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The COVID-19 crisis and the rise of the European Centre for Disease Prevention and Control (ECDC)

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ABSTRACT

European institutionalisation of public health policy has never been more topical than in the COVID-19 era. One European agency has come to the fore: the European Centre for Disease Prevention and Control (ECDC). Historically, the ECDC's mandate has expanded only gradually and the management of transboundary health crises has remained ultimately in the hands of Member States. The unprecedented severity of COVID-19 has led the European Commission to propose an extension of the ECDC's mandate. This study assesses the expansion of the formal and informal mandates of the ECDC over 15 years to contextualise the catalytic impact of COVID-19. It is found that while institutional change occurs in the aftermath of a transboundary health crisis, it builds on a long-term process of gradual institutionalisation that is accelerated by the crisis acting as a catalyst but not fully determined by it.

KEYWORDS COVID-19; SARS; health; European integration; crisis; institutional change

The COVID-19 crisis has highlighted the hurdles faced by the European Union (EU) in supporting the coordination of Member States' responses to a transboundary health crisis. The EU's initial response to COVID-19 has been criticised for delays in responding to the pandemic (Clemens and Brand 2020; Pacces and Weimer 2020; Renda and Castro 2020) and more recently for the slow vaccination rollout. Nevertheless, health threat management at the EU level is limited to coordinating national responses rather than managing risks – i.e. commanding responses (Article 168 of the Treaty on the Functioning of the EU). Coordination is facilitated by the existence of the Health Security Committee (HSC), the Council formation convening health ministries' representatives (Greer 2012). However, it ultimately remains in the hands of Member States whether to adopt measures related to treatments (vaccination) or containment (Non-Pharmaceutical

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Interventions, NPI). As such, collective action has been rather difficult, except in crisis situations, which, historically, have fostered institutionalisation (Boin *et al.* 2013; Greer 2012; Lamping and Steffen 2009).

The role of crises in the institutionalisation of health threats management is best exemplified by the creation of the European Centre for Disease Prevention and Control (ECDC), the European agency in charge of monitoring health threats, created in 2004 in the aftermath of the 2002 SARS outbreak (Deruelle 2016; Greer 2012). While the creation of such a European agency does not take away Member States' prerogatives, it nevertheless furthers institutionalisation (Kelemen 2002; Lamping and Steffen 2009; Migliorati 2020; Thatcher 2011). That said, the SARS crisis did not radically transform the state of play in EU health crisis management. The creation of EU agencies following crises is often an *institutional compromise* (Busuioc 2012, 2016; Busuioc and Groenleer 2013, Migliorati 2020; Thatcher 2011). The creation of the ECDC was not an abrupt and radical institutional change, but the outcome of a *layering* process (Thelen 2003): the ECDC was added on top of existing networks for infectious diseases surveillance. Five years later, the 2009 H1N1 crisis led to an informal institutional change, a *conversion* process (Thelen 2003): while no rule was changed, the ECDC was involved in the strategy for vaccination, in spite of restrictions imposed by its mandate. And, post the H1N1 crisis, the *layering* of new rules formalised the HSC via legislation (European Union 2013). We thus ask: how is the COVID-19 crisis promoting further institutionalisation of the governance system for health threats management in the EU?

This article investigates the catalytic impact of the COVID-19 crisis on the EU's capacity to coordinate risk management and more specifically the expansion of the mandate of the ECDC over time. The Centre's mandate is, as per its founding regulation (Regulation No 851/2004), restricted to risk assessment – the surveillance of risks to human health from communicable diseases – and it specifically excludes risk management from its purview (Greer and Mätzke 2012). The coordination of vaccination and containment measures such as confinement remain the prerogative of the Commission and the HSC. This distinction has been, historically, rigidly enforced. The ECDC, by the mere fact it embodies the cognitive dimension of disease control has a vantage point over this field; and Member States have been reluctant to allow the Centre to weigh into the coordination of health threats management.

However, a year after the initial outbreak, the COVID-19 crisis has spawned a proposal from the European Commission that includes the ability for the ECDC to formulate recommendations on health threats management to the HSC and thus be directly involved in the coordination of risk management. This would be an important change for the ECDC and the

governance of health threats in the EU: the Centre's mandate (Regulation No 851/2004) is – so far – restricted to the surveillance of risks to human health from communicable diseases. It specifically excludes risk management (Greer and Mätzke 2012). Treatments such as vaccination and NPI such as confinement have remained the prerogative of national authorities. With this recent proposal, the Commission is seising the opportunity to fully take advantage of the legal framework at its disposal, and it acknowledges the need for policy coordination at EU level through the construction of functional EU capacity to manage transboundary health crises.

However, throughout the COVID-19 crisis, the ECDC has crossed the fine line between coordinating risk assessment and coordinating risk management. Drawing on process-tracing, this article evidences a change in practices regarding the role of the ECDC in coordinating risk management, amid the COVID-19 crisis. This change unfolded prior to the proposal for formal change put forward by the Commission. We therefore contend that the Commission's proposal for formal change sanctions previous gradual changes in practices, and that, in this domain of high-level formal constraints, crises play the role of catalysts for different forms of gradual institutional innovations rather than provoking major punctuations.

The first section of the article develops our theoretical expectations regarding the role of crises as catalysts for change, based on Thelen's conceptualisation of endogenous institutional change (2003), and articulates our methodological approach. The next section discusses institutional innovation pre-COVID-19, from the creation of the ECDC, through the 2009 H1N1 pandemic and up to the COVID-19 crisis. The following section then analyses the catalyst impact of the COVID-19 crisis and evidences a change in practices accelerating amid crisis, before formal, legal change is proposed by the Commission. The final section concludes on the role of the COVID-19 crisis in the institutionalisation of public health in the EU.

Crisis as catalyst for gradual institutional change

Among exogenous factors likely to foster institutional change, crises are often considered as a golden opportunity for pushing new solutions on to the agenda (Birkland 1998). Yet, given the limited capacity for EU intervention in the field of health, it is unlikely to expect that any health crisis, even one as lethal as COVID 19, should produce an abrupt and far-reaching shift towards a fully integrated European health policy (Lamping and Steffen 2009). The 2013 Ebola crisis, for example, did not lead to any large-scale change in cooperation practices between Member States (De Raeve 2020). This is because opportunities for radical change are limited in the field of European public health (Boin *et al.* 2013; Greer 2012;

Lamping and Steffen 2009), unlike the field of health care, where the role of the European Court of Justice has been a central force in fostering a health policy via the internal market (Martinsen 2012; Vollaard and Martinsen 2017). Because the range of formal opportunities for institutionalisation is severely constrained (Boin *et al.* 2013; Greer 2012), we contend that rather than producing a punctuated discontinuous change in the rules, transboundary health crises act as catalysts for gradual institutional changes.

While crisis remains a rather underdefined concept (Hay 1999), we follow Boin *et al.* (2013: 9) in defining EU *transboundary crises* as situations 'when life-sustaining systems or critical infrastructures of multiple members states are acutely threatened'. As Boin *et al.* (2014: 420) put it, 'the defining characteristic of a transboundary crisis (…) is its potential to jump geographical borders and policy boundaries'. The COVID-19 crisis has triggered a context of high uncertainty to deal with a threat that is 'hard to chart' (Boin 2019: 95; Boin *et al.* 2014): at the time of the original outbreak, the far-reaching potential implications of the crisis were not fully seized and there was no 'ready-to-go' collective management response among the EU's Member States.

Recent years have provided examples of the impact of crises related to immigration or the economy on the European agenda (Brack *et al.* 2019; Jones *et al.* 2016; Niemann and Speyer 2018; Thatcher and Woll 2016). Responses to crises, in combination with advocacy, have become an important factor for institutionalisation (Boin *et al.* 2014; Groenleer 2009; Migliorati 2020). For example, the 'mad cow' crisis in the 1990s led to the creation of the European Food Safety Authority (Boin *et al.* 2014; Groenleer 2009; Kelemen 2002; Renda and Castro 2020). The catalytic potential for institutional change through crisis is nevertheless not set in stone (Voltolini *et al.* 2020). As Boin *et al.* (2014: 419) emphasise, 'there is no institutional blueprint'. As such, the question of how and to what extent crises act as catalysts for gradual institutional change and innovation remains.

Thelen (2000) emphasises that the institutional response to exogenous shocks is often evolutionary. Crises, according to Thelen, are opportunities for institutional renegotiation (Thelen 2000). This renegotiation process leads to innovation that significantly redesigns the shape and functioning of the institutions over time. Crisis may not automatically lead to radical change that is directly observable at a specific time. Instead, it may change the configuration of actors as well as the distribution of power, and lead to gradualism in institutional innovation. If crises widen the field of possibilities, additional mechanisms are thus necessary to explain specific paths of institutional innovation.

Theories of endogenous institutional change (Streeck and Thelen 2005; Thelen 2003) emphasise a number of mechanisms for institutional

innovation. Predominant among these mechanisms for gradual institutional change are the patterns of *layering*, *displacement*, *drift* and *conversion* (Mahoney and Thelen 2010; Streeck and Thelen 2005). The mechanisms of *displacement* and *layering* both address a formal change in the rules. *Displacement* characterises the replacement of rules. For example, the role of the ECDC as fire alarm (signalling the depth and the breadth of health threats) might be abandoned and taken over by national agencies and/or the WHO. *Layering* (Schickler 2001; Thelen 2003) leads to the introduction of new rules that co-exist with instead of replacing previous ones. For instance, the ECDC may be tasked with new prerogatives regarding the coordination of health threats management via new legislation. As a result the Centre would not lose its previous functions, but they would be significantly altered. The example of the addition of a private pension pillar to an existing public pension system is often used as an illustration of the *layering* process (Thelen 2000). The public pillar is not formally dismantled and continues to exist, but gradually becomes one pillar among others. As Mahoney and Thelen (2010: 17) emphasise, *displacement* is similar to a paradigmatic shift while *layering* 'works within the existing system': instead of formally dismantling institutional rules, new rules are added to the existing ones in order to change the way the institution functions.

On the contrary, *drift* and *conversion* are processes that trigger a change in the practices rather than in the formal rules. *Drift* (Hacker 2005) takes place if the rules in force are abandoned in practice. In the case of the ECDC, this may, for example, result in discontinuing information collection and transmission. *Conversion* also maintains the existing rules but a change in the practices leads to a new interpretation or different application of the rules (Thelen 2003). Weir shows for example how the American poverty program was increasingly channelled into support for the Black community (Weir 1992 in Thelen 2000). The bulk of the program itself remained as it originally stood but its application changed. *Conversion* would thus lead to a strengthening in practices, with the ECDC gradually expanding its role from risk assessment to the coordination of risk management.

We advance two theoretical expectations about the impact of crisis on institutional innovation in highly constrained domains. First, crises are unlikely to result in rapid and radical institutional change in these domains. Crises can play a catalytic role in accelerating change but do not determine the outcome. Our second expectation emphasises that crises articulate informal (practice level) and formal (rule level) institutional change, rather than promote a specific mechanism of institutional innovation. Formal opportunities are limited, there is neither the space nor the time for negotiating a change in the rules during a crisis, but this does not prevent formal change after the crisis. Following Boin *et al.*

2013, we make a distinction between institutional change during the crisis and after the crisis. For example, a change in the practices – through a process of *drift* or *conversion* – occurs during the crisis and then, post-crisis, drawing on lessons learned from the crisis, a formal change of rule occurs - through a *layering* or a *displacement*.

We confront those research expectations through the process tracing of institutional change in the EU's governance of health threat management. Process tracing is understood here as the systematic examination of diagnostic evidence selected as part of a temporal sequence of events or phenomena (Collier 2011: 823), and analysed in order to gain insights into causal mechanisms (Mahoney 2010: 125–31). To investigate how organisations innovate in response to crisis in a highly constrained environment, temporality must be considered (Goetz and Meyer-Sahling 2009). With the aim of investigating the extent to which and how crises impact the trajectory of institutionalisation in a highly constrained domain, we adopt a historical perspective (Haydu 1998) on the evolution of the ECDC's mandate and practices, and focus on the institutional process that runs from the creation of the ECDC to the COVID-19 crisis.

Our analysis draws on 26 documents (Table 1) including documents from the Commission (8), the Council of the EU and/or Member States (6), the ECDC and its governing bodies (9) and 25 additional documents for the purpose of triangulation including minutes from the Health Security Committee (12), press articles (5), articles from the public health literature (4), articles from conference proceedings (1), independent reports on the ECDC (1) and public pleas for institutional change (2).

The institutionalisation of the EU's health threat management over time

This section discusses the institutionalisation of the EU's governance of health threat management from the SARS to the COVID-19 crisis. Our study shows that the two mechanisms of institutional change at play in the institutionalisation of the EU health crisis management are *conversion* and *layering*. In our analysis we find that *layering* intervenes after crises: a) the creation of the ECDC is the result of *rule layering* post the SARS crisis; b) the HSC is formalised through *layering* after the 2009 H1N1 crisis; and c) the recent Commission's proposal shows evidence of a likely *layering* post COVID-19. However, amid both the 2009 H1N1 crisis and the COVID-19 crisis, we observe fast paced changes in the form of a *conversion* process. In the case of the 2009 H1N1 crisis, *conversion* and *layering* were two distinct processes which respectively characterised change for the ECDC (conversion) and the HSC (layering).

Table 1. Sources for process tracing and triangulation.

	Institutional Process pre COVID-19		COVID-19 sequence	
	Evidence of *layering* post-crisis	Evidence of *layering* and *conversion* amid H1N1	Evidence of *conversion* amid crisis	Evidence of attempt at *layering* post-crisis
Main sources for process tracing	Council of the EU minutes (1996, 1997, 1998); European Commission Communication (1998) Legislative process: European Commission (2003a, 2003b), Council of the EU (2004)	Minutes from ECDC Advisory Forum minutes (2005, 2008) ECDC Management Board minutes (2007)	ECDC publications (2020b, 2020c, 2020d, 2020e, 2020f, 2020g); European Commission Documents (2020c, 2020d, 2020e, 2020f)	European Commission Communication (2020b) and proposal (2020g); Member States: (Ministère de l'Europe et des Affaires étrangères 2020; Bundesgesundheit-ministerium 2020)
Additional sources for triangulation	Public Health literature (Kokki and Haigh 2004; Lancet 1998; Weinberg *et al.* 1999) and conference proceedings (Bartlett 1998)	Public health literature (Liverani and Coker 2012) Media articles (Kirkpatrick *et al.* 2020) Independent report on ECDC (Greco *et al.* 2011)	Flash reports (minutes) of the Health Security Committee (2020a, 2020b, 2020c, 2020d, 2020e, 2020f, 2020g, 2020h, 2020j, 2020k, 2020l, 2020m)	Media articles (Bayer 2020; Guarascio 2020; Michalopoulos 2020; Momtaz *et al.* 2020) Pleas for institutional change (Clemens and Brand 2020; De Raeve 2020)

Initial rule layering: institutionalisation post SARS crisis

The creation of the ECDC in 2004 followed the SARS outbreak which was first identified by the WHO in February 2003. SARS appeared at a specific time in a sequence related to the emergence of European cooperation in human communicable disease prevention. While the 1992 Maastricht treaty granted the EU coordinating competences in infectious diseases, national resistance towards EU intervention had remained high, until the crisis. The timing of SARS mattered: discussions about a European public health agency were ongoing before the SARS outbreak which acted as a catalyst and accelerated the process of *layering* that was unfolding at the time.

The first formal institutional change in public health at EU level is the creation in 1998 of a network for epidemiological surveillance (European Commission 1998). It consisted of an IT-based Early Warning and Response System (EWRS) for the control of communicable diseases (European Commission 1998). The EWRS established a centralised communication system to facilitate the exchange of information on emerging outbreaks between national organisations in charge of disease surveillance. The EU decision (European Union 1998) was the first institutional development. It institutionalised a network of national public health institutions, the 'Charter Group' financed by a grant of the Commission (Bartlett 1998). The raison d'être of the Charter Group was to flesh out the coordination of surveillance between national centres of disease control (Weinberg *et al.* 1999). The Charter Group built capacity for risk assessment through a networked informal approach that is common in risk regulation at EU level.

In 1998, formal institutionalisation in the shape of a new EU agency was still a step too far. The proposal triggered opposition among members of the Charter Group. *The Lancet* featured an editorial titled 'Not another European Institution' (Lancet 1998). The clash revealed the reluctance of national public health experts to give away control over cooperation. Wary of the reaction of Member States, the Commission thus sided with the Council of Ministers who also favoured the network approach (Council of the EU 1996, 1997, 1998; European Commission 1998).

Perception of the issue evolved in the early 2000s due to the accumulation of health crises that were inherited from the 1990s (such as 'Mad Cow' disease) as well as the increasingly important question of bioterrorism (European Commission 2003a, 2003b). At the end of 2001, amid concern regarding bioterrorism, we observe an informal institutional development with the creation of the Health Security Committee (HSC): the informal group convening health ministry representatives (Greer and Mätzke 2012). With this marked focus on health threats in the Council, the question of the creation of an agency able to identify threats became

more tangible. As early as June 2001, the possibility of a 'European Centre' was mentioned in the conclusions of the European Council (European Commission 2003b). In September 2002, Health Commissioner Byrne mentioned the ambition for an agency that 'will bring together the expertise in Member States and will act as a reference and co-ordination point both in routine and in crisis situations' (European Commission 2002).

A few months later, in February 2003, the SARS outbreak shook governments across the EU and the European Commission rapidly put forward the proposal for the creation of the ECDC on 2 August 2003. While its impact on the European continent remained limited, the SARS crisis shed a sobering light on the lack of preparedness of the Member States and convinced many that there was an urgent need for better coordination at the European level that would go beyond the existing networks at the time (European Commission 2003a).

On 21 April 2004, the founding regulation of the ECDC (European Union 2004) entered into force. The Directorate-General for Health and Consumers (DG SANCO, the pre-2014 DG SANTE) played a pivotal role in engineering the proposal. Regarding the surveillance network, DG SANCO showcased the need for improving cooperation while promoting the current activities of the network. For Member States, the Commission strategically included bioterrorist threat surveillance, as well as the explicit prohibition around advising Member States on risk management (Council of the EU 2004). As a result of this dynamic of dual support-seeking from the scientific community and from the Member States, the creation of the agency was an example of rule *layering* rather than *displacement*. The launch of the agency was superimposed on existing networks with the goal of improving and standardising collaboration between Member States. As per expectations, the SARS crisis shifted preferences among Member States but did not result in abrupt change. The founding regulation explicitly prohibited the newly created agency to advise Member States on risk management (Council of the EU 2004). The institutionalisation of surveillance was the result of informal institutional developments which were then sanctioned by change in formal rules (*layering*). The timing of the SARS crisis mattered as much as the crisis itself: it accelerated rule *layering*. The Centre was not created by the crisis; it was the outcome of a longer process in which the SARS crisis played a catalytic role.

Conversion amid crisis and layering post crisis: the 2009 H1N1 pandemic

This rule *layering* played a significant role in shaping the trajectory of the EU's governance of health threats over time. It has clearly delineated the mandate of the ECDC and crucially has kept the Centre removed

from matters of risk management. Increasing surveillance capacity remained the primary mandate of the ECDC. The fine line between assessment and management was a contentious topic of discussion in the early stage of the Centre. Even the specific wording was subject to debate: the term 'guidelines' was considered too coercive and the term 'guidance' was preferred (ECDC Advisory Forum 2005: 8). Attempts to discuss measures of risk management, such as vaccines, were also met with circumspection: 'the European Commission reaffirmed that the policy agenda of the vaccination policy should stay in the hands of the Member States. If a policy agenda was to be discussed, it could be split between the Member States and the Commission. The Commission also called for a meeting to discuss the pertinence of setting up the committee on vaccines' (ECDC Management Board 2007: 4). Member States remained sensitive to the infringing of their prerogatives: 'One [Advisory Forum] member said they were surprised by the advice published by the ECDC on this issue, as their country did not need to be reminded of vaccination' (ECDC Advisory Forum 2008: 10).

Yet, during the 2009 outbreak of H1N1 influenza we observe a *conversion* of the rules *layered* at the creation of the ECDC, through changes in practices despite the ECDC's limited remit. The H1N1 pandemic was the first salient health crisis that the EU faced after the SARS crisis. It was a test for the newly established Centre to demonstrate its added value (Liverani and Coker 2012). The crisis did not lead to a radical change but kicked off a *conversion* process which shifted the role of the ECDC regarding vaccines. In the Summer of 2009, amid the pandemic, the Commission tasked the ECDC to define a vaccination strategy (Greco *et al.* 2011). This was the result of *conversion*, as vaccines are risk management tools, but it did not lead to a formal institutionalisation of these prerogatives.

However, we observe a new *layering* post H1N1: the 2013 decision of the Commission on health threats (European Union 2013) codifying the role of the HSC, henceforth able to decide quickly on the coordination of national responses without the endorsement of the Council. This was a gradual formal change rather than a major punctuated one. The decision was merely formalising the existence of the HSC which up to then had remained informal throughout the crisis (Greco *et al.* 2011). As per research expectations, the H1N1 crisis thus articulated two forms of institutional change highlighting the gradual nature of institutional innovation: post crisis, a formal but gradual change for the HSC and during the crisis an informal change under the form of a *conversion* in the practices regarding vaccines for the ECDC. However, those two paths of institutionalisation remain independent from one another; conversion shifted the role of the ECDC punctually, while layering intervened post crisis to lay out in legal terms the role of the HSC. Amid the COVID-19

crisis, we find again those two forms of institutional development in action, but they are articulated more coherently around the institutionalisation of the ECDC in the coordination of health threats.

Paths for the institutionalisation of the ECDC amid COVID-19

This section discusses the path for institutionalisation in the COVID-19 sequence. Like the SARS and H1N1 crises, the COVID-19 crisis is unlikely to produce a radical and punctuated institutional change by itself. The analysis of the COVID-19 sequence points towards evidence of a significant *conversion* in practices since the beginning of the crisis. Before the crisis, the Centre was still on tip toes. As a former agency trainer emphasised (in Kirkpatrick *et al.* 2020): 'We couldn't say, "You should have this" (…) The advice and the assessment had to be phrased in an observation.' However, since the beginning of the crisis, the Commission and Member States frequently have requested the ECDC's advice on measures related to risk management, such as lockdowns and use of PPE, in spite of the ECDC's limitations. Our analysis demonstrates that the articulation between *conversion* and *layering* amounts to the formalisation of a change in practice – which, however, can only be fully diagnosed once a decision has been made on the Commission's proposal.

January 2020–February 2020: conversion and added value in crisis management

In early January 2020, Member States scrambled with coming to terms with the scope of the crisis and the ECDC struggled in assessing the COVID-19 threat; data was scarce (HSC 2020a). On 9 January 2020 DG SANTE launched a COVID-19 alert on the European EWRS. The HSC rapidly organised extraordinary meetings. As soon as the risk of person-to-person transmission was confirmed, the ECDC re-assessed the potential impact of COVID-19 as high (HSC 2020b).

The process of *conversion* was immediately apparent: the ECDC's mandate was being gradually and informally expanded to the management of health threats. In the early weeks of 2020, the ECDC focussed on issuing advice for travellers, health professionals and the general public (ECDC 2020a), while DG SANTE provided guidelines for entry screening. When the issue of personal protective equipment (PPE) became salient at the end of January (HSC 2020b), the European Commission mandated the ECDC to prepare an assessment of PPE needs (HSC 2020c). Italy was the first Member State to experience a sharp increase in deaths linked to COVID-19 and was also first to impose restrictions on the free movement of persons. The Italian situation was discussed at length

during the 24 February meeting of the HSC on COVID-19 (HSC 2020d). The realisation that the crisis was more severe than previously expected led to a noticeable change, and coordination became the keyword in the HSC meetings: 'Countries were also reminded to share information on planned measures with the HSC on COVID-19 before decisions are implemented to have a coordinated approach' (HSC 2020d). Member States exhibited staggeringly different levels of preparedness regarding PPE and had uneven access to test kits (Bayer 2020; Guarascio 2020; Michalopoulos 2020). Member States activated the mechanism of joint procurement of medical equipment on 28 February 2020 for PPE and on 17 March 2020 for ventilators (European Commission 2020a).

The process of *conversion* in the role of the ECDC gradually unfolded as growing scientific evidence pointed to a higher lethality than expected. The ECDC developed advice on management measures in February (ECDC 2020c) and published guidelines for the use of NPI (ECDC 2020b). The mere fact that these were officially called guidelines is evidence that *conversion* was occurring at the level of practices.

March 2020–May 2020: acceleration of conversion and containment measures

The *conversion* of rules regarding the management of health threats in the EU accelerated as Member States took stock of the seriousness of the situation. On 2 March the ECDC presented an updated risk assessment to the HSC (ECDC 2020d). This update included five detailed response scenarios for Member States to select, adapted to the variety of national contexts. The two most far-reaching scenarios both included general lockdowns. The explicitness of these guidelines is evidence of the *conversion* of practices: the ECDC's input in all aspects of management had become increasingly valued, as pointed out by representatives of the Member States (HSC 2020e). In a video conference of the European Council on 10 March 2020, Member States committed to further coordinate management measures. Containment was part of the advice that the ECDC suggested as soon as clusters of human-to-human transmission appeared - a phenomenon that most Member States were already experiencing at the time (ECDC 2020d). This led to a domino-like coordinated entry into lockdowns: Slovakia and the Czech Republic enforced border controls from 12 March; the day after, Denmark, Poland, Latvia, Lithuania and Cyprus followed their lead, while Germany, Spain and France initiated these restrictions from 16 March 2020 (HSC 2020f).

As most of Europe was enforcing lockdowns, members of the ECDC's management board, the governing body composed of national representatives that holds the Centre accountable, emphasised that 'ECDC

guidance has become standard reference or the basis for discussion on national guidelines and recommendations' (ECDC Management Board 2020). This ECDC input was crucial and made an impression on national counterparts, explaining why the *conversion* process accelerated when uncertainty was at its peak.

As early as the end of March, the ECDC became proactive on the 'exit strategy' front (ECDC 2020e) and was mandated by the HSC to produce the methodology for measures related to de-escalating (HSC 2020g). The ECDC's guidance for discharge and ending isolation (ECDC 2020f) formed the basis for the 15 April European Commission's communication on the *European roadmap to lifting coronavirus containment measures* (European Commission 2020c). Except for Italy - which had initiated its lockdown before any other country and lifted some containment measures on 4 May 2020 – France, Belgium, the Netherlands Germany, Austria, the Czech Republic, Greece, Bulgaria, Estonia, Finland, Ireland and Romania eased containment measures on 11 May 2020 (HSC 2020j). This was a sign of sustained *conversion*; via the European Commission, the ECDC addressed strong and explicit messages on containment measures to Member States.

March 2020–June 2020: sustained conversion process and management measures

From March on, the process of *conversion* was also sustained in areas of risk management other than containment measures. The ECDC contributed to advising Member States on PPE procurement, testing resources and vaccines. Once lockdowns started to enter into force across Europe, the Commission further requested that the ECDC advise on management measures, including: a) guidance on the rational use of PPE under scarcity conditions; b) overview reporting on readiness of national crisis emergency systems; and c) guidance on health systems contingency planning to address possible containment scenarios (HSC 2020f).

Early in April, the Commission asked the ECDC to work on more detailed guidance regarding masks for the public and Member States agreed to develop a 'common position based on ECDC guidance on face masks for the public' (HSC 2020h). The Centre was tasked by the European Commission (HSC 2020k) to monitor the implementation of EU recommendations and guidelines on testing, evidencing a change in practices and thus a *conversion* in the management of health threats.

Regarding vaccines, on 7 May 2020 health ministers met via video conference during which 'many countries noted strong support for mandating the HSC on COVID-19 to prepare a COVID-19 vaccination plan for the EU and EEA, as well as expressed an interest in possible joint

procurement of COVID-19 vaccines' (HSC 2020j). On 28 May 2020, the ECDC gathered together considerations in prioritising access to COVID-19 vaccines, including targeting priority to the HSC (HSC 2020k). On 12 June 2020, the Commission presented a draft blueprint for a COVID-19 vaccination plan: 'The ECDC paper on considerations in prioritising access to COVID-19 vaccines served as an input to the blueprint' (HSC 2020m). It was published on 17 June 2020 (European Commission 2020f), once again demonstrating the continued *conversion* process that has defined an increased role for the ECDC in the management of health threats since H1N1.

During the pandemic, the ECDC's input became increasingly important to guide Member States' national strategies. The ECDC's advice not only informed Member States on surveillance or PPE, but also on containment measures such as lockdowns and de-escalation. Amid the crisis, the *conversion* of rules regarding the management of health threats in the EU led to change beyond public health, as management measures overlap with home affairs. From May 2020 onward, the ECDC has been directly involved in Home Affairs meetings between the Commission and Member States (HSC 2020k). This influence over the European Commission's advice on management gradually increased, specifically on the question of opening and closing borders. On 13 May 2020, the European Commission presented a series of recommendations on re-establishing freedom of movement in the EU (European Commission 2020d) based on the ECDC's advice. On borders, the ECDC has maintained a coherent position against border closure throughout the crisis: 'It is important that decision makers understand that SARS-CoV-2, as a human to-human transmitted respiratory virus with global distribution, cannot be controlled by means of border closures' (ECDC 2020g). This position is recognised in the HSC on COVID-19: 'Available evidence therefore does not support border closures in the current situation where most countries world-wide are experiencing community transmission' (HSC 2020l). The input of the ECDC was one more time important in the Commission's Communication on temporary restriction on non-essential travel into the EU published on 11 June 2020 (European Commission 2020e). Freedom of movement between European countries was re-established on 15 June.

July 2020–November 2020: from conversion to layering proposal

While *conversion* in practice was incremental before COVID-19, *conversion* happened during the crisis at a much faster pace. There were already signs that institutional change might not be bound to this process of *conversion*. On 18 May, France and Germany jointly proposed setting up an EU 'Health Task Force' within the ECDC (Ministère de l'Europe et des Affaires étrangères 2020). It was followed by a plea from Denmark,

France, Germany, Spain, Belgium and Poland on 10 June to widen the ECDC's mandate, 'to coordinate, with national health authorities, prevention and reaction plans against future epidemics within a future EU health task force' (Momtaz *et al.* 2020). Eventually on 16 July, this position gained consensus among Member States (Bundesgesundheitsministerium 2020).

On 28 May 2020, the European Commission presented its proposal for the next Health programme (European Commission 2020b): it mentioned flying doctors and a potentially stronger role for the ECDC in coordinating management. On 11 November 2020, the Commission announced a new legislative proposal in order to extend the ECDC's mandate (European Commission 2020g). The proposal includes granting the ECDC the capacity to recommend measures for controlling outbreaks, thus advising on risk management. While in practice this was done during the crisis, this measure would formally redefine the role of the ECDC. This is evidence of the process of *layering* at play, capping off a process of *conversion* that unfolded throughout the crisis. This *layering* proposal goes further: the ECDC would be able to mobilise and deploy a (future) EU Health Task Force to assist local response in Member States, thus gaining an operational capability. As per expectations, gradual institutional change in response to a crisis has first taken place at the level of the practices during the crisis through a process of *conversion*. As there is evidence that vaccination will provide an exit to the crisis, the Commission's proposal leads us to expect that post-crisis, formal institutional change will take the form of a *layering* that sanctions a change in practices.

The role of the COVID-19 crisis in the institutionalisation of the EU's health threat management

The COVID-19 crisis has already furthered the institutionalisation of the governance system for health threats management in the EU. Almost as soon as the crisis kicked-off, the governance system for the management of health threats in the EU, with a muted role for the ECDC, was deemed ill-adapted to react promptly to the changing pandemic situation. Our analysis of the expansion of the mandate of the ECDC shows that a fast-paced *conversion* process has been unfolding since the early stage of the COVID-19 crisis, which is likely to be sanctioned by a change in formal rules through *layering*. Since the beginning of the COVID-19 crisis, the ECDC's scientific input is no longer 'closeted'. The Centre is now able to make recommendations on how to coordinate Member States' management of health threats. The ECDC is now de facto involved in the coordination of risk management and will likely soon be involved de jure. The process of institutionalisation amid COVID-19 shows first and foremost that a paradigmatic change has occurred: such a contribution from the

ECDC would have been considered inappropriate by Member States before COVID-19. In this domain of high-level formal constraints, the role of crises thus remains decisive in inciting collective action among EU Member States (Boin *et al.* 2013; Greer 2012; Lamping and Steffen 2009).

However, and as per prior expectations (Boin *et al.* 2014; De Raeve 2020), crises do not result in radical and abrupt institutional rehauls in the EU's health threats management. The change in the mandate of the ECDC, while important to understand the institutionalisation of health threat management, remains, in effect, limited. There is no change in the Treaties and the management of health threats remains a simple coordinating competence at EU level. Whether one looks at *conversion* or *layering* amid the COVID-19 crisis, both processes lead to legal provisions – dating back from the Maastricht Treaty – being fully implemented. The institutionalisation of health threats management in the EU through crises is thus inherently gradual.

We find that a fundamental explanation for why crises only trigger gradual change in health threats management in the EU is the path taken by institutional change; crises act as catalysts in articulating gradual institutional changes within the narrow confines of the Treaties. Our case study of the institutionalisation of health threat management in the EU, from SARS to COVID-19, demonstrates that to grasp the role of crises in the institutionalisation of the EU's public health policy, we should not search for a single pattern of mechanisms of institutionalisation. Health crises in the EU are both accelerators for informal change (*conversion*) and catalysts that may lead to formal change (*layering*). We found that the SARS crisis shed light on the catalytic capacity of crisis for gradual institutional change. The creation of the ECDC was not a major punctuation that abruptly transformed the public health policy in the EU. Instead, the ECDC was created through rule *layering*, which added the ECDC on top of an existing set of practices. The H1N1 crisis articulated two forms of institutional change: a formal but gradual *layering* for the HSC post crisis and, during the crisis, an informal change in the form of a *conversion* in the practices regarding the coordination of management (vaccines) for the ECDC.

The COVID-19 crisis however stands out vis-à-vis other transboundary health crises for two reasons:

1. Conversion is not necessarily temporary. During the H1N1 crisis, the ECDC was involved in coordination activities regarding vaccines. This change in practice was however reversible, as it was triggered by a temporary situation such as a pandemic (Busuioc 2012). Our findings show that this expansion of the ECDC's mandate can survive the crisis, if change in practices is sanctioned by a change in the rules.

2. The layering of new rules post SARS crisis formally sanctioned practices that pre-dated the crisis. Our analysis of the COVID-19 crisis demonstrates that proposals for formal change post crisis sanctions gradual change that occurred amid the crisis. The formal change of institutional rules proposed by the Commission on 11 November 2020 is thus not merely characterised by the addition of new rules to the existing ones but formalises changes in practices that occurred amid the crisis.

As with any case of institutional change, at the level of practices or formal rules, the balance of power is now altered, and likely with lasting effect. The ECDC has proven to be the rising star of the governance system for health threats management in the EU. The ECDC is now directly involved in discussion and actions related to the management of the crisis. The Centre plays a central role in the meetings of HSC related to containment measures and vaccines. It also has a seat at the table in COVID-19 related meetings on home affairs regarding borders. Nevertheless, at the time of its creation, the Centre had to make up its own role in this system of governance with an important handicap; the ECDC was formally barred from advising Member States on how to coordinate measures to manage public health risks. After the feelers of the 2009 H1N1 crisis, the institutional changes that have unfolded since the beginning of the COVID-19 crisis are putting an end to the rather complicated task of the ECDC, which was to identify risks but without producing guidelines on how they ought to be managed (Table 2).

The institutional development of the ECDC is thus particularly significant for the governance of health threat management: it reinforces capacity of EU level. But if the ECDC is a winner in this process, is there a loser? Extant literature has analysed the institutional consequences of a crisis as the empowerment of one institution at the expense of others. The scholarship on *de Novo* bodies, for instance, claims that European agencies are winners of this power game and that the Commission is gradually losing power (Bickerton *et al.* 2015; Hodson 2015). This claim is however disputed; for example, Becker *et al.* (2016) find that the Commission is gaining new management types of competences. Our findings present a more nuanced story: the rise of the ECDC amid the COVID-19 crisis has been beneficial to the Commission. The Commission is not losing its voice to the advantage of the ECDC, but rather the two institutions are stronger together in inciting coordination in the HSC. Member States, on the other hand, are not losers either; while they may relinquish their sovereignty by accepting to play the game of coordination, they may at any time decide to go their own way.

Table 2. The institutionalisation of ECDC through crises.

	Risk Assessment	Coordination of risk management
2002 SARS CRISIS	*Post-crisis layering*: Creation of ECDC – Mandate limited to risk assessment	ECDC formally barred from advising on the coordination of risk management
2009 H1N1 CRISIS	*Amid crisis,* ECDC produces scientific/technical documents based on risk monitoring for the Commission and Member States	*Amid crisis, conversion of rules:* ECDC punctually involved in coordinating risk management
2020 COVID-19 CRISIS	*Amid crisis,* ECDC produces scientific/technical documents based on risk monitoring for the Commission and Member States	*Amid crisis, conversion of rules:* ECDC increasingly involved in coordinating risk management *Post-crisis layering:* Commission's Proposal for a new regulation: ECDC would formally be tasked with coordinating health threats management

The EU only has the competence to coordinate management, not to regulate, and Member States are thus free to implement management measures they see fit. Overall, the governance system of health threat management in the EU has become a fully realised system of coordination in which all institutions are playing a more cooperative game than during previous crises. It remains to be seen if the new status quo will stand the test of the next public health crisis, or if further institutionalisation beyond the logic of coordination is deemed necessary by Member States.

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