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Participation and coordination in Dutch health care policy-making. A network analysis of the system of intermediate organizations in Dutch health care

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SUMMARY

This study explores the system of intermediate organizations in Dutch health care as the crucial system to understand health care policy-making in the Netherlands. We argue that the Dutch health care system can be understood as a system consisting of distinct but inter-related policy domains. In this study, we analyze four such policy domains: Finances, quality of care, manpower planning and pharmaceuticals. With the help of network analytic techniques, we describe how this highly differentiated system of >200 intermediate organizations is structured and coordinated and what (policy) consequences can be observed with regard to its particular structure and coordination mechanisms. We further analyze the extent to which this system of intermediate organizations enables participation of stakeholders in policy-making using network visualization tools. The results indicate that coordination between the different policy domains within the health care sector takes place not as one would expect through governmental agencies, but through representative organizations such as the representative organizations of the (general) hospitals, the health care consumers and the employers' association. We further conclude that the system allows as well as denies a large number of potential participants access to the policy-making process. As a consequence, the representation of interests is not necessarily balanced, which in turn affects health care policy. We find that the interests of the Dutch health care consumers are well accommodated with the national umbrella organization NPCF in the lead. However, this is no safeguard for the overall community values of good health care since, for example, the interests of the public health sector are likely to be marginalized.

Key words: Dutch health care; system of intermediate organizations; health care policy; network analysis

INTRODUCTION

In their study 'The Organizational State' Laumann and Knoke (Laumann and Knoke, 1987) demonstrated the overwhelming importance of organized action for policy-making in modern societies. This general insight has been confirmed over and over again by a myriad of studies on policy networks (Raab and Kenis, 2007). Most recently Lazer (Lazer, 2011) and Fowler *et al.* (Fowler *et al.*, 2011) have again emphasized the viability of the network approach for the analysis of policy-making. In his study on the US Health Policy Network, Heaney (Heaney, 2006) takes a similar perspective and argues that large interest organizations are especially successful in having their interests prevail when they connect interests across business, labor, consumers, and political parties through private networks.

In the present study, we build on this research but focus in particular on the intermediate layer of the Dutch health care system formed by over two hundred organizations situated between the governmental level and the operational level of care provision. These organizations are intermediaries representing various stakeholders and agencies to which the central government has delegated legal powers to enforce all kinds of regulations, to safeguard quality, to regulate finance etc. This layer of more than two hundred organizations has developed in the Netherlands since the end of World War II. Even though the laws are formally still made by parliament, it is this intermediate organizational layer that has largely taken over policy-making and implementation, because knowledge and insight have become specialized to such an extent, that it is strongly dominated by the experts of these organizations. It is these organizations that provide information to the ministries and parliament and therefore strongly influence the debates and decision-making (exemplary publications pointing to this phenomena are Lammers, 1993; De Vroom, 1994; Visser and Hemerijck 1997; Van Leijden and Zuiker, 2007). The intermediate organizations in the Dutch health care system employ over 5000 f.t.e. staff and generate an estimated yearly turnover of 1 billion euro (1.4% of the total expenditure on Dutch health care).

According to the Dutch constitution, the state is obliged to improve the health of its population. The government is responsible for keeping up a health care system, in which accessibility, quality and cost-containment are the leading principles. The system consists of four segments according to the type of care involved. Since the 2006 health reform the primary care and hospital care (short-term care), the largest segment, aims to stimulate quality of care and to control costs by maintaining a regulated market in which both private health care providers and private health care insurance companies compete (Van der Grinten, 2007). Nearly all primary and hospital care is covered by private health insurance which is mandatory for every resident (ZVW). The Health Care Insurance Board (CVZ), a governmental agency, controls the content of the coverage of this health insurance. Health insurers (most of them 'not for profit') compete to gain the preference of the clients, but are bound by law to accept any applicant, whatever his or her health status, and differentiation in premium is prohibited. For these enforced 'market imperfections', insurers are financially compensated to equalize the risks. The Health Care Insurance Board also supervises this risk adjustment system. The Dutch Healthcare Authority (NZa), another governmental agency, is mandated by law (WMG) to regulate pricing in the health care sector. Long-term care (chronic and mental health care), another segment of the health system, is covered by a social health insurance (AWBZ) and part of social security. The execution of this AWBZ is outsourced to the same insurance companies dealing with the private mandatory health insurance mentioned above. The central government, however, bears the financial risk. Homecare and social support, the third health care segment, regulated by yet another law (WMO), are the responsibility of municipal authorities. The aim here is to stimulate social participation of citizens. For this task local authorities are funded through the central government and they contract home care providers and other welfare organizations to provide the services. All residents are entitled to long-term care or home care if they meet the criteria set by CIZ, a specialized governmental agency. Finally, municipal authorities are also committed by the law on public health (WPG) to develop and implement public health policies for the population in their jurisdiction (the fourth segment of the Dutch health care system). Local public health organizations (GGD) provide these services.

We therefore are confronted with a highly differentiated system, in which >200 intermediate organizations operate and state institutions have more of an oversight function. Given this situation, one has to assume that policy development and implementation has to be somehow coordinated, if contradictions and tensions are to be avoided and an effective health care system is to be created and maintained. The question therefore arises, how such a differentiated system is integrated, how it can coordinate itself and what the (policy) consequences are with regard to its particular structure and coordination mechanism.

There is no general consensus on the overall success of the Dutch health care system. One could argue that in general all health care efforts should ultimately be reflected in the health status of the population. On the one hand, according to the European Health Consumer Index (2008) the Dutch health care

system can be regarded as best practice in Europe. This index focuses specifically on health consumer empowerment and patients' rights. On the other hand, Mackenbach (Mackenbach, 2010) postulates that the Netherlands holds just an average position due to its mediocre performance in public health. He states that the lack of attention for environmental factors causes a relatively unsuccessful Dutch approach to lifestyle-related diseases and a considerable loss of DALY's. The Dutch Health Care Performance Report 2010 (National Institute for Public Health and the Environment, Ministry of Health, Welfare and Sport, 2010) concludes that the developments in curative health care in the Netherlands have not diverged markedly from those in neighboring countries. No substantial changes in quality or accessibility have been recorded since the 2006 health reform and the introduction of regulated competition, but the macro costs of health care have been rising more sharply. Regarding the cost of health care, however, the position is relatively clear: the Netherlands does not significantly differ from the European average. The total expenditure on health care (2008) amounts to ~10% of the GDP (OECD, 2011).

The system of intermediate organizations as described here in the case of the Dutch health care system is characterized by Lammers (Lammers, 1988, 1993) as an interorganizational arrangement, i.e. a layer of intermediary agencies with representative organizations mandated 'from below' and control organizations mandated 'from above' interacting with one another. To ensure their survival, representative organizations must structure themselves and act so as to offer sufficient incentives to their members to receive adequate resources from them. Schmitter and Streeck call this dynamic 'the logic of membership' (Schmitter and Streeck, 1981). The representative organization must also build and maintain exchange relations with the control organizations it seeks to influence. Schmitter and Streeck call this the 'logic of influence' (Schmitter and Streeck, 1981). Inherent in the two logics is a fundamental trade-off. Control organizations have to make certain concessions to representative organizations in return for the compliance of their members. Depending on the balance of power between control agencies and representative organizations, the total system of societal governance can range from a loosely coupled hierarchy in which upward, representative impulses dominate and lower levels are relatively autonomous domains of self-regulation, to a rather tightly coupled hierarchy in which downward control impulses are dominant. The mixture of downward and upward impulses and the tendency of intermediary organizations to pursue their own system goals leads to the considerable 'indetermination and unwieldiness' of the overall system of governance (Lammers, 1988). Such an interorganizational arrangement with upward and downward impulses as well as a mix of control and representative organizations is not uncommon in the Dutch context. Schmitter already stated that corporatism is most fully developed in European democracies, where peak organizations are directly incorporated into governmental deliberations, in guarantee for controlling their fractious mass bases (Schmitter, 1974). Especially Dutch society is known for its neocorporatistic features whereby administrative structures of the state allow state officials to share political authority with functionally organized interest groups in society, who are willing and capable of mobilizing the support of their constituent membership in exchange for political influence (Visser and Hemerijck, 1997). And like in many other welfare states, also in the Netherlands social programs in policy areas such as social housing, health care, education, public assistance, social security and labor market management developed into institutionally separate and functionally differentiated policy domains. All together, the highly organized and specialized modern society and government, reflected in functional differentiation and 'sectoralization' of policy-making with a large amount of interdependent actors working on common problems, have contributed to the fact that policies increasingly result from policy networks (Godfroy, 1993). In addition, supported by strong popular attachments to specific policies, professional policy networks are today able to muster substantial veto powers against reform efforts (Visser and Hemerijck, 1997; Heaney, 2006).

Studying policy networks results in a relational perspective on policy-making (Lazer, 2011). This relational perspective has gained considerable popularity in the social sciences in the last three decades. Proponents of this perspective (Wellman and Berkowitz, 1988; Knoke, 1990; Lazer, 2011) claim that social and political phenomena can only be understood if the single

actors in a social system are not looked at in isolation but are conceptualized as having multiple relationships with other actors who influence their decision-making and behavior and therefore the policy outputs. As a consequence, researchers should not look exclusively at the attributes of the actors but include their relationships and the structures that evolve on the basis of these relationships in their analysis. The relational perspective is not new. In fact, power as one of the most central concepts in the social sciences was defined by Weber (Weber, 1947) decades ago in a relational fashion: 'Power is the probability that one actor within a social relationship will be in a position to carry out his will despite resistance, regardless of the basis on which this probability rests'. According to Weber's definition power is therefore not a property or attribute but an aspect of the actual or potential interactions between two or more social actors. In a structural perspective on politics, in contrast to other explanations like normative conformity or objective rationality, the emphasis is on the distribution of power among actors as a function of the positions they occupy in one or more networks, which in turn are based on their direct and indirect relations (Knoke, 1990; Lazer, 2011). Communication is considered the main process by which actors determine and express their interests in a political event. Laumann and Knoke conclude that the opportunities and abilities of participants in a policy network to communicate, and the factual communication and exchange of information, expertise and other resources that take place, determine whether policy is made and what its content is (Laumann and Knoke, 1987).

From such a perspective the questions arise *how a differentiated system like the interorganizational arrangement of intermediate organizations in Dutch health care is structured, how integration and coordination take place within such a system and what the consequences are for health care policy making and as a result health care outcomes*. In describing this Dutch case, we contribute to the discussion on the organization of national health care systems in general as well. The question how to provide affordable health care, accessible for all people and with the best possible quality with a highly differentiated system and strong vested interests is a hotly debated issue in almost all advanced industrialized societies and is here to stay given the complex political systems of these societies as well as the foreseeable demographic and economic developments.

METHODS

In this empirical study, we analyze the system of intermediate organizations in Dutch health care, and in particular its ability to involve potential participants and to render them a position in the policy-making process. This study does not focus on individual organizations in the network, but rather takes a 'whole network' perspective.

We recognize that the outcomes of a policy-making network are hard to measure (Provan and Milward, 2001). In this case, it should be the community value of health care, taking into account the cost to the community. However, very little of the available health care outcome data on a national level are suitable for comparison with other (European) countries. And even these figures are in dispute as mentioned earlier. In addition, there are to our knowledge no comparable data available on the policy-making process in health care in other European countries. However, following Laumann and Knoke (Laumann and Knoke, 1987), our study is based on the theoretical assumption that the collection of participants and their position of power (Scott, 2004) in this system of intermediate organizations, largely determine the outcome of the system. We therefore limit ourselves to a description of the policy-making structure with regard to the intermediate level.

In this study, we explore which organizations are present in the system of intermediate organizations, and even more important which are not. We determine their 'position of power' and compare it to their 'image of power' (Scott, 2004) obtained by ranking the organizations according to their reputation. As a second reference we make use of the stakeholder concept as put forward by Provan and Milward (Provan and Milward, 2001) for evaluating a public sector organizational network, based on satisfying key stakeholders. It is obviously a 'multi-stakeholder perspective' since on a community level multiple stakeholders with different constituencies are involved. We combine this stakeholder concept with general assumptions concerning policy-making in modern societies (Schneider, 1988) and with the characteristics of the Dutch health care system to determine the

boundaries of the system (which actors are included and which are excluded in the analysis).

From the stakeholder perspective as suggested by Provan and Milward (Provan and Milward, 2001), on a community level we identify the customers, i.e. the *health care consumers* to be the most critical stakeholder group to be satisfied. But although consumers 'consume' the benefits of health care they are not the only ones funding the health care: this is a burden for every citizen, sick or healthy. Consequently, the *general public* (not being part of a specific patient movement) should be identified as a separate stakeholder group. Another important category of stakeholders are the various organizations representing the different *health care providers* and *health care professionals*. They have to implement whatever policy is produced and their compliance is essential. Obviously *governmental agencies and inspectorates* with regulating and oversight functions are stakeholders. They are judged by their principals on the functioning of the system. Based on general assumptions on policy-making in modern societies, other relevant participants can be identified who may not be stakeholders at first sight: solving complex societal problems needs the input of expert knowledge. From this point of view, irrespective the expertise put in by the health care providers and health care professionals, the presence of '*centers of excellence*' is of importance. These centers of excellence are scientific institutes for research, education and support on specific health care topics, health care dedicated consulting firms etc. The interdependencies with other policy domains need monitoring by either the central government or connections through '*multiple interest organizations*' like labor unions or employers association which represent a broad range of interests across several policy fields and not only interests in health care. Labor market management, education, health care and social security are examples of connecting policy domains. Taking the characteristics of the Dutch health care system into account *insurance companies* are bound to be present, and the category of representative organizations of health care providers and health care professionals can also be specified. In general, we expect the important sections of health care to be represented: primary care, hospital care, chronic care and mental health care, home care and welfare and public health.

Table 1: Key stakeholder groups

Health care consumers
General public
Health care providers
Health care professionals
Governmental agencies and inspectorates
Centers of excellence
Health insurance companies
Multiple interest organizations

Concerning the position of power, we expect all important stakeholders mentioned above (Table 1) to be present and involved depending on the issue at stake. We assume that the governmental agencies, mandated 'from above', hold a preferential position, because of their legal power. We argue that they are the 'target' for most of the other organizations involved.

Policy networks evolve around specific issues (Schneider, 1988). In this study, we have classified the Dutch health care policy domain into specific sub domains according to the health care priorities set by the government. The Dutch government strives for *accessible* and *affordable* health care, meeting accepted *quality standards* (the magic triangle of quality, costs and accessibility). 'Accessible' refers to equity and has many aspects, for instance the availability of health care facilities and professionals, the (financial) thresholds for an individual citizen to get help etc. In this study, it is operationalized by selecting *the policy domain of manpower planning of health professionals*, since accessibility is basically determined by the extent qualified personnel is available. 'Affordable' addresses the issue of controlling health care costs and is here referred to as *the financial policy domain in health care*. The 'quality standards' refer to the specifications of the health care services. They are a major topic in today's discussions on health care: *the policy domain 'quality of care'*. Besides these three policy domains directly related to the governmental health care priorities, we have added a fourth: *the policy domain on pharmaceuticals*, because it represents a specific area of health care with a strong international dimension (with big multinational pharmaceutical firms as key stakeholders). In all four policy domains (governmental) agencies employ their specific activities as, for example, the Medical Professions and Education Board (CBOG) and the Council for Medical Manpower Planning (Capaciteitsorgaan) in the domain of manpower

planning, and the Dutch Healthcare Authority (NZa) and the Health Care Insurance Board (CVZ) in the financial policy domain.

Through initial desk research and expert interviews we identified 233 organizations belonging to the various stakeholder groups described above. We then conducted a pre-test and subsequently set out a written questionnaire, in which we asked the organization for basic general information, their position on a number of issues in the four different policy domains, their relations with other organizations and their opinion on the influence of other organizations with regard to the four policy domains.

We examined two types of relations: providing or obtaining *expert knowledge* (directed relation) and the exchange of *confidential information* (undirected). Both relations are argued to be relevant in policy-making (Laumann and Knoke, 1987). We assume that the exchange of expert knowledge represents another degree of participation (Edelenbos *et al*., 2006) than exchange of confidential information, the latter being more associated with decision-making than the first. Respondents were all members of the executive board of the organization addressed. They were asked to indicate on a list of all organizations identified, whether their organization provided and/or obtained expert knowledge, or exchanged confidential information with an organization on one or more of the policy issues (financial policy, manpower planning, quality of care and pharmaceuticals) on a regular basis (at least four times a year). We used the relational data generated from this questionnaire to determine the 'positions of power' (Scott, 2004) on the basis of network analytic measures.

In addition, we asked informants to name a maximum of six organizations for each policy domain, which are important for the respondents' own organizations in their decision-making process. A ranking was made for each policy domain by summing up the number of times an organization was mentioned. In this manner the 'images of power' were obtained (Scott, 2004).

After additional snowball sampling and pretesting yet another 57 organizations were included, bringing the total of potential participants to 290 organizations. These 290 potential participants are all 'intermediate organizations'. Of these ~45% qualify as representative and 20% as control organizations.

We then eliminated organizations that we either regarded as being part of the 'governmental level' and therefore not part of the system of intermediate organizations, or as insignificant (mentioned less than three times). This resulted in a final research population of 221 intermediate organizations being potential participants.

After two reminders 163 of these 221 organizations responded (73.7% response rate). Of these 163 questionnaires 145 were suitable for data entry (65.6%). The timeframe of the survey was 1 year (2007). The population of actors and the two types of ties (expert knowledge and confidential communication) in the four policy domains generated the input for eight case by case (221×221) binary matrices. Only confirmed ties for expert knowledge and confidential communication were used to define the relations between organizations and as input for the network analysis. Degree centrality, a centrality concept in social network analysis, was used to determine the 'positions of power' in the different networks (Knoke, 1990; Scott, 2004). UCINET (Borgatti *et al*., 2002) and Visone (Brandes *et al*., 2006) were used to perform the network analytical calculations and to visualize the networks. Since the response rate leads to a considerable amount of missing data, we decided to use degree centrality as a proxy for the power position. Global centrality measures such as eigenvector centrality or betweenneess centrality, that might have been more appropriate to use as an indicator are much less reliable in case of missing data than degree centrality, which is a local centrality measure (Zemljič and Hlebec, 2005). We therefore decided to use degree to get an idea of the prominence of an actor within the network. Since the degree scores are based on the confirmed communication ties of actors in policy-making, where communication is central to bring about certain decisions ('outcome power'), we believe degree centrality to be the best possible proxy for the power position of an actor in our case.

Finally, we organized an expert meeting to check the preliminary results and have a first discussion on the interpretation of the results. Six CEO's of leading health care organizations from different stakeholder groups joined this meeting. Discussing the results, it was concluded that one important governmental agency in the policy domain on pharmaceuticals was missing: CBG.

It turned out to be a non-responder. This organization is not included in the analysis of the policy domain on pharmaceuticals.

FINDINGS

The results of this study first of all demonstrate that the system of intermediate organizations in Dutch health care provides for a large number of different organizations to participate in policy development. The policy networks in the four policy domains are depicted in Figure 1 below. Actors are assigned different shapes and colors according to which stakeholder group they belong. They are positioned in the visualization in a way that represents their degree centrality. The more central an actor is in a network, the more central it is positioned in the visualization. Linkages represent specific ties (exchange of confidential communication in Figure 1, exchange of confidential information *and* exchange of expertise in Figure 2) between organizations as indicated by respondents in the survey.

Based on the exchange of confidential information, the tie with the highest threshold, 63 out of 221 organizations participate in the most densely populated policy network (quality of care), 37 of which are organizations mandated 'from below' (see Figure 1, domain 'Quality'). And even in a highly specialized subsector as the policy domain on pharmaceuticals there are still 21 confirmed participants, 13 of which are mandated 'from below' (see Figure 1, domain 'Pharmaceuticals'). But at the same time the majority of the 221 potential participants, is not connected, at least not according to our criteria (i.e. confirmed exchange of confidential information on a regular basis, i.e. at least four times a year concerning at least one of four policy domains). Hence we conclude that the system of intermediate organizations is able to include a large number of organizations into the

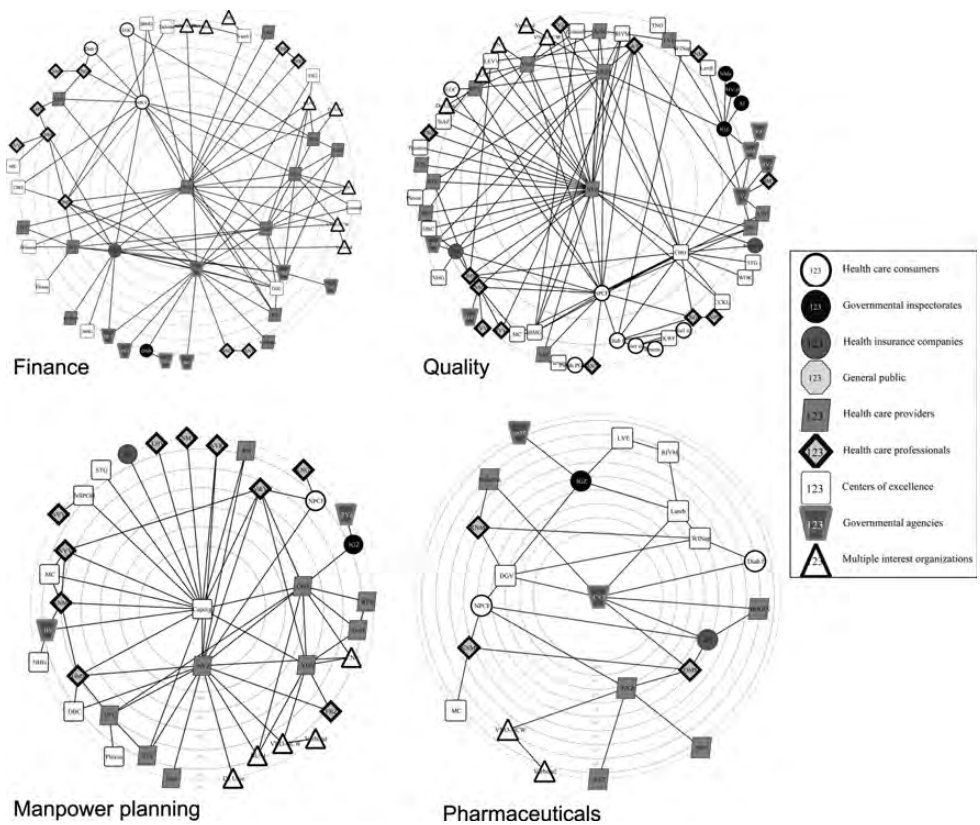

Fig. 1: Degree centrality on the basis of the exchange of confidential information in the four policy domains: Finance, Quality, Manpower planning and Pharmaceuticals.

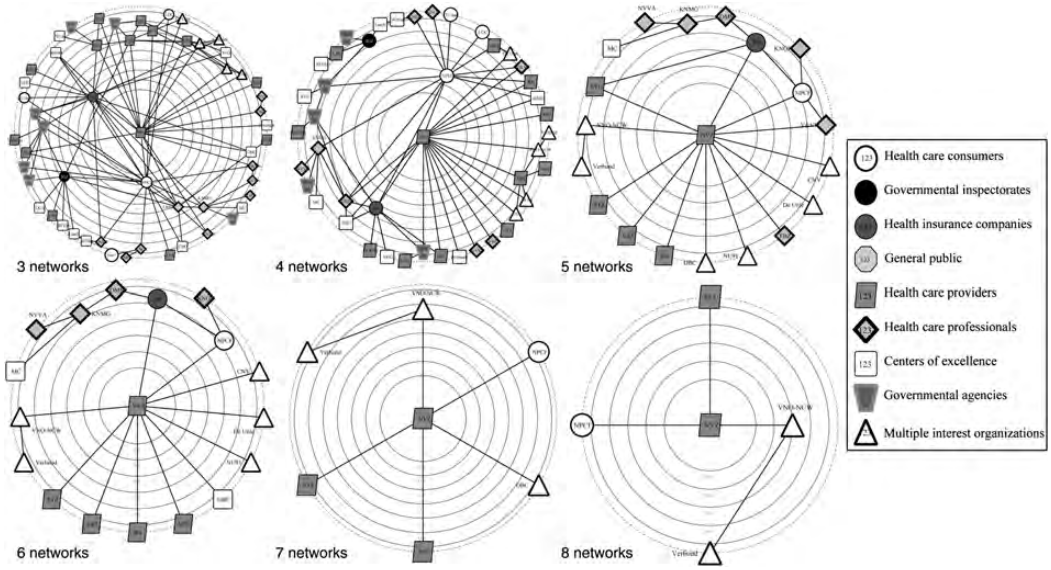

Fig. 2: Organizations that participate in at least n different networks (based on confidential communication and exchange of expert knowledge).

policy-making process but at the same time also excludes a large number of organizations from the policy-making process.

The position of an actor is determined by its degree centrality score on the basis of the confirmed exchange of confidential information. Degree centrality is defined as the number of linkages, indicating which actors are the most active in the network 'in the sense that they have the most ties to other actors in the network' (Wasserman and Faust, 1994: p. 178).

We assumed that the governmental agencies, with their legal power and being the target for the organizations 'from below', were in a central position in their specific field. The results (based on the centrality measurement) support this assumption. A relatively large amount of organizations mandated 'from below' seek to influence the agencies mandated 'from above' (confirmed ties on exchanging confidential information and to a great extent with multiplex ties, i.e. both confidential information and expert knowledge). This indicates that in this system of intermediate organizations the representative impulses from below dominate and that 'lower levels' are relatively autonomous domains of self-regulation (Lammers, 1993).

In the financial policy domain, the representative organization of the Dutch hospitals (NVZ) holds the most central position according to their degree centrality, followed by representatives of the institutional providers in mental health care (GGZ) and the care for the disabled (VGN), the national umbrella organization of the health care consumers (NPCF), the representative organization of the health insurance companies (ZN) and the governmental agency CVZ (see Figure 1, domain 'Finance').

Mirroring the positions of power in the financial policy domain with the images of power generated from the reputational ranking for this domain, the peripheral position of the Dutch Health Authority (NZa) in the 'confidential information network' does not correspond with its number 2 ranking on reputation. The health care consumers (NPCF) on the other hand hold a much stronger position in this network than in the ranking on reputation where they are listed as number 11. Comparing the positions of power in this network with the reference of key stakeholders, it is clear that health care consumers are well represented. With regard to the health care providers, the institutional health care providers (hospitals, mental health care, care for the disabled) are present, but primary care and public health representatives are not. Health care professionals hold just an average position, as do the centers of excellence. Considering the fact that 'finance' is the issue of this policy domain it is not surprising that the

health care insurers hold a fairly central position. Regarding the multiple interest organizations with connections to policy domains outside the health care sector the following actors are identified: the general representative organization of Dutch employers (VNO-NCW), labor unions (CNV, NU91, De Unie) and several individual banks (ABN AMRO, BNG, ING). They all hold peripheral positions in the network on financial policy. A representative of the general public does not exist in this subnetwork.

More or less the same results come forward analyzing the other policy domains (see Figure 1, domains 'Quality', 'Manpower planning' and 'Pharmaceuticals'). Based on the exchange of confidential information, specific governmental agencies and the representatives of both health care consumers and institutional health care providers hold central positions (according to degree centrality measures). Even in the policy domain on pharmaceuticals governmental agencies connect with various representative organizations despite the fact that key stakeholders in this subsector, the big multinational pharmaceutical firms, are used to a more pluralistic environment. Furthermore, the consumers are again better positioned than their reputational ranking suggests. Most stakeholder groups are present, except for organizations representing primary care and public health providers, and those representing the general public.

Specifically analyzing the position of the health care consumers the results show a strong position in all four policy domains for the national umbrella organization NPCF. Five disease-specific organizations representing patients with diabetes, heart disease, cancer, rheumatoid arthritis and kidney disease, have a peripheral position in the quality of care domain. They are not present in the other policy domains, however.

Figure 2 shows the organizations, their linkages with other organizations and their positions according to their degree centrality on the basis of their participation in different networks. In principle, an organization can participate in up to eight subnetworks including both types of ties: 'expert knowledge' and 'confidential information', in the four policy domains. The images are sorted according to the number of networks an organization is participating in, starting from a minimum of three networks up to the maximum of eight. Linkages and positions are thus based on n networks, n ranging between 1 and 8. Figure 2 thus gives an impression to what extent the four policy domains are integrated and which organizations mainly function as linking pins between the domains. This in turn enables us to draw conclusions about how the whole system of intermediate organizations in Dutch health care is coordinated. The assumption hereby is that the more organizations appear in the more networks, the more integrated the overall system will be. In turn, if organizations participated only in specific domains, i.e. two networks, no connections over domain boundaries would take place and the overall system would be fragmented.

Out of 221, 55 organizations participate in three or more and ultimately five organizations are present in all eight networks, meaning they are present in all four policy domains with both types of ties 'expert knowledge' and 'confidential communication'. The first type of organization to disappear in this sequence of images is the governmental agencies and the centers of excellence. Then, the health care professionals and the representative of the health insurance companies disappear, ultimately leaving the representative organizations of the (general) hospitals (NVZ), the university teaching hospitals (NFU), the health care consumers (NPCF) and the employers' association (VNO-NCW) together with one of its members, the Dutch Association of Insurers (Verbond), to be present in all eight networks (see Figure 2, eight networks).

DISCUSSION AND CONCLUSIONS

We conclude that the system of intermediate organizations in Dutch health care is able to both include a large number of organizations into the policy-making process and exclude a large number of organizations from the policy-making process. This ability has two faces. On the one hand, restricted access keeps the number of involved organizations limited and the policy-making process to some extent manageable. On the other hand, restricted access means excluding organizations and possible legitimate interests, which raises the question which organizations and interests are included and which are not.

Furthermore, this study shows a relatively large portion of organizations mandated 'from below' participating in these policy networks, which according to Lammer (Lammers, 1993), Godfroy (Godfroy, 1993) and Visser and Hemerijck (Visser and Hemerijck, 1997) strongly indicates that this system of intermediate organizations possesses a high degree of autonomy and self-regulation. This finding puts even more emphasis on the question as to which organizations are included and which are not.

Analyzing the mixture of representative organizations the overall prominent position of NPCF, the national umbrella organization of Dutch health care consumers, is clearly established in this study. All parties involved rank NPCF high on reputation. But this image of power, originating from insiders in Dutch health care, is exceeded by their position of power in all four policy domains based on degree centrality. This key position could be expected in the field of quality of care, because of the strong relation between consumer satisfaction and quality of care. It also fits Provan and Milward's (Provan and Milward, 2001) stakeholder concept used as a reference for this public sector, where health care consumers are identified as key stakeholder on the community level. And furthermore it is in line with the European Health Consumer Index that ranks the Netherlands as the best practice in Europe. But more surprisingly NPCF holds an influential position on the other issues analyzed in this study as well: finance, manpower planning and pharmaceuticals.

Although patient organizations frequently stress their inferior position in policy-making in Dutch health care (Van de Bovenkamp *et al*., 2009) the results from this study demonstrate otherwise, at least with regard to the national umbrella organization NPCF. On the other hand, however, disease-specific patient organizations are found only in the outskirts of the policy domain quality of care, and not in any other policy domain. Van de Bovenkamp *et al*. point to the inability of these relatively small organizations to cope with such a differentiated and specialized sector such as health care (Van de Bovenkamp *et al*., 2009). Indeed, in our study only the big five (organizations representing patients with diabetes, heart disease, cancer, rheumatoid arthritis and kidney disease) with relatively more resources are present, be it in the periphery. Here, the importance of organized action for policy-making in modern societies (Laumann and Knoke, 1987) is stressed once more.

In contrast to the strong position of the health care consumers, there is no indication of any involvement of the general public, another key stakeholder according to Provan and Milward (Provan and Milward, 2001). In democracies elected politicians represent the general public, but in the Dutch neocorporatistic administrative structures, policy areas as health care developed into institutionally separate and functionally differentiated policy domains (Visser and Hemerijck, 1997) with a relatively high degree of self-regulation, which is demonstrated again in this study. Although we did not include political parties, we doubt whether politicians are in a position to represent the general public in health care matters, given the governance structure outlined above. Institutional health care providers (hospitals, mental health care, care for the disabled) are well positioned in our study. Especially the representative of the Dutch hospitals (NVZ) is dominantly present in most networks. Unlike institutional health care providers, representative organizations of the primary health care sector and the public health sector are scarcely present in the different networks. The health insurance companies (ZN) are in a favorable position in the field of financial policy in health care, but they have a fairly strong position in the other networks as well. This more or less corresponds with their vital role in the Dutch health care system.

Thus concerning the mixture of representative organizations, we come across some 'unbalanced' participation: the national umbrella organization representing health care consumers is in the lead, disease-specific patient organizations are not, and regarding the health care providers, the institutional providers, especially the hospitals, are well represented in contrast to the primary care and public health providers. Since the opportunities and abilities of participants in a policy network determine whether policy is made and what its contents are (Laumann and Knoke, 1987), this unbalanced participation is definitely reflected in the policy outcome. It explains, for example, the lack of attention for environmental health factors and public health in Dutch policy-making (Mackenbach, 2010). There are no influential actors 'from below' present in the policy arena to get this issue on the agenda, neither among health care providers

nor among future health care consumers, i.e. the general public.

Because of the strong interdependencies (Schneider, 1988), there is without doubt a great need for coordination between the different policy domains within the health care sector. In general, we would expect the central government to take up this task, but with these functionally differentiated and separate policy domains with a high degree of self-regulation this cannot be taken for granted. If the tuning between policy domains takes place within the health sector, our findings show (Figure 2) that the first type of organization to disappear from the sequence of images when presenting organizations according to the number of overlapping ties, are the governmental agencies and the centers of excellence. Both types of organizations mostly employ their activities in just one specific field. It is therefore unlikely that these organizations play a role in the coordination between the four different policy domains within the health care sector. Organizations that are more in a position to actually make this connection are NVZ and NFU (representatives of the hospital branche), the health care consumers (NPCF) and the general representative organization of Dutch employers (VNO-NCW, together with one of their members, the Dutch Association of Insurers, Verbond). Thus, the results of this part of the study indicate that coordination between the different policy domains within the health care sector takes place through representative organizations and not as one might expect through state agencies. The same applies for coordination between the overall health care policy domain and other (public) policy areas. Again, the connection with other policy areas could be made via the central government. We looked in our study for organizations 'with an overview', i.e. multiple interest organizations that also employ activities in policy domains outside of health care and could take over this function. We identified just a few: on most policy issues investigated the representative organization of Dutch employers (VNO-NCW) together with labor unions (CNV, NU91, De Unie), and in the financial policy domain some commercial banks are identified. This indicates that if central coordination between different policy domains fails, input from and output to other policy areas can only take place mainly through these representative organizations. Together with the unbalanced participation discussed above, we expect these coordination mechanisms through representative organizations to lead to unbalanced policy outcomes in health care, with community values of health care not outweighing other specific interests. Again the public health is likely to fall through the cracks, above all because especially public health is about more than just health care: socio-economic and environmental aspects are crucial factors (education, housing, labor, environment etc.) and coordination with other policy domains is essential for successful outcomes. A plea for public health cannot generally be expected to come from representative organizations of employers or labor unions.

In this study, we examined just one system of intermediate organizations in a specific context, but we can conclude that in the context of Dutch health care this system of intermediate organizations enables a broad, but not necessarily balanced participation. It allows as well as denies a large number of organizations access to the policy-making process, keeping this policy-making process at least to some extent manageable. The interests of organized Dutch health care consumers are well accommodated, but they are no safeguard for the overall community values. We claim that the unbalanced participation and the coordination mechanism through representative organizations we identified lead to unbalanced health care policy as, for example, in the area of public health. We are convinced that this study also contributes to a better understanding of the organization of national health care systems, and to more insights for the research on policy networks, especially with regard to the intermediary level.

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