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Multi-Sectoral Approach to Noncommunicable Disease Prevention Policy in Sub-Saharan Africa: A Conceptual Framework for Analysis

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Abstract

Conceptual frameworks for health policy analysis guide investigations into interactions between institutions, interests, and ideas to identify how to improve policy decisions and outcomes. This review assessed constructs from current frameworks and theories of health policy analysis to (1) develop a preliminary synthesis of findings from selected frameworks and theories; (2) analyze relationships between elements of those frameworks and theories to construct an overarching framework for health policy analysis; and then, (3) apply that overarching framework to analyze tobacco control policies in Togo and in South Africa. This Comprehensive Framework for Multi-Sectoral Approach to Health Policy Analysis has 4 main

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constructs: context, content, stakeholders, and strategies. When applied to analyze tobacco control policy processes in Togo and in South Africa, it identified a shared goal in both countries to have a policy content that is compliant with the provisions of international tobacco treaties and differences in strategic interactions between institutions (e.g., tobacco industry, government structures) and in the political context of tobacco control policy process. These findings highlight the need for context-specific political mapping identifying the interests of all stakeholders and strategies for interaction between health and other sectors when planning policy formulation or implementation.

Keywords
health policy analysis, sub-Saharan Africa, tobacco control

Noncommunicable diseases (NCD) are a major public health problem undermining social and economic development throughout the world, particularly for low- and middle-income countries. Indeed, the World Health Organization (WHO)[1] determined that (1) of the 56.4 million global deaths in 2014, 39.5 million, or 70%, were due to NCD; (2) more than 40% (17 million) of the deaths due to NCD were premature deaths before the age of 70 years; (3) the most prominent NCDs are cardiovascular diseases (45% of all NCDs deaths), cancers (22%), chronic respiratory diseases (10%), and diabetes (4%); and (4) these share 4 major behavioral risk factors, namely tobacco use, unhealthy diet, physical inactivity, and harmful use of alcohol. The WHO[1] also estimated that 75% (30.7 million) of the global deaths and 82% of premature deaths due to NCD in 2014 occurred in low- and middle-income countries and, if "business as usual" continues, the total annual number of deaths from NCD will increase to 55 million by 2030. Among the 4 modifiable risk factors mentioned above, tobacco use is the world's leading preventable cause of death. Here, the WHO[1] indicated that (1) tobacco kills nearly 7 million people each year, of which more than 600 000 are nonsmokers dying from inhalation of environmental tobacco smoke; (2) if no action is taken, tobacco will kill more than 8 million people every year by 2030, more than 80% of them among people living in low- and middle-income countries; and (3) there are over 1.1 billion smokers in the world, and cigarette smoking is the most common form of tobacco use worldwide.

Despite wide dissemination of evidence-informed, population-based preventive interventions to address modifiable risk factors (for a notable exception see Juma et al.[2]), little systematic work has been done to analyze NCD prevention policies in sub-Saharan Africa. The 2011 United Nations Political Declaration on the Prevention and Control of NCD[3] recognized prevention must be the

cornerstone of the global response to NCD (paragraph 34) and acknowledged the need for a multi-sectoral approach including all government levels to comprehensively and decisively address risk factors and underlying health determinants (paragraph 42).

Engaging in multi-sectoral actions for health is done using 3 primary approaches:[4] inter-sectoral action, healthy public policy, and health in all policies. Inter-sectoral action, proposed by the Alma Ata Declaration,[5] involves efforts by the health sector to collaborate with other public policy sectors to improve health outcomes. The Ottawa Charter[6] introduced healthy public policy, which involves an explicit concern for health in all areas of public policy through accountability for health impact. Health in all policies,[7] a major theme during the Finnish presidency of the European Union, is defined as "an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity."

Public policy emerges from the interplay between institutions, interests, and ideas.[8] Health policy is a subset of public policy and can be understood as the courses of action (and inaction) that affect the sets of institutions, organizations, services, and funding arrangements of the health system.[9] Health policy determinants are the outcomes of actions within and between sectors, at the local, regional, provincial, national, and global levels, that influence the social and economic landscape, which in turn influences the population's health and wellbeing. The study of these determinants requires a multidisciplinary approach to public policy making and therefore aims to explain interactions between institutions, interests, and ideas in the policy process.[9] Frameworks and theories are key approaches to understand these dynamics. Frameworks help organize inquiry by identifying elements and the relationships among elements that need to be considered for theory generation; they do not, of themselves, explain or predict behavior and outcomes.[10] Theories are more specific than frameworks and postulate precise relationships among variables that can be tested or evaluated empirically.[10]

The study described here is a narrative review that sought to synthesize constructs identified in health policy analysis frameworks and theories to create an overarching framework for health policy analysis. The proposed Comprehensive Framework for Multi-Sectoral Approach to Health Policy Analysis was then applied to analyze tobacco control policies in Togo and South Africa.[2]

Methods

To identify and synthesize elements or constructs in the current health policy frameworks and theories, we used a narrative synthesis approach[11] that incorporated aspects of realist review. The process entailed a systematic review of

findings drawn from existing literature relying primarily on the use of words and text to summarize and explain findings.[11] From those tools we synthesized our framework using the following 4 steps:

- *Step 1:* We identified the scope of current frameworks and theories with a focus on those of public policy process and applicability to health policy. Manuscripts included in this review met the following criteria: papers published in English or French between 2008 and 2016, with focus on frameworks and theories of public policy process and applicability to health policy, and access to full articles. We identified 12 papers through Google Scholars and PubMed.
- *Step 2:* The authors reviewed each of the eligible papers to identify the frameworks and theories to be discussed, the stage(s) of the policy process they address (agenda/priority setting, formulation, implementation, evaluation, or other stage), and experiences of their use.
- *Step 3:* We included frameworks and theories in the final synthesis if they had ever been used for the analysis for public policy, regardless of the policy stage, and were or could be applied to guide health policy analysis.
- *Step 4:* After selecting the relevant frameworks and theories, we extracted data in the form of categories and elements of constructs from each tool, summarized all data, and then synthesized these into a single Comprehensive Framework for Multi-Sectoral Approach to Health Policy Analysis.

We applied the framework to an analysis of tobacco control policies in Togo and South Africa. This analysis was a part of the Analysis of NCD Policies in Africa study, which assessed multi-sectoral approaches for formulating and implementing the NCD prevention policies through case studies in 6 sub-Saharan African countries: Cameroon, Kenya, Malawi, Nigeria, South Africa, and Togo.[2] The multiple case study design employed in-depth investigation of implementation of NCD prevention policy in real-life context.[12] The research drew from various sectors selected using a combination of purposive and "snowball" sampling from domestic and international institutions and other interest groups based on their expected role in tobacco control policy formulation and implementation.[13] Study data were collected through document review and key informant interviews. The document review referred to the WHO recommended "best buys" interventions for reducing tobacco use to assess available legislations and regulations related to the formulating and implementing of tobacco control measures in South Africa and Togo. These policies were researched from government departments, international organizations, and nongovernmental organizations (NGOs). The identified policies were assessed with 4 policy variables, namely, policy content, policy initiator, policy actors, and policy instruments.[14]

The study participants were key informants who either participated or should have participated in the NCD prevention policy process. These individuals included senior decision makers in the selected sectors, such as department or division heads or program managers; heads of NGOs or other actors involved in NCD prevention programs or projects; or heads of private sector institutions or departments and programs within those institutions involved in NCD prevention.

To ensure optimal variability across relevant sectors and institutions, the study planned to organize in-depth interviews with up to 30 key informants in each country through a purposive sampling. A tracer technique was used to select index key informants, and a snowballing technique[13] was used to identify additional respondents during interviews with the index key informants. The key informant interviews were conducted with a semi-structured interview guide. The guide (available upon request) was developed with open- and closed-ended questions focusing on the tobacco control policy context, policy content, actors involved in the process, and the implementation status. In addition, data were collected on how a multi-sectoral action (MSA) was employed or not, the processes undertaken to ensure that it was followed, the challenges encountered, what worked, and what did not work. The operational definition of evidence of an MSA in this study is "involvement of any 2 or more sectors, one of which must be government." Sector involvement includes any institutions or interest groups involved in tobacco control policymaking, for instance, public sector or government (ministry- or cabinet-level organization); civil society (NGO, community-based organization, faith-based organizations); private sector (pharmaceutical company, other industry); research or academic institution (university); and bilateral or multilateral international organizations. The interviews were conducted at times and venues mutually agreed upon by the research team and participants. The chosen venues for the interviews were in private places free from distractions and other security risks. All interviews were conducted according to ethical guidelines, and most were recorded using a digital recorder. The interviews lasted an average of 60–90 min.

The study used a deductive content analysis approach, which is appropriate for policy-relevant qualitative data. This approach uses an analytical framework featuring key constructs and variables as initial coding categories.[15]

Qualitative codes to categorize responses were predetermined based on the Comprehensive Framework for Multi-Sectoral Approach to Health Policy Analysis. Therefore, the transcriptions were coded with the elements and indicators of this framework in mind. Nevertheless, the coding left room for other emerging themes outside the framework. Microsoft Excel 2010 software was used to organize data and analyze thematic content. The software was used to collate and consolidate the transcriptions and identify text linked with each content area and key themes using Giorgi's phenomenological approach,

which focuses on the experiences of participants with shared life experiences.[16] Data analysis and interpretation were iterative.

All study activities were reviewed and overseen by appropriate local ethical review boards in Togo (Ref: 682/2014/MS/CAB/SG/DPLET/CBRS)) and South Africa (HSRC Ref: 2/19/02/114).

Results

We identified 8 frameworks and 4 theories with multiple major constructs used for health policy analysis. Table 1 summarizes the constructs, strengths, and limitations of these frameworks and theories, ranging from a specific tool with a single identifiable construct[31] to a comprehensive tool incorporating up to 4 major constructs.[19] Our analysis identified no single tool that provides a comprehensive overview of the multiplicity of factors involved in health policy analysis. For example, the policy triangle framework[19] with its 4 constructs of context, content, process, and actors is the base framework for health policy analysis, particularly for analysis for policy formulation. However, it provides little construct of elements and indicators to assess factors needed to explain policymaking strategies. Such factors include the interplay between ideas, institutions, and interests; the equity lens; and the patterns of interactions between the health sector and other sectors in changing policy. As a result of these limitations, we constructed an overarching framework named the Comprehensive Framework for Multi-Sectoral Approach to Health Policy Analysis (Table 2). This overarching framework is built around 4 major constructs of context, content, stakeholders, and strategies.

Political *context* entails political changes or critical events at the national and international level that have influenced policy development, such as health sector reforms and fiscal policies, among others, as well as organizational changes, e.g., changes in government structure. The timing focuses on the timeline from the approval of a policy to the commencement of its implementation. The context includes historical factors, such as the historical origins of the policy, and social factors, such as an increase in the prevalence of NCD. The economic context entails the country's economic growth as well as the global and local financial situation and conflicting development agendas. Lastly, the technological and international contexts include the influence of information and communication technologies in the surveillance systems for notifiable conditions, as well as the global agenda on sustainable developments[32] with its targets of reducing mortality from NCD and achieving universal health coverage and access to quality health services and medications.

The second construct, *content*, examines the rationale for developing the policy, policy objectives, types of interventions (upstream, midstream, or downstream), population-level coverage (universal or targeted), implicit or explicit equity goals (improve the health of vulnerable groups, reduce health gaps

Table 1. Constructs of Key Frameworks and Theories of the Public Policy Process That Apply to Health Policy Analysis.

No.	Theoretical Frameworks	Construct Categories	Construct Elements	Strengths	Limitations
Frameworks					
1	Policy "Stages" Heuristic[17,18]	1. Problem recognition and agenda setting 2. Policy formulation 3. Policy implementation 4. Policy evaluation	1. Issue search, issue filtration, issue definition, forecasting 2. Objectives setting, options analysis 3. Implementation 4. Evaluation, succession/ termination	Useful and simple way of thinking about the entire public policy process. Helps researchers situate their research within a wider framework	Presume linearity to the public policy process that does not exist in reality. Postulate neat demarcations between stages that are blurred in practice
2	Policy triangle[19]	1. Content 2. Actors 3. Context 4. Process	1. Objectives and aims, assumptions, values, distributional impact 2. The state, the market, civil society 3. Situational factors, structural factors, cultural factors, global factors 4. Why do issues reach the agenda? Who formulate policy? How is policy implemented? What makes policies change?	Acknowledges the non-linearity but incremental nature of the policy making; helps to explore systematically the somewhat neglected place of politics in health policy; and can be applied to high, middle and low income countries More appropriate for analysis for policy making	Authors agree with some scholars[6,20] who argued that the policy triangle pays too little attention to other factors that explain why and how policies change. For instance, the interplay between ideas, institutions and interests, the equity lens and the patterns of interactions between the health sector and other sectors in changing policy
3	Framework for Health in All Policies[21]	1. Context of initiation 2. Implementation mechanisms 3. Interventions design	(1) (a) Social, economic and political context (relevance of welfare profile, timing, historical context	Appropriate for analysis of policy particularly for assessing the influences of institutions and	Lacks identification of stakeholders or assessment of how stakeholders engage in policy application

(continued)

Table 1. Continued

No.	Theoretical Frameworks	Construct Categories	Construct Elements	Strengths	Limitations
			and duration);(b) Policy change window;(c) International influences(2) (a) Vision of health and society;(b) Patterns of interaction between health care and other sectors;(c) Government tools and structures 1. (a) Entry point; (b) Equity lens; (c) Management styles	interest groups when the aim of a multi-sectoral action for health is to integrate a specific health concern into other relevant sectors' policies as it has been the case, for instance, for policy making on NCD prevention measures	
4	Policy networks[22]	Policy community (tight-knit networks with few participants who share basic values and share resources) Issue networks (brings together many different groups and individuals for a common purpose or cause, and may have little continuity in values or participation)	Network analysis reflects the phenomenon of shared decision-making and exchange of resources, among groups and individuals of an issue network, to achieve their goals	Useful to improve the definition of elements and indicators related to policy implementation while using a more comprehensive framework for policy analysis	Primarily applied to assess policy implementation
5	Collins framework (2004)[23]	Steps for public policy content analysis	1. Define the context; 2. State the problem;	Useful to improve the definition of elements and	Primarily applied to assess policy content

(continued)

Table 1. Continued

No.	Theoretical Frameworks	Construct Categories	Construct Elements	Strengths	Limitations
			3. Search for evidence; 4. Consider different policy options; 5. Project the outcomes; 6. Apply evaluative criteria; 7. Weigh the outcomes; and 8. Make the decision.	indicators related to policy content while using a more comprehensive framework for policy analysis	
6	The Advocacy Coalition Framework[24]	1. Relatively stable parameters 2. External (system events) 3. Policy subsystem	1. Basic attributes of the problem area (good), basic distribution of natural resources, fundamental sociocultural values and social structures, basic constitutional structures 2. Changes in socio-economic conditions, in public opinion, in systematic governing coalition, and policy decisions and impact 3. Coalition A (policy beliefs and resources), Policy Brokers, and Coalition B	Coalitions are groups of individuals and organizations with shared values, beliefs and resources. They cut across "central" versus "street level" distinction and are defined by their ideas (rather than self-interest). Policy brokers bring together coalitions and use this framework to try to reduce disagreements between coalitions, by understanding and explaining their beliefs and policy change	Has been primarily developed and used for analysis for policy-making in the energy and environmental sectors though some of its construct elements could help in health policy dialogue towards formulating sound policies in the health sectors

(continued)

Table 1. Continued

No.	Theoretical Frameworks	Construct Categories	Construct Elements	Strengths	Limitations
7	Shiffman and Smith's priority setting framework (2007)[25]	1. Actor power (the strength of the individuals and networks concerned with the issue) 2. Ideas (the ways in which those involved with the issue understand and portray it) 3. Context (the environment in which actors operate) (4) Issue characteristics (features of the problem)	1. Policy community cohesion, leadership, guiding institutions, civil society mobilization 2. Internal frame, external frame 3. Policy window, global governance structure 4. Credible indicators, severity, effective interventions	Complement the constructs of the policy triangle by giving more space for consideration of ideas and issue characteristics	Institutions are perceived as part of actor power; framework may neglect the importance and strategies of the institutions and interest groups in multi-sectoral approach to policy making
8	Howlett et al.'s Framework[26]	1. Ideas and Institutions 2. Interest groups	1. Lens for looking how policies are framed and presented 2. How changes in ideas or redefinition of issues affected interest groups	Complements the constructs of the policy triangle by including importance of knowing the power of the ideas in order to influence the ideas of the power in the policy making process.	Primarily applied to assess institutions and interest groups
Theories					
	Kingdon's multiple-	1. Problem stream 2. Policy stream 3. Politics stream	1. Indicators, focusing events, feedback (e.g., research, evaluations)	By arguing on both the independence of the 3 streams and the need for	Primarily applied to assess policy context

(continued)

Table 1. Continued

No.	Theoretical Frameworks	Construct Categories	Construct Elements	Strengths	Limitations
	streams theory[27]		2. Visible participants, hidden participants 3. Policy “entrepreneurs” or “brokers” building coalitions	them to merge to create windows of opportunity that allow governments to act, Kingdon’s theory emphasizes the need for researchers, policy makers and policy entrepreneurs to see policy as both as an output and a process of decision-making	
10	Punctuated equilibrium theory[28]	Policy image (the way in which a given problem and set of solutions are conceptualized Policy venue (the set of actors or institutions that make decisions concerning a particular set of issues)	Periods of “stability” and incremental change with interruptions of crisis and more major changes	By arguing that the policy process is constituted both by stability and change, rather than one or the other alone, the Baumgartner and Jones’ theory (like Kingdon’s theory) exhorts researchers, policy makers and policy entrepreneurs to be proactive and alert because the prevailing policy image may be challenged and the monopoly power of the policy venue may face competitions.	Primarily applied to assess policy formulation

(continued)

Table 1. Continued

No.	Theoretical Frameworks	Construct Categories	Construct Elements	Strengths	Limitations
11	The "top-down" multiple implementation theory[29]	Public policy decision making process	a. Policy implementation is seen to be what takes places after policy making is completed; b. Policy is communicated hierarchically and usually belongs to policy makers at the "top"	Useful to improve the definition of elements and indicators related to policy implementation while using a more comprehensive framework for policy analysis	Narrow scope with more focus on policy implementation
12	The "bottom-up" multiple implementation theory[30]	Public policy decision making process	a. Shifts concern from the center to the periphery; b. highlights role of "street level bureaucrats"	Useful to improve the definition of elements and indicators related to policy implementation while using a more comprehensive framework for policy analysis	Narrow scope with focus on policy implementation

Table 2. Comprehensive Framework for Multi-Sectoral Approach to Health Policy Analysis.

No.	Categories	Elements	Indicators
1	Context	Political context	• Political changes or critical events at the national level that have influenced policy development • Health sector reforms, fiscal policies among others • Organizational changes (e.g., government structure)
		Timing, historical/ social factors	• Timeline of policy development • Historical origins of the policy, including what issues it meant to address, and how issue identification has evolved over time • Other global factors that have influenced policy development and how they influenced it • Any social factors (e.g., increase in prevalence of NCD)
		Economic context	• Country economic growth • Global and local financial situation and conflicting development agendas
		Technological factors	• Technological factors that have influenced policy development
2	Content	Policy interventions	• Specific NCD prevention policies developed • Which WHO best buy interventions were included • Rationale for developing the policy • Type of interventions (upstream, midstream, or downstream) • Population level coverage of the interventions (universal or targeted) • Implicit or explicit equity goals (improve health of vulnerable groups, reduce health gaps, flatten social gradient)
3	Stakeholders	Institutions (including rules, laws, norms and customs) and interests that led the process of developing health policies	• Government sector/department that led the process • Other sectors that were involved • Levels of government involved (national, local) • Existence of governance structures for multi-sectoral action at different levels (central government, parliament, and civil

(continued)

Table 2. Continued

No.	Categories	Elements	Indicators
			service), their participation in and experiences with these structures • Civil society organizations and private entities involved • Role of sectors involved in formulation (funding meetings, provision of technical assistance)
		Formulation	• Extent of participation in policy formulation • Experiences in policy formulation (what went well, and what could have been done differently) • Interests and concerns with the policy process, how these may have influenced their participation and how these were addressed • Relevant institutions not involved in implementation
		Implementation	• Key sectors/actors involved in the implementation • Their role in the implementation • Relevant institutions not involved in implementation • Benefits of involving many actors in implementation • Challenges of involving many actors in implementation
4	Strategies	Formulation	• Extent to which the visions held by the health sector, by other sectors and by the ruling party are complementary, comprehensive and coherent • Means of engagement of other sectors, such as consultations, workshops, or meetings • Patterns of interaction between health and other sectors • Factors that contributed to successful engagement of other sectors • Benefits of involving different sectors in formulation process • Challenges encountered in the process

(continued)

Table 2. Continued

No.	Categories	Elements	Indicators
		Implementation	• Extent of implementation of the best buys and how implementation is proceeding • Government management styles: • Horizontal integration • Vertical integration • Mix of horizontal and vertical • Any gaps in implementation, the constraints and enabling factors to the implementation process • Future plans for implementation of the best buys • Mechanisms for monitoring and evaluation
		Funding	• Funding available for implementation of each policy • Sources of funding • Amounts • Funding arrangements such as joint budgeting and delegated financing aimed at addressing supply or demand
		Facilitating factors	• Factors facilitating working together of different sectors
		Hindering factors	• Factors that have hindered working together of different sectors
		Recommendations	• Recommendations and suggestions on how to make multi-sectorality better in the future • Mechanisms and structures through which multi-sectoral can be enhanced

Abbreviation: NCD, noncommunicable disease.

between the most and least vulnerable groups, or flatten the social gradient in health across the entire population), and mechanisms through which the policy is actualized.

The third construct, the policy *stakeholders*, assesses the roles of the key actors from government structures as well as domestic and international institutions and interest groups that have a stake in the formulation and implementation of NCD prevention policies. The government structures include those at the national executive level (executive, cabinet committees, government

ministries), the national legislature (e.g., parliamentary committees), the judiciary, and local-level politics.

Strategies, the fourth construct, links to the first 3 because it assesses how stakeholders make intentional choices maximizing benefits in a given policy context and content. We chose the word *strategies* instead of *process* deliberately, to clarify that each application of health policy involves stakeholders making intentional choices to maximize the benefit they are seeking; they are not merely following static steps or processes.

Application of Comprehensive Framework for Multi-Sectoral Approach to Health Policy Analysis

To test the applicability of the Comprehensive Framework for Multi-Sectoral Approach to Health Policy, we applied it to analyze data collected from case studies on tobacco control policies in Togo and in South Africa from 2014 to 2016.[2]

For *content*, the main findings were that South Africa and Togo passed comprehensive national legislations on tobacco controls, which are almost compliant with the WHO Framework Convention on Tobacco Control[33] they both ratified in 2005. Togo passed one bill for tobacco control in 2010, whereas South Africa required 4 incremental pieces of legislation between 1993 and 2009. In South Africa, there were time-gaps between approval of an act, the president's assent, the publication in the government gazette, and proclamation of commencement. In Togo all these 4 actions were taken almost concomitantly. In both countries, tax increases on tobacco were the most difficult "best buy" interventions to adopt and implement.

Regarding the political, historical, social, and economic *contexts*, findings from the study reveal that the contextual factors in both countries were dissimilar. South Africa is an upper middle-income country with tobacco leaf producers, firms, and tobacco manufacturing companies, while Togo is a lower middle-income country, hosting only some tobacco retailers. In South Africa, prior to 1993, the political, historical, and social contexts of the tobacco control policy were characterized by a lack of government interest because the tobacco industry was dominated by white, Afrikaans-speaking South Africans with close ties to the apartheid government. When, in 1994, Nelson Mandela came to power with the first democratic elections, the change in political landscape enormously helped the cause for tobacco control. The African National Congress, the new ruling party, had no alliance with the tobacco industry and had much stronger commitment to effective tobacco control, particularly since Nelson Mandela had consistently voiced his strong support for anti-smoking legislation and was on record as having called for a "world free of tobacco."[20] Likewise, Nkosazana Diamini-Zuma, Mandela's minister of health, was known to be strong-willed and determined, and she was also on record for requiring

smoke-free cabinet meetings.[20] In Togo, unlike in South Africa, tobacco control was not an issue of "high politics," so it was relatively easy to merge the problem, policy, and politics streams and to convince the government to act. Both countries' health ministries leadership took inter-sectoral approaches to tobacco control policies; however, neither country's approach permitted significant interactions between the health sector and other important institutions and stakeholders. As a result, the predominant pattern of relationship found in both countries was mainly information sharing, and the result was low implementation of tobacco policies.

Considering stakeholders, actors from the critical 3 sectors of the state – namely, public sector (government), private sector, and civil society[34] – were involved in policymaking on tobacco control in both countries. The governments, through the departments of health, led the process in both countries and had support from civil society organizations to overcome barriers from the private sector. However, involvement and support of stakeholders from the research institutions and civil society organizations were more diverse, proactive, and dynamic in South Africa than in Togo. Indeed, although the health department led the process in both countries, the research institutions and civil society organizations played a much greater role in South Africa than Togo. In both countries, the justice, law enforcement, and media sectors, who considered themselves key stakeholders, felt left out in the policy formulation process, especially when they were later called to act in policy implementation. Other sectors mainly involved in the implementation also stated that they should have been involved at the formulation stage.

The study found the strategies employed in tobacco control policymaking more straightforward in Togo than in South Africa. Indeed, in a low political context, with readily available evidence provided mainly by the WHO to the health department, policymakers in Togo managed to overcome resistance from the representatives of the tobacco and hospitality industry and persuade the parliament to pass a tobacco control law almost compliant with the WHO Framework Convention on Tobacco Control (FCTC):[33] health warning pictures were left out of the law in Togo. Conversely, because of the high political context in South Africa, with stakeholders who have vested interests in blocking or weakening the tobacco control policies, the policymakers – led by the department of health and supported by the research institutions and the civil society organizations – used a combination of science, evidence, and politics, including strong activism, to succeed. Otherwise, in both countries, the health department led the process and engaged other sectors through consultations, workshops, or meetings, mostly funded by the partners, particularly in Togo. Further, in both countries the interaction between the health department and other sectors during policy formulation and implementation consisted mainly of information sharing and rarely went further to cooperation, coordination, or integration. Lastly, in both countries, no funding was earmarked or internally designated to

implement tobacco control measures, and most of the catalytic funds came from donors. Regarding the facilitators and barriers to the MSA, they were similar in nature, but were not of equal importance in both countries. Indeed, in South Africa, local expertise through several scientific publications from research and academic institutions and a strong political will initially from the post-apartheid government are the most important facilitating factors, both at the policy formulation and implementation stages, and they are higher than the ratification of the WHO FCTC. In Togo, unlike in South Africa, the WHO FCTC is the leading facilitator of the MSA in the tobacco control policymaking process. In both countries, the tobacco industries have been the main barriers to formulating and implementing tobacco control policies, but they are stronger in South Africa than in Togo because of their noticeable contribution to country revenues and their ties to the ruling power, particularly during the apartheid era.

Discussion

The WHO[35] postulated that to be effective, NCD prevention policies should focus on the 4 major modifiable risk factors of the 4 major diseases, be formulated and implemented through a multi-sectoral action for health, and be analyzed from a political and organizational perspective of health policy analysis. Although scholars have proposed many frameworks and theories to help understand the process of health policy making, their constructs are not holistic enough to analyze complex policies such as those related to NCD prevention. We referred to their constructs to develop our Comprehensive Framework for Multi-Sectoral Approach to Health Policy Analysis. To demonstrate its effectiveness, we applied this framework to case studies on tobacco control policies in Togo and South Africa.

The Comprehensive Framework for Multi-Sectoral Approach to Health Policy Analysis promises to be a more comprehensive analytical tool by addressing some of the limitations of the existing frameworks and theories, including the interplay between ideas, institutions, and interests, which were not explicit in the policy triangle framework Howlett described.[26] It also helps to address equity dimensions as well as interaction between health care and other sectors that are key constructs elaborated in the framework for health in all policies.[21] Furthermore, the framework takes into consideration Kingdon's[27] 3-stream theory in the context construct.

In applying the framework to tobacco control policy, we found it adequately assessed the major complex and multifaceted aspects of formulation and implementation of noncommunicable disease prevention policies in Togo and South Africa. The framework allows researchers and policymakers to think of health beyond the health department and acknowledge that actions on health-related outcomes, determinants of health, or health equity could be more effective when taken by sectors outside the health sectors.

Researchers could have missed relevant frameworks and theories for review by accessing only English- and French-language papers and by limiting our search to health policy (e.g., articles related to health interventions could also have had usefulness). We believe, however, that the identified frameworks and theories contain the most important elements of health policy analysis, which we synthesized into our comprehensive framework.

The Comprehensive Framework for Multi-Sectoral Approach to Health Policy Analysis promises to advance understanding and improvement of health policy by incorporating elements of content, context, stakeholders, and strategies. This framework can contribute to the United Nations sustainable developments agenda[32] that calls for reducing mortality from NCD and achieving universal health coverage. Further, the framework can be useful in the field of health policy and systems research, which seeks to understand and improve how societies organize themselves in achieving collective health goals.[9] Finally, the framework can reinforce the WHO's recommendation for multi-sectoral action for health in formulating and implementing NCD prevention policies. With globalization creating more social determinants of health that lie beyond the purview of the health sector and with the increasing complexity of health policy applicants, the Comprehensive Framework for Multi-Sectoral Approach to Health Policy Analysis can help researchers assess and improve health policies to improve health.

In conclusion, the proposed Comprehensive Framework for Multi-Sectoral Approach to Health Policy Analysis offers promise to assessing, understanding, and improving health policy by explicitly incorporating elements of content, context, stakeholders, and strategies. The findings when applied to tobacco control policy processes were instructive and, in particular, highlight the need for context-specific political mapping[36] identifying the interests of all stakeholders and strategies for interaction between health and other sectors when planning policy formulation or implementation.

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