

The Paradox of Scientific Authority

The Role of Scientific Advice in Democracies

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1 The Gezondheidsraad

The Gezondheidsraad is an independent advisory body charged with providing ministers and Parliament with scientific advice on matters of public health. Ministers ask the Gezondheidsraad for advice to ground their policy decisions. In addition, the Gezondheidsraad has an “alerting” function, which also allows it to give unsolicited advice. Both forms of advice (solicited and unsolicited) provide scientific support for the development of governmental policy. The Gezondheidsraad describes the state of knowledge and weighs the different options that are available for an effective improvement of policies in public health. Some 200 experts have been assembled within the Gezondheidsraad. The Gezondheidsraad works in ad hoc committees on each particular advisory report. These committees consist of members and other experts. Together, these experts endeavor to reach a consensus on the interpretation and assessment of the current level of knowledge. Advisory reports are peer reviewed by one or more of the Gezondheidsraad’s eight standing committees before they are published.

The work of the Gezondheidsraad encompasses different areas. Firstly, the Gezondheidsraad addresses questions relating to health and health care, which may involve both treatment and prevention as well as medical technologies. Issues falling into this category have included such diverse issues as cochlear implants for children, the “abortion pill,” bioterrorism, xenotransplantation, dyslexia, genetic diagnostics, and evidence-based medicine. Secondly, the Gezondheidsraad is concerned with the relationship between health and nutrition. In this connection advice is given on such issues as the reduction of exposure to dioxins, the teratogenicity of vitamin A, anti-microbial growth enhancers, or the risks of novel foods. The third area within the Gezondheidsraad’s remit is the relationship between health and environment. In this case, the Gezondheidsraad

advises on such issues as the health-related risks of zinc, criteria for the authorization of pesticides, or standards for electromagnetic fields and ionizing radiation. A particular area of advice is occupational risk exposure, concerning such things as the setting of limit values for asbestos and other mineral fibers and the risks of manual lifting.

A Primer on the Gezondheidsraad

If the Gezondheidsraad can be characterized in one way, it is through its constantly changing position and self-definition—even where this applies to its identity as a “scientific advisory body.” Over the years, the emphases of the Gezondheidsraad have varied, in part on account of changes in its leadership, changing social and political conditions, and new developments in the sciences. It is not even easy to locate the Gezondheidsraad physically. Surely there is a building that houses its offices, but inside these rooms you will merely encounter secretaries or perhaps, on some days, a committee chairperson or vice-chairperson; if you are very lucky, there will be an entire committee holding a meeting. The Gezondheidsraad as a whole, however, has convened in plenary session only twice during its 100 years of existence. Its many members are scattered throughout the country, and some live and work abroad. Gezondheidsraad members can be found at universities and research institutions, in companies, in social organizations, and in government agencies. Rather than as an identifiable entity, therefore, the Gezondheidsraad mainly exists as a network—or, if you like, an address file.

Similarly, the question of *who* the Gezondheidsraad is cannot be answered unequivocally. It is true that the Gezondheidsraad has members, a president, and vice-presidents, but all the work done in the Gezondheidsraad's name is only partly dependent on them. If the scientific and administrative staff of its secretariat is crucial for the Gezondheidsraad's functioning, it largely remains invisible to the outside world, and formally it is not even part of the Gezondheidsraad. Furthermore, the Gezondheidsraad may issue dozens of advisory reports each year, but ad hoc committees that have a very large degree of autonomy are responsible for writing them. More importantly, these committees regularly include members who are *not* Gezondheidsraad members, and purposely so. In 1987, according to Henk Rigter, then executive director, the Gezondheidsraad

had about 170 members, but in all its various committees “on average some 600 persons” were active (H. Rigter 1987: 181). This means, among other things, that the size and reach of the Gezondheidsraad’s network varies over time: with each new subject on the Gezondheidsraad’s agenda, its network changes. How, then, should we understand the Gezondheidsraad as an institution?

Article 21 of the Dutch Health Act simply stipulates “There is a Gezondheidsraad.”¹ In the next article of that same law, the Gezondheidsraad’s task is defined as follows: “To inform our ministers and the two chambers of Parliament about the state of scientific knowledge on issues of public health, by means of publishing reports.”² A member is appointed for a four-year term and may be reappointed for at most two more terms. There is no maximum number of members.³ The law also decrees that the Gezondheidsraad has one president and at most two vice-presidents. The president is in charge of putting together committees and appoints their chairpersons. Individuals who are not members of the Gezondheidsraad may be asked to join a committee if this is seen “as necessary for fulfilling its task” (article 25). The president formulates the basic code of order for both the Gezondheidsraad and the committees. Finally, the law decrees that the Gezondheidsraad has an executive director, who, although a civil servant, is required to account for his activities only to the Gezondheidsraad’s president.

The task of the Gezondheidsraad is to advise the government and Parliament about the state of scientific knowledge in the area of public health. In this sentence, at least four notions require further elucidation. First, the Gezondheidsraad’s set of tasks is not limited to the area of public health. In addition to its activities in the areas of curative and preventive public health, the Gezondheidsraad is active in the areas of food and nutrition, occupational hygiene, and pollution control. Even if the Gezondheidsraad formally advises both government and Parliament, in practice its advisory reports are pitched toward four ministries in particular: Health, Welfare, and Sport; Housing, Spatial Planning, and the Environment; Agriculture, Nature Conservancy, and Fisheries; and Social Affairs and Employment.⁴ The Gezondheidsraad may be asked to write a specific advice, but it may also publish unsolicited advice.

The notion of having to inform about “the state of scientific knowledge” does not imply that the Gezondheidsraad should itself engage in scientific

research. It performs original research only sporadically.⁵ This also means that it is not the Gezondheidsraad's task to "provide cutting-edge perspectives on hitherto unresolved questions."⁶ Instead, the Gezondheidsraad views its task mainly as that of producing *syntheses* of knowledge derived from various disciplines. It sees itself as "a scientific reservoir of expertise that is flowing towards it from many directions in order to determine which position on an issue of public health or occupational and environmental hygiene is most valid, considering the state of scientific knowledge at a given point in time."⁷ The syntheses of the Gezondheidsraad, as this quotation recognizes, have only temporary validity, because scientific knowledge is always in flux.

The Health Act indicates that the Gezondheidsraad is expected to publish advisory reports that contain policy recommendations. During the period 1985–2001, the Gezondheidsraad issued an average of 30 reports per year. This is, however, not the only way in which the Gezondheidsraad provides information. First, every advisory report is accompanied by a side letter written by the Gezondheidsraad's president. Moreover, the Gezondheidsraad issues press releases whenever a report is published. It also has its own newsletter, which, in addition to professional notes and announcements, contains brief summaries of the Gezondheidsraad's reports. Apart from advisory reports, the Gezondheidsraad publishes notes called *Signalementen*, which commonly offer brief explorations of areas of which the Gezondheidsraad feels that policy attention is needed. And occasionally it publishes background studies.

The Gezondheidsraad's ad hoc committees are in charge of its main task: issuing advice in the format of advisory reports. The Gezondheidsraad's president appoints the committee chairpersons and members *à titre personnel* (that is, as individuals, not representing anyone or anything); as a rule they are independent experts rather than, for instance, representatives of social organizations.⁸ The various ad hoc committees are relatively independent within the Gezondheidsraad. In view of the equally substantial autonomy of the Gezondheidsraad regarding the parties that solicit advice, this is sometimes referred to as a "double autonomy." A committee normally has about 10–15 members from miscellaneous disciplinary backgrounds. Except for attendance money and travel expenses, they receive no compensation. A committee may also have advisers, who may join its interactions at meetings but who have no voting right. Typically, staff

members of ministries take this role of adviser; their function is to “provide insight in the government’s expectations regarding the policy area involved” and to make sure that “the committee receives relevant information” (Gezondheidsraad 2002: 9). Finally, committees may invite guests for specialist subjects. These guest experts are not formal committee members and have no responsibility for the advice.

Although committees play a central role in the Gezondheidsraad’s procedures, much internal work is done by the Gezondheidsraad’s secretariat, in particular with respect to the writing of its advisory reports and their final presentation to the outside world. At the time of our study, the secretariat employed about 80 people, half of them in support tasks (archiving, editing, secretarial work, etc.) and the other half active on one or more of the many committees as secretaries. These secretaries generally hold a PhD (in the natural or medical sciences, and increasingly in the social sciences and humanities). The executive director and the deputy executive director are responsible for the secretariat’s functioning. Not only does the committee’s secretary coordinate the committee process and supply information to committee members; he or she also “drafts the advisory report” (Gezondheidsraad 2002: 18). A committee secretary thus has a pivotal role in the overall advisory process; much like the ghost in the machine, he or she carries out much of the work backstage, invisible to the outside world.

In addition to the ad hoc committees that do the regular advisory work, the Gezondheidsraad has eight “standing committees” that provide internal peer review.⁹ These committees, chaired by the Gezondheidsraad’s president or one of the two vice-presidents, cover the various areas of the Gezondheidsraad’s activities: medicine; health ethics and health law; infections and immunity; genetics; nutrition; health and environment; radiation hygiene; and eco-toxicology. These standing committees consist of senior Gezondheidsraad members. They advise the president on the formulation of the assignment to and the composition of committees, and they review draft reports that concern their area of expertise. Finally, the vice-chairpersons of the eight standing committees make up the Presidium Committee, which advises the Gezondheidsraad’s president on more general policy issues.

Both the standing committees and the Presidium Committee play roles in formulating the Gezondheidsraad’s agenda. Gezondheidsraad members, secretaries, and civil servants from the various ministries propose items. In

various rounds of negotiation and consultation, these items are prioritized. Every year, in consultation with the Health Minister, a selection from this list is made into a “work program.” This work program is published as part of the annual budget that the Health Minister presents to Parliament.

Most of the time, and certainly when only observed from the outside, the Gezondheidsraad’s secretariat seems to work like a well-oiled machine. There are, however, some tensions built into the Gezondheidsraad that sometimes may throw sand in the wheels. During its 100 years of existence, the domain of the Gezondheidsraad has been steadily growing: from (public) health and preventive medicine in the beginning, to also including nutrition, ecology, labor conditions and occupational health, and the setting of standards and permitted dose levels of chemicals. Some of these domain extensions resulted from fusions with other advisory bodies. The different scientific and organizational cultures of these fusing organizations sometimes created internal tensions. One such tension that occasionally still emerges is the one between the “medical” and the “ecological” wings of the Gezondheidsraad.¹⁰

Once its advice has been presented to the government and published, the Gezondheidsraad’s official role is finished. During its first decades, the Gezondheidsraad had a double mission that included both scientific advice and policy making. This caused so many conflicts with an emancipating and politicizing government that in 1919 a new law stipulated that the Gezondheidsraad would henceforth have only an advisory task. As we will show in chapter 5, this does not mean that *in practice* the Gezondheidsraad does not care about how its advice is being taken up. Much effort is invested in an effective “landing” of the advice, in repairing misinterpretations, and in advocating the intended message—in other words, in policy-making effectiveness.

Similar Organizations in Other Countries

The Gezondheidsraad is typical of similar institutions in other countries, and hence it is a strategic research site for our general research questions. Of course, its set-up and its configuration within the Dutch political system are quite specific, but most countries have similar bodies for giving scientific advice to the government—indeed so similar that it is possible to use the Gezondheidsraad as a case study to analyze the processes within

such advisory bodies in general. To give the reader some feel for the extent to which our finding can be generalized, we will briefly discuss some similar organizations in other countries.

In many ways, the US National Academy of Sciences, with the National Research Council as its principal operating agency, is quite similar to the Gezondheidsraad.¹¹ It also works with committees of (unpaid) experts, it aims for consensus, and its outcomes are peer reviewed. The National Research Council instructs its committees to do all they can to arrive at a consensus and to formulate a single, shared position. Only sporadically—if “reaching consensus either is not possible or would substantially skew what otherwise would be the considered report of the majority”—does one of the Academy’s reports contain minority and majority standpoints.¹² Committee members generally write the reports themselves; they are then coordinated and edited by the staff. A difference with the Gezondheidsraad is that the National Research Council does not exclusively address requests from the central or federal government. But like the Gezondheidsraad, the National Research Council tries to move up and down between science and the policy domain. “Just like the Gezondheidsraad committees, the NAS/NRC committees advise on the basis of the current level of knowledge” (Passchier 1992), yet their advice may certainly include policy recommendations. Occasionally Dutch experts, via the Gezondheidsraad, take part in NAS/NRC committees. Another NAS institute that is relevant to the Gezondheidsraad is the Institute of Medicine. In the past the IOM had some Dutch members. Together, the National Academy of Engineering, the NAS, the IOM, and the NRC are known as the “the National Academies” or “the Academy complex.”

Unlike the reports of the National Research Council, those of Belgium’s Hoge Gezondheidsraad (HGR) are written by a secretary who has consulted experts. The HGR has a similarly broad task as the Gezondheidsraad: it is the ministry’s “scientific advisory body for all questions involving public health and the living environment.” The HGR may also initiate studies and do advising for lower-level governments. Moreover, it organizes consensus conferences (which in the Netherlands is a task set aside for a separate agency, the Rathenau Institute). Still, the HGR is smaller than the Gezondheidsraad and can therefore devote less time and resources to reviewing a case as broadly as the Gezondheidsraad is expected to. Further-

more, its advice is often closer to the policy domain, often resulting in something like a “scenario” or a “protocol.”¹³

The US Scientific Advisory Board, which is part of the Environmental Protection Agency, works for the US government. The major difference with the Gezondheidsraad and the NAS/NRC is that the Scientific Advisory Board’s work is entirely public, as is the case for any US advisory committee to a federal agency (Jasanoff 1990b).

The confidential nature of the NAS/NRC committees is exceptional in the United States and was hard won. In January 1997 a federal court ruled that from then on NAS committees had to operate in accordance with the Federal Advisory Committee Act and thus had to be fully public (Hilgartner 2000: 59). The Academy’s leadership and staff were convinced that this was a serious blow to the quality of its advisory effort. In December 1997, after intense lobbying, Congress passed a law that explicitly excluded the NAS from the Federal Advisory Committee Act. Though this restored the confidentiality of NAS committees, detailed requirements with respect to the transparency of their various procedures were installed (Hilgartner 2000).

The World Health Organization, according to staff member Mike Repacholi, tries to work in the same way as the Gezondheidsraad as far as its scientific advising is concerned: “There has been some debate about whether we introduce in our committees consumer organizations, industry organizations and this sort of thing. But WHO’s legal department resists this very strongly. It says that WHO, and I think like the Gezondheidsraad, is there to provide independent scientific advice.”¹⁴ The WHO, however, does not always have sufficient funds to get good and independent experts on its committees,¹⁵ which in part explains why it is harder for the WHO than for the Gezondheidsraad to stay out of political waters when choosing committee members.¹⁶ The most important difference between the WHO and the Gezondheidsraad is, of course, that the WHO is explicitly a political organization. This implies that reaching consensus among the member states plays a crucial role in the WHO’s work. This also applies to the World Food Organization and the International Labor Organization.

In England, the independent Health and Safety Executive operates in a multi-level system whereby in committees closer to the policy domain the number of representatives of politics and interest groups is larger. The Swedish Criteria Group and the Nordic Expert Group are Scandinavian

agencies in the area of occupational conditions. In fact none of the agencies mentioned, with the exception of the US National Academy of Sciences, cover an equally broad area as the Gezondheidsraad.

This section is not intended to provide a comprehensive list of agencies that offer scientific advice to their governments in other countries. The main point of this section is that scientific advice is found almost everywhere in our technological cultures. In an unpublished manuscript, Willem Halfman distinguishes the following categories: planning bureaus with a forecasting and scenario function, strategic advisory councils with a think-tank function, specialist and technical advisory councils on specific governmental domains, sector councils with branch organizations from a particular industrial sector, parliamentary expert support such as the former US Office of Technology Assessment, and governmental research institutes with important advisory functions.¹⁷ In this book we shall focus on scientific advisory work in which the emphasis is on translating the state of scientific knowledge to make it useful for politics and for policy making. The Gezondheidsraad then appears as a strategic research site for studying these processes of scientific advice and regulation.