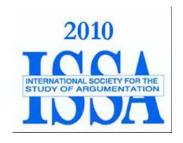# ISSA Proceedings 2010 – The Virtual World of Policy Arguments: The Case Of The Electronic Health Record

1. Introduction

Argumentation in the sphere of politics can be very complex. Several origins of this complexity can be distinguished. First, the argumentation often does not fit straightforward schemes of deduction or induction; it is conductive, that is, it is nonconclusive, with multiple premises (Govier, 1987). Second, the number of premises can be considerable (as the case in this paper will show). Third, a political argument may rest on a cluster of connected assumptions that tend to be taken as a whole, rather than be critically examined individually.

Sometimes this connectedness has to do with a particular normative framing, such as clusters in risk perception as described by cultural bias theory (Thompson et al., 1990, based on the work of Mary Douglas; for an example in the field of argumentation, see Birrer, Pranger 1994), which suggests that risks are naturally framed in the context of a political perspective on how society should deal with such risks.

Connectedness also arises when radical policy innovations or 'transitions' are discussed which involve multiple changes at various levels at the same time. Such radical innovations are sometimes considered the only effective way to deal with a certain policy problem, or a set of policy problems. Only the entire package of measures (and their expected effects) are supposed to establish the desired result; and not only is each individual measure assumed to be a necessary condition for the realisation of the end result, the effects of the individual changes may also interact, adding yet more complexity. It is this latter kind of connectedness problem that we will figure in this paper.

Argumentation with many connected arguments is necessarily complicated. And

as a result of this complexity, it offers plenty of opportunities for discussants to commit outright fallacies, or, less perceptibly, to be drawn into a process 'argumentative drift' that makes the discussion less and less productive because the discussants are not adequately responding anymore without being aware of it. Particularly in the case of proposals for radical innovation, proponents may get stuck in euphoric expectations of how the proposal will work out, without serious consideration of actually expressed of potential criticisms. They indulge in a cluster of arguments closely connected and referring to each other through the common goal, and taken together than examined individually, and the proposal becomes a kind of 'virtual reality', a fantasy out of touch with reality, up to outright utopianism when combined with equally unjustified assumptions about socio-political reality. Arguers may become less sensitive to opposition pointing at arguments individually Another possible result can be in-group vs. out-group behaviour: either you belong to the believers or to the non-believers (or those of another, competing, belief), the group-belonging is strengthened by exaggerating the differences, and critical arguments from outside are not really addressed anymore but answered by repeating the group's dogmas.

In the present paper, we will discuss a case where two competitive clusters of argumentation appear, each with a very different vision on the future of the Dutch Electronic Health Record. We will describe these two visions, and how the issue of connectedness is dealt with. It will also turn out that the discussion as it can be found in parliamentary discussions is incomplete. This we will show by extending the debate with what can be found in the scientific literature on the subject, official policy documents limiting the discussion. This suggests that it is important in discussions like these to look at a broader context in which the discussion takes place, both in terms of arguments and of process. Since we want to show the relevance of the broad context of argumentation, our emphasis here will not be on an extensive analysis of arguments in all their formal details. Rather, we examine the broader connections in the debate as a whole, and the relevance of this context for understanding what goes on in the debate (and what is missing).

2. General background
What does the term EHR stand for?
Put in general terms, the term EHR refers to systems for handling healthcare information that go beyond registrations by individual healthcare providers. EHRs are both considered at the micro-level of the care processes that surround a

particular patient and at the macro-level of public health policy. Even though a macro-political view of health informatics often evokes the idea of a central database, this is not the only way of looking at this issue. It could also be a distributed, virtual system, i.e. an access route to many different databases at various locations. From the outset, the Dutch approach has been to opt for a system with decentral storage of data, combined with a secure "switchboard" that would process queries. But the term can also be used for a system that merely facilitates exchange of information, with no central access, or switchboard at all.

This implies that the EHR can be conceptualised in two very different ways. One refers to a system for the *exchange* of information. Whenever medical professionals such as doctors, pharmacists etc. need to exchange information, this may be facilitated by the EHR system. When accumulated, this results in a longitudinal information track on a patient, but confined to the specific treatment context in which the exchanges take place. Only in this exchange context the meaning of the information needs to be clearly defined.

A very different conception refers to the EHR as a system for *storing* information, i.e., as a *database*. The information not necessarily stands in the context of a specific form of exchange; its range of users can be more general, other professionals, or even the patient.

Though the two conceptions of the EHR are not mutually exclusive (one could exchange information by putting it in and taking it from a central database), their practical implications are very different. The exchange system may benefit from some standardization of the information format, to secure quick and accurate interpretation, but such standardization can be limited to frequent exchange relations, and the scope of the system can be gradually expanded as far as desired. The database view, on the other hand, is much more ambitious. Information will be made available for different uses, in principle in different medical contexts, or even for medical statistics and scientific research. This requires massive, and extremely well-thought-out standardisation that needs to be set out from the very beginning.

A crucial implicit assumption is involved here. Information that is stored by a medical professional, or exchanged between two medical professionals to coordinate a specific treatment, is not necessarily clear and unambiguous to a third person. What is understood by the originator, or within a particular

communicative relationship, may not be understood or may be misunderstood by outsiders. The database view presumes that information is made interpretable beyond the context in which it arises, by a broader range of possible addressees, or even by anyone. Information must be decontextualised. This requires rigorous standardisation of the information format.

Policy objectives for the EHR
The general objectives for the EHR, as stated by successive ministers from 1995 on, are lowering the costs and improving the quality of healthcare. This is most clearly expressed in recent goal formulations, such as 'quality, efficiency and combating fraud' (Ministerie van VWS, 2004a) and the much-repeated slogan 'affordability, accessibility and quality of healthcare services' (e.g. Ministerie van VWS, 2006). These objectives are more or less the same as for current Dutch health care policy in general (as in many other countries). Given the steady rise of health care costs up to the present day, controlling the costs is bound to be the most important drive here, even though earlier motivations were sometimes embedded in more noble-sounding terms like 'patient-oriented', 'the healthcare consumer rather than the healthcare provider is central' (RVZ, 1996).

The role of IT in achieving the policy objectives
In policy statements and documents on the EHR, IT is presumed to offer ways to achieve the policy objectives mentioned above. Availability of information at any time to any medical professional who needs it might save needlessly unfortunate medical decisions (TNS NIPO, 2003). The standardization of information required by IT is also supposed to reduce inaccuracies and errors (e.g. RVZ, 1996; Tweede Kamer, 2005).

At the same time, IT is supposed to increase transparency. The information available can be used for controlling quality and costs by government (RVZ, 1996), but also by the patient (Ministerie van VWS, 2004b; RVZ, 2007). The latter scenario fits in a general healthcare policy trend: current supply-driven healthcare, with healthcare providers to a great extent determining what is provided in return for what, is to be transformed into demand-driven healthcare, with much more influence of the patient (RVZ, 1998; 2003; 2007). On the basis of the information available, the patient is supposed to make a well-considered choice for particular healthcare services and providers, and thus assist in controlling the quality and costs of healthcare. The information available could also be used to construct statistics to assist government in more general

healthcare policy, such as dealing with epidemics.

There are also references to the assumption that ICT in general contributes to improved quality (RVZ, 1996; Tweede Kamer, 2001b). On top of earlier comments on quality-improvements in the sense of reduced human errors, different discussants have pointed at broader effects, such as reducing scarcity on the labour market (Scheepbouwer, 2006), automating routine tasks that are currently performed by medical staff (RVZ, 2002b) in order to make more time for inter-human contact (Ministerie van VWS, 2007) and stimulating patient empowerment by allowing patients to perform more medical tasks themselves (RVZ, 2002a).

Standardisation
The differences between the database view and the exchange view translate into different standardisation approaches. As already became clear, the database view calls for a more encompassing, more rigorous form of standardization. In relation to the EHR in the Netherlands, two main visions can be discerned that correspond to the database view and the exchange view respectively. One vision, more strongly technically oriented, favours the database view, and supports more encompassing and rigorous standards ('ENV 13606'), that aim at a comprehensive database (De Clercq et al., 2004). The Dutch Health Council (RVZ) is the main institutional exponent of this view in the Netherlands. Another group favours the exchange view, and supports more modest standardization ('HL7'), with the National IT Institute for Healthcare (NICTIZ) as a main exponent.

Policy statements tend to be somewhat ambiguous on this point. On the one hand, when choices have to be made, they seem to favour the HL7 option (NICTIZ, 2003; Tweede Kamer, 2009). The Public Health Council, however, remains on the side of the more comprehensive European standard (RVZ, 2005b; Ottes & Van Rijen, 2008). At the same time, the reader will already have observed that much of the role envisioned for IT in achieving the policy objectives goes far beyond the exchange view; it presumes information to be usable in sometimes very different contexts, and necessarily seems to imply the database view.

3. Examination of the main assumptions by the Ministry
Presuppositions
The preceding section already suggests a number of presumptions that formed a common trend in the policy statements by the responsible Ministry under successive ministers with respect to the aimed consequences of the EHR:

(1) improved quality of healthcare
(2) lowering the costs of healthcare
(2a) IT generally increases efficiency
(3) transition from supply orientation to demand orientation
(4) decontextualisation of information
(5) ideal users (not explicitly discussed so far, will appear in the analysis later)

Even if one of the presumptions mentioned above would fail to hold, the negative consequences for the EHR project would be considerable. So an obvious step is to see what is known about these presumptions. We will examine them one by one. Since the last two are instrumental to the first three, and the third is instrumental to the first two, we will treat them almost in reverse order.

What the scientific literature has to say on these presumptions.
There is a considerable body of literature that puts serious question marks with respect to the issue of decontextualisation. Particularly significant in the Dutch context is a report from 1998 by the national technology assessment agency that extensively elaborates the problem of decontextualisation (Berg et al., 1998). Medical treatment involves complex acts and communications that can be properly understood by those directly involved in that particular treatment, but not necessarily by others (Pantazi et al., 2006; Son et al., 2008; Berg & Goorman, 1999). Communication involves clues that are clear to the professionals directly involved, but that are often hard to standardise to such an extent that they are also correctly grasped by others. Or perhaps such standardisation is possible in principle, but at the price that the development of appropriate standards, and the effort to translate any communication into their format, presents a burden that is hard to accept (Berg, 1999; Tully & Cantrill, 2005; Vikkelsø, 2005; Pinelle & Gutwin, 2006; Goodyear-Smith et al., 2008). This is particularly pressing if the benefits that are to be expected fall outside the primary process of healthcare delivery, where the additional investments usually have to be made. Experiences elsewhere with attempts to construct overarching medical information categories, even in cases such as integrating only specific information systems within one hospital, show the enormous difficulties of such undertakings.

The transition from supply orientation to demand orientation is a topic of its own, extending to health policy in general. Here we will be brief, and limit ourselves to what is specifically relevant to the EHR. The basic idea is that the health care consumer, i.e., the patient, should play a crucial role in valuating health care

services. The patient, being the primary subject who undergoes and experiences the services provided, gets a more active role as a 'market player', by making his/her own choices for certain health care providers, so that healthcare providers have to compete for his/her favour with better services, thus both improving quality and reducing costs. Information is of course crucial for the patient to be able to effectively play this role, which is where the EHR comes in. Nevertheless, even if the relevant information could be made available, it is by no means clear that the average patient is capable (or willing) to fulfil this task (Berg, 2002). Medical quality is hard to assess, and comparing and negotiating offers from service providers may be difficult and time-consuming. For common chronic diseases such tasks could be taken over by specialised patient organisations, but even they may not be able to effectively counter the health care professionals (the fact that, despite desperate efforts, government has not succeeded in managing the costs, does not add to the credibility to such a view either). Certain academics note that, even for patients with a chronic illness, such representation is likely to serve only a minority (Lyon, 2005). On top of that, different actors in the Dutch political debate have acknowledged that their expectations concerning the accumulated countervailing power of patients are perhaps not entirely realistic (Tweede Kamer, 2001a; RVZ, 2005a).

This means that, given what is known on these issues, the basis for the far-reaching claims of quality improvement and cost reduction is equally shallow. As for the more general assumption that IT naturally increases efficiency, the evidence shows that this is by no means the case. Sometimes it does, but there are many cases where it didn't, it all depends on how it is done. Benefits often do not outweigh the required investments (Berg, 2002).

The assumption of ideal users does not have any explicit prominence in the statements by the ministry, but it is an issue that is to be considered. Information technology design is necessarily based on assumptions on how the user will use the system. When these assumptions are unrealistic, unexpected things can happen. It may be that the designer, being a technician, assumes too much technical knowledge of the user, in which case the user will experience unforeseen problems. Less straightforward, but equally important, is that the user may have or develop motivations to use the system in a way that is different from what the designer envisioned. Such different use may have unforeseen and undesirable consequences. This possibility is, of course, not limited to IT design; it

applies also to any government regulation measure: actors may use the new system or rule in an unforeseen strategic way such that the anticipated positive effect is annihilated, or making the situation even worse than it was.

Literature on EHR development indeed indicates that physicians may go around the original intentions of the system (Pinelle & Gutwin, 2006; Winthereik et al., 2007), that they start using "shadow" records (Saleem et al., 2009), or to boycott EHRs altogether (Kaplan, 2001). In the Dutch case, it is important to note that many Dutch physicians have objected to the use of their own personal data in the future EHR (Katzenbauer, 2009). Also with respect to patients, it is questionable whether expectations concerning their use of the system are realistic. Berg (2002) points out, for instance, that patients are likely to experience information overload from certain deployments of an EHR. In such cases, family doctors are expected to experience an increase in their workload, as to have to operate as "information brokers".

4. Treatment of the main assumptions in parliamentary debates

We now come to the actual discussions in Dutch parliament that took place at various occasions from 1994 till now. As we have seen, the scientific literature suggests that none of the main assumptions treated above provides unquestionably safe ground. One would expect, therefore, that these assumptions were extensively scrutinized in parliamentary debate. However, this was not the case.

The issue of decontextualisability remained untouched upon. This was all the more remarkable, given the earlier-mentioned publication by the Dutch technology assessment office (Berg et al., 1998). The only occasion when the issue was raised, with reference to the report from 1998, was in 2005(!), when a member of parliament (who was not in parliament when the report appeared) put questions to the minister. The Minister's answer shows one way to put aside an issue like that:

'The report [..] concludes that gathered information should remain in its original context for supporting the primary process. I subscribe to that thought. However, the developments in the field of chain-integrated and multidisciplinary care place high demands on record-creation. After all, also other care providers than the concerned record-keeper need to be able to understand the context and be able to deal with this information. The need for care information to be able to circulate has an impact on the design of healthcare records. Agreements, and international

guidelines and standards in the field of records have become necessary. However, there will be space for free text for personal use, or for sharing this with others' (Tweede Kamer, 2005, p. 8)

That is, after first confirming the issue, the minister then declares decontextualisation as a necessity, thereby sidestepping to what extent this 'necessity' is possible.

The contention that the EHR will reduce the number of medical errors (as part of its quality-enhancing effect) is stated several times (TNS NIPO, 2004; Tweede Kamer, 2008). A Dutch investigation made into the causes of medical errors is used by the Minister as support for this assumption. However, as is pointed out by a member of parliament the investigation report does in fact not support not this assumption (Tweede Kamer, 2009a). Many avoidable medical errors are caused by negligence and inaccuracy, and these can also occur with the EHR.

The shift from supply to demand, and its positive impact on quality and cost control, is simply assumed. One of our main observations here was that while such an extensive transition requires a whole package of assumptions, each time one assumption is questioned, the discussion immediately leads to another assumption, and to the next etc., with the net effect that no assumption is effectively questioned.

The general cost-effectiveness of IT is simply stated (see earlier reference) and apparently assumed.
When the Minister put forward a new law introducing some aspects of the EHR, the Dutch Parliament had some comments on privacy and security matters, and on some other issues that were supposed not to be clear, but in the end the Parliament approved of the law (February 9, 2009). However, the law had also to pass the Dutch senate ('Eerste Kamer'). Here the criticism was more severe. Again privacy and security were dominant issues, but there were also questions on the rights of patients and their consequences. The common thread of the discussion was a growing belief in the Senate that important parts of the plans simply had not been adequately thought through. In July 2010, the Minister of Health (by then formally resigned, because new elections had taken place in the meantime) had to indefinitely poatpone the introduction of a law on the EHR.

5. Understanding the debate

In the previous sections we confronted the actual debate with what is known from the scientific literature, that is, we extended the actual debates that took place in parliament with input from outside that debate, by actors that did not actually take part in that debate. Investigating the debate in pragma-dialectic model within the confinement of the debate as it actually took place would have left many of the above invisible. As was observed by Birrer (2007), the pragma-dialectical model in neither of its discussion phases actually enforces that relevant aspects will always be brought up by one of the participants in the debate. In the case discussed above, the reasons for not doing so may have been in part strategic. It should be realised, however, that the subject has strongly technical aspects, and that anyone who is not very familiar with it may easily hold it for inaccessible without extensive technical knowledge. In this paper, we have not attempted to investigate the issue of motivations of actors involved.

Such a strategy of including relevant issues that nevertheless do not figure in the actual debate can be justified by pointing to the responsibility and accountability that the debaters can be held to have: responsibility because the political decisions at stake will have consequences for citizens and society, accountability because a democratic society requires that the reasons for such decisions are publicly accounted for.

Apparently, clusters of assumptions can lead to less scrutiny towards the assumptions individually. Instead, the tempting perspective of the cluster of assumptions as a whole takes over. The urge of solving the issue sometimes also leads to the solution being pictured as a 'necessity', without clear analysis of alternatives.

How does the notion of two conflicting clusters play a part in the analysis of argumentation? First of all, it is clear that there is a certain rivalry between the groups that oppose the two opposing EHR views. As we noted in the introduction already, the clustering of argumentation is likely to generate in-group/out-group dynamics. What we have attempted to show, is how this effect is strengthened when two clusters are apparent in a particular discussion. A debate on giving shape to an effective EHR can easily turn into a debate on conflicting world views.

When the scientific literature is included as a "virtual" participant in the debate, as we have done, the various ministers' statements definitely go beyond what is called strategic manoeuvring. This is particularly clear when the virtual

participants are momentarily invited to take part in actual discussions, as we have seen in the case of the report of the Dutch technology assessment agency (Berg et al., 1998). Strategic manoeuvring presumes a balance between effectiveness (persuasion) and reasonableness (Van Eemeren, 2010). Although what counts as reasonable and what not may sometimes itself be open to discussion, in the present case it is hard to maintain that it is reasonable that so many aspects are simply left entirely or almost undiscussed. It seems more appropriate to speak here, again in Van Eemeren's terms, of derailment of strategic manoeuvring (referring to an imbalance between the objective of effectiveness and that of reasonableness).

At the same time, leaving the matter at such a disqualification is not particularly helpful. The question that we think our analysis raises is how these argumentative phenomena can be understood. It looks like they can only be understood with reference to the social context in which the discussion takes place. Multiple instances of such broad analysis of debates in context could lead to a better understanding of debates like the one described, and perhaps also to new insights in how such derailments of strategic manoeuvring can be countered or curbed.

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A FEW ABBREVIATIONS AND TERMS

Ministerie VWS Volksgezondheid, Welzijn en Sport (Ministry of Health, Wellfare and Sports)

NICTIZ Nationaal ICT Instituut in de Zorg (National ICT Institute in Care)

RVZ Raad voor de Volksgezondheid en Zorg (Council for Health and Care)

TNS NIPO Taylor Nelson Solfres / Nederlands Instituut voor Publieke Opinie (Dutch Institute for Public Opinion)

Eerste Kamer (First Chamber, i.e., Parliament)

Tweede Kamer (Second Chamber, i.e., Senate)

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