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## Bridging the gap. The separate worlds of evidence-based medicine and patient-centered medicine

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### ABSTRACT

Modern medical care is influenced by two paradigms: 'evidence-based medicine' and 'patient-centered medicine'. In the last decade, both paradigms rapidly gained in popularity and are now both supposed to affect the process of clinical decision making during the daily practice of physicians. However, careful analysis shows that they focus on different aspects of medical care and have, in fact, little in common. Evidence-based medicine is a rather young concept that entered the scientific literature in the early 1990s. It has basically a positivistic, biomedical perspective. Its focus is on offering clinicians the best available evidence about the most adequate treatment for their patients, considering medicine merely as a cognitive-rational enterprise. In this approach the uniqueness of patients, their individual needs and preferences, and their emotional status are easily neglected as relevant factors in decision-making. Patient-centered medicine, although not a new phenomenon, has recently attracted renewed attention. It has basically a humanistic, biopsychosocial perspective, combining ethical values on 'the ideal physician', with psychotherapeutic theories on facilitating patients' disclosure of real worries, and negotiation theories on decision making. It puts a strong focus on patient participation in clinical decision making by taking into account the patients' perspective, and tuning medical care to the patients' needs and preferences. However, in this approach the ideological base is better developed than its evidence base. In modern medicine both paradigms are highly relevant, but yet seem to belong to different worlds. The challenge for the near future is to bring these separate worlds together. The aim of this paper is to give an impulse to this integration. Developments within both paradigms can benefit from interchanging ideas and principles from which eventually medical care will benefit. In this process a key role is foreseen for communication and communication research. © 2000 Elsevier Science Ireland Ltd. All rights reserved.

### 1. INTRODUCTION

Modern medicine is dominated by two general beliefs or paradigms: one is called 'evidence-based medicine'; the other is called 'patient-centered medicine'. Both concepts are generally accepted as

‘good’, ‘valuable’, and something to strive for. Few people will deny the relevance of either of them. But two serious questions can be raised. How patient-centered is evidence-based medicine? And, how evidence-based is patient-centered medicine? Close inspection of the literature reveals that evidence-based medicine and patient-centered medicine seem to belong to separate worlds. Bridging the gap is a major challenge for all who want to protect the humane face of medicine in the next millennium. In this article, it will be argued that doctor–patient communication plays a key-role in bridging the gap between evidence-based medicine and patient-centered medicine.

## 2. THE SEPARATE WORLDS OF EVIDENCE-BASED MEDICINE AND PATIENT-CENTERED MEDICINE

The terms ‘evidence-based medicine’ and ‘patient-centered medicine’ are seldom used by the same authors. A recent search in Medline on ‘evidence-based medicine’ showed 1023 hits, all from the last 5 years; the first emerging in 1992, with a sharp increase to nearly 600 in 1997. A similar search on ‘patient-centered medicine’ got 317 hits; showing a steady but modest stream from 1970 onwards with an increase since 1993, which parallels but does not equal the rise of evidence-based medicine in the Medline database (Fig. 1).

### [ FIGURE 1 ]

However, searching Medline for the combination of both terms, only 12 publications were found, 10 from last year, suggesting a topical relevance. Most of these 12 publications tried to bridge the gap between patient-centered medicine and evidence-based medicine, or mentioned that effort as a challenge for the next millennium. Although a Medline search is only a crude indicator for the conceptual nearness of popular terms, it creates the impression that evidence-based medicine and patient-centered medicine belong to different worlds. Why should there be this gap? And how can this gap be resolved? These questions will be answered here.

## 3. HOW PATIENT-CENTERED IS EVIDENCE-BASED MEDICINE?

Evidence-based medicine owes its rapidly growing popularity to its image of providing the ideal integration of individual clinical expertise and external scientific evidence, offering clinicians the best available evidence about the most adequate treatment for their patients [1]. At first glance, that sounds rather patient-centered, and yet it is not. There are two reasons for it.

The first reason is that evidence-based medicine is *disease-oriented*, and not patient-oriented [2]. Evidence-based medicine relies on randomized clinical trials as the ‘gold standard’ of finding evidence for the most adequate treatments in health care, or rather, on meta-analyses or review studies of only the best randomized clinical trials [3]. Without wanting to undermine the enormous relevance RCTs had and will have for the scientific development of medicine, one major drawback must be considered: RCTs are *not* patient-centered. Patients enrol in RCTs because they fulfil inclusion criteria, which are only based on the strictly defined diagnostic criteria of the disease under study. However, the majority of the patients have symptoms that do not fit exactly in the diagnostic criteria formulated by the researchers [4]. Perhaps even more important is that in RCTs patient characteristics are considered a nuisance that might disturb the results of the study, instead of providing valuable extra information. Patients who are too old, too young, too illiterate, or suffer from comorbidity or concurrent psychiatric disturbances are excluded from the study, because the statistical power could be reduced by those characteristics. Furthermore, the randomization procedure is designed as a guarantee that patient characteristics are distributed evenly among experimental and control groups, so that the influences of these ‘disturbing’ factors are canceled out in the study population. Randomized clinical trials are performed on homogeneous patient groups, that are artificially constructed by banning many patients, while the consultation room is filled with patients that show a wide diversity in related symptom patterns and an even wider diversity in the way they evaluate and cope with these symptoms, sometimes for the better, sometimes for the worse. It is exactly this diversity that makes the work of health care professionals so rewarding.

Black addressed this problem by observing that treatments that are found ‘the most adequate’ in randomized clinical trials are usually tested on only a small sample of the patients forming the target group [5]. As an example he mentioned a series of RCTs on coronary bypass surgery which had so strictly defined inclusion criteria that only 4% of patients currently undergoing this intervention in the United States would have been eligible for inclusion in the trials that were conducted in the 1970s. But few people seem to worry that RCTs are performed on diseases, while the results have to be applied to patients that in many cases would not have fulfilled the inclusion criteria for participation in the study.

The second reason why evidence-based medicine and patient-centered medicine belong to different worlds is that the evidence fills the doctor’s agenda with knowledge that is tapped from scientific research on populations: groups of patients in the same clinical condition. It does not tap from patient’s unique knowledge and experience, neither from patients’ individual needs and preferences [6]. However, groups of patients which may seem homogeneous in public health terms can be very heterogeneous in their individual characteristics, necessitating the use of various interventions in different people [7]. For this reason Sweeney observed that evidence-based medicine is essentially a *doctor-centered* approach, because it focuses on the doctor’s interpretation of the evidence and diminishes the importance of human relationships and the role of the other partner in the consultation: the patient [2]. He made a plea for a third dimension in clinical decision making; aside from the statistical significance that stems from randomized clinical trials and the clinical significance that stems from the doctor’s intuition and experience, he added personal significance that stems from the individual patient as the third source of information. While this may seem obvious to every clinician, at this moment certain signs seem to point in the opposite direction. With the development of guidelines, protocols and standards derived from evidence-based medicine, the discussion about norms and values inherent in every clinical judgment and decision seem to shift from the doctor’s consultation room to the conference room of the doctor’s professional association. If intentionally or unconsciously physicians do not want to negotiate with their patient about the usefulness of certain interventions, they can refer to the opinion of their professional association that is codified in guidelines and protocols instead [7], thereby shifting the responsibility for clinical decisions from a personal decision to a professional group decision. Patients recurrent stories in oncological care (but not only there!) that physicians urge them against their wishes to undergo unpleasant interventions ‘because it is in the guidelines that these interventions are state-of-the-art’ are a clear example of this potential danger. Physicians’ fear for the growing amount of malpractice suits certainly is a favorable condition for this unwanted development, as is the recent tendency to develop quality assurance systems that use professional guidelines as point of reference for high quality of care [8,9].

Thus, we have got the paradox that evidence-based medicine is extremely important, since it offers patients only high quality care and protects them from all kinds of unhelpful and unnecessary medical interventions, while at the same time it could become a threat to patient-centered medicine, when patients’ own opinions are bypassed or even frustrated. Yet, without patient-centeredness, medicine can lose its humane face and leave the patient alone amidst the medical technology, paper guidelines and statistical figures.

#### 4. STRENGTHENING THE PATIENT-CENTEREDNESS OF EVIDENCE-BASED MEDICINE

Evidence-based medicine is not a byword for patient-centered medicine. Physicians know that. Glass wrote in a recent editorial in the *Journal of the American Medical Association* that physicians should use the best sources science has to offer to their patients, but never in a way that neglects important psychosocial issues or the uniqueness of each patient as a person [10]. Kassirer wrote in the *New England Journal of Medicine*: ‘as our medical decisions become more and more codified, we should take care to ensure that critical therapeutic devices are not based exclusively on formal guidelines. Many decisions need to be individualized, especially when they involve choices between possible outcomes that may be viewed differently by different patients’ [11]. How real that is in everyday clinical practice is convincingly demonstrated by Taylor et al. [12], who found a marked reluctance on the part of the principal investigators (who might be expected to be most eager for the success of the trial) to ask patients to take part in an RCT of adjuvant surgery for breast cancer. The reasons given by the physicians focused on the tension felt between their role as investigators, committed to the success

of the trial, and their role as physicians, committed to their patients' well-being. That physicians indeed can experience a tension between their role as a scientist and their role as a care-giver is eloquently described by Cassell in his book: 'the nature of suffering and the goals of medicine' [13]. Strengthening the patient-centeredness of evidence-based medicine, for instance by incorporating patient preferences in RCTs will probably not only benefit the patient, but also diminish the tension that is felt by physicians in their double role.

## 5. HOW EVIDENCE-BASED IS PATIENT-CENTERED MEDICINE?

Now we have seen that the world of evidence-based medicine does not correspond with the principles of patient-centered medicine, the question arises how both worlds do compare when faced from the opposite direction. That is where the second critical question enters the picture, which is the mirror of the previous question: 'How evidence-based is patient-centered medicine?'

The very first thing that comes into mind when reflecting about the concept of patient-centered medicine is that it is at the same time bizarre and extremely important that a concept like 'patient-centered medicine' exists. It is bizarre, because it should be a pleonasm, the term 'patient-centered' should be a superfluous addition to the term medicine. All medicine should, by definition, be patient-centered. However, it is not. Since Hippocrates told us: 'first of all, do no harm' medicine has developed as a scientific endeavour, as a technological challenge, as an organizational puzzle and as an economical enterprise, in which, undoubtedly, everybody will claim that everything that is done, is done on behalf of the patient, that, of course, the patient is the centre of it all. But, certainly, most patients won't feel it that way. It is a pity, and perhaps even a shame, but patient-centered medicine is, indeed, an extremely important concept. However, it is also clear that it is not a concept that is firmly rooted in empirical evidence. Two reasons can be mentioned for the stubbornness of the empirical funding of this concept.

The first is that patient-centered medicine is what sometimes is called a 'fuzzy concept'. With 'fuzzy concept' is meant a global concept, that everybody will recognize in its overall meaning, but yet can have a quite different connotation for different people when going into more detail. With 'fuzzy concept' is also meant that the core elements of the concept are clear to everyone, but on the periphery the picture gets blurred and a bit vague. Fuzzy concepts are recognized by people, but are difficult to operationalize in measurable elements, and that is what researchers need to do.

Another reason for the empirical stubbornness of the patient-centeredness concept is that it is a container concept. It is not unidimensional. It contains several elements that maybe all point in the same direction, yet refer to different phenomena and different processes in the medical consultation, that can only be explained by different theories. This means that — dependent on what part of the container concept people have in mind when they talk about 'patient-centeredness' — quite different operationalizations will lead the empirical process. This is not regularly done in publications about 'patient-centered medicine' which hampers systematic research.

## 6. GROUNDING THE CONCEPT OF PATIENT-CENTEREDNESS

Preparing patient-centeredness for empirical research means that the concept has to be clarified. An illuminating way of doing this is by contrasting the concept with its opposite. With patient-centered medicine this can be done in at least two ways.

The first is to place 'patient-centered' opposite to 'disease-centered', as for instance Moira Stewart has done in her groundbreaking work [14]. By making this contrast, it is emphasized that the patient is more than his or her disease, and as McCormick recently stated [15]: it is as important to know the patient who has the disease, as it is to know the disease which the patient has'. Patient-centered medicine in this interpretation means that health care providers must be directed to the illness, rather than to the disease, and have to explore patients' needs from a biopsychosocial model, in which psychological, and social elements are valued as important as the strictly biomedical elements [16].

Another way to contrast 'patient-centered medicine' is to place the concept opposite 'doctor-centered medicine', as for instance is done by the British researchers Byrne and Long, who introduced 'the powershift model' in the communication literature [17]. In this contrast it is emphasized that it is not the doctor who can exclusively decide what will happen to the patient, but it is the patient's right to decide what will be done or not done in terms of diagnostic or therapeutic interventions. Patient-

centered medicine in this interpretation means that health care providers must explore patients' preferences and provide them with information that helps them to make the right decisions, a belief that originally stems from the beginning of the patients' rights movement in the 1960s, and since then is codified in laws in many western countries [18]. In the academic world this movement has been embraced by health psychologists, because of the assumed health-promoting influence of self-control and self-efficacy [19].

One could argue that both interpretations of patient-centered medicine are relevant in health care, and of course they are. But in order to provide patient-centered medicine with a sound empirical evidence-base, a conceptual distinction has to be made between both interpretations. Each interpretation coincides with different aims in the medical consultation, is guided by different theoretical frameworks, and is related with different communication skills. The major differences of both interpretations of 'patient-centered medicine' are summarized in Fig. 2. When 'patient-centered' is conceived in its contrast with 'disease-centered', it deals with the content of the consultation, the choice of topics that should, or could be addressed, according to patients' needs and expectations. In this way of conceptualizing, physicians are patient-centered when they don't restrict themselves to 'the disease of the patient', but orient themselves on 'the patient that has the disease'. The ultimate goal is: the doctor's understanding of the patients true reasons for encounter, and patients real needs and wishes [20]. Adequate communication behaviors are derived from psychotherapeutic theories that taught us about the value of affective behaviour (as opposed to instrumental behaviour) in stimulating patients to talk about everything that is on their mind, including disclosure of emotions.

#### [ FIGURE 2 ]

When, on the other hand, 'patient-centered' is conceived in its contrast with 'doctor-centered', it deals with the control over the consultation, with the question whose agenda is dealt with, who is expected and has the power to make decisions [16]. The ultimate goal is the mutual tuning of the doctors' and patients' agenda, and reaching a decision both parties feel comfortable about. Adequate communication behaviors are derived from marketing theories on the eliciting of consumer preferences together with negotiating theories on decision making [21,22] that taught us about the value of mutual tuning in reaching a consultation result that is satisfying for both parties.

These two approaches to patient-centered medicine (which must be discerned from other wellknown dimensions in health care, like, for instance, the cure-care dimension) can be conceived as dimensions that are relatively independent from each other. The traditional doctor who controls the consultation with his biomedical agenda fills the upper-left quadrangle; the modern, self-conscious patient who controls the consultation with a biopsychosocial agenda fills the lower-right quadrangle (Fig. 2). But there is also the empathic paternalistic doctor who gives his patients plenty of room to tell their whole story, but who at the same time is firm in his decisions about the right medical treatment (upper-right quadrangle), and the patient who controls the consultation with a persistent emphasis on a biomedical approach, while the doctor has a much broader view on the origin of the problems (lower-left quadrangle). The latter pattern is often seen in consultations with chronic fatigue patients [23].

Although some people will find the scenario in which the patient controls the consultation and sets the agenda the ultimate representation of patient-centered medicine, it is more appropriate to assume that patients are different in the position they prefer on both axes of this diagram. Patient-centered medicine means that the doctor is sensitive to the patient's position on these axes, and has the communication skills to handle the different types of consultations that result from that position. The literature shows that patients are different in the kind of topics they want to discuss, and in the amount of influence that they want in decision making. Contradictory results in the literature can sometimes be reduced to these differential needs and preferences. The discussion of psychosocial issues in medical consultations is such a controversial issue in the communication literature. In some studies it is shown that patients are more satisfied when the doctor pays attention to the nonmedical aspects of the illness as well [24,25]. However, other studies report a higher amount of disagreements and less satisfaction when the doctor explores psychosocial factors in the presented health problems, for instance when patients only want to discuss biomedical explanations for their health problems. Again, CFS patients are a good example. Patients can have several reasons to restrict themselves to the somatic side of illness, for instance when their main aim in the consultation is to learn that their symptoms do not refer

to a serious or threatening disease, when they prefer to discuss their psychosocial problems with other people, and/or when they have a low opinion of the physicians' competency in the psychosocial domain.

Patients are also different in their wish to influence medical decision making. In many western countries patients nowadays have the lawful right to all medical information that is necessary to make an informed decision about diagnostic and therapeutic procedures, only restricted by financial constraints. But that does not mean that all patients are equal in their need for information and decision making. Several studies show that, asked in general, nearly all patients say that they want all the available medical information and as soon as possible [26,27], while in every day practice many patients shy away from medical information, sometimes consciously by avoiding questions, and sometimes unconsciously by blocking the reception of information that is too threatening to handle [28,29]. For some people this is a personality characteristic (in the coping literature a distinction is made between the so-called 'monitors' who actively seek as much medical information as possible, and the so-called 'blunters', who avoid threatening information by shunning away [30]). But there is also empirical evidence that wanting or not wanting information and/or influence on the medical decision is dependent on the severity of the disease and the impact of the decision [31]. The more threatening the situation, the more influence patients want to grant to the doctor. For instance in cancer care and in advance directives, many patients want their doctor to make the final decision [32]. But not all patients!

## 7. STRENGTHENING THE EVIDENCE-BASE OF PATIENT-CENTERED MEDICINE

Now that we have made clear that patients are different in what they want to discuss in the consultation, and also in the part they want to take in decision making, it is also evident that the best way to know the patients' agenda is still, and will perhaps always be, listening to the patients' story and seeking the right balance in the decision making process. At this moment we do not have the knowledge, or the evidence or even a comprehensive theoretical framework to know beforehand and in general terms what patients' needs and preferences in a specific consultation will be. That is why communication is the royal pathway to patient-centered medicine. Hence, the key in strengthening the evidence-base of patient-centered medicine is to be found in communication research. Much important work is already done in the field of communication in health care. Through all the studies that have been done, it is known quite well, which kind of communication behaviors are adequate in the medical consultation in general. For instance the relevance of affective behavior, especially nonverbal behavior is well documented by now [33–35]. There is a growing amount of evidence on gender issues in medical communication [36,37]; effect studies on training programs have given evidence on what communication behaviors can be taught and trained [38–41], to name but a few of the achievements. But much of the current research is still of a descriptive nature. Now studies are needed that are more precise in their explanations and predictions, studies guided by clear theoretical frameworks, which only describe what is going on in the consultation, but also explain what happens, and, even more, predict what will happen under specified conditions and in relationship to aim-related outcome measures. The effective ingredients of communication should be more directly related to health outcomes, preferably with a combination of quantitative and qualitative research. For that aim, communication research should be integrated in health services research.

A second plea is for more efforts in synthesizing our evidence. There is much more evidence than many people realize. However, many pieces of evidence are scattered around in the literature, often not easy to find, let alone be integrated in an overall body of knowledge. Exactly 30 years ago Korsch published her pioneering work on doctor–patient communication, inspiring many researchers since then [42]. Perhaps it is now time to make the next step and start a Cochrane-like [43] exertion on the evidence of patient-centered medicine, that can help us to develop patient-centered, evidence-based guidelines and protocols on communication in health care.

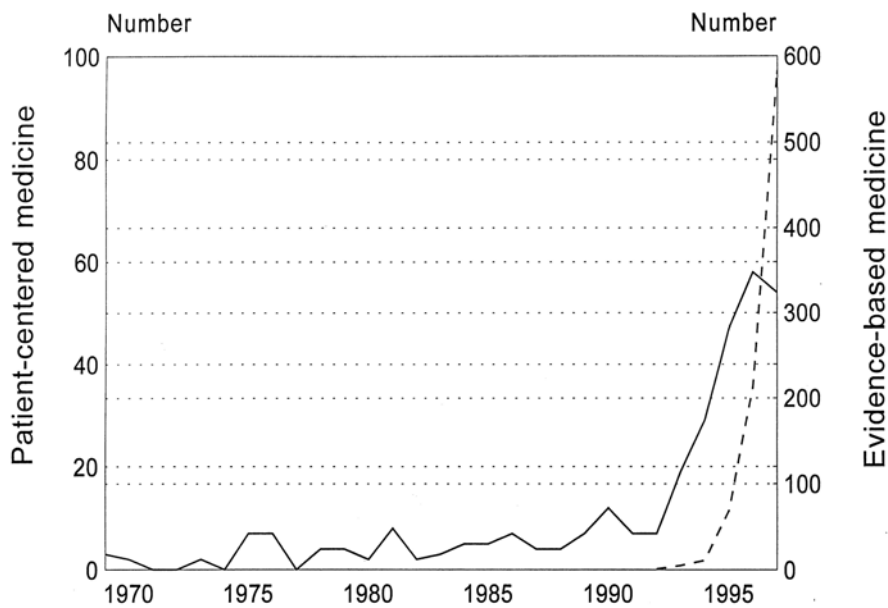
## 8. CONCLUSION

Evidence-based medicine and patient-centered medicine are two prevailing paradigms that both deserve our full attention. It has been shown that both worlds have little in common whereas the challenge for the near future is for integration of these paradigms. In our view, this means, that:

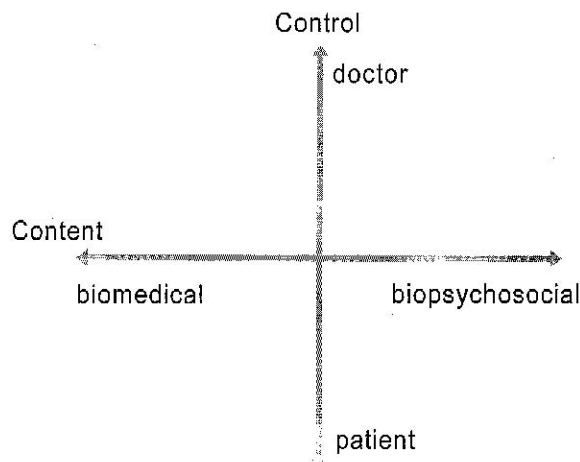
- (a) evidence-based medicine should become more patient-centered, for instance by incorporating patient preferences in RCT designs [44], and
- (b) patient-centered medicine should become more evidence-based by more focused study designs in communication research and more synthesizing meta-analyses.

Combining these strategies should diminish the gap between patient-centered medicine and evidence based medicine. Paraphrasing one of the Dutch influential medical specialists, Professor Erkelens [45], one could say, ‘that if everything that was said and done by the physician in clinical encounters had to be both evidence-based, and patient-centered, it would be remarkably silent in the consultation room’. And, although, we know that ‘silence is golden’ in doctor–patient communication, we also feel that this is not to be exaggerated. Communication can play a key-role in bridging the gap: both in clinical practice, and in clinical science.

**FIGURES**



**Fig. 1. Number of publications in MedLine on ‘patient-centered medicine’ and ‘evidence-based medicine’.**



**Fig. 2. Dimensions of patient-centeredness.**

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