



# Non-clinical influences on clinical decision-making: a major challenge to evidence-based practice

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## Summary

This article reviews an aspect of daily clinical practice which is of critical importance in virtually every clinical consultation, but which is seldom formally considered. Non-clinical influences on clinical decision-making profoundly affect medical decisions. These influences include patient-related factors such as socioeconomic status, quality of life and patient's expectations and wishes, physician-related factors such as personal characteristics and interaction with their professional community, and features of clinical practice such as private versus public practice as well as local management policies. This review brings together the different strands of knowledge concerning non-clinical influences on clinical decision-making. This aspect of decision-making may be the biggest obstacle to the reality of practising evidence-based medicine. It needs to be understood in order to develop clinical strategies that will facilitate the practice of evidence-based medicine.

## What is clinical decision-making?

The process of clinical decision-making is the essence of everyday clinical practice. This process involves an interaction of application of clinical and biomedical knowledge, problem-solving, weighing of probabilities and various outcomes, and balancing risk-benefit. A key task is to balance personal experience and prevalent knowledge.<sup>1</sup> Evidence-based medicine protocols provide a pathway to physicians which allows them to make sound therapeutic decisions with an element of confidence rather than being based purely on personal experience. Clinical decision-making is the process of making an informed judgment about the treatment necessary for our patients.<sup>2</sup> This process is complex involving several important steps in which patient involvement is essential:<sup>3-6</sup>

- Recognition and clarification of the problem;
- Identification of potential solutions;
- Discussing the options and uncertainties;

- Providing tailor-made information;
- Checking understanding and reactions;
- Checking patient's preferences;
- Exploring the patient's view;
- Agreeing with the patient about a course of action;
- Implementing the chosen course of action;
- Arranging follow-up with the patient;
- Evaluation of the outcome.

## What do we mean by non-clinical influences?

Although most clinical decisions are based on 'traditional' clinical criteria, they are also influenced by a wide range of non-clinical factors, for example, the patient's socioeconomic circumstances. Some influences fall in a grey area between 'clinical' and 'non-clinical', e.g. patient adherence. Patient adherence may be a 'clinical' influence, but if it is associated with, for instance,

**Table 1**  
**Examples of non-clinical influences on clinical decision-making**

<i>Patient-related factors</i>
Patient's socioeconomic status
Patient's race
Patient's age, gender and other personal characteristics
Patient's adherence to treatment or inappropriate behaviour that may influence adherence (e.g. chaotic life style, frequent non-attendance for follow-up appointments)
Patient's wishes and preferences
Patient's attitude and behaviour
Patient's concerns and worries (medical and non-medical concerns)
Others: Influences of patient's family members and friends, faith, culture and quality of life
<i>Physician-related factors</i>
Physician's personal characteristics, age, gender, culture, faith and race
Physician's time constraints and work overload in the clinic
Physician's professional interaction; e.g. relationship with colleagues, hospital staff and with pharmaceutical industry
<i>Practice-related factors</i>
Type of practice (e.g. private vs public)
Size of practice, practice organization, geographical location, and availability of health resources
Management policies/implication of treatment cost

frequent absence from follow-up appointments, it could be considered 'non-clinical'. Patient age could be considered to be a clinical rather than non-clinical influence because it is associated with physical ability and other co-morbidities. However, the patient's age may also be a non-clinical influence<sup>7</sup> because of associated non-clinical aspects, such as transportation problems in the elderly, making follow-up appointments more difficult.

It is, therefore, not possible to categorize all influences on clinical decisions into either 'clinical' or 'non-clinical', as overlap areas exist. We use the 'artificial' descriptor of 'non-clinical influences on clinical decision-making' in order to focus thinking on this broader aspect of clinical medicine.

There are many 'non-clinical' factors<sup>7-9</sup> that may influence clinical decision-making (Table 1).

Evidence-based medicine (EBM) is the conscientious, explicit and judicious use of current best evidence in making clinical decisions about the care of individual patients.<sup>10-12</sup> However, non-clinical influences on decision-making may be the most important, and up to now largely unrecognized obstacle to the practice of EBM.

## Literature search strategy

Articles were identified by FMH using Google Scholar, EMBASE, CINAHL and PubMed, and the Cardiff University School of Medicine medical library. The key search words and phrases were: clinical decision-making, influences on clinical decision-making, non-clinical influences on clinical decision-making, influences on patient management decisions, factors influencing clinical decision-making, barriers to healthcare access, and influences on prescribing decisions.

## Patient-related factors

### The patient's socioeconomic status

A patient's socioeconomic status can influence management decisions. In the USA, being aware that patients have a low socioeconomic status often influences primary care physicians to change their management plan to suit those with financial difficulties.<sup>9</sup> The influence of socioeconomic status could lead to patients receiving less than ideal or non-standard treatment, for example less aggressive diabetes management or postponement of biomedical tests.<sup>9</sup> However, in other healthcare systems, e.g. the UK where there is free healthcare, this influence may not be so relevant. Moreover, the sample size of 18 physicians in this study<sup>9</sup> was small and there was no consensus among the physicians on the definition of low socioeconomic status and on the role of this status on clinical decision-making.

In Canada, patients with a low income visit specialists at a lower rate than those with a high income despite the existence of a free universal health system.<sup>13</sup> Also in Canada, acne patients with low socioeconomic status were less likely to visit dermatologists.<sup>14</sup> This may be because patients with lower income may face other financial or time difficulties which may limit their visiting specialists, for example difficulties in transportation and travel expenses<sup>15</sup> or time commitment at work or with children.<sup>16</sup> A limitation of the acne study<sup>14</sup> was that it did not record acne severity; only socioeconomic status and rural versus urban influences were studied, and these may not be the only reasons for referral to dermatologists.

The cost of care and the patient's ability to pay may influence the physician's therapeutic plan. Patients with a high socioeconomic status who are

able to pay for healthcare are more likely to have medical tests than patients with a low socioeconomic status.<sup>17</sup> Physicians may change their prescription strategy, shifting to a cheaper drug within a therapeutic class or shifting to another drug covered by the insurance scheme.<sup>18</sup> Even among insured patients there may be some with insurance plans giving only limited coverage.<sup>18,19</sup> This socioeconomic status disparity may reduce the quality of patient care and result in undesirable consequences. For example, in the USA insured patients are able to receive better primary care than uninsured patients, and privately insured patients are able to receive better primary care than the publicly insured.<sup>19</sup> Uninsured patients who were paying for their medication were less likely to adhere to treatment.<sup>20,21</sup> Compared with the insured, patients without health insurance receive fewer inpatient and outpatient services,<sup>22</sup> undergo fewer cancer screening tests and have different overall treatment patterns.<sup>22,23</sup> If they have breast cancer, they are less likely than insured patients to receive appropriate screening and diagnostic workup and to obtain treatment consistent with current standards of care.<sup>24,25</sup> The decision to recommend mammography was strongly associated with socioeconomic status and age but not with ethnicity.<sup>25</sup> Uninsured patients were more likely to be diagnosed with late stage cancer,<sup>26</sup> have a higher mortality rate from breast cancer,<sup>23</sup> and have a lower three-year survival rate from colorectal and lung cancer<sup>22</sup> compared to insured patients. This may reflect the delay from patients in seeking medical help because of the assumed potential financial burden.

### The patient's race

The influence of a patient's race on clinical decision-making has been studied in the USA and South Africa. In the USA,<sup>27</sup> whites were more likely to receive zidovudine (AZT) treatment for HIV infection than non-whites. One explanation is that physicians (of whatever race) are aware that HIV treatment needs strict adherence to medication and assume that black patients adhere less to treatment than white patients. Blacks, compared to whites, receive less coronary artery bypass surgery<sup>28</sup> and less invasive cardiovascular procedures.<sup>29</sup> In South Africa, black women receive fewer Caesarean operations than white women,<sup>30</sup>

though arguably the lower Caesarean section rate may be preferable. In one UK study,<sup>31</sup> psychiatrists were asked to read and diagnose a case history describing an agitated patient with paranoid delusion whose family reported that they suspected the patient had been smoking cannabis. If the patient was described as Afro-Caribbean, the diagnosis was more likely to be cannabis psychosis, whereas if the patient was described as white, the diagnosis was more likely to be schizophrenia. However, the results from these hypothetical scenarios may not reflect real-life cases, and there is the possibility of bias due to under-reporting of psychiatric symptoms, such as depression, by African-Americans.<sup>31</sup>

'Do not resuscitate' (DNR) orders in the USA<sup>32</sup> were more commonly applied to black people, alcoholics, non-English speakers, and to people infected with HIV, highlighting how non-medical information may influence a critical medical decision.<sup>32,33</sup> However, the former study<sup>32</sup> did not determine whether these differences were due to patients' preferences or to physicians' characteristics. However, black patients have been found to be more likely than white patients to prefer cardiopulmonary resuscitation (CPR) over having a DNR order applied.<sup>34</sup> Black patients were also found to be more likely than white patients to want to discuss the CPR order with their physicians, even though they were less likely to have this type of discussion.<sup>34</sup> This may explain why the use of DNR orders was substantially lower in African-American patients than in white patients.<sup>35</sup>

Patient's race may influence physicians' recognition and treatment of depression.<sup>36</sup> African-Americans were less likely to be treated with antidepressant medications compared to white patients with similar levels of symptoms of depression.<sup>36</sup> Several causes of this disparity have been suggested, including black patients feeling stigmatized by a mental health disorder, low patient education and recognition of depressive symptoms, inability of black patients to access and pay for treatment, and inability of physicians to recognize symptoms of depression in a minority group.<sup>36</sup>

African-Americans with renal cell carcinoma were less likely than whites to be treated with Interleukin 2, after controlling for age, tumour grade, co-morbidities and other relevant clinical variables.<sup>37</sup> Various reasons were suggested, including limited financial resources for African-Americans, and living in rural areas with reduced

access to specialized centres. Awareness of side-effects of Interleukin 2 and the necessity of frequent hospitalization might deter this group of patients from having this treatment. Younger individuals were under-represented in the study and the findings were only applicable to older patients with metastatic renal carcinoma.

In some countries, therefore, if a patient is of Afro-Caribbean origin or from another ethnic minority, this may inappropriately influence their management decisions.

### The patient's gender

The patient's gender can play an apparently inappropriate role in clinical decision-making. For example, women receive more laboratory tests, blood pressure checks, drug prescriptions, physical examinations and return appointments than men.<sup>38</sup> Women also have more physician visits per year and more services per visit.<sup>38</sup> Physicians usually perceive that women's complaints are more likely to be influenced by emotional factors and women are more likely than men to make excessive demands on physician's time.<sup>39</sup>

Women can be disadvantaged by inadequate attention to the symptoms and signs of cardiovascular disease. For example, cardiovascular disease may be more advanced in women than men before diagnosis or treatment because of a tendency among physicians not to recognize angina as a symptom of disease in women.<sup>40</sup> Women have a higher operative mortality rate for coronary bypass surgery,<sup>41,42</sup> and a higher mortality rate than men at the time of an initial myocardial infarction.<sup>43,44</sup> In Germany, women were less likely to get a coronary heart disease diagnosis and less likely to be referred to cardiologists or other specialists.<sup>45</sup> In primary care, women with angina receive less intensive clinical care than men,<sup>46-48</sup> irrespective of prior myocardial infarction.<sup>46</sup>

In contrast, in a study from Israel, no gender differences existed in the clinical care of patients with angina<sup>49</sup> or of patients with depression.<sup>50</sup> In a Spanish study,<sup>51</sup> the approach of primary care physicians to patients with symptoms of anxiety and depression differed with the gender of the patient. Physicians prescribed more anxiolytic drugs, gave more psychological support and thought more about functional causes rather than organic causes of the disease when the patient was a woman.

### The patient's age

The patient's age can influence clinical management decisions. Physicians are likely to categorize the complaints of older people as normal or age-related rather than as signs of disease.<sup>52</sup> A cross-sectional study<sup>53</sup> of two general practices in the UK found that older people are less likely than younger people to be offered health-promotion advice. McKinley *et al.*<sup>7</sup> demonstrated that while older patients presenting to primary care physicians were more likely to be diagnosed as having coronary heart disease than younger patients with identical chest pain symptoms, the higher probability of diagnosis did not give older patients more access to appropriate care interventions. This study<sup>7</sup> was limited by the reliance on an experimental design using videotapes of hypothetical scenarios depicting professional actors as patients rather than real-life cases.

Compared with younger patients, older patients receive delayed and fewer diagnostic interventions,<sup>54</sup> fewer preventive drugs,<sup>55</sup> fewer prescriptions that are known to be effective cardiac treatments,<sup>56</sup> and have more limited access to specialist care facilities.<sup>57</sup>

There is a direct influence of patient's age on decision-making about angina investigation and treatment.<sup>58</sup> Older patients were less likely to be referred to cardiologists and if referred were less likely to receive cardiovascular interventions. Physicians saw old age as having an influence because of its association with frailty, co-morbidity, the nature and duration of potential benefit of the treatment and patient's wishes regarding intervention.<sup>58</sup> In contrast, a study from Germany found that older patients were more likely than younger patients to be diagnosed with coronary heart disease and had a greater likelihood of receiving appropriate medication.<sup>45</sup> This German study used hypothetical experimental scenarios with primary care physicians and so the results may not be generalizable.

### The patient's adherence to treatment

Another important issue which can influence management decisions is the physician's view of the patient's adherence to medication. Physicians may be less likely to treat patients who they suspect would not adhere to treatment. Bogart *et al.*<sup>59</sup>



showed that physicians were unlikely to prescribe HAART (Highly Active Anti-Retroviral Treatment) for HIV patients who were less likely to adhere to treatment, i.e. those patients who had a prior history of poor adherence or who were homeless, heavy alcohol drinkers, injection drug users, or patients with prior psychiatric hospitalization.

Cotton *et al.*<sup>60</sup> found that patients with diabetes and elevated blood pressure were less likely to be given appropriate antihypertensive treatment for various reasons, including physician-perceived patient non-adherence, adverse side-effects of medications, and high cost of medications or inadequate insurance.

### The patient's wishes and preferences

Patient's wishes and preferences can influence management decisions. Patients may prefer a certain type of management despite it being unnecessary or inappropriate from an evidence basis. In one study 71% of physicians stated that patients' wishes had influenced their decision to admit patients to an intensive care unit.<sup>61</sup> Similarly, general practitioners in Iceland were found to be influenced by patients' pressure to prescribe antibiotics in unnecessary cases, described as 'non-pharmacological prescribing'.<sup>62</sup> Patients' treatment preferences have been found to influence the type of management decisions in 7% of dermatology outpatient consultations.<sup>63</sup> For example, patients may prefer creams over ointments because ointments are sticky.

Patients with cancer sometimes decline therapy suggested by the oncologist. Patients may decline chemotherapy and trade potential survival benefit for improvement in current quality of life.<sup>64</sup> There are many influencing factors when patients consider treatment options for their cancer, including information related to treatment efficacy and toxicity, prior experience with the treatment, quality of life during or after treatment, proximity to end of life, opinion of their care provider and preference of a patient's partner or family.<sup>64</sup> Patient preferences are an appropriate influence on the decision-making process, and if patients get what they prefer they are more likely to be satisfied and compliant with treatment regimens. However, patient preferences may go against the medically optimal treatment option.

### The patient's attitude and behaviour

Sometimes physicians encounter patients who are violent, demanding, aggressive, rude or who seek secondary gain.<sup>65</sup> These 'difficult' patients visit their physicians more frequently than average, receive more prescriptions, have more tests done, and are more often referred to specialists.<sup>65</sup> Difficult patients have twice the normal prevalence of significant psychopathological disorders.<sup>66,67</sup> Hahn<sup>68</sup> estimated that 10–20 % of consultations in general practice deal with such patients. Physicians may use different management strategies for these patients in order to satisfy them and to avoid frequent contact with them, for example, by referring the patient for another opinion or by ordering unnecessary tests.

### Other patient-related influences

When a patient has cancer, the patient's family can influence decisions, with respect to selection of the patient's physicians, hospitals and treatment options.<sup>69</sup> In patients with advanced lung cancer a patient's faith in God has been shown to influence treatment choices.<sup>70</sup> Family wishes influence the primary care physicians' prescribing attitude. For example, Franz *et al.*<sup>71</sup> found that primary care physicians were influenced by the family's wishes when prescribing cholinesterase inhibitors in patients with dementia.

Surgeons often integrate their patient's concerns into treatment decisions when counselling patients with early breast cancer. Wu *et al.*<sup>72</sup> showed that patients concerned about dying from breast cancer were more likely to be recommended mastectomy than patients primarily concerned about losing their breasts, for whom mastectomy was not recommended. Patient and family influences in some situations therefore can appropriately or inappropriately influence treatment decisions.

Although formal quality-of-life assessment is seldom carried out routinely in general dermatology clinics, when quality-of-life information is available, some clinical decisions are influenced, especially in these patients whose lives are severely affected by skin disease.<sup>73</sup> In the management of patients with psoriasis, there is concordance between the type of clinical decision taken at an outpatient review appointment

and the impact that the psoriasis is currently having on the patient's quality of life.<sup>74</sup>

## Physician-related factors

### Physician personal characteristics

The physicians' decision-making process can be influenced by their own personal characteristics. For example, the personality of the physician may determine, at least in part, his or her approach to patient management. Physicians have been characterized<sup>8</sup> as being either interventionist or oriented toward health maintenance. Interventionist physicians are disease-oriented, whereas health maintenance physicians are more likely to be patient-oriented. Generally, the interventionist is inclined towards immediate action, whereas the health-maintenance-oriented physician is willing to observe the situation.<sup>8</sup>

Physician's gender, age and ethnicity may play a role in decision-making. For example female physicians were more likely than male physicians to be influenced by the patient's psychosocial factors and expectations when making decisions.<sup>75</sup> Younger physicians order more tests than older physicians.<sup>76</sup> However, these two studies used hypothetical scenarios rather than real patients and may not reflect the practical reality. Female physicians spend more time with their patients,<sup>77,78</sup> and the consultation is usually longer when there is gender concordance between the physician and the patient.<sup>78</sup> Female physicians spend more consultation time on disease-preventive services and counselling than male physicians, and male physicians usually spend more time on technical practical issues and discussion of substance abuse.<sup>79</sup>

In Germany, Hamann *et al.*<sup>80</sup> found that older hospital psychiatrists adopted new anti-psychotic medication earlier than their younger counterparts. The influence of patients' and physicians' characteristics on clinical decision-making were investigated<sup>81</sup> regarding recommending percutaneous endoscopic gastrostomy (PEG) tube placement in patients with advanced dementia. Modi *et al.*<sup>81</sup> demonstrated an influence of physician's race on clinical decision-making. Thirteen percent of Caucasian physicians recommended PEG tube feeding compared to 54.3% of Asians and 40% of African-American physicians, despite the evidence that PEG tube feeding does not provide

clinical benefit for patients with advanced dementia.<sup>81</sup> This disparity was explained<sup>81</sup> as being related to cultural differences; African-American physicians tend to give more aggressive treatment than Caucasians in end-of-life situations because their spiritual beliefs play a more prominent role, including the concept that only God has the power to determine death.<sup>81</sup> However, it may be that non-Caucasian physicians who were approached for this study were less familiar with the research evidence that PEG tube feeding does not provide clinical benefit for patients with advanced dementia. The differences might also be explained by differences in training and experience between Caucasian and non-Caucasian physicians. The authors also used hypothetical case-scenarios and the study therefore might not reflect real-life treatment recommendations.

### Physician's professional interaction

A physician's interaction with his or her professional community can also influence medical decision-making. Physicians are more likely to be early adopters of new drugs if they are involved in the medical community, for example having regular contact with colleagues and hospital consultants.<sup>82-84</sup> Another important influence is the influence of the pharmaceutical industry on physicians' prescribing. Pharmaceutical companies can influence physicians in many ways, for example by arranging interaction with a pharmaceutical representative,<sup>85</sup> by giving drug samples<sup>86</sup> or gifts to physicians,<sup>87</sup> and by funding physicians for travel or attending educational symposia as well as by providing research funding.<sup>87</sup> In the USA, it was estimated that 84% of pharmaceutical marketing is directed toward physicians,<sup>88</sup> an average of \$10,000 for each physician per year.<sup>89</sup> It is self-evident that pharmaceutical companies invest these sums of money in the expectation of influencing physicians to prescribe their drugs.

### Other physician-related influences

The decision to refer patients to a specialist is not based on clinical factors alone. The relationship between the referring physician and the patient and between the referring physician and consultants,<sup>90</sup> the capabilities of the referring physician,<sup>91</sup> whether the physician has the specialist board's

certification<sup>92</sup> and the insurance coverage accepted by the specialist<sup>92</sup> all may influence the referral decision. Forrest *et al.*<sup>93</sup> found that general practitioners with low tolerance to uncertainty had high referral rates.

### Features of the practice

Clinical management decisions made by physicians may differ from one practice to another, depending on the size of the practice, the geographic location, the capabilities of physicians, treatment policies, and the organization of the practice.<sup>7</sup> For example, there are higher referral rates in large towns than small towns due to the availability of more consultants in large towns.<sup>94</sup>

### Private versus public medical practice

Clinical practices in the USA can be classified into client-dependent practices which are usually private and colleague-dependent practices which are often university based. Physicians practising in client-dependent practices respond more readily to the wishes of patients. On the other hand, physicians practising in a colleague-dependent practice respond to influences from their professional community.<sup>8</sup> Murray<sup>95</sup> found that in Chile there was a higher rate of Caesarean sections among pregnant women in the private sector than in the public sector or university hospitals. These findings were attributed to the greater influence of patient's wishes in the private sector, as well as to the preference of obstetricians to work in the private sector in order to increase their income, especially by performing surgical procedures.<sup>95</sup>

### Management policies

There is pressure on hospitals, insurance companies, employers and physicians to consider cost when providing care to patients. There is a risk that these pressures may lead to reduction in the overall quality of care. For example, resource constraints in Intensive Care Units (ICU) might result in premature discharge of patients and this has been associated with an increased mortality rate.<sup>96</sup>

Management decisions may differ from one country to another due to differences in healthcare systems and treatment policies. The proportion of patients with actinic keratosis who receive treat-

ment in Australia and Canada is much lower than in the USA. Lack of direct access to dermatologists and lack of reimbursement from national health services are possible explanations for this disparity.<sup>97</sup> In addition, treatment guidelines may influence dermatologists' decisions to treat actinic keratoses. For example, Medicare health insurance in the USA stated that it would not pay for the destructive treatment of more than 15 actinic keratoses in a single visit.<sup>97</sup> This encouraged dermatologists to decide which lesions are most appropriately treated in this way and may have resulted in them switching to another type of treatment.<sup>97</sup>

### Discussion

Medical decision-making has an additional level of complexity due to the expectations of the patient, and the considerations the physician must make in choosing a treatment that is not only effective, but also maximizes benefits while minimizing risks. Decision-making in medicine was historically based on intuition and the physician's personal experience, rather than on clinical evidence. However, the concept of evidence-based medicine, which has been encouraged since the early 1990s, changed the way decision-making was viewed, with the emphasis since then being on implementation of guidelines based on the highest levels of clinical evidence such as randomized clinical trials. Decision-making has moved too; from the traditional paternalistic model to a shared model with increasing emphasis on incorporation of the patient's views and wishes in the choice of treatment.

Physicians continue to use personal experience as part of their decision-making process and are subject to a wide range of influences, despite the recent emphasis on the use of EBM. The advocates of EBM might have expected the role of personal experience to have diminished. However, some degree of professional judgment is still to be expected and remains appropriate in the application of EBM, especially where strong evidence is lacking. This review leads one to question to what degree physicians are really using EBM in conjunction with their professional judgement.

Examples presented in this review suggest a disparity between prescribing practices and a lack of uniformity in decision-making between individual physicians and also, perhaps, between

hospitals. Therefore, patients are still unlikely to receive equality of treatment.

In contrast to the evidence basis of management decisions within EBM, this review focuses on the wide variety of influences that the physician is subjected to, consciously or subconsciously, during the decision-making process. The integration by the physician of scientific evidence, the patient's personal circumstances and wishes, and other non-clinical influences comprises what has traditionally been described as the 'Art of Medicine'. Physicians bring varying degrees of wisdom, experience, understanding and sensitivity to this process. It is important to understand the role of non-clinical influences in this process, because some of the non-clinical influences are positive and are appropriate in reaching the best decision for an individual patient. However, other non-clinical influences (e.g. the influence of race) may be entirely inappropriate and, if not recognized and discounted, may result in inappropriate and sub-optimal decision-taking.

Physicians in training should be taught about the decision-making process and made aware of the range of positive and negative non-clinical influences to which they may be subjected. By understanding and becoming aware of these often subconscious influences, they may learn to make better decisions in the interests of their patients.

## Conclusion

A lack of understanding of non-clinical influences by the physician while making management decisions could potentially lead to suboptimal individual patient care. Although physicians should always try to act in a rational, evidence-based and professional manner, they should also consider the unique circumstances of individual patients in their clinical practice and respect patients' values and beliefs. Treatment policies should promote management of all patients equally without differentiating between them because of gender, age, sexual orientation, religion or race, in order to ensure provision of the highest quality healthcare to all patients.

It is clear that one of the greatest challenges facing clinical medicine in the 21st century is the development of strategies that would acknowledge and integrate important non-clinical influences with evidence-based medicine without compromis-

ing the standard of overall healthcare. Physicians will not be able to practise true EBM unless non-clinical influences on decision taking are recognized, understood and openly taken into consideration during the clinical decision-making process.

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