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**The impact of environmental discourses on public health policy
arrangements: a comparative study in the UK and Flanders (Belgium)**

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Abstract

Objectives: theoretically inspired by multi-level governance and discursive institutionalism, this paper assesses what impact 'environmental health' as a new discourse at the European policy level has on national public health governance and vice versa and what mechanisms trigger or hinder these effects.

Study design: this paper compares dynamics in public health policy arrangements in Flanders (Belgium) and the United Kingdom, nations both influenced by international and European environmental health discourses.

Methods: the Policy Arrangement Approach is used as a common framework to structure the results of the textual analysis.

Results: the production of very different approaches to environmental health governance has occurred in Belgium/Flanders and the UK. In the Belgium/Flanders case a top-down approach is dominant whereas in the UK has developed a more inward facing approach to policy development on environmental health.

Conclusion: the cases of the UK and Belgium show that although both countries are part of the EU and are therefore responding to the same general charters and governance initiatives, the uploading and downloading of environmental health policies is directly impacted by the activities of various national institutions, regional environmental health realities, and the interplay between formal and informal national and international institutions.

Key words: discursive institutionalism; multi-level governance; environmental health; Policy Arrangement Approach

Introduction

Over the last three decades, initiated by the Declaration of the United Nations Conference on the Human Environment in 1972 and followed by the European Conferences on Environment and Health of the World Health Organisation (WHO), environmental health issues have come to be explicitly present on the political agenda in Europe and its member states. These agreements on environmental health stimulated initiatives at the national policy level to deal with environmental health issues. Consequently, pre-existing public health services as well as environmental policies have had to be revisited in order to accommodate this new topic.

The main questions addressed in this paper is to what extent do European discourses on environmental health have an effect on domestic public health policies in the UK and Belgium/Flanders and vice versa and what mechanisms trigger or hinder these effects? Inspired by the theoretical concepts of discursive institutionalism and multi-level governance, our assumption is that these new and changing discourses on environmental health on the European level reproduce and transform institutions on the national level and vice versa by changing and developing new rules, legislation, power relations and actors.

The introductory section first describes the theory and rationale for using the concepts of 'discursive institutionalism' and multi-level governance. This paper argues that discursive institutionalism has the greatest potential of all approaches of 'new institutionalism' to explain the stability and change of institutional dynamics.¹ As a compliment, the concept of multi-level governance allows for an understanding of the interactions between policy arrangements at several levels (supranational, national, regional etc). Secondly, the Policy Arrangement Approach is introduced as a framework to describe and understand these dynamics.²

Discursive institutionalism emphasizes, compared to the other approaches within new institutionalism - rational choice, historical and sociological or organization institutionalism - (i) the greater role of ideas and discourses in influencing actor interests, preferences and behaviors, and (ii) the belief that discourses have the capacity to reproduce stability but also to generate and legitimize ideas about political action potentially resulting in institutional change.³ How does discursive institutionalism explain the dynamics of institutional change? According to Phillips et al.⁴ discourses are fundamental to understanding institutional processes. Through discourses ideas are expressed within the context of policies, programs, and philosophies. Actors try to increase their power by interacting and convincing other actors to accept their definition of reality.^{4,5} If actors succeed their convincing process and manage to root their discourses in rules and structures, discourses become institutionalised and/of institutional change is taking place. Whether discourse coalitions result in institutional change depends on the power and resources of the actors on the one hand and willingness to change the current rules on the other hand.⁶ This idea is confirmed by Hajer⁷: *"language has the capacity to make politics, to create signs and symbols that can shift power balances and that can impact on institutions and policy-making"*. Consequently, discursive institutionalism has the potential to help identify the dynamics of institutional change within emerging policy arenas, such as the environmental health arena.

A concept that is important to consider when taking a discursive institutional approach is that of multi-level governance (MLG). MLG can be defined as *"a negotiation between nested governmental institutions at several level (supranational, national, regional and local) on the one hand, and private actors (NGOs, producers, consumers, etc) on the other"*.⁸ Using this theoretical framework to make sense of governance processes, and in particular the role of discourse in shaping these processes, draws attention to the ways in which MLG is operating in the context of the EU. In particular, MLG seems to be the result of

two developments taking place in Europe in the last few decades: 1) European integration and 2) regionalization. European integration leads to a convergence of national policies, while regionalization emphasizes the diversity of policies in the member states. Consequently, multi-level governance refers to a permanent up- and downstream movement between the EU, national and local levels of policy making and a focus on discourse can help to draw attention to the ways in which these movements are occurring.⁹

The Policy Arrangement Approach (PAA) is developed to empirically describe and analyse change and stability within policy arrangements. A policy arrangement is defined by Leroy & Arts as *“the temporary stabilisation of the content and organisation of a particular policy domain at a certain policy level or over several policy levels in case of multi-level governance”*.² As such, a policy arrangement is an institutional concept referring to the analysis of institutional patterns of change and stability in the midterm. The PAA is based on four dimensions which are interwoven or interrelated: (i) actors and coalitions, (ii) resources and power, (iii) roles of the game and (iv) discourses.¹⁰ The actor-dimension refers to the actors and their coalitions involved in the policy domain. The division of resources leads to differences in power and influence to determine policy outcomes. The rules of the game refer to formal and informal procedures of decision making and routines of interaction (who advises, who gathers the data, who interprets these, who decides etc.). The policy discourses entail the views and narratives, norms, values, and problem definitions. A policy arrangement does not operate in a vacuum but is part of society. In this paper, the international and European discourses on environmental health will be the starting point of the analysis.

Methods

A discourse analysis has been undertaken in order to investigate the relationship between discourses and the stability or change of institutions by assessing the

socially constitutive nature of the discourses, the processes of institutionalisation they induce, trigger or hinder. Empirically, a comparison study has been conducted in order to analyse and explain the similarities and differences between Flanders (Belgium) and the United Kingdom. In order to draw attention to multi-level governance, a discourse analysis has been conducted at both the European level and the national levels. Because discourses are historically located, it has been a particular focus to explore how and where discourses emerge and change through a systematic study of texts.⁴ In this paper, an historical analysis of the environmental health discourse on the European level since 1970 is conducted with the view of comparing this evolution with the analysis of the environmental health policy arrangements in the UK and Belgium.

The selection process for the appropriate policy documents at the national level was conducted by identifying the key organisations and agencies involved in drafting, ratifying and implementing environmental health legislation as well as putting into practice this national legislation within the context of various governmental milieu. In the case of the United Kingdom, the search engine of the United Kingdom Parliament was used to identify relevant documents. Policy documents were also gathered from the three key agencies involved in environmental health governance, the Ministry of Health (MOH), the Department for Environment, Food and Rural Affairs (DEFRA) and the Health Protection Agency (HPA). In the case of Belgium, national policy documents and legislation were gathered from the search engine of the Flemish Parliament. Annual reports, advisory reports and recommendations were also downloaded from the websites of the public health administrations, advisory bodies, scientific networks and stakeholder groups.

In practice, a systematic approach to analysing the policy documents has been adopted. Using automated search tools, the documents selected have been

screened for the word 'environmental health'. Subsequently, each instance of a reference to 'environmental health' has been qualitatively evaluated by analysing the meaning or interpretation of the term. In order to take into account changes in definition over time, the definitions were compared as well as were the topics mentioned in relation to environmental health.

On the European level, the documents related to the Ministerial Conferences on Environment and Health (1989, 1994, 1999, 2004) were given special attention. The websites related to Environment and Health of the European government and the WHO-Europe were used as information tool.

To describe a policy arrangement completely, information must also be gathered about the actors involved, the power and resources available to them and the rules of the game they are working with. To identify the actors, policy documents were studied as well as documents of advisory bodies. To have an idea of the power of each actor an actor map was developed. The more central an actor, the more dominant the actor is in the environmental health policy arrangement. To identify the formal rules of the game legislation were studied. Due to time constraints and the difficulties of going 'into the field' the informal rules were excluded from this analysis. To gather information about the fourth dimension 'resources', annual reports of governmental organisations were studied.

RESULTS

European environmental health policy arrangement

Discourses. Environmental health has been developed, over time, as an increasingly important issue within sustainable development. Sustainable development was set on the international political agenda by the Declaration of the United Nations Conference on the Human Environment (1972) emphasising

the interrelationship of human activities and their impact on the biosphere and, in turn, the interdependence of human beings and the environment. The environmental health policy discourse and policy frame in Europe was initially set by the European Commission and the World Health Organization Europe (WHO-Europe). Since the introduction of environmental health on the European level it has been defined by the WHO-Europe as *“those aspects of human health and disease that are determined by factors in the environment. Environmental health includes both the direct pathological effects of chemicals, radiation, physical and biological agents, and the effects (often indirect) on health and well-being of the broad physical, psychological, social en aesthetic environment, including housing, urban development, land use and transport”*.¹¹ This definition excludes behaviour not related to the environment, but includes the social and cultural environment and genetics.¹² Although the definition is holistic, in practice, traditional environmental health research has been characterized by a chemical-by-chemical approach, focusing on a single media, a single source and a single toxic endpoint. By the 1980s, a new European trend was emerging. Special attention was given to transboundary issues like acid deposition and the pollution of river basins but also to global problems linked to possible climate change.

At the Helsinki Ministerial Conference (1994), the integration discourse was set out and contained an acknowledgement of (i) the need for closer co-operation between the health, environment and research areas in order to develop a community system that integrates information on the state of the environment, the ecosystem and human health, (ii) the importance of institutionalizing environmental health as a policy domain and (iii) the intent to improve co-operation between the European, national and local level processes.

Inspired by the Aarhus Conference on the ‘Environment for Europe’ (1998), the discourse of stakeholder involvement was set out in environmental health matters during the London Ministerial Conference (1999). This discourse reflects the call for (i) an effective public access to information, (ii) an improvement of the

communication and public participation and (iii) access to justice for the public in environment and health matters.

Due to the increased awareness of the complexity of environmental health problems, by 2003 the European Commission was taking into account cocktail effects, combined exposures and their cumulative effects, in their Strategy on Environment and Health. The implications of this new framing were multiple including the fact that integrated monitoring and data collection process became necessary.

At the Budapest Ministerial Conference (2004), the special vulnerability of children and reproductive health to environmental threats was made explicit. The discourse 'environment, health and children' is elaborated into documents such as the Children's Environment and Health Action Plan for Europe (CEHAPE).¹³

To conclude, within the environmental health history three major discourses can be distinguished: (1) integration, (2) stakeholder involvement and (3) children.

Actors. The newly emerging environmental health discourse resulted in an establishment of suitable institutional arrangements in Europe to strengthening collaboration on the health aspects of environmental protection. The key players at the European level have been the European Commission and WHO-Europe. The European Centre for Environment and Health (WHO/ECEH) had been set up within the structure of the WHO Regional Office for Europe to review the impact of environmental factors on human health in Europe. Related to the global character of most environmental health problems, the European arrangements cooperate with the UN Environment Programme, the UN Economic Commission for Europe etc. The European Environment and Health Committee (EEHC), was set up in 1994 to (i) help ensure the implementation of the Environmental Health Action Plan for Europe (EHAPE); and (ii) to serve as a steering committee for the Ministerial Conferences on Environment and Health. EEHC is an important driver of the environment and health process. The EEHC brings together representatives

from national ministries, intergovernmental organizations, the European Commission, EEA, WHO, UNECE and UNEP. Through the stakeholder involvement discourse, its membership was to include representatives of civil society (i.e. ECO-forum, Health and Environment Alliance, World Business Council for Sustainable Development etc). Whereas, the children and environmental health discourse called for youth representation on the EEHC.

A Consultative Group on Environment & Health has assisted the European Commission in the environmental health decision-making process. This Consultative Group consists of environment and health experts from Member States, Acceding Countries, the Commission's Joint Research Centre, the European Environment Agency, European Food Safety Authority, representatives from WHO, the medical community, NGOs, consumer organisations and industrial sectors.

Resources and Rules of the game. At the European level, in its Article 152 and 174, the Amsterdam Treaty provides legal provisions for Community action in the field of Environment and Health. In response to growing concern about the state of the environment and health, the Environment and Health Process for Europe (EHPE) was launched by WHO-Europe in 1989 marked by a series of five-yearly ministerial conferences to strengthen collaboration and to shape European and national agendas on health and environment.¹⁴ The EHPE process and the European Charter on Environment and Health comprise the backbone of the European environmental health policy context.¹³ A resolution on health and the environment was adopted in 1991 to take steps to gather knowledge and experience of the relationship between health and the environment and to improve environmental health management tools such as the Environmental Health Action Plans. These action plans aimed to avoid the duplication of efforts by international bodies and suggested coordinated actions in order to make the

best use of limited resources, both nationally and internationally. Given the size and complexity of environment and health issues, in 2003 the European Commission adopted an EU Strategy on Environment and Health ("SCALE initiative"), a policy framework to scale up efforts to protect human health and reduce diseases caused by environmental factors in particular the most vulnerable groups in society, children. Reflecting the integration discourse, the Strategy proposed a closer co-operation between the health, environment and research areas as well as developing a community system that integrates information on the state of the environment, the ecosystem and human health. This policy framework also requested the integration of all stakeholders in order to ensure efficient implementation of the strategy. The European policy was to be based on science, drawing together knowledge from a wide range of networks of stakeholders from member states, international, non-governmental and consumer organisations. The European Strategy also emphasized the children's discourse because of this group's higher vulnerability and the related economic impact of such interventions. The EU Strategy was followed up by the European Environment and Health Action Plan 2004-2010 which proposes an Integrated Information System on Environment and Health as well as a coordinated approach to Human Biomonitoring between Member States which was to render the assessment of the environmental impact on human health more efficient. The European Environment and Health Information System (ENHIS), a web-based portal co-funded by the European Commission and coordinated by WHO-Europe was set up in 2004. Because the European Commission advocates evidence-based or scientific based decision-making, the EU funds environmental health research in their Framework Programme for Research and Technological Development since 1994 (FP4).

Flanders Environmental Health Policy arrangement

In Belgium, three episodes within environmental health policy development can be distinguished: (1) ad hoc policy until 1998; (2) agenda setting from 1998 until 2002; (3) the implementation of the Flemish Medical Environmental Network and NEHAP since 2003. The analysis of the dimensions of the Policy Arrangement Approach will take these episodes into account.

Actors. Until the mid nineteenth century, less attention was paid to environmental health topics. In the 1960s and 1970s the awareness of environmental pollution as a topic of concern increased and many environmental non-governmental organizations were established (BBL and Greenpeace in 1971). Inspired by the increased international discourse on environmental health, the NGOs tried to draw attention to environmental health. Structurally, due to the federalization of the Belgian State, the power to make decisions about environmental and health issues had been left in the hands of the Regions and the Communities respectively. In Flanders, environment and health portfolios were allocated to separate Ministries which hampered the development of integrated policies in a comprehensive and coordinated way.¹⁵

The commotion generated around the possibility that the high dioxin deposition of two municipal waste incinerators in the neighbourhood of Neerland was causing congenital abnormalities created the opportunity to rethink current affairs about environmental health. An ad hoc Flemish Parliament Commission on Environmental Health was established and the resulting policy document 'Environment and health' framed by the minister of public health gave the green light to institutionalise environmental health into the governance structures and led to the development of a Flemish Medical Environmental Network. The Flemish Medical Environmental Network is a three-level construction which consists of local environmental health experts, the Flemish Health and Environment Government and the Centre of Expertise for Environment and Health. At this

Centre, environmental health experts from all Flemish universities and two research institutes jointly investigate the complex relationship between environment and health. The most important advisory bodies involved from the Flemish Government are the Flemish Health Council and the Environment and Nature Council Flanders.

In order to address and coordinate environmental health actions between the Regions and the Communities, federal interministerial meetings have been organised. The Federal Public Service Health, Food Chain Safety and Environment was set up after the dioxin crisis that shocked the Belgian population in 2001 with the goal of supporting the Federal government on transboundary issues like climate change and product policies. The Scientific Institute of Public Health and the Superior Health Council was established to carry out research on policy-supporting matters and issue advisory reports. To implement and monitor NEHAP in Belgium, the Joint-Interministerial Conference on Environment and Health was supported by the Cell Environment-Health which includes a representative from each ministry for the environment and each health ministry.

Discourses. In the nineteenth and twentieth century, the attention paid to environmental health topics was limited to hygiene, the prevention and reduction of epidemics and healthy work place environments. Moreover, until the 1990s, environmental health was not explicitly mentioned in Flemish policy documents. Environmental health as a policy field was characterized as an ad hoc policy field where agenda setting was based on crisis and not as a result of a structured forward thinking agenda. The Cadmium crisis, nuclear energy, and toxic chemicals were all crises that drove policy formation. Although there were repeated opportunities to act, the National Institute of Hygiene and Epidemics, the Belgian Ministry and the Superior Health Council missed the opportunity to develop an integrated environmental health policy with a clear vision and well defined health targets.¹⁶ Another obstruction at that time was the fact that the

health policy domain was based on an individualistic and curative approach and the environmental policy on an ecocentric approach. Therefore, despite the European integration discourse, there was neither vision and cooperation nor coordination between the separate policy domains in Flanders/Belgium.

The establishment of an integrated environmental health policy based on structured agenda setting came about quickly in the wake of environmental crises and the international sustainability discourse. The integrated policy document 'Environment and health' (2001) marked an effort to institutionalise environmental health into the governance structures. Instead of developing a new and isolated environmental health policy field, the philosophy was to emphasize the integration of environmental considerations within public health policy and vice versa based on committed cooperation and coordination between these policy fields. The main principles of the Flemish environmental health policy have been: (i) science-based or evidence based, (ii) the precautionary principle and (iii) stakeholder participation. To institutionalize these principles, a Flemish Medical Environmental Network was established. The Centre of Expertise for Environment and Health prefers biomonitoring as a scientific methodology when conducting risk assessments and doing risk modelling. Related to biomonitoring, Flanders acts as a pioneer to assess exposures of the general population to chemicals found in the environment. At international forums, Flanders advocates this methodology.

Rules of the game. Environmental health policy is determined by (i) commitments made at the European ministerial Conferences on Environment and Health, (ii) European legislation, (iii) coordination agreements on the national Belgian level together with the Regions and Communities and (iv) agreements between Flemish policy domains.

As a member of WHO-Europe, Belgium is committed to the agreements made at the European Ministerial Conferences on Environment and Health. As such Belgium had to draw up a National Environmental Health Action Plan at the latest by 1997. Due to a number of institutional reforms of the Belgium State, the development process of NEHAP was only started in 2000, after the formation of a formal ministerial conference that was made responsible for the coordination of the plan and the establishment of the Health and Environment Steering Group/Committee which brought together the various public actors who are potentially involved in the environment and health. The Belgian NEHAP was launched in 2003. A cooperation agreement, signed on 10th December 2003, established the rules for concerted action between all the partners, provided a framework for joint action, facilitated a multi-disciplinary approach and realized financial support for projects and actions which contribute to the improvement of health and/or the environment in the country. Thereby, this cooperation agreement facilitates the practical implementation of NEHAP.

Since federalization, the Regions are authorized for Environment and the Communities are authorized for public health. Because environmental health problems are not limited in space, the coordination within Belgium is organised by federal interministerial meetings. The cooperation agreement of 10th December 2003, set out the establish collaboration between the Federal State, the Regions and the Communities in the areas of the environment and health. The Joint-Interministerial Conference on Environment and Health (JICEH) was established in 2001 and brings together all of the competent ministers in the fields of the environment and health.

On the Flemish level, a Flemish Parliament Act on preventive health policy, adopted in 2003, enabled the Flemish health authorities to take initiatives to prevent environmentally-related illnesses caused by both indoor and outdoor sources, involving physical, chemical and biological factors. As such, more attention was given to preventive public health within the health policy. The Act's

basic principles are informing the public, taking measures to reduce emissions based on the precautionary principle, and responding to complaints about pollution in buildings and in the atmosphere. In 2004 the Flemish Medical Environmental Network was established to prevent health problems due to environmental pollution, to trace potential threats as fast as possible and to allow full participation. The main task of the Centre for Expertise for Environment and Health is the human biomonitoring project, focusing on three different target groups: newborn babies, adolescents and adults in eight areas of Flanders.¹⁷

Resources. Due to federalization, the federal state lost its authority and at the same time the knowledge and expertise of civil servants who had experience dealing with environmental health related issues was lost as well. While embracing the issues of sustainable development and climate change, the federal government has been slowly reconsolidating its position. In particular, two Flemish departments are involved with addressing environmental topics, the Department of Environment Nature and Energy and the Department of Welfare Public Health and Family. The power is not divided equally between these departments. For example, in 1997 a Minister of Health took issue with a politically sensitive incineration issue. It was also a Minister of Health who had taken the initiative to write an integrated Environmental Health policy document in 2001. However, at this moment, the impression is that the Environmental Department makes more investments in environmental health issues. The Centre for Expertise for Environment and Health can be used as another example. The Centre is under the supervision of a steering group consisting of representatives of the environmental and health governmental institutions. The experience of the members of the Expertise Centre was that during the initial programme period (2001-2006) the civil servants related to the public health department were more involved and interested; however, in the second period (2007-2011) it seems the opposite case was true. This experience is confirmed by financial statistics data.

The Centre for Expertise for Environment and Health is financed by the Department of Economy, Science and Innovation and co-financed by the authorized ministers. During the second period, the Environmental Department co-financed 200.000 Euros versus the 100.000 Euros given to the Health Department. That said, both departments have only a handful civil servants, the decentralized environmental health experts excluded, responsible for dealing with environmental health issues, but both have the disposal of advisory councils. Given this governmental situation it is through the financing of universities and research institutions in the form of Expertise Centre that scientists have a greater possibility to influence and determine environmental health policy in Belgium.

Environmental Health Policy arrangement in UK

Actors. In 1948 the National Health Service (NHS) was established and since that time the health system in the UK has gone through many incarnations. In the 1950s the focus was on establishing command and control of health provision in Great Britain. Once a foothold was established the 1960s were characterized by the expansion of the health services and in the 1970s the growing complexity of the health system lead to a decade of consensus management and partnership building.

While the environment was gaining attention within popular culture in the 1960s and 1970s, the idea that the health of the population could be impacted by environmental factors was not reflected in the UK nor the discourses produced during this era.

Generally, however, it came to stand that issues relating to health and the environment were not a national but rather a regional concern: *"in regard to prevention, the health service was crucial to dealing with biological and health life-style issues; local authorities, on the other hand, were concerned with the environment and non-health life-style issues (which usually resolved into control and inspection functions)".*¹⁸

Particularly from the 1960s through the 1980s community organizations played an important role in identifying and preventing health-threatening hazards. A 1984 study found that community groups “engaged in a variety of activities including research, public education, demonstrations, lobbying, and legal action” and that “most groups reported extensive and helpful interactions with scientists or health professionals”.¹⁹ These same groups reported however, problems “in obtaining information from local health officials, other government agencies, and industry”.¹⁹ Today the role of active citizens and ‘lay epidemiologists’ is not as critical as it was during these earlier periods of health service development. In the 1990s, the Health Improvement Programmes (HimP) highlighted the delegation to Local Authorities to “promote the economics, social and environmental well-being of their areas” by adopting the Agenda 21 action plans for sustainable development and to actively develop health provision partnerships across regional and national bodies.²⁰

The actors in the environmental policy field are from academia, business/industry, environment ministries, health ministries, local authorities, the media, non-governmental organizations (NGOs) and professional organizations.^{15,21} Other agents that are coming on the scene include parliamentary groups, such as the one proposed by the Chartered Institute of Environmental (CIEH). On the local level, agents important to the process include Environmental health practitioners (EHPs) who work in conjunction with other public health professionals, such as doctors and community nurses active on both local and national levels.

Discourse. In the UK it was not until the late 1980s that issues of health inequalities and the importance of environmental determinants of health were put back on the national public health agenda, in particular by the Black Report of 1980 and the Acheson Report in 1988. One finding was that the social, built and natural contexts within which people live, work and recreate impact their health.

Although environmental health was structured fragmentarily, this topic was already well understood and documented by practicing environmental health officers (EHO) who were working on issues such as “overcrowding, food hygiene, health and safety at work and the infinite effects of pollution in our environmental”.²²

Within the context of public health, the framework most often invoked and elaborated upon which makes a connection between health and the environment was the Dahlgren and Whitehead’s model²³ of the determinants of health, which includes natural and built environments as places health promotion within the meta-context of the global ecosystem. However, although discourses were starting to be produced by the Health Protection Agency (HPA) and the National Health Service (NHS), in the arena of politics and economics there was a clear lack of integration between public health and development agendas and therefore environmental health concepts were not being taken into consideration.²⁴

It was during the 1990s when the UK worked to develop its National Environmental Health Action Plan (NEHAP) that the discourse of environmental health was clearly established and continues to stand today as one of the central conceptual frameworks through which government addresses these issues. By the mid-1990s there was a growing effort to bring more cohesion to issues of environment and health in the UK. This was marked by a series of initiatives taken by Environmental Health departments such as the responses to ‘Agenda 21’. Part of this cadre of documents was also the ‘Green Paper: The Health and the Environment’, a consultative document designed to seek consultation and build partnerships or ‘health alliances’ with stakeholders in order to work on selected areas of environment and health concerns. The objective was to improve the quality of the natural and built environments in order to protect and promote the ‘health of the nation’.²⁵ Nevertheless, within the Health of the Nation document, the main strategy for health provision in the UK, did not include the environment as one of the key areas to be targeted as important for preventing serious illness.

Behind the scenes the Government was reported by some as reluctant "*to acknowledge social, environmental and economic factors (particularly inequality and poverty) as major causes of ill-health limited the potential of the strategy*".²⁰ Within this climate, the UK NEHAP was seen to offer an "*overview of the provision of environmental health in the United Kingdom [and] showed how current arrangements were ... helping to deliver improvements and set out a range of actions to deal with identified problems or to secure improvements in environmental health*".¹⁵

Despite criticisms, one of the key aspects of the UK environmental health discourse is that it centers around responses to the UK strategy on sustainable development, 'Securing the Future'. Proponents of using this document as a key public health text suggest that this is '*a new paradigm*' that should be mainstreamed within public health in the UK.^{26,27,28,29} The central point made when proposing the mainstream use of this model is that "*the economic, social and environmental characteristics of a sustainable society are the same as those of a healthy society*".²⁷ Examples used to support this claim include the notions that "*well-planned communities, including ready access to nature and biodiversity, improve physical, psychological and social well-being, especially for vulnerable groups, including those with mental health problems, and reduce crime, as well as minimize unnecessary demands on finite natural resources*".²⁷

In 1997 there was a change of government and the new Labour government appointed its first Minister for Public Health and published a document to replace the 'Health of the Nation' titled 'Saving Lives: Our Healthier Nation' (OHN).²⁰ A key difference between the discourses developed within the two documents was that the later acknowledged that contextual factors, specifically social issues such as poverty, generate significant health inequalities. Therefore, while the target areas were much the same as the previous government's its frameworks of health intervention were different.

By the year 2000, however, the literature reflected an adoption of the notion of health and the environment as linked and the discourses were more about the technicalities of how to value and measure the links between health and the environment. As the 2000s have progressed, discourses in the literature have increasingly focused on the complexity of the issues and have begun to focus more explicitly on the technicalities, implications, levers and mechanisms through which the environment and health could and should be addressed. Recent years have also marked an increasing adoption and production of the coupled human-environment and environment-health discourses by governmental organizations such as the Department of Health (DOH), The Health Protection Agency (HPA), The Department for Environment, Food and Rural Affairs (Defra) and the new Department of Energy and Climate Change (DECC). One of the implications of this shift in leadership from the realm of civic society to government is that now the discourses being produced are done so within the context of political speak and are woven together with the mandates and agendas of the current government.

Discourses on governance are also increasingly addressing integration issues through discourses such as investigating the 'interrelationship' between systems and structures of governance. One of the central discourses in this effort has been the notion of an 'integration of perspectives' on a health situation rather than the production of a series of single. As Jeffery suggests, this should mean that issues such as *"climate change, future energy sources, poverty, water supply and sanitation and public health should all be seen as related and considered in a broad context that includes the vast differences between per capita use of resources between the developed world and the under-developed world"*.²⁹

Currently, a growing theme in environmental health in the UK are issues related to climate change, although many critics including the Royal Society suggest that the commitments that the UK government is making will not meet the targets it has set out to help ameliorate the effects of climate change and therefore the

impacts that fluctuations in global earth systems may have on human health and wellbeing. The discourses surrounding health and climate change are multiplying however, as new documents, mandates and policies are published. Integrating issues, such as linking climate change and environmental health, is still a key challenge faced by all.

Rules of the Game and Resources. The institutional dimensions of environmental health legislation in the UK take a range of forms that extend from information procedures and decision making through to the establishment and reinforcement of formal governance mechanisms. Historically, governmental acts that have initially addressed the links between health and the environment have been the UK's Public Health acts of 1936, 1961 & 1967. There are also related acts covering animal health, agricultural and Food Safety Acts which acknowledge the links between human, animal and environmental health. Clean air and transportation acts also address the links between environmental conditions and human health impacts. More specific environmental health legislation emerged as of the 1990s.

In the 1990s, while work on health and the environment was occurring nationally, internationally the EU was requiring that all member nations developed a National Environmental Health Action Plan (NEHAP). Within the UK all the national ministries contributed to the development of the national Action Plan.¹⁵ Many other organizations were also consulted including research institutes, universities, regional/ local authorities, NGO's and corporate industry.¹⁵ Stakeholders were invited to comment on the plan and of the 250 responses received most were from professional stakeholders with an interest in the process' implications.¹⁵ Unlike some of the other member states, the UK already had legislative, administrative and regulatory mechanisms in place, which enabled the UK to achieve the aims and standards of protection required of the NEHAP. Additionally, this enabled the UK to be the first country to publish a NEHAP in July 1996, to

host the Third Ministerial Conference on Environment and Health, to serve as a member of the WHO European Environment and Health Committee (EEHC) and on the WHO International Steering Committee for Evaluation of Environmental Health Policies and Action Plans (ISC). In contrast to the successes of the construction phases of the plan, however, the NEHAP itself was never implemented. The reason given for this is that the results of the 1999-2000 review of the NEHAP showed that the aims and functions of the NEHAP were already being fulfilled through other governance mechanisms, particularly the UK's sustainable development strategy 'A Better Quality of Life'.¹⁵ Critics of the UK approach suggest that the discontinuation of an explicit NEHAP and its subsumption within another policy field functions as a case of *"hid[ing] environmental health in a sustainability framework"*.¹⁵ More generally, a study on the relationship between EU and UK environmental health governance found that the EEHP, the document informing the development of the NEHAP, had only a few marginal and direct influences on the UK policy development process but several indirect yet constructive influences, including *"better cooperation between government departments, greater awareness of environment and health issues from an international perspective, and a higher political profile of environment and health issues"*.²¹ During a stakeholders consultation about the formation of NEHAP, a majority expressed that *"there had been a missed opportunity for closer working between all levels of UK Government departments and agencies with the introduction of the NEHAP. At a national level there was perceived to be an active engagement, but it was felt that there were other drivers of environment and health, not just the NEHAP. It was also noted that there was no implementation process attached to the UK NEHAP, and that this would have been beneficial at a regional and local level for the development of local action plans"*.²¹ The reasons given for the lack of direct impact or *"lack of an implementation process"* included that many European wide initiatives may have been superseded by domestic policy initiatives, the absence of effective

coordination and promotion strategies as well as a lack of appropriate indicators for measuring environmental health needs, progress and policy impact.²¹ Significant restructuring in the UK health system has also been occurring throughout this time. Shifts in health approaches taken by the Department of Health have also occurred following the 2005 public health white paper 'Choosing Health,' where the need to develop capacity and capability across the workforce was thought to include environmental health workers as key front-line public health workers.^{30,31}

Discussion

The central foci of this paper have been (1) to identify to what extent European discourses on environmental health have an effect on domestic public health policies in Belgium/Flanders and the UK and vice versa and what mechanisms trigger or hinder these effects and (2) to reflect on the development of the environmental policy arenas within these two European countries. Attention to the empirical rather than the theoretical elements of the development of the policy field has allowed for an introduction of the complexity of players, discourses, games and resources that are involved in shaping the newly emerging environmental health policy field and to some extent show the dynamics between those four dimensions of the policy arrangement approach.

At the EU-level, within the arena of global environmental health discourses three major discourses have emerged: (1) integration, (2) stakeholder involvement and (3) children. Next to those three major discourses, European policy documents also highlight complexity and evidence-based decision-making as important issues. Over time the complexity of environmental health issues has been appreciated and more attention has been given to cocktail effects and to the reality of multiple exposures. The evolution of environmental health discourses has had an impact on the other three dimensions considered within the PAA

model at the European level. With regard to actors, the development of environmental health has led to an increased integration of representatives of civil society and youth representation in the European Environment and Health Committee. In addition, to ensure science-based decision making on the one hand and stakeholder involvement within the decision making process on the other hand new organizations have also been developed to assist the decision-makers, most notably the European Centre for Environment and Health and the Consultative Group on Environment & Health. The development of an environmental health policy field has also had implications for governments and has led over the last thirty years to an increasing effort to ensure the close cooperation between the environment and health fields. To this end organizations such as the European Environment and Health Committee (EEHC) have been established and many interministerial conferences organized. However, as this study indicates, to ensure better cooperation between fields an integrated information system is necessary. The environmental health discourse has also resulted in new agreements, charters and legislation between the member states and the development of the European Environmental Health Action Plan and ENHIS.

When taking into consideration the ways in which the arena of environmental health has not only been shaped within the nexus of national/international dynamics but has also influenced how they are structured, it becomes clear that the transboundary nature of environment and health issues has resulted in the development of international pan-European policy actions and policy formation processes within the nation states. A complementary process has also emerged where the benefits flow from the national to the international arena as is the case when national policies benefit individual countries and help to improve the global situation, as was the case, for example, with the UK's process of developing its NEHAP where countries like Belgium took guidance from the UK's development process.

Research on the UK and Belgium shows that although both countries are part of the EU and are therefore responding to the same general charters and governance initiatives, the methods each nation uses, the resources available to them and the relationship that develop intranationally between existing public health structures mean that each nation responds to the demands and contributions of the EU initiatives differently. As a result, the production of very different approaches to environmental health governance has occurred in Belgium/Flanders and the UK. In the Belgium/Flanders case a top-down approach is dominant: downloading international discourses into domestic scenes. Although, the implementation of the international discourse and agreements at the national level has been a slow process in Belgium because their policies have been continually hindered by institutional difficulties and triggered by crises. The development of the Belgian NEHAP is a good example of this stalled process. Due to a number of institutional reforms of the Belgium State the development process of NEHAP was not commenced until 2000. The arena of biomonitoring is a clear exception to this downstream movement. Due to a series of environmental crises and the high degree of exposure to a large population living in the exposure area to a cocktail of pollutants, Flanders had developed an effective biomonitoring methodology that has been sought after by other nations and in this sense Flanders has acted as a pioneer in assessing exposures of the general population to chemicals found in the environment. The UK, on the other hand has demonstrated a high degree of responsiveness to the EU directives and a timely delivery of them, as was the case of the NEHAP. Follow up studies show, however, that the take up of some of these EU mandated initiatives is minimal as they pertain to the emerging arena of environmental health as the UK has developed a more inward facing approach to policy development and governance. In some cases this has been because the UK was already in the process of developing environmental health policies and practices and found it preferable to simply repackage them for the EU. A point of correspondence in both cases -

Belgium/Flanders as well as the UK – is the link of the emerging environmental health policy arena to sustainability discourses. In both nations this has had both detrimental as well as constructive results. For example, in the UK there is a critique that the dominance of the sustainability agenda within health arenas has generated a lack of support for an explicit environmental health movement as an entity in its own right. However, as the Flanders study illustrates, the introduction of the 'sustainability' discourse has also meant that governments have had to acknowledge the interdependence of human beings and the environment as this is a principle of sustainability. This conceptual embrace has translated in the political arena into increased attention being paid to the notion and importance of environmental health as part of a sustainable future.

The policy arrangement approach (PAA) offers tools to explore states of stability and change within the newly emerging environmental health policy field. This study has found that the new and changing discourses on environmental health on the European level reproduce and transform institutions on the national level and vice versa by changing and developing new rules, legislation, power relations and actors. The conclusion is therefore that discursive changes do have an effect on institutional features. Key changes that have been noted include: i. evolving definitions of 'environment' as a concept, ii. changing notions about how the environment operates as a determinant of health, iii. evolving health promotion structures and systems both on the EU as well as on the national levels, iv. shifting ideas about what aspects of the environment are detrimental to health and related to this various degrees of data which explains not only relationships of causality but also identifies mechanisms and impact pathways.

A more in-depth analysis of this material in the future could enable an investigation of which types of actions are likely to produce texts that leave traces and act, therefore, as organizing mechanisms across individual situations.⁴

Texts leave traces when they are “taken up”³² or in other words as they go through successive phases of “textualization”³³ by being disseminated among multiple actors. One reason that this paper claims that environmental health is a new and emerging policy field is that in many cases discourses about the importance of the environment to health have not been textualised within mainstreamed public health arenas. The converse situation is also true in that within many environmental arenas, notions about public health still do not figure prominently in environmental discourses or strategies. Future research that will elaborate on this initial study will be based on in-depth interviews with the main stakeholders as this will enable a tracing of which actors are advocating which discourses and with what effects. Presented here, therefore, is a preliminary and exploratory study as it is based primarily on policy documents which are, in a sense, surface reports of what are in practice, long and detailed policy development processes. In-depth interviews will illuminate much more about the process, advocates and opponents, as well as the arguments used to convince other actors to become involved in the development of the newly emerging environmental health policy arena, an arena whose importance grows steadily as humanity faces increasingly serious environmental health challenges that are both national and transnational in consequence.

Ethical Approval

Nothing to declare

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Competing Interests

Nothing to declare

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