR management supplements existing systems without substantially changing neither the national administrations nor the Nordic cooperation framework, thus highlighting the importance of both path-dependency in governmental structures and the traditional emphasis on national sovereignty in the health sector. The Nordic countries' ambition of being frontrunners in AMR management has added to the limited international influence on their administrative systems. Turning back to our assumptions about Nordic adaptation: There are few signs of EU influence contributing to standardized/Europeanized solutions to AMR management in the Nordic administrations, except for a few areas where EU competences and/or common interests are strong. Thus, we do observe some convergence in the food and veterinary area, although such convergence primarily appears in strategies and legal measures and less in administrative adaptations. Global initiatives have contributed to the diffusion of ideas on AMR. However, the 'convergence' between administrative systems caused by such ideas appears mostly as 'window-dressing,' i.e., by the inclusion of 'fashionable' concepts such as 'One Health' without making substantial changes to the systems. Thus, AMR management in the Nordics is characterized by incremental change within existing structures of disease prevention and control and on traditional ways of organizing political and administrative systems. The findings of the article thus reveal some of the conditions for (and limitations of) institutional change and highlight the importance of considering the variation of historical developments and institutional contexts when understanding the adaptations of administrative systems to the AMR challenge. The article thus adds to the literature on how and why (multiple) administrative systems respond to major external challenges.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

References

- Bäck, H., & Larsson, T. (2008). *Governing and governance in Sweden*. Lund: Studentlitteratur.
- Bondarouk, E., & Mastenbroek, E. (2018). Reconsidering EU compliance: Implementation performance in the field of environmental policy. *Environmental Policy and Governance*, 28(1), 15–27.
- Boxenbaum, E., & Jonsson, S. (2017). Isomorphism, diffusion and decoupling: Concept evolution and theoretical challenges. In R. Greenwood, C. Oliver, T. B. Lawrence, & R. E. Meyer (Eds.), *The SAGE handbook of organizational institutionalism* (2nd ed., pp. 79–104). Thousand Oaks, CA: SAGE.
- Cassini, A., Högberg, L. D., Plachouras, D., Quattrocchi, A., Hoxha, A., Simonsen, G. S., . . . Monnet, D. L. (2018). Attributable deaths and disability-adjusted life-years caused by infections with antibiotic-resistant bacteria in the EU and the European Economic Area in 2015: A population-level modelling analysis. *The Lancet Infectious Diseases*, 19(1), 56–66.
- Consolidated version of the Treaty on the Functioning of the European Union, 2012/C 326/01* (2012).
- DANMAP. (2019). *Use of antimicrobial agents and occurrence of antimicrobial resistance in bacteria from food animals, food and humans in Denmark, 2018*. Copenhagen and Lyngby: Statens Serum Institut and National Food Institute.
- ECDC. (2018). *Surveillance of antimicrobial resistance in Europe: Annual report of the European Antimicrobial Resistance Surveillance Network (EARS-Net)*. Stockholm: European Centre for Disease Prevention and Control.
- ECDC. (2019). *ECDC country visit to Norway to discuss antimicrobial issues 12–16 March 2018*. Stockholm: European Centre for Disease Prevention and Control.

- ECDC. (2020). Rates by country. *Antimicrobial consumption database (ESAC-Net)*. Retrieved from <https://ecdc.europa.eu/en/antimicrobial-consumption/database/rates-country>
- Edqvist, L. E., & Pedersen, K. B. (2001). Antimicrobials as growth promoters: Resistance to common sense. In P. Harremoës, D. Gee, M. MacGarvin, A. Stirling, J. Keys, B. Wynne, & S. G. Vaz (Eds.), *Late lessons from early warnings: The precautionary principle 1896–2000* (pp. 93–100). Copenhagen: European Environment Agency.
- European Commission. (1998). *Commission regulation (EC) of 22 December 1998 amending Council Directive 70/524/EEC concerning additives in feedingstuffs as regards the withdrawal of authorisation for certain growth promoters* (No. 2788/98). Brussels: European Commission.
- European Commission. (2017). *A European One Health action plan against Antimicrobial Resistance (AMR)*. Brussels: European Commission.
- European Commission. (2019). AMR One Health Network (15 October 2019). *European Commission*. Retrieved from https://ec.europa.eu/health/amr/events/ev_201910151_en
- European Council. (1998). *Council regulation (EC) of 17 December 1998 amending, as regards withdrawal of the authorisation of certain antibiotics, directive 70/524/EEC concerning additives in feedingstuffs* (No. 2821/98). Brussels: European Commission.
- European Council. (2001). *Council recommendation of 15 November 2001 on the prudent use of antimicrobial agents in human medicine* (2002/77/EC). Brussels: European Commission.
- European Council. (2009). *Council recommendation of 9 June 2009 on patient safety, including the prevention and control of healthcare associated infections* (2009/C 151/01). Brussels: European Commission.
- European Council. (2016, June 17). *Council conclusions on the next steps under a One Health approach to combat antimicrobial resistance* [Press release]. Retrieved from <https://consilium.europa.eu/en/press/press-releases/2016/06/17/epsco-conclusions-antimicrobial-resistance>
- European Medicines Agency. (2019). *Sales of veterinary antimicrobial agents in 31 European countries in 2017*. Amsterdam: European Medicines Agency. Retrieved from https://ema.europa.eu/en/documents/report/sales-veterinary-antimicrobial-agents-31-european-countries-2017_en.pdf
- Government Offices of Sweden. (2005). *Strategi för ett samordnat arbete mot antibiotikaresistens och vårdrelaterade sjukdomar* [Strategy for a coordinated work against antibiotic resistance and healthcare associated diseases] (Government proposition No. 2005/06:50). Stockholm: Government Offices of Sweden.
- Government Offices of Sweden. (2012). *Uppdrag inom strategin mot antibiotikaresistens och vårdrelaterade infektioner* [Government mission concerning the strategy against antibiotic resistance and healthcare associated infections] (S2010/7655/FS). Stockholm: Ministry of Health and Social Affairs.
- Government Offices of Sweden. (2015, June 11). *The Alliance of Champions: The fight against antimicrobial resistance (AMR)* [Press release]. Retrieved from <http://swemfa.se/2015/06/11/the-alliance-of-champions-the-fight-against-antimicrobial-resistance-amr>
- Government Offices of Sweden. (2016). *Swedish strategy to combat antibiotic resistance*. Stockholm: Ministry of Health and Social Affairs.
- Government Offices of Sweden. (2017). *Uppdrag angående samverkansfunktion och handlingsplan för arbetet mot antibiotikaresistens* [Government mission concerning the coordinating mechanism and the action plan for the work against antibiotic resistance] (S2017/01706/FS). Stockholm: Ministry of Health and Social Affairs.
- Government Offices of Sweden. (2020). *Svensk strategi för arbetet mot antibiotikaresistens 2020–2023* [Swedish strategy for the work against antibiotic resistance 2020–2023]. Stockholm: Ministry of Health and Social Affairs.
- Haas, P. M. (2016). *Epistemic communities, constructivism, and international environmental politics*. London and New York, NY: Routledge.
- Hall, P. (2016). The Swedish administrative model. In J. Pierre (Ed.), *The Oxford handbook of Swedish politics*. Oxford: Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199665679.013.17>
- Hervey, T. K., & McHale, J. (2015). *European Union health law: Themes and implications*. Cambridge: Cambridge University Press.
- Kahn, L. H. (2016). *One Health and the politics of antimicrobial resistance*. Baltimore, MD: John Hopkins University Press.
- Kettunen, P., Lundberg, U., Østerberg, M., & Pedersen, K. (2016). The Nordic model and the rise and fall of Nordic cooperation. In J. Strang (Ed.), *Nordic cooperation: A European region in transition* (pp. 69–92). London and New York, NY: Routledge.
- Kingdon, J. W. (1995). *Agendas, alternatives and public policies*. New York, NY: HarperCollins College Publishers.
- Könberg, B. (2014). *The future Nordic co-operation on health*. Copenhagen: Nordic Council of Ministers.
- Lindblom, C. E. (1959). The science of “muddling through.” *Public Administration Review*, 19(2), 79–88.
- Mahoney, J., & Thelen, K. (2010). A gradual theory of institutional change. In J. Mahoney & K. Thelen (Eds.), *Explaining institutional change: Ambiguity, agency, and power*. Cambridge: Cambridge University Press.
- NBHW. (2015). *Handlingsplan mot antibiotikaresistens och vårdrelaterade infektioner* [Action plan against antibiotic resistance and healthcare associated infections]

- tions]. Stockholm: National Board of Health and Welfare.
- NIPH. (1999). *Plan for å motvirke antibiotikaresistens* [Plan to counteract antibiotic resistance]. Oslo: Norwegian Institute of Public Health. Retrieved from <https://regjeringen.no/no/dokumenter/plan-for-a-motvirke-antibiotikaresistens/id101959>
- NIPH. (2005). *Evaluering og videreføring av Regjeringens tiltaksplan mot antibiotikaresistens 2000–2004: Rapport fra Folkehelseinstituttets konferanse 14.–15. september 2004* [Evaluation and continuation of the Government's Action Plan against antibiotic resistance 2000–2004: Report from the Norwegian Institute of Public Health conference 14–15 September 2004]. Oslo: Norwegian Institute of Public Health.
- NIPH. (2014). *Antibiotikaresistens—kunnskapshull, utfordringer og aktuelle tiltak. Rapport fra tverrsektoriell ekspertgruppe* [Antibiotic resistance—Gaps of knowledge, challenges and current measures]. Oslo: Norwegian Institute of Public Health.
- NIPH. (2018). *Situasjonsbeskrivelse av smittevern i Norge: med fokus på forebygging av Helsetjenesteassosierte infeksjoner og tiltak for å unngå at resistente mikrober etablerer seg i norsk helsetjeneste* [Situational description of infection control in Norway: With a focus on the prevention of healthcare associated infections and measures to avoid the establishing of resistant microbes in the Norwegian health sector]. Oslo: Norwegian Institute of Public Health.
- Nordic Council. (2017). *12 initiatives: Nordic co-operation on combating antimicrobial resistance—A white paper outlining new Nordic initiatives*. Copenhagen: Nordic Council.
- Nordic Council of Ministers for Health and Social Affairs. (2014). *Declaration by the ministers of health and social affairs on the future of co-operation on health in the Nordic Region*. Copenhagen: Nordic Council of Ministers for Health and Social Affairs. Retrieved from <https://www.norden.org/en/declaration/declaration-ministers-health-and-social-affairs-future-co-operation-health-nordic>
- Norwegian Directorate of Health. (2019). *2018: Statusrapport fra styringsgruppen Handlingsplan mot antibiotikaresistens i helsetjenesten 2016–2020* [2018: Status report from the steering committee for the Action Plan against antibiotic resistance in the health sector 2016–2020]. Retrieved from <https://helsedirektoratet.no/rapporter/Statusrapporter%20%20Handlingsplan%20mot%20antibiotikaresistens%20i%20helsetjenesten%202016%E2%80%932020>
- Norwegian Government. (2017, June 27). *Norway takes the lead on antibiotic resistance* [Press release]. Retrieved from <https://regjeringen.no/en/aktuelt/norway-takes-the-lead-on-antibiotic-resistance/id2561185>
- Norwegian Ministry of Agriculture and Food. (2016). *Handlingsplan mot antibiotikaresistens innenfor Landbruks—og matdepartementets sektoransvar* [Action plan against antibiotic resistance within the sector responsibility of the Ministry of Agriculture and Food]. Oslo: Norwegian Ministry of Education and Research.
- Norwegian Ministry of Education and Research. (2018). *Meld. St. 11 (2017–2018): Nordisk samarbeid* [Report to the Storting No. 11 (2017–2018): Nordic cooperation]. Oslo: Norwegian Ministry of Education and Research.
- Norwegian Ministry of Health. (2004). *Handlingsplan for å forebygge sykehusinfeksjoner 2004–2006* [Action plan to prevent healthcare associated infections 2004–2006]. Oslo: Norwegian Ministry of Health and Care Services.
- Norwegian Ministry of Health. (2008). *Nasjonal strategi for forebygging av infeksjoner i helsetjenesten og antibiotikaresistens (2008–2012)* [National strategy for the prevention of infections in the health sector and antibiotic resistance (2008–2012)]. Oslo: Norwegian Ministry of Health and Care Services.
- Norwegian Ministry of Health. (2015). *National strategy against antibiotic resistance 2015–2020*. Oslo: Norwegian Ministry of Health and Care Services.
- Norwegian Ministry of Health. (2016). *Handlingsplan mot antibiotikaresistens i helsetjenesten: med det mål å redusere antibiotikabruken i befolkningen med 30 prosent innen utløpet av 2020* [Action plan against antibiotic resistance in the health sector: With the aim to reduce the population's antibiotics consumption by 30 percent by the end of 2020]. Oslo: Norwegian Ministry of Health and Care Services.
- Norwegian Ministry of Health. (2019). *Handlingsplan for et bedre smittevern med det mål å redusere helsetjenesteassosierte infeksjoner 2019–2023* [Action plan for an improved infection control with the aim to reduce healthcare associated infections 2019–2023]. Oslo: Norwegian Ministry of Health and Care Services.
- Norwegian Parliament. (2020). *Lov om vern mot smittsomme sykdommer [smittevernloven]* [The Norwegian Communicable Diseases Act] (LOV-1994-08-05-55, Current ver. LOV-2020-04-24-34). Oslo: Norwegian Parliament.
- OECD. (2018). *Stemming the superbug tide: Just a few dollars more* [Policy brief]. Paris: OECD.
- Olsen, J. P. (2002). The many faces of Europeanization. *Journal of Common Market Studies*, 40(5), 921–952.
- O'Neill, J. (Ed.). (2014). *Review on antimicrobial resistance: Antimicrobial resistance—Tackling a crisis for the health and wealth of nations*. London: HM Government and Wellcome Trust. Retrieved from https://amr-review.org/sites/default/files/AMR%20Review%20Paper%20-%20Tackling%20a%20crisis%20for%20the%20health%20and%20wealth%20of%20nations_1.pdf
- Pedersen, P. J., Røed, M., & Wadensjö, E. (2008). *The common Nordic labour market at 50*. Copenhagen: Nordic Council of Ministers.

- PHAS. (2014). *Swedish work on containment of antibiotic resistance: Tools, methods and experiences*. Solna and Östersund: Public Health Agency of Sweden.
- PHAS. (2016). *Återrapportering av samordningsuppdrag antibiotikaresistens och vårdrelaterade infektioner, årsrapport 2016 samt utvärdering av samverkansfunktionen* [Report to government on the coordinating mission against antibiotic resistance and health-care associated infections, annual report for 2016 plus evaluation of the coordinating mechanism]. Solna and Östersund: Public Health Agency of Sweden.
- PHAS. (2017). *Reviderad tvärsektoriell handlingsplan mot antibiotikaresistens 2018–2020: underlag för samverkansgruppens fortsatta arbete* [Revision of the cross-sectoral action plan against antibiotic resistance 2018–2020: Basis for the continued work of the coordinating mechanism]. Solna and Östersund: Public Health Agency of Sweden.
- Pierson, P. (2000). Increasing returns, path dependence, and the study of politics. *The American Political Science Review*, 94(2), 251–267.
- Pierson, P. (2004). *Politics in time: History, institutions, and social analysis*. Princeton, NJ, and Oxford: Princeton University Press.
- Pollitt, C. (2008). *Time, policy, management: Governing with the past*. Oxford: Oxford University Press.
- SBA. (2019). *Återrapportering av samordningsuppdrag antibiotikaresistens samt årsrapport 2019* [Report to government on the mission of the national coordinating mechanism plus annual report for 2019]. Jönköping: Swedish Board of Agriculture.
- Swedish Parliament. (2020). *Smittskyddslag* [The Swedish Communicable Diseases Act] (2004:168, Current ver. SFS 2020:242). Stockholm: Swedish Parliament.
- Time, M. S. (2019). *Temporal properties in inter-organizational coordination: Sweden's fight against antimicrobial resistance*. Paper presented at the 13th ECPR General Conference, Wroclaw, Poland.
- Treib, O. (2014). Implementing and complying with EU governance outputs. *Living Reviews in European Governance*, 9(1). <https://doi.org/10.12942/lreg-2014-1>
- Ugland, T., & Veggeland, F. (2006). Experiments in food safety policy integration in the European Union. *Journal of Common Market Studies*, 44(3), 607–624.
- WHO. (2015). *Global action plan on antimicrobial resistance*. Geneva: WHO.

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Power Dynamics in Multisector and Multilevel Coordination: the case of Antimicrobial Resistance¹

What role does power dynamics play in public sector coordination? Reflecting on this puzzle, the chapter first elaborates on the turbulent properties of its case study – EU multisector and multilevel coordination on antimicrobial resistance (AMR). Secondly, the chapter identifies four power dynamics that feature in coordination – influence, domination, inspiration, and empowerment. The chapter contends that EU coordination on AMR depends on the presence of power dynamics that enable everyone involved. The chapter thirdly advances a cognitive framework theorizing how power dynamics in coordination come about. The case study shows the empirical relevance of this framework. Drawing on expert interviews and grey literature, it illustrates how the EU’s action on AMR is conditioned by different power dynamics in the health, food and veterinary sectors. The chapter finally concludes with a reflection on the relation between power dynamics and resilience in the coordination on AMR.

Approaching ‘one of the oldest problems facing the public sector’ (Bouckaert et al. 2010, p. 13) through a power dynamic perspective, this chapter focuses on the constraining and – less evident but important (Sætren 2016, p. 29) – enabling dynamics that make for progress and stagnation in coordination. A process of coordination involves some group of actors¹ that organize or get organized into joint pursuits, i.e., synchronous interaction on shared objectives (Bouckaert et al. 2010, p. 16).

¹ This is a draft chapter. The final version is available as Chapter 9 in Jarle Trondal, Robyn Keast, David Noble and Rómulo Pinheiro (eds), *Governing Complexity in Times of Turbulence*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing, pp. 170–91, Publication Date: April 2022. The material cannot be used for any other purpose without further permission of the publisher, and is for private use only.

Coordination is necessary to enable public sector responses to problems that are transboundary and turbulent, as illustrated in this chapter with antimicrobial resistance (AMR).

The chapter's ambition is fourfold. Firstly, it sheds light on the challenge that is to prevent the surge of pathogenic resistance to antimicrobial medicine. The ambition is to show how AMR illustrates the turbulent problem area where '[...] events and demands interact in a highly variable, inconsistent, [...] and unpredictable manner' (Ansell et al. 2017a, p. 7).

Secondly, the chapter introduces four categories (influence, domination, inspiration, empowerment) to guide the analysis of power dynamics in public sector coordination on AMR. The resulting four-square matrix builds on two conceptual opposites in the literature, 1), 'power over' as constraining vs. 'power to' as enabling the actor's pursuit of objectives, and 2), agency vs. structure. A power dynamic, in this chapter, is the 'aspect of [actor] relationships in which there is an effect' (Lawrence and Buchanan 2017, p. 480). In other words, '[...] power is a result and not a cause' (Czarniawska and Sevón 1996, p. 7). Concerning the public sector coordination of transboundary, turbulent, problems, the chapter's underlying assumption is that power dynamics that *inspire* and *empower* make the collective action more enduring (Dowding 2008, p. 26). In the EU's multisectoral and multilevel level fight against AMR, actor commitments to 'better coordination' are likely difficult to maintain in general (Bouckaert et al. 2010, p. 30; Ansell et al. 2017b, p. 46). Moreover, the coordination effort oftentimes gets complicated by the different allocation of decision-making competencies in multisector and multilevel systems. If the coordination involves actors who represent policy sectors and/or governance levels where EU competencies are limited, the effort is only likely to get tougher – influence or domination from the EU

presumably is less welcome in those domains. Were these actors to commit to EU joint action on a transboundary, turbulent, problem, it would be on a voluntary basis. Such behaviour in coordination is more likely if the actors perceive the interaction as productive both for themselves and fellow coordinators ('power to'), instead of zero-sum where some or someone loses out ('power over') (Göhler 2009, p. 31).

Thirdly, the chapter advances a cognitive framework on the relation between actor translation/sensemaking of ideas and the power dynamics identified in the chapter. The framework builds on the presumption that power dynamics are contingent on the '[...] hearts and minds [...]' (Weick et al. 2005, p. 418) of the coordinating actors. Accordingly, each actor translates (Sahlin-Andersson 1996; Wedlin and Sahlin 2017) and makes sense (Muller 2005; Weick et al. 2005) of the interactive event during which management ideas are put on display. Ideas, to borrow Muller's (2005; Kamkhaji and Radaelli 2019, p. 15) concept *référentiel*, constitute representations of the world, i.e., of 'what is' and 'what ought to be' – e.g., divisions of responsibility, codes of conduct, fashionable ways to solve problems. The sensemaking of ideas follows *ex post* but also precedes interactions to come (Weick et al. 2005, pp. 409, 412). This reiterative pattern prepares the ground for power dynamics in coordination. Thus, the actor that tells itself of exploitation (or empowerment) from the interaction, likely expects the same story to repeat itself in the interactive events to come.

Fourthly, the chapter presents a case study of the European Union's (EU) coordinated fight against AMR. The study includes the health, food and veterinary policy sectors and illustrates how different power dynamics impact on the EU's coordination on AMR. Thus, it captures the two diverse realities to which the power dynamics in the food, veterinary, and health sectors contribute. The different allocation of decision-making competence in the health (national), food and veterinary

(supranational and national) sectors, makes for a different, sector-by-sector, ‘power over’ dynamic. Thus, in the latter sector the EU is entitled to make binding decisions, whereas in the former, the EU is not. This manifests in the actors’ sensemaking of what constitutes the EU’s alternative courses of action in the coordination on AMR.

The chapter contributes to two avenues of the public administration literature. Firstly, it encourages a conversation between the literatures on power (Lukes 2005; Göhler 2009; Dowding 2012) and public sector coordination (Bouckaert et al. 2010; Peters 2015; Molenveld et al. 2020). Thus, it sheds light on the potential for power dynamics to work both for and against progression in coordination (Sætren 2016, p. 29). Secondly, the chapter advances a cognitive framework that combines the literatures on translation/sensemaking (Weick et al. 2005; Wedlin and Sahlin 2017) and coordination (Bouckaert et al. 2010; Peters 2015). In showing the framework’s empirical relevance, the chapter illuminates a crucial case of public response to a transboundary, turbulent, problem (Boin and Lodge 2016; Ansell et al. 2017a).

The chapter sets out by first elaborating the turbulent properties of its illustrative case, EU multisector and multilevel coordination on AMR. Secondly, the chapter outlines what it sees to be the distinct power dynamics in coordination. Thirdly, it advances the framework to guide the analysis of power dynamics’ coming about in coordination. The chapter fourthly presents its case study before it concludes with a summary and reflection on the relation between power dynamics and resilience.

Turbulence in AMR Governance

AMR denotes the phenomenon where pathogens (bacteria, viruses, fungi, or parasites) develop resistance to treatment with antimicrobial medicines (WHO 2015, p. 2).

Pathogens usually find ways to bypass human defences, such as antibiotics. The problem of AMR thus cannot be altogether defeated. Instead, fighting AMR requires

lasting actions to prevent humanity from entering the ‘[...] post-antibiotic era – in which common infections and minor injuries can kill [...]’ (WHO 2014, p. IX). AMR, arguably, is turbulence that modern-day societies need to contain but still *live with*. A brief reflection on AMR vis-à-vis three contributing factors to turbulence – speed, complexity, and conflict (Ansell et al. 2017a, p. 13) – substantiates this claim.

Firstly, the *speed* dimension of AMR may best be characterized as multifaceted. On the one hand, there is the worldwide acceleration in reported incidences of AMR (WHO 2014). This has led the international community to depict AMR ‘[...] a global crisis that risks reversing a century of progress in health’ (UN Interagency Coordination Group on Antimicrobial Resistance [IACG] 2019, p. 4). On the other hand, AMR instantiates the slow-moving surge whose ‘disastrous impact’ is not projected to manifest until ‘within a generation’ (ibid.). Thus, AMR governance is both characterized by the urgency to act ‘now’, and the need for solutions that endure through times of non-crisis (Ansell et al. 2017a, p. 3).

Secondly, the *complexity* of AMR springs out of the fact that pathogens are highly versatile and respect neither territorial nor sectorial boundaries. AMR thus illustrates the transboundary problem (Ansell et al. 2010), whose preventive action relies on the participation of multiple policy sectors and levels of governance. Hence, the emphasis of WHO member states (and the EU) of the ‘One Health’ approach, that calls for ‘[...] coordination among numerous international [and national] sectors and actors, including human and veterinary medicine, agriculture, finance, environment, and wellinformed consumers’ (WHO 2015, p. VII). Casting the net this wide, however, suggests polycentrism and dependency on multiple centra of authoritative decision-making. On top of this, obtaining the commitments from all the necessary actors gets complicated by *conflict*.

Thus, although a reduction in antibiotics consumption would seem the ideal solution to slow down AMR, its achievement is less straightforward since antibiotics are essential in both human medicine and animal farming. Actors in the agri-food sectors seem to a greater degree than in health care, to be burdened with industrial concerns (Interview J 2019). On the one hand, there is the health condition of humans and animals, on the other, there is the industrialized farming where antibiotics protect and enable production levels of livestock. Hence, there is ample ground for conflict between economic and health concerns on what measures to utilize against AMR. Another conflict potential comes from the alleged tendency of veterinarians and health professionals to view health matters differently. Accordingly, veterinarians are the more enthusiastic promoters of the holistic, ‘One Health’, viewpoint – the health of humans, animals and the environment is interlinked, whereas health professionals lean more often on the anthropocentric health view (Lee and Brumme 2013, p. 780).

The above reflections hint at a twin challenge where both the problem and the problem management display turbulence (Ansell et al. 2017b, p. 46). This makes the coordination on AMR into a sizable task, where the power dynamics in actor interaction can make or break the preventive action.

Power Dynamics in Public Sector Coordination

Weber’s (1922, 1922/1978; Anter 2014, p. 30) conception of the modern state as contingent on its monopolization of legitimate physical force had an immense impact on subsequent works in political science. Weber understood power as ‘the chance, within a social relationship, of enforcing one’s own will even against resistance, whatever the basis for this chance might be’ (Weber 1922/1978, p. 53; Anter 2014, p. 50). Flowing in a social relation from one actor to another, the effect of this power dynamic is the constraining of others, i.e., ‘power over’ (Göhler 2009, p. 36).

Power dynamics in this chapter also encompass the ‘power to’ that enables the actor to pursue its objective(s) *without* the constraining of others (Göhler 2009, pp. 31-32). This is not to say that the more commonplace emphasis on ‘power over’ is misguided. Concerning coordination, it makes intuitively sense to envisage the dynamics between actors to frequently entail a ‘power over’ aspect. Previous studies show that ‘a good deal of coordination is not produced by agreement but rather is the result of either coercion or the use of incentives’ (Peters 2015, p. 6). Nevertheless, the adding of ‘power to’ extends the range of possible sensemaking to include instances where, in the absence of exogenous pressure, coordination is still opted for. For instance, Hartlapp and Heidbreder (2018, pp. 38, 40) observe that, in the absence of superiors’ formal action, administrative actors ‘remarkably’ initiated bottom-up, informal, cooperation on their own. What seemingly triggered the collective action was a perception among the actors of the ‘stakes [being] high’ (ibid., p. 40).

‘Power to’ is conceptualized as the actor’s sensemaking *ex post* of ideas observed in coordination, where the interim outcome, 1), resonates edifyingly with its self-perception, and 2), does not involve the constraining of others or oneself being the constrained. ‘Power over’ is the sensemaking *ex post* of ideas where the interim outcome, either involves the pursuit of objective(s) through imposing constraints on others, or oneself being the constrained. To constrain implies in this setting to make someone do or believe something s/he/it would otherwise not. The constraining idea thus resonates with the inferior’s self-perception in an unedifying manner (Weber 1922/1978, p. 53; Dahl 1957; Göhler 2009, p. 36). Table 1 gives an overview of the power dynamics emphasized in this chapter.

Table 1. Power Dynamics in Coordination.

	Agency	Structure
Power over	Influence	Domination
Power to	Inspiration	Empowerment

The four categories of power in coordination are divided on two dimensions; ‘power over’ vs. ‘power to’ and ‘structure’ vs. ‘agency’ (see below). *Influence* is zero-sum coordination where the actor gains the upper hand over another by targeting, and amending, its mindset (Lawrence and Buchanan 2017). *Domination* in coordination is when the zero-sum relation between the fellow coordinators becomes structural. This implies a persistent circumscription of the dominated actors’ alternative courses of action, e.g., through binding law (ibid., p. 485). *Inspiration* is positive-sum (‘everybody wins’) coordination, where one actor(s) set a behavioural example which other actors decide to join voluntarily. The reason why is because they realize the behaviour and idea(s) of the inspirer to be productive for them, too (Göhler 2009, p. 31).

Empowerment implies that the coordinated action enables a persistent, structural, change (‘everybody wins’) to the alternative courses of action of the involved.

Inspiration and empowerment thus denote instances where coordination is perceived to enable the pursuit of a shared objective, such as the prevention of steep rises in AMR.

Structure and Agency

Structure concerns the ‘glue’ that enables or constrains interactor relationships – be it individuals, or units within/across organizations (Dowding 2008; Egeberg et al. 2016). Following Simon’s (1945; Kamkhaji and Radaelli 2019, pp. 15-16) assumption of ‘bounded rationality’ – the actor possesses neither a complete overview of the alternative courses of action nor how they play out in time – structure specifically

denotes the alternative courses of action that the actor is aware of. The structure is characterized by persistency and resilience towards new ideas (Brunsson 1989; March and Olsen 1989). Embedded in sectoral and territorial contexts such as workplace, professional, local, and global society, it can form part of the actor's sensemaking of what is the appropriate action in given situations. Structures, in this chapter, are not conceived of as 'go[ing] all the way down' to constitute the actor's self-perception (Dowding 2008, p. 25; Kamkhaji and Radaelli 2019, p. 2). That said, they likely bias the 'editing' process where the actor makes sense of the ideas that came up during the interactive event (Sahlin-Andersson 1996; Wedlin and Sahlin 2017, p. 109).

For a particular structure to have an effect thus creating a power dynamic in coordination, its ideational elements need to be activated and used by the actors it applies to (Kamkhaji and Radaelli 2019, p. 8). In other words, the idea(s) of 'what is' or 'what ought to be' (Muller 2005) needs to be drawn upon by the actor making sense of 'what just happened' and 'what do I do next' (Weick et al. 2005). One example is the actor who protects its 'turf', i.e., jurisdiction, when dealing with actors from other policy sectors or territories. Utilizing the dominant structures in its policy sector, the actor brings about a constraint on itself and other coordinating actors' scope of action. This shows the interplay between structure and agency, where the power dynamic ultimately gets created by the autonomous actor (Dowding 2008).

How Power Dynamics in Coordination Come About

Figure 1 illustrates the process where after having interacted the actor makes sense of the ideas displayed by itself and fellow coordinators. The process behind such sensemaking is not presumed to be a one-time event, but rather a reiterative process where the ideas are (re)edited with each interaction (Mele and Cappellaro 2018). Its embedding in sector- or territory-specific structure(s) illustrates the assumption that the

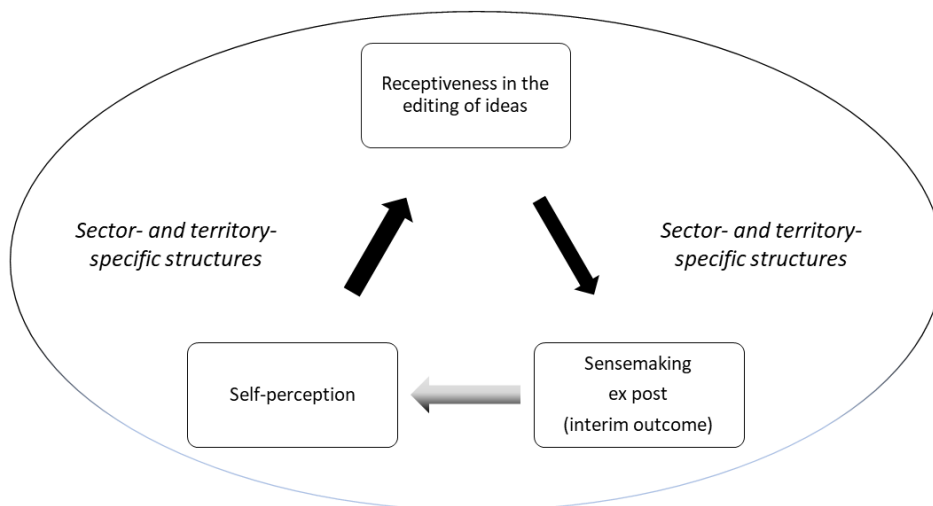
process does not unfold in isolation from its surroundings. The chapter circumscribes self-perception to *professional* self-perception, which concerns the actor's perception (low to high) of its standing vis-a-vis fellow coordinators and significance for the preservation of society – 'am I important?' 'where/where not does my competence lie?' (Brunsson and Sahlin-Andersson 2000, pp. 725-726). The self-perception of the actor is not assumed a constant. Depending on its current level of self-perception, the actor likely is more or less receptive to the ideas it observes in coordination.

The dependent variable does not capture behaviour per se, but sheds light on the actor's active sensemaking of the ideas displayed in coordination. Sensemaking ex post captures an essential element of behaviour, i.e., the process of working out plausible answers to two kinds of questions: 'what is going on here?' and 'what do I do next?' (Weick et al. 2005, pp. 412, 415). The emphasis on ex post mirrors a recent argument in the policy learning literature that suggests policymakers under 'unprecedented stimuli'² respond in contingent, fast-associative, and cognitively biased ways. Accordingly, the inferential learning phase does not occur until in the aftermath of crisis thus 'follow[ing] change instead of determining it' (Kamkhaji and Radaelli 2017, p. 723). However, far from all coordination processes unfold under 'unprecedented stimuli'. This chapter assumes the expectation of ex post inferential learning to apply to interactive settings where stimuli do not have to be experienced as unprecedented. Thus, problems that are turbulent make for challenging coordination efforts, too (Ansell et al. 2017a, p. 3; Dunlop and Radaelli 2018). Accordingly, the actor who interacts with others on the prevention of a turbulent problem, makes sense of its experiences, ex post, after the interaction took place.

The intervening mechanism – the editing of ideas – resembles a process of imitation where the actor seeks recognition and compatibility with its professional self-

perception (Sahlin-Andersson 1996; Brunsson and Sahlin-Andersson 2000; Wedlin and Sahlin 2017, p. 109). Provided certain conditions are present, there is a higher likelihood for this process to become self-reinforcing. The interim outcome then feeds back to the actor's perception of self and triggers a power dynamic vis-à-vis the fellow coordinators. It follows that *when* and *if* the actor observes an idea that resonates with its self-perception, there is a good chance that the editing process leads to a self-confirmation (Anter 2014, 90; Rosa et al. 2017, pp. 67-68; Wedlin and Sahlin 2017). Such resonance relies on a correspondence between the more stable perception of self and the ideas displayed by the actors in coordination. This self-reinforcing logic is not bound to happen. Hence, the slightly shaded arrow from ex post sensemaking to self-perception signalling contingency.

Figure 1. How the Actor Makes Sense of Ideas Displayed in Coordination.



To clarify the connection between ideas, sensemaking (figure 1), and power, the chapter suggests two supplementary propositions on how power dynamics in coordination come about. In both propositions, the actor's professional self-perception is perceived a conditioner of the interim outcome.

Proposition *P1* departs from the perspective of the actor. The presumption is that the power dynamic from ex post sensemaking is conditioned by the current professional self-perception (low to high) of the actor. In coordination, the actor with a hypothetical low self-perception more likely arrives at sensemaking where it features as the underdog vis-a-vis fellow coordinators. The low level of self-perception thus affects the kind of story the actor generates from its interaction with fellow coordinators. If the interim outcome of sensemaking – in this example, the story of ‘what just happened’, ‘what role did I play?’ implies constraint – gets self-confirmatory, the actor more likely regenerates that same submissive story in future interactions. Since sensemaking also provide answers to ‘what should I do next?’ (Weick et al. 2005; Mele and Cappellaro 2018, p. 738), the likely outcome is a ‘power over’ dynamic in coordination.

Proposition *P2* supplements *P1* by incorporating the interplay between the actor and the ideas that it observes in coordination. *P2* specifically concerns the relation between actor self-perception and actor receptiveness to the ideas displayed during the interaction. Actor receptiveness is a component of the editing process that leads to sensemaking and the potential manifestation of a power dynamic. The deduction from *P1* is that the actor with a low self-perception likely is more receptive (and vice versa). According to *P2*, the more receptive actor is less likely to trust its intuition when editing its recent observations, and more likely to build its sensemaking ex post on the ideas of other actors (which the actor perceives to be superior to its own). This makes the actor more likely vulnerable to others’ attempts at constraining its alternative courses of action. Hence, the greater likelihood of the more receptive actor to arrive at sensemaking where it is the subordinate in a ‘power over’ relation. Conversely, the actor that is less receptive to the ideas of the other coordinating actors, is more likely to have a higher threshold for ‘jumping on something’. Instead, it likely arrives at

sensemaking that resonate edifyingly with its self-perception. The less receptive actor is thus more likely able to pursue enabling objectives and thereof inspire others to join its pursuit ('power to'). At the same time, it likely is able to inflict constraints on others by way of influence ('power over'). What distinguishes the *inspirer* from the *influencer* is whether the actor (P1: high, P2: less) intentionally targets the 'hearts and minds' of those it interacts with (Weick et al. 2005, p. 418; Dowding 2006).

Method and Data

In order to illustrate the empirical relevance of its cognitive framework, the chapter presents a case study of the EU's coordination on AMR (Levy 2008, pp. 6-7). The data is made up of the written transcripts from 12 semi-structured interviews with EU and national public officials involved in coordination on AMR. These were completed in 2017, 2019 and 2020, most of which face-to-face but some by phone, Skype, or Zoom (see details under references), and consist of historical reproductions, subjective experiences, and assessments. Grey literature (legal documents, strategies, communications, minutes, etc.) generated through politico-administrative processes at EU-level, are being used to complement the interview-data. The data at this stage have insufficient detail to verify the relation between sensemaking and power dynamics in coordination. However, the case illustrations nonetheless indicate how the officials perceive their role in the fight against AMR. Thus, they indicate what are 'the observable implications of the theorized [translation/sensemaking process]' (Kamkhaji and Radaelli 2017, p. 724), i.e., the presence and significance of power dynamics in multisectoral and multilevel coordination on AMR. Based on insights from a), the EU-level – the Council of the EU (CoEU), Directorates-General (DG) Santé of the European Commission (Commission), the European Food Safety Authority (EFSA), European Centre for Disease Prevention and Control (ECDC), and European Medicines

Agency (EMA) – b) two nation states – one EU member and one European Economic Area (EEA) country –that aspire to a leading role on AMR, and c), with an emphasis on the health, food, and veterinary policy sectors, the study illuminates a discernible variation in power dynamics in the EU’s coordination on AMR.

The EU’s Fight against Antimicrobial Resistance

In late February 2019, the European agencies for food safety and disease prevention and control gave a summarizing of the situation concerning AMR in Europe (European Centre for Disease Prevention and Control [ECDC] and European Food Safety Authority [EFSA] 2019). The picture they outlined was of a problem that is worsening, hence the appeal to concerted action by the EU Commissioner for Health and Food Safety: ‘[...] before the alarm bells become a deafening siren, let’s make sure that we increasingly act all together, in every country and across the public health, animal health and environment sectors under the One Health approach umbrella’ (ECDC 2019). The number of deaths in the EU attributable to infections with antibiotic resistant bacteria is now estimated to 33 000 per year (Cassini et al. 2018). Behind this estimate lurks considerable country variation. Measuring the health burden from five types of infection with antibiotic-resistant bacteria, Cassini et al. (2018, pp. 6-7) show the situation to be generally worse in South- and East-European than North- and West-European EU member states/EEA countries.

Antibiotics consumption and rising levels of drug-resistant infections are sources of concern in the food and veterinary sector, too. According to one estimate, the worst performing EU/EEA country uses 140 times more antibiotics than the best performing country to produce one kilogram of biomass (Interview D 2017; European Medicines Agency [EMA] 2018, p. 27). Another testimony is the observation of variation in antibiotics consumption that is greater in the animal sector than in the human medicine

sector. Given the EU/EEA harmonization through food and veterinary regulations and the non-harmonization of national health policies, this is a puzzling paradox (Interview D 2017).

The considerable variation is revealing of the cultural differences across the EU/EEA when it comes to expectations in the public towards treatment with antibiotics, and accessibility of antimicrobials. Due to the receptiveness to sector- and territory-specific structure(s), a similar diversity is most likely evident in the self-perceptions of actors involved in the fight against AMR. The EU's multisectoral and multilevel coordination on AMR, thus risks stasis because of actor variation in the awareness of the problem and commitment to its fight (Council of the EU [CoEU] 2019, pp. 8, 13).

Structural power in the EU's Coordination of AMR

The EU in many respects is in a favourable position to play an active role in the fight against AMR within and across its 27 member states and the affiliated EEA countries (Norway, Iceland, and Lichtenstein). The two sectors most detrimental to fighting AMR – public health, food, and veterinary policy – are already integrated into DG Santé of the Commission. Since the 'year zero' (Interview J 2017 on the BSE food scandal in 1996) of European food safety regulation, after which member state executives conceded to a substantial transfer of competences to the EU on food and veterinary policy (Vos 2000), DG Santé has become a *dominant* actor vis-à-vis the national regulators and practitioners of veterinary medicine, feed, and food production. Thus, food safety is integrated across the food chain ('from farm to table'), by binding, directly applicable, law³ (Ugland and Veggeland 2006).

This power dynamic where a supranational institution – by laying down the structural, legal, conditions of action – to a large extent *dominates* policy and

administration at national levels of governance, is observable in the EU's approach to AMR. When presenting the renewed European One Health Action Plan⁴, the Commission ([Commission] 2017a, p. 5) highlighted the main pillars of the EU's strategy on AMR:

1. making the EU a best practice region: as the evaluation of the 2011 action plan highlighted, this will require better evidence, better coordination and surveillance, and better control measures. EU action will focus on key areas and help Member States in establishing, implementing and monitoring their own national One Health action plans on AMR, which they agreed to develop at the 2015 World Health Assembly [WHO];
2. boosting research, development and innovation by closing current knowledge gaps, providing novel solutions and tools to prevent and treat infectious diseases, and improving diagnosis in order to control the spread of AMR;
3. intensifying EU efforts worldwide to shape the global agenda on AMR and the related risks in an increasingly interconnected world.

In accordance with Commission-President Juncker's (2014-2019) 'better regulation agenda', a requirement for 'value added' prescribed every EU action to be thoroughly founded, justified⁵ and, confined to policy areas where there is EU competence (Commission 2017a, p. 5, 2019b; Interview D 2017). This was evident in the CoEU's (2016) conclusions calling upon the Commission to develop a new action plan in collaboration with – while respecting the competencies of – the member states. Given the structural 'power over' dynamic between the EU and national level (i.e., allocation of decision-making competence), DG Santé manoeuvres by utilizing the instruments at

its disposal, i.e., by ‘[...] playing on those piano keys to which [it] has access [...]’ (Interview D 2017). Thus, in the food and veterinary sector where there is EU competence, the Commission is pursuing new legislation that is binding on the member states. The new regulation on transmissible animal diseases (Animal Health Law), includes directly applicable stipulations on the monitoring of animal-borne pathogens, and the responsibilities of operators and animal professionals on AMR (Commission 2016). In 2019, two regulations – one on veterinary medicines⁶ and one on medicated feed⁷ – were adopted thus introducing entirely binding standards on the use of antimicrobials in food and feed production (Commission 2019d).

As regards health policy, the most noticeable output from the new action plan is the adoption of new EU guidelines for the prudent use of antimicrobials (Commission 2017b). The ambition remains the reduction of inappropriate use and the promotion of prudent use of antimicrobials. However, the Commission (2017b, p. 8) maintains ‘[the] guidelines are without prejudice to provisions contained in national or EU law and are not binding on Member States or other parties.’ In the health sector, power in terms of who decides on structure and alternative courses of action for politicians, administrators, and practitioners, is very much the opposite from the food and veterinary sector. Art. 168 (7) of the ‘Lisbon Treaty’ clearly states that ‘[...] Union action shall respect the responsibilities of the Member States for the definition of their health policy and for the organisation and delivery of health services and medical care’. Thus, when it comes to the health dimension of AMR, the mandate of DG Santé is strictly a supportive and assisting one (Interviews C 2017; D 2017). Concerning the guidelines in health, what the Commission can hope is for them to trigger reflection at national (and local) levels of governance, thus leading to alignment out of voluntary commitment (Interview B 2017). According to one diplomatic source (ibid.), the

member states need support from the Commission to ‘[...] drive their endeavours against AMR forward’. However, the Commission’s rather formalistic⁸ stance on ‘soft’ matters makes it more difficult to persuade DG Santé into action on AMR (ibid.).

In terms of structural power dynamics, the picture is that of two policy sectors operating according to differing allocation of competence to supranational and national authorities. This has potential implications for the professional self-perceptions of actors working within these sectors. One interviewee (J 2017), in the context of intersectoral, national, coordination on AMR, recounts lasting efforts at getting human medicine representatives to understand that ‘[...] our [ref. veterinary] home playing field is Brussels. [That] we do not do subsidiarity we have a fully harmonized set of rules. I think this is now starting to be realized’. There is thus the chance of the health representative perceiving the EU as foreign affairs (that is ‘beyond its concern’), and the food and veterinary representative perceiving its sector as part of a multilevel administration (where decision-making at EU level is ‘part and parcel of its concern’) (Trondal and Bauer 2017).

Agency Power in the EU’s Coordination of AMR

The CoEU conclusions from 2016 calling upon the Commission and member states to develop a new action plan, opened for ‘quite dramatic’ (Interview D 2017) measures. In that respect, it ‘[took] more steps than were initially there’ (Interview B 2017). The conclusions were agreed upon unanimously, but the Netherlands, who held the EU Presidency at the time, were reportedly key in the process leading to the adoption of the conclusions (Interviews B 2017; D 2017).

The Dutch did not act alone to *influence* their peers into endorsement but were supported by other member states and traditional advocates of the AMR-issue at international level. Sweden, one of the frontrunners, in 2015 launched a global Alliance

of Champions where signatory ministers ‘[...] agreed to promote political awareness, engagement and leadership on AMR among heads of state, other ministers and global leaders [...]’ (Government Offices of Sweden 2015). In the EU, representatives from, among others, Sweden seek to keep AMR on the agenda by talking beforehand to other state representatives on how to approach meetings in the CoEU, and by lobbying incoming Presidencies (Interview B 2017). Because of Art. 168 of the ‘Lisbon Treaty’, to realize health policy alignments across the member states depends on a successful exercise of *influence* and/or *inspiration* through the exemplary actions of one or more member states.

When preparing the new action plan, the Commission took steps to realize a genuinely intersectoral approach to AMR. The previous action plan, 2011-2016, was under the ownership of DG Santé, and included primarily the health and food and veterinary sectors (Interview D 2017). A leading rationale behind the Commission’s new approach was to strengthen the understanding of AMR as not merely resembling a health problem, but also a health economics, social economics problem (ibid.). Consequently, ownership to the new plan was dispersed across multiple Commission DGs. Thus far, the most concrete outcome is the designation of responsibility for research and development to DG Research and Innovation (ibid.; Commission 2017a, 2019a). Other Commission DGs which are now involved in the EU’s fight against AMR are DG Environment, DG Devco (International Cooperation and Development), and DG Trade.

Another initiative instigated by DG Santé in 2008 was the instruction of the three EU agencies specialized in health matters, EMA (medicine), EFSA (food safety), and ECDC (disease prevention and control), to coordinate their activities on AMR (Interviews C 2017; D 2017). EMA, EFSA, and ECDC are coordinating bodies who

facilitate collective functions by bridging sector expertise from the EU member states /EEA countries. Whereas EMA besides monitoring and supervision holds regulatory functions⁹, EFSA (2016) and ECDC primarily do risk assessment – i.e., risk communication, provision of scientific advice, and surveillance¹⁰. By 2019, ECDC, EFSA and EMA (2015, 2017) had issued two joint interagency reports where data from the animal, food, and human sectors were utilized to report on levels of antimicrobial consumption and occurrences of AMR.

What is striking regarding these agencies' surveillance of AMR and antibiotics consumption is their differing entitlements to data. The resulting unevenness in agency capacity to meet objectives is reflective of the differing distribution of structural power across the health, food, and veterinary sectors. In 2013, the EU added AMR-specific stipulations¹¹ to its legal base¹² on food-borne diseases thus introducing detailed standards on how member states are to monitor, collect and report data to EFSA¹³ (Commission 2019e). Since 2010, EMA (2020) has been leading a project where the ambition is to harmonize the collection and reporting of data on antibiotics consumption in animals. Meanwhile, for surveillance of AMR in the health sector, ECDC relies entirely on the member states' mandatory¹⁴ exchange of a limited set of data, and for surveillance of antimicrobial consumption on voluntary exchange of data. EU and EEA countries do submit health data via the ECDC-coordinated surveillance networks¹⁵. However, when consulted on challenges arising from, e.g., confidentiality issues, some member states may have difficulties to respond because of national laws. The additional workload in EU/EEA countries related to collecting information on additional variables is also an issue (Interview C 2017):

For AMR surveillance, the agency does not get information on patients beyond sex, age, date of admission [...]. The database includes variables for the date of infection and the date of hospital admission, but many countries do not report on the latter. When information on the date of hospital admission is available, then we can make an assumption of [...] whether the infection was acquired in the hospital or before admission. The agency does not have information about whether the patient came from another hospital, or the patient came from a hospital in another country, or the patient has travelled. We know now that travel without contact of healthcare is a risk factor for acquisition of AMR (Interview C 2017).

Furthermore, '[...] because of national law and confidentiality issues, [some member states] cannot report hospital-level data on healthcare-associated infections to the agency, or do not allow the agency to report the consumption of certain antimicrobial agents at the compound level' (Interview C 2017).

These examples are illustrative of how structural power dynamics in policy sectors affect the sensemaking of actors in coordination. They furthermore beg the question if 'power to' dynamics – enabling the actor(s) without constraining the others – are at all possible within multisectoral and multilevel coordinating settings. A coordination founded in 'power to', might have added more stability and endurance to the EU's fight against AMR (Dowding 2008). Under such circumstances, actors at all levels, in all relevant sectors, would have adjusted to one another out of voluntary commitment. Although this might be utopian (Battezzorre 2017, p. 282), the chapter highlights the chance of 'power to' dynamics to manifest and, potentially, impact the course of coordination processes on AMR.

'Power to' Dynamics in the EU's Coordination on AMR

If it is only about blame, there are no incentives for all the countries who rank poorly on [AMR] to keep the issue on the agenda. [...] it needs to be a bit more strategic approach than blame (Interview B 2017).

When pushing the AMR-issue at EU-level, DG Santé and proactive member states are facing a sensitive balancing act. There is no long shadow of supranational hierarchy (Börzel 2010) in the health sector, and the EU measures at disposal are non-compulsory, non-invasive. Also, there is no enforceable system in place to inspect and audit the measures being taken at national and local levels of governance (Interview C 2017). How then to make member states commit to coordination without triggering circumvention (Oliver 1991)?

One structural creation with a potential for facilitating 'power to' dynamics in coordination across the member states is the EU AMR One-Health Network. This intergovernmental network is composed by government experts from the health, food, veterinary, and environment sectors, plus representatives from ECDC, EMA and EFSA. It was set up by the Commission in early 2017 as a follow up of the CoEU (2016) conclusions. The network's first meeting in February 2017 was 'extremely popular' (Interview D 2017) with several hundred attendees from the three policy sectors. Whereas its purpose is strictly to facilitate cooperation, knowledge exchange and peer reviews, the network has the potential to become important if it encourages verbal interaction between health, and food and veterinary ministries who then translate talk into action in their national jurisdictions (ibid.; Interview B 2017).

Four meetings – two in 2018 (Commission 2018a, 2018b) and two in 2019 (Commission 2019c, 2019f) – have thus far found place. Among the issues being lifted, the perhaps most eye-catching is the initiative by 44 EU/EEA partners (plus 21 collaborating partners and 25 international stakeholders) to initiate a Joint Action on Antimicrobial Resistance and Healthcare-Associated Infections (EU-JAMRAI) (Commission 2018a; EU-JAMRAI 2018a). Launched in September 2017, the purpose of the Joint Action is to bridge knowledge and strategies on AMR to concrete actions for future implementation (French Ministry for Solidarity and Health [FMSH] 2018; Interview L 2020). In addition, it shall preserve consistency between the objectives of the WHO, the EU and the Joint Action and foster synergy with processes within the AMR One-Health Network (ibid.).

Nine work packages (WPs) with specific objectives and tasks, over which France is entitled responsibility for coordination, have been designed. One immediate observation is the assignment in some WPs of leading roles to coordinate inner activities. Thus, for WP7 (Appropriate use of antimicrobials in humans and animals), leadership¹⁶ was assigned to one Spanish and one Norwegian institution (FMSH 2018; Interview L 2020). Considering the surveillance data on the sales of antimicrobials for food-producing animals (EMA 2018, p. 27), it is tempting to suggest a deliberate coupling of partners from a best (Norway) and worse (Spain) performing country. This probably was not the intention of the Joint Action organizers when assigning WP leading roles (Interviews F 2020, L 2020). Concerning WP7, what still is evident is Norwegian and Spanish authorities' firm interest¹⁷ in the AMR-issue (Interview L 2020). Thus, the two countries and partner institutions more likely were assigned leading roles because of their competence and commitment. Provided the assumption is valid, the Joint Action WPs are arenas suitable for the cross-border exchange of ideas

to, potentially, *inspire* partner institutions to new alternative courses of action and *empower* them to fight AMR with measures to which they have joint ownership. The manifestation of a ‘power to’ dynamic in the Joint action is likely to depend on the quality of interaction among its partners and stakeholders. What likely add to this, is the diverse nature of WP partners¹⁸, and WP leaders’ lack of authority to instruct WP partners to deliver on set objectives (Interview L 2020),. Thus, there ought to be genuine interaction with reciprocal respect and understanding of each coordinating partner’s working conditions (Interview J 2017). If the partner institutions’ sensemaking ex post of the interactions establish a shortfall of such qualities, their commitment to the Joint Action is likely to wither.

Conclusion

The ambition of this chapter was to show the role of power dynamics in public sector coordination. Firstly, in elaborating on the turbulent properties of its case study, the chapter drew attention to, a), the multifaceted speed dimension of AMR, b), the complex task that is to coordinate AMR management across policy sectors and levels of governance, and c), the different emphases across sectors and professions that potentially spur the collective action on AMR. Secondly, the chapter identified what it sees to be the possible power dynamics in public sector coordination. Drawing on the power literature, it deduced two categories of ‘power to’ dynamics that enable all the actors – inspiration (agency), empowerment (structure) – and two categories of ‘power over’ dynamics that constrain those actors being targeted – influence (agency), domination (structure). Thirdly, the chapter advanced a cognitive framework on how power dynamics in coordination come about. Decisive for the manifestation of a power dynamic was whether the outcome of actor sensemaking resonated with the actor’s self-

perception. Finally, the chapter shed light on the opposite ‘power over’ dynamics between the EU and EU member states/EEA countries in food, veterinary, and health policy. The multisector and multilevel coordination on AMR relies considerably on the commitments of actors whom the EU cannot instruct. Hence, the advantage of having ‘power to’ dynamics in such efforts.

The latter remark points to one of the other elements of this volume.

Accordingly, the resilience in EU multisector and multilevel AMR coordination depends on the ability of the involved actors to adapt to changing external circumstances while retaining their function and identity (Duit 2016, p. 367). The AMR *crisis* is expected to happen ‘within a generation’ (IACG 2019). Hence, the need to build a resilience that sustains the coordination when AMR burns slowly.

Unfortunately, the literature on how to achieve resilience appears to be thin (Boin and Lodge 2016, p. 294). This chapter neither focused on particular strategies. Instead, it reflected on how the actor’s cognitive processing of ideas contributes to power dynamics in coordination. That said, if resilience is a value added from ‘power to’ (Dowding 2008, p. 26), a first step towards it would be when the ‘high self-perception’ actors – those who perceive themselves as important to the given problem area – act as role models that inspire additional actors to join their cause. Were the joint action to resonate edifyingly with the newcomers, the seeds of resilience should spire.

¹ The actor, in this chapter, is an individual whose participation in the coordination process is mandated by the supra-/national administrative body s/he belongs to. The individual actor thus represents its organization of affiliation.

² Typical in situations of emergency.

³ Regulation (EC) No 178/2002. The General Food Law.

⁴ The Action Plan is a revised version of the Action Plan that was in force between 2011 and 2016 (Commission 2011, 2017a).

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- ⁵ Vis-a-vis the principles of subsidiarity and proportionality.
- ⁶ Regulation (EU) 2019/6
- ⁷ Regulation (EU) 2019/4
- ⁸ Action shall be confined to policy areas where there is EU competence (ref. 'better regulation').
- ⁹ The EMA is tasked with the scientific evaluation of applications for marketing authorisation of medicine.
- ¹⁰ Disease surveillance in this context includes the collection, compilation and dissemination of surveillance data obtained initially by the national competent bodies and then made accessible to the EU agency.
- ¹¹ 2013/652/EU: Commission Implementing Decision of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria.
- ¹² Directive 2003/99/EC of the European Parliament and of the Council of 17 November 2003 on the monitoring of zoonoses and zoonotic agents.
- ¹³ EFSA is assisted by the pan-European Scientific Network for Zoonoses monitoring.
- ¹⁴ Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC.
- ¹⁵ EARS-Net, ESAC-Net, HAI-Net.
- ¹⁶ Which function as coordinators of all inner activities, including implementation (EU-JAMRAI 2018b).
- ¹⁷ Four out of nine WPs have a Spanish and/or Norwegian institution in a leading role.
- ¹⁸ Among the partners are academic institutions, governments, public health institutes, other public agencies, and hospitals (FMSH 2018; EU-JAMRAI 2018a).

References

- Ansell, C., Boin, A. & Keller, A. (2010). Managing Transboundary Crises: Identifying the Building Blocks of an Effective Response System. *Journal of Contingencies and Crisis Management*, 18(4), 195-207.
- Ansell, C., Trondal, J. & Øgård, M. (Eds.) (2017a). Turbulent Governance. In *Governance in Turbulent Times* (pp. 1-23). Oxford: Oxford University Press.
- Ansell, C., Levi-Faur, D. & Trondal, J. (2017b). An Organizational-Institutional Approach to Governance. In C. Ansell, J., Trondal & M. Øgård (Eds.), *Governance in Turbulent Times* (pp. 27-54). Oxford: Oxford University Press.

-
- Anter, A. (2014). *Max Weber's Theory of the Modern State. Origins, Structure and Significance*. London: Palgrave MacMillan.
- Battegazzorre, F. (2017). Some reflections on the *power to/power over* debate. *Journal of Political Power*, 10, 274-285.
- Boin, A. & Lodge, M. (2016). Designing Resilient Institutions for Transboundary Crisis Management: A Time for Public Administration. *Public Administration*, 94(2), 289-298.
- Bouckaert, G., Peters, G.B. & Verhoest, K. (2010). *The Coordination of Public Sector Organizations: Shifting Patterns of Public Management*. Hampshire, UK: Palgrave MacMillan.
- Brunsson, N. (1989). *The Organization of Hypocrisy: Talk, Decisions and Actions in Organizations*. Chichester: Wiley.
- Brunsson, N. & Sahlin-Andersson, K. (2000). Constructing organizations: the example of public sector reform. *Organization Studies*, 21(4), 721-746.
- Börzel, T. (2010). European Governance: Negotiation and Competition in the Shadow of Hierarchy. *Journal of Common Market Studies*, 48(2), 191-219.
- Cassini, A. et al. (2018). Attributable deaths and disability-adjusted life-years caused by infections with antibiotic-resistant bacteria in the EU and the European Economic Area in 2015: a population-level modelling analysis. *The Lancet Infectious Diseases*, 18, 1-11.
- CoEU. (2016). *Council conclusions on the next steps under a One Health approach to combat antimicrobial resistance*. Press release, 349/16, 17 June 2016.
- CoEU. (2019). *Conclusions on the next steps towards making the EU a best practice region in combatting antimicrobial resistance*. Employment, Social Policy, Health and Consumer Affairs Council session on 14 June 2019. Note, 9765/19, 6 June 2019.

-
- Czarniawska, B. & Sevón, G. (Eds.) (1996). Introduction. In *Translating Organizational Change* (pp. 1-12). Berlin, New York: Walter de Gruyter.
- Dahl, R.A. (1957). The Concept of Power. *Behavioral Science*, 2(3), 201-215.
- Dowding, K. (2006). Three-Dimensional Power: A Discussion of Steven Lukes' *Power: A Radical View*. *Political Studies Review*, 4, 136-145.
- Dowding, K. (2008). Agency and structure: Interpreting power relationships. *Journal of Power*, 1, 21-36.
- Dowding, K. (2012). Why should we care about the definition of power? *Journal of Political Power*, 5, 119-135.
- Duit, A. (2016). Resilience thinking: Lessons for public administration. *Public Administration*, 94(2), 364-380.
- Dunlop, C.A. & Radaelli, C.M. (2018). Does Policy Learning Meet the Standards of an Analytical Framework of the Policy Process? *Policy Studies Journal*, 46(S1), 48-68.
- Egeberg, M., Gornitzka, Å. & Trondal, J. (2016). Organization theory. In C. Ansell & J. Torfing (Eds.), *Handbook on Theories of Governance* (pp. 32-45). Cheltenham: Edward Elgar.
- ECDC, EFSA & EMA. (2015). *Joint Interagency Antimicrobial Consumption and Resistance Analysis (JIACRA) Report*.
- ECDC, EFSA and EMA. (2017). *Joint Interagency Antimicrobial Consumption and Resistance Analysis (JIACRA) Report*.
- ECDC and EFSA. (2019). *The European Union summary report on antimicrobial resistance in zoonotic and indicator bacteria from humans, animals and food in 2017*.
- ECDC. (2019). *Antimicrobial resistance shows no signs of slowing down*. Joint Press release, ECDC & EFSA, 26 February 2019.

-
- EU-JAMRAI. (2018a). *Partners*. Available at eu-jamrai.eu/about-us-partners/ (accessed 5 June 2020).
- EU-JAMRAI. (2018b). *Governance*. Available at eu-jamrai.eu/management-structure-2/ (accessed 5 June 2020).
- EMA. (2018). Sales of veterinary antimicrobial agents in 30 European countries in 2016. *European Surveillance of Veterinary Antimicrobial Consumption*, EMA/275982/2018.
- EMA. (2020). *European Surveillance of Veterinary Antimicrobial Consumption (ESVAC)*. Available at ema.europa.eu/en/veterinary-regulatory/overview/antimicrobial-resistance/european-surveillance-veterinary-antimicrobial-consumption-esvac (accessed 5 June 2020).
- EFSA. (2016). *Risk Assessment vs Risk Management: What's the difference?* Available at ec.europa.eu/food/sites/food/files/safety/docs/efsa_infographic_roles-of-risk-assessors_en.pdf (accessed 5 June 2020).
- Commission. (2011). *Communication from the Commission to the European Parliament and the Council. Action plan against the rising threats from Antimicrobial Resistance*. 15 November 2011, COM (2011) 748.
- Commission. (2016). *Animal Health Law*. Available at ec.europa.eu/food/animals/health/regulation_en (accessed 5 June 2020).
- Commission. (2017a). *Communication from the Commission to the Council and the European Parliament. A European One Health Action Plan against Antimicrobial Resistance (AMR)*. 29 June 2017, COM(2017) 339 final.
- Commission. (2017b). *EU Guidelines for the prudent use of antimicrobials in human health*. DG Santé & ECDC.

-
- Commission. (2018a). *Minutes*. Meeting of the EU AMR One-Health Network - 5 February 2018. Brussels, 12 February 2018.
- Commission. (2018b). *Minutes*. Meeting of the EU AMR One-Health Network - 26 October 2018. Brussels, 21 November 2018.
- Commission. (2019a). *Progress Report New EU AMR Action Plan*. Last update: Q2 2019. Available at ec.europa.eu/health/amr/sites/amr/files/amr_2018-2022_actionplan_progressreport_en.pdf (accessed 5 June 2020).
- Commission. (2019b). *Better regulation: why and how*. Available at ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how_en (accessed 5 June 2020).
- Commission. (2019c). *Minutes*. Meeting of the EU AMR One-Health Network - 12 March 2019. Brussels, 23 April 2019.
- Commission. (2019d). *Veterinary Medicines and Medicated Feed*. Available at ec.europa.eu/food/animals/health/veterinary-medicines-and-medicated-feed_en (accessed 5 June 2020).
- Commission. (2019e). *EU Action on Antimicrobial Resistance*. Available at ec.europa.eu/health/amr/antimicrobial-resistance_en (accessed 5 June 2020).
- Commission. (2019f). *Minutes*. Meeting of the EU AMR One-Health Network - 15 October 2019. Brussels, 31 October 2019.
- FMSH. (2018). *Joint Action on AMR and HAI (EU-JAMRAI): Countries' commitment to keep antibiotics working*. Presentation held at the EU AMR One-Health Network, 31 January 2018.
- Government Offices of Sweden. (2015). *The Alliance of Champions – the fight against antimicrobial resistance (AMR)*. Press release 11 June 2015. Permanent Mission of Sweden in Geneva.

-
- Göhler, G. (2009). 'Power to' and 'Power over'. In S.R. Clegg & M. Haugaard (Eds.), *The SAGE Handbook of Power* (pp. 27-40). London: SAGE Publications Ltd.
- Hartlapp, M. & Heidbreder, E.G. (2018). Mending the hole in multilevel implementation: Administrative cooperation related to worker mobility. *Governance*, 31, 27-43.
- IACG. (2019). *No Time to Wait: Securing the Future from Drug-Resistant Infections*. Report to the Secretary-General of the United Nations, April 2019.
- Kamkhaji, J.C. & Radaelli, C.M. (2017). Crisis, learning and policy change in the European Union. *Journal of European Public Policy*, 24(5), 714-734.
- Kamkhaji, J.C. & Radaelli, C.M. (2019). *Don't Think it is a Good Idea! Four Building Sites of the 'Ideas School'*. Paper presented at International Conference on Public Policy, Montreal, 26-28. June 2019.
- Lawrence, T.B. & Buchanan, S. (2017). Power, Institutions and Organizations. In R. Greenwood, C. Oliver, T.B. Lawrence & R. Meyer (Eds.), *The SAGE Handbook of Organizational Institutionalism* (pp. 477-504). London: SAGE Publications.
- Lee, K. & Brumme, Z.L. (2013). Operationalizing the One Health approach: the global governance challenges. *Health Policy and Planning*, 28, 778-785.
- Levy, J.S. (2008). Case studies: types, designs, and logics of inference. *Conflict Management and Peace Science*, 25(1), 1-18.
- Lukes, S. (2005). *Power: A Radical View* 2.ed. Houndmills, UK: Palgrave MacMillian.
- March, J.G. & Olsen, J.P. (1989). *Rediscovering Institutions: The Organizational Basis of Politics*. New York: The Free Press.
- Mele, V. & Cappellaro, G. (2018). Cross-level coordination among international organizations: Dilemmas and practices. *Public Administration*, 96(4), 736-752.

-
- Molenveld, A., Verhoest, K., Voets J. & Steen, T. (2020). Images of Coordination: How Implementing Organizations Perceive Coordination Arrangements. *Public Administration Review*, 80(1), 9-22.
- Muller, P. (2005). Esquisse d'une théorie du changement dans l'action publique: Structures, acteurs et cadres cognitifs. *Revue française de science politique*, 55, 155-187.
- Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review*, 16(1), 145-179.
- Peters, G.B. (2015). *Pursuing Horizontal Coordination. The Politics of Public Sector Coordination*. Lawrence, Kansas: University Press of Kansas.
- Rosa, H., Dörre, K. & Lessenich, S. (2017). Appropriation, Activation and Acceleration: The Escalatory Logics of Capitalist Modernity and the Crises of Dynamic Stabilization. *Theory, Culture & Society*, 34(1), 53–73.
- Sahlin-Andersson, K. (1996). Imitating by editing success: The construction of organizational fields. In B. Czarniawska & G. Sevón (Eds.), *Translating Organizational Change* (pp. 69-92). Berlin, New York: Walter de Gruyter.
- Simon, H.A. (1945). *Administrative Behaviour: A Study of Decision-Making Processes in Administrative Organization*. New York: Macmillan.
- Sætren, H. (2016). Lost in Translation: Re-conceptualising the Multiple-Streams Framework Back to its Source of Inspiration. In R. Zohlnhöfer & F.W. Rüb (Eds.), *decision-making under ambiguity and constraints. assessing the multiplestreams framework* (pp. 21-33). Colchester: ECPR Press.
- Trondal, J. & Bauer, M.W. (2017). Conceptualizing the European multilevel administrative order: capturing variation in the European administrative system. *European Political Science Review*, 9(1), 73-94.

-
- Ugland, T. & Veggeland, F. (2006). Experiments in Food Safety Policy Integration in the European Union*. *Journal of Common Market Studies*, 44(3), 607-624.
- Vos, E. (2000). EU Food Safety Regulation in the Aftermath of the BSE Crisis. *Journal of Consumer Policy*, 23, 227-255.
- Weber, M. (1922/1978). *Economy and Society: An Outline of Interpretive Sociology*. Berkeley, CA: University of California Press.
- Weber, M. (1922). Die drei reinen Typen der legitimen Herrschaft. Eine soziologische Studie. *Preußische Jahrbücher*, 187, 1-12.
- Wedlin, L. & Sahlin, K. (2017). The Imitation and Translation of Management Ideas. In R. Greenwood, C. Oliver, T.B. Lawrence & R. Meyer (Eds.), *The SAGE Handbook of Organizational Institutionalism* (pp. 102-107). London: SAGE Publications.
- Weick, K.E., Sutcliffe, K.M. & Obstfeld, D. (2005). Organizing and the Process of Sensemaking. *Organization Science*, 16(4), 409-421.
- WHO. (2014). *Antimicrobial resistance: global report on surveillance*. Geneva: World Health Organization.
- WHO. (2015). *Global Action Plan on Antimicrobial Resistance*. Geneva: World Health Organization.

List of interviews

- (A) Senior executive officers (2x), Brussels diplomatic corps, 04.04.2017
- (B) Senior executive officer, Brussels diplomatic corps, 05.04.2017
- (C) Senior expert, European agency, 15.02.2017
- (D) Senior executive officer, European Commission, 05.04.2017
- (E) Department leader, Norwegian health enterprise, 08.01.2020
- (F) Senior executive officer, Norwegian Ministry of Health and Care Services, 09.06.2020 (by phone)

-
- (G) Senior executive officers, Swedish Ministry of Enterprise and Innovation, 16.02.2017
 - (H) Senior executive officer, Swedish Ministry of Enterprise and Innovation, 15.05.2019
 - (I) Senior executive officer, Swedish Ministry of Health and Social Affairs, 28.02.2017 (by phone)
 - (J) Senior executive officer, Swedish veterinary agency, 15.06.2017 & 14.05.2019
 - (K) Senior executive officer, Swedish health agency, 05.07.2019 (via Skype)
 - (L) Senior executive officer, Norwegian health agency, 30.06.2020 (via Zoom)

Table 1. Power Dynamics in Coordination.

	Agency	Structure
Power over	Influence	Domination
Power to	Inspiration	Empowerment

Figure 1. How the Actor Makes Sense of Ideas Displayed in Coordination.

