

ANALYSIS OF THE *DISCUSSION PAPER* “THE CARE OF THE PATIENT AND THE SOUL OF THE CLINIC: PERSON-CENTERED MEDICINE AS AN EMERGENT MODEL OF MODERN CLINICAL PRACTICE” BY ANDREW MILES AND JUAN E. MEZZICH, *IJPCM* 2011; 1 (2) 207-222

## Through a Glass, Darkly: The Challenge of Integration of the Science and the Art of Medicine.

Peter C Wyer MD<sup>a</sup> and Suzana Alves da Silva MD PhD<sup>b</sup>

a Associate Clinical Professor of Medicine, Columbia University College of Physicians and Surgeons, New York City, NY, USA

b Senior Researcher, Amil Assistência Médica Internacional, Rio de Janeiro, Brazil

### Abstract

We have entered a new phase in the dialogue between proponents of evidence-based medicine and humanistic medicine. Over 30 years of parallel development of patient-centered and evidence-based care make possible concrete approaches to the integration of the fruits of these developments. Such integration is of increasing importance to the viability of today's highly structured and regulated healthcare environment. Attempts at integrated model building on the part of proponents of both EBM and humanistic care have suffered from common deficiencies. These include the failure to distinguish between decision-making and practice models, failure to illuminate processes traversing categories of knowledge and information, failure to embrace the principles of relationship-centered care and failure to adequately address the epistemological issues inherent to the integration of the experiential and scientific domains of clinical practice. A published model-building attempt is used to illustrate what a correction of such limitations might look like. Efforts to develop person-centered care as an integrated and patient-centered vision of healthcare are encouraged.

### Keywords

Art of medicine, clinical decision-making, doctor-patient relationship, epistemology, evidence-based medicine, modern clinical practice, narrative, paradigm, paternalism, person-centered medicine, personhood, preferences, science of medicine, values

### Correspondence address

Dr. Peter Wyer, 446 Pelhamdale Avenue, Pelham, NY, USA. E-mail: [pwyer@att.net](mailto:pwyer@att.net)

Accepted for publication: 20 June 2012

---

## Introduction

“For now we see through a glass, darkly; but then face to face: now I know in part; but then shall I know even as also I am known”. 1 Corinthians 13:12, King James Bible.

Twenty one years since the phrase “evidence based medicine” (EBM) was coined [1] and nearly as many years after a published manifesto unleashed a storm of controversy in the pages of peer reviewed journals [2,3], a discussion paper by Miles and Mezzich [4] heralds a new and much needed turn in the ensuing debate. They recognize that the erosion of humanism in tandem with technology-based advances in medical knowledge and intervention, as well as the economic impetus towards rigidly standardized care [5], corresponds to a long standing struggle within clinical medicine, a struggle that began long before the advent of EBM or the age of clinical trials. Whether one frames the challenge in terms of the

dichotomy between the ‘science’ and the ‘art’ of medicine or between illness and disease, Miles and Mezzich’s scholarly and balanced review of the issues emerging from the “EBM wars” makes clear that those were never about winning. Rather, they forced long standing issues and challenges into the context of the information age and the trial era. Ultimately, the EBM wars have been about the challenge of integration, conceptual and practical, of domains otherwise defined by Western philosophy as inherently irreconcilable.

Our perspective emerges from decades of practice in the high stakes clinical disciplines of emergency medicine and cardiac intensive care on two continents, combined with educational leadership privileged by close collaboration with some of the founders of EBM. This, enriched by studies of the philosophy of medicine as well as collaborations with leaders of medical humanism and narrative medicine, has led us to our current views regarding the trajectory defined by Miles and Mezzich. Their summary of the relevant historical developments

within the literature on medical humanism, relational care and EBM is insightful and inspires little criticism or correction. Their prescription for 'person'-centered medicine is compelling insofar as it reflects a decisive further step towards meaningful patient empowerment and a framework for integration.

We will direct our commentary to several issues relevant to the challenge of integration. Specifically, referring to a review by Charles *et al.* [6] and drawing on a proposal for a casuistic model of decision-making earlier advanced by Tonelli [7], Miles and Mezzich propose a "5<sup>th</sup> reconstitution" of EBM. Charles *et al.* had identified a succession of 4 published attempts at model-building on the part of EBM advocates in response to early criticisms [6]. Although Miles and Mezzich emphasize features of Tonelli's elaboration that seek to go beyond the representations reviewed by Charles *et al.*, there remains nonetheless a subtle implication that the former is to be understood as a refinement of the latter. We find several aspects of Tonelli's description of his casuistic model to be problematical in a fashion that is brought to the fore by Miles and Mezzich's implied characterization. To elaborate this will require some preliminary consideration of published precedents for a workable model.

## From *patient*-centered to *person*-centered care

Miles and Mezzich's pursuit of a conceptual model of person-centered care honors 'person-hood' over 'patient-hood' and seeks integration without abandonment of the powerful tools and technologies afforded by medical science. In the course of their quest, they consider evolving concepts of the relational aspects of care which bear on clinical decision-making. Following their compelling summary, patient-centered care is a concept introduced over 50 years ago by Balint [8] and which has undergone transformations in interpretation as it has become more fashionable. Berwick's interpretation [9], cited by Miles and Mezzich, is perhaps one of the most radical and reflects a strong commitment to the notion of the patient as a 'customer-consumer', with the practitioner virtually relegated to the role of technical consultant, advisor and 'customer care' specialist. However, are there not differences between healthcare consumers and patients? Certainly, consumer advocacy and patient advocacy constitute distinct stakeholder groups on the level of sociomedical economics. The experience of illness, as opposed to the recognition of disease, furthermore defines the crucial difference between the practitioner and the patient perspective and between patient and consumer of healthcare [10]. Epstein and Street [11], also cited by Miles and Mezzich, concur with the concept of 'patient-centered' as a decentralization of power, away from the healthcare professional as the source of clinical authority and towards an empowerment of the patient. However, Epstein *et al.* also seek to preserve the special, relational features of the clinical encounter. A power relationship pertains to the situation of the patient-as-person. However, it is illness and

healthcare needs that are vested with unique authority, not the practitioner or the healthcare system. As a result of this, the person-practitioner relationship takes on its special character and the ethical issues pertaining to that relationship assume their unique role.

Miles and Mezzich recognize the concept of "relationship-centered care" as salient to their quest and to the evolution of the notion of 'patient-centered' care. The former was introduced in a 1994 Pew Commission report in a way that explicitly addressed the importance of relevant philosophy and epistemology [12]. The Pew authors, citing the work of Maurice Merleau-Ponty, suggest that understanding the relational dimension of healthcare and practice requires moving beyond the dichotomized separation between objective knowledge and perception. They are aligned with the work of Engel in this respect, who they cite [13] and, implicitly, to the concepts of complexity theory elaborated by Maturana [14] and Varela [15], for which the writings of Merleau-Ponty constituted an immediate precedent. The Pew authors state:

"The previously dominant paradigm of science has assumed that the observer is outside the phenomena being observed. The extension of this assumption in the health sciences - especially medicine - has been the notion that the physician can be a detached observer of the patient, whether acting as investigator or therapist. In the alternative paradigm, the observer stands within - and participates in - the observed phenomena. Living beings do not simply register sensory signals, but rather they interpret them. Perception is not a passive process. It always involves interpretation in the context of the observer's mental set" [12].

Their critique is therefore counter to the Cartesian dualism embedded in conventional understandings of disease [13,16]. As reviewed by Miles and Mezzich, the concept of relationship-centered care has continued to gather traction within the literature [17,18]. Summarizing our interpretation, the call for decentralization of power within the clinical relationship ("patient-centered care") began to be heard 45 years ago. That transformation was extended through the evolution of the concept of "person-centeredness" and the even more encompassing concept of "relationship-centered care". Of these, the latter uniquely and explicitly challenges the conventional biomedical model and forces the epistemological issue which we perceive to be crucial to the achievement of the liberating integration sought by Miles and Mezzich as "person-centered care". It is through recognizing the primacy of the relationship to defining the nature of medical knowledge that we are forced to confront the enigma of dichotomization of the knower and the known. This confrontation is, in turn, central to addressing alternative representations of integrated practice.

The literature on the relational nature of - and embedded power balance within - clinical experience and decision-making, spans half a century. EBM is a fledgling newcomer by comparison [2]! Was it much ado about nothing? Looking backwards 10 years after its announcement, Sehon *et al.* [19] concluded that, beyond bluster, what EBM offered was a prescription for judicious

use of research evidence to inform clinical decisions. Our historical review of the origins and development of EBM concurred [20]. EBM offered, objectively, a useful categorization of information from clinical research combined with streamlined and clinically oriented approaches to methodological evaluation and user-friendly electronic resources reflecting these categories and approaches. However, it would be short sighted to delimit the impact and importance of EBM to its objective content. Rather, the very process unleashed by EBM, including its over-reaching and uninformed assertions, was part of its product. Because it was tied to the explosive expansion of the clinical research enterprise and its bearing on healthcare [20] and because of the ‘viral’ speed of its uptake as a household buzzword within the world of medicine [21], the resulting debate, in tandem with concomitant developments in the epistemology of science and healthcare (including the advent of narrative medicine as a discipline) [22,23], has enabled progress not previously achievable. The social and economic crisis facing medicine today furthermore makes such progress imperative.

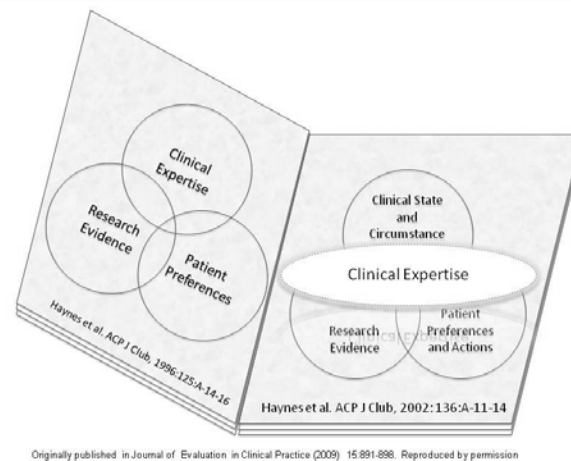
## Representations of decision-making and clinical practice

The sequence of 4 representations of clinical decision-making reviewed by Charles *et al.* [6] and which Miles and Mezzich propose to transform *via* a “5<sup>th</sup> reconstitution”, did not grow out of engagement with the concepts of clinical relationship and interaction reviewed above, nor with concerns regarding the epistemology of practice. Rather, they represented perfunctory responses to the criticisms and dismay that greeted the official announcement of the birth of EBM [1,2]. We reviewed these representations in a critical review of the emergence and development of EBM [20]. Like Charles *et al.*, we found them to be sketchy, ambiguous and unsatisfying as representations of clinical decision-making. Indeed, the Boolean constructions proposed by Haynes *et al.* [24] were not “models” at all. As observed by Charles and colleagues, they made no attempt to address the actual process through which clinical decisions are made. Rather, they depict categories of information upon which healthcare decision-makers are advised to draw. Figure 1 contrasts the first two published Boolean forms [20].

Many elements of these figures are undefined, including the non-overlapping and partially overlapping areas within the respective circles. Do these areas imply that some decisions are made only on the basis of, for example, patient values and preferences? Or do they represent information corresponding to these categories that is not at play within a particular decision? Indeed, what is the content of any of these sets? Is it information, ‘evidence’, knowledge? These weaknesses and ambiguities of the representational attempts on the part of EBM developers and advocates were appreciated and emphasized by Charles *et al.* [6] and also by Tonelli [7],

who is particularly concerned with the nature of the included categories and the process connecting them.

Figure 1 Two early versions of the Boolean representation of “evidence-based medicine”



## The patient: missing in action

In our 2009 discussion of ‘EBM model building’ [20], we perceived the issue of the ‘knower’ and the ‘known’ to be of paramount importance. In the earlier iteration (cf. left panel of Figure 1) [25], the issue was entirely ambiguous, with neither practitioner nor patient being explicitly represented. We perceived the principal clarification afforded by the later versions, including the right hand panel of Figure 1 [24], to be that the entire construction was presented from the perspective of the practitioner. The patient was nowhere to be found within either representation [20], nor in those that followed [6]. The ‘research’ category was explicitly ‘evidence’ from clinical research, that is, ‘information’ [20]. The content of the other categories also appeared to be informational in nature. We therefore interpreted the Boolean representations of EBM to reflect a construct in which the practitioner is the sole proprietor and ultimate arbiter of decisions and actions, in the form of ‘recommendations’ to patients [20]. The practitioner receives ‘information’ regarding clinical evidence, patient values and preferences and clinical circumstances. These could be patient signs, symptoms and previously diagnosed conditions, as well as information regarding socioeconomic circumstances and available healthcare resources. Based on these informational inputs, the practitioner, through an undisclosed process, arrives at an appropriate decision. An active role of the patient is neither explicitly represented in any of the constructions, nor is it addressed in the accompanying texts [20]. In other words, there is no relational dimension within these representations.

## Where was the wisdom?

The recognition that EBM, as elaborated in the literature published by its initiators and developers, resides within the domain of ‘information’, as opposed to those of ‘knowledge’ and ‘wisdom’, constituted the foundation of our earlier critique [20,26]. Such confinement precludes acknowledgement of the role of the tacit dimension [27]. The restriction of these representations to the workings of a single, conscious mind, that of the practitioner, dooms them to failure. Tonelli, who has contributed tremendously to fruitful and constructive debate on the issues at hand over the years [28-30], attempts to go beyond the vacancy of the Boolean constructions with respect to process [6]. His ‘casuistic’ model acknowledges such a process, guided by ethics. Furthermore, he acknowledges that it is problematic to reduce all relevant informants or ‘warrants’, such as his added category of pathophysiological understanding, to the status of ‘evidence’, that is, ‘information’ [7]. Pathophysiological understanding reflects a deeper process which takes place on the boundary that separates information from knowledge [26]. Nonetheless, Tonelli’s construction ultimately fails to escape the one-dimensional context of the practitioner as processor of information:

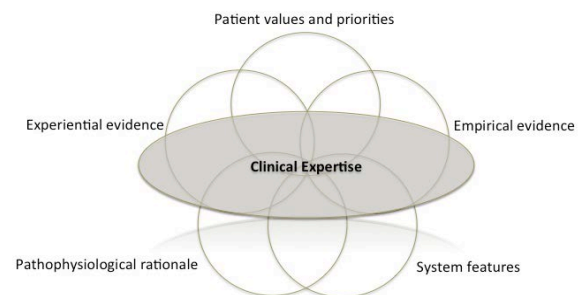
“The skilled clinician, then, must weigh these potentially conflicting warrants for action when dealing with the patient-at-hand, employing both practical and theoretical reasoning and comparing the patient with paradigmatic cases from both the literature and experience, before coming to a presumptive conclusion regarding the appropriate course of action” [6].

Malterud appears to interpret these limitations of the casuistic model similarly [31]. Miles and Mezzich, despite their brilliant and meticulous survey of the development of concepts of clinical relationships across half a century, appear to underestimate the importance of these limitations of the Tonelli proposal insofar as they discuss it in the context of a call for a ‘5<sup>th</sup> reconstitution’ of EBM [4]. Figure 2 illustrates what a representation of the casuistic model or any such ‘reconstitution’ might look like.

We emphasize that Tonelli himself did not propose such a representation. Indeed, we present it here simply to illustrate a potential pitfall of the attempt to interpret his casuistic model as a ‘5<sup>th</sup> reconstitution of EBM’. Interpreted in this fashion, the casuistic model has simply added an additional, fifth, category of input to a prescriptive statement regarding the basis for practitioner-centered decision-making. In itself, this does not address the limitations shared by all of the earlier iterations as identified by Charles *et al.* [6]. Although it refers to and labels an underlying process, still centered on the practitioner as the principal protagonist, it does not fully illuminate that process. The fundamental flaw in an attempt to rescue the attempts on the part of EBM founders and advocates in this fashion is that it necessarily proceeds

from an erroneous point of departure. The EBM ‘paradigm’, precisely because it was never a paradigm at all [19], cannot be ‘fixed’. Rather, the direct value of EBM was to have advanced relevant information technologies and clinically-oriented evaluation, thereby contributing to the emergence of a context in which viable pathways can be defined and integrative solutions approached [19,20].

Figure 2 A Boolean representation of the casuistic model of Tonelli [6]. Five categories of consideration inform decisions. The perspective is explicitly that of a practitioner. The process through which the five categories are integrated is not explicitly elaborated.

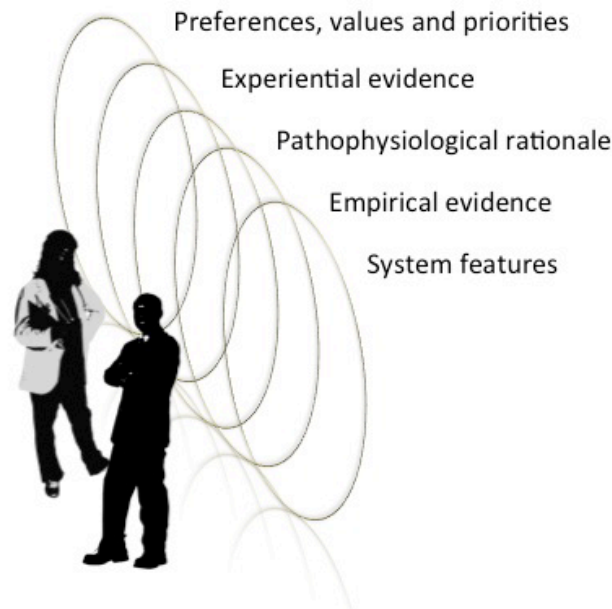


Returning to Tonelli’s ‘casuistic’ model, as interpreted by Miles and Mezzich, we suggest that it needs not only additional categories of warrants for decisions, but an entirely different dimensionality, one that embodies the relationship-centered principle of clinical care. Figure 3 portrays, in a very schematic fashion, what such a representation might begin to look like.

We have hinted at an additional, important, limitation of the EBM representations and of attempts to somehow ‘fix’ them. They are models of ‘decision-making’, not of clinical practice. This is a serious limitation and is extremely relevant to the quest for an integrated concept of person-centered practice, which we believe Miles and Mezzich to be seeking. Charles and Gafni have previously helped to clarify the distinction between decision-making models or modes of interaction and relational constructs [32,33]. Sometimes, the pursuit of patient equity within the decision-making process is reduced to a specific modality of interaction and participation. Shared decision-making (SDM) is one such modality [34] and has frequently been embraced by proponents of EBM as an answer to the need to incorporate patient values and preferences into practice choices [35]. More recently, SDM has been represented as a ‘pinnacle of patient-centered care’ [36].

We caution that, desirable as it is for patients to be encouraged to play an active role in their own healthcare, SDM is, in itself, easily reduced to the level of informational exchange between patient and practitioner [37]. Under such circumstances, the relational model may easily degenerate to the level of what has been called ‘libertarian paternalism’ [38]. It was such unmindful hypocrisy, based upon the concept of a practitioner-

Figure 3 A preliminary representation of a 'relational transformation' of the casuistic model. The perspective is explicitly consistent with a relationship-centered care construct. At least 2 individuals, corresponding to patient and practitioner respectively, construct decisions drawing upon the 5 categories of consideration. The process through which the categories are integrated is still not elaborated.



assumed 'pact' between themselves and their patients, that was attacked so scathingly by Foucault [39].

If patients are to be included at all in a 'model of practice', they must be fully empowered, not merely 'respected'. This is the challenge posed by a truly patient-centered, or 'relationship-centered', approach to practice. Poignant self-reported case histories highlight the fact that, under conditions of acute critical illness, the mode of decision-making for a single patient may undergo dramatic transformations, even when the patient is, under ordinary circumstances, inclined to a participative role in their care [40]. Hence, what is needed is an integrated model of clinical practice in the age of clinical research, not a formula for arriving at healthcare choices.

### Scientifically Informed Medical Practice and Learning [41]: an attempt at a model of practice

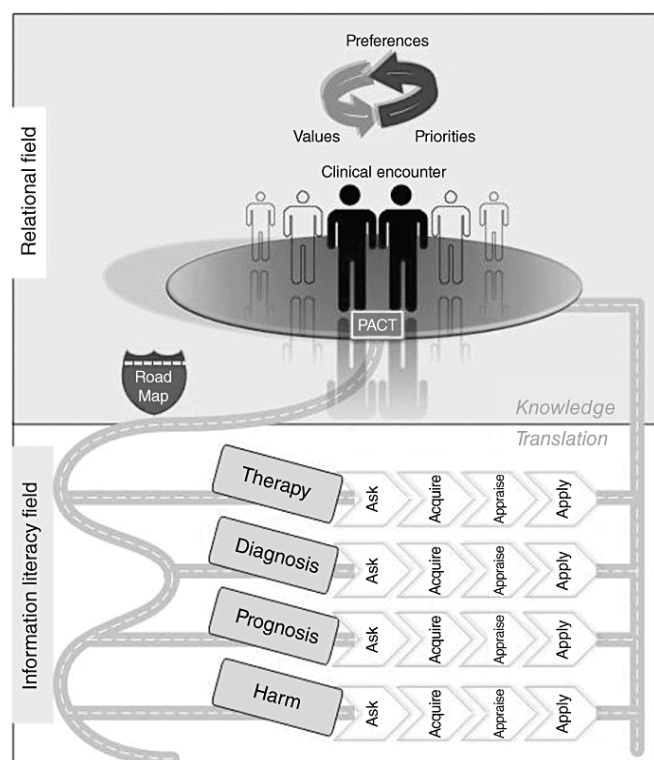
We believe that a model of practice, to reflect a legitimate 'pact' and to address the challenges of integration sought by Miles and Mezzich, must subordinate 'clinical decision-making' to affiliated action [42] and enacted care. We have advanced the SIMPLE model as an attempt in such a direction [41,43] and re-visit it here (Figure 4) for the purpose of concretizing some of the foregoing principles.

We propose that the "SIMPLE" figure constitutes a visual representation of an actual model of practice, in that all elements within it are directly interpretable in relationship to a global conception. The conception is

hierarchical: the relational field, where clinical problems are recognized and defined and where decisions and actions are formulated and executed, is the domain of knowledge and wisdom, in the form of what Varela called 'enaction' [15], what Aristotle called ethical action or 'phronesis' and what Charon calls "affiliation" [44]. The information literacy field, where 'evidence-based medicine' plays its useful role, is subordinate. The information within the lower field subsumes, but is not limited to, information from clinical research. A 'fifth channel,' emanating from the relational field, encompasses queries that cannot be reduced to the categories: 'therapy'; 'diagnosis'; 'prognosis' and 'harm' and information needs that cannot be derived from clinical research. Transformation of information into knowledge begins in the ascending limb of the lower field, through integration with underlying and pre-existing knowledge, including pathophysiological understanding. This transformation continues with passage of the process back into the upper field. We would propose that this is where 'knowledge translation' takes place [45]. That is, it is here that knowledge generated and enriched through access to the world of information becomes relational and therefore actionable. Although based on objective observation, the information literacy field is not fixed in its content. Research 'evidence' does not determine practice; it is, rather, defined and subject to interpretation through a process that is generated within the relational field. Similarly, the relational field is not restricted to practitioner and patient; it includes all social and relational inputs to both patient and practitioner.

The SIMPLE model conforms to a social constructivist epistemology and is consistent with complexity theory. We understand ‘social constructivism’ to be embodied in the pedagogical principles developed by Paulo Freire [27,46], not as a denial of the objectivity of disease [47]. These concepts have begun to pervade the medical literature to different degrees of fidelity [48,49] and are well developed in other disciplines [50]. We believe that they point the way to the kind of transformed medical model sought by writers such as Engle [13] and Malterud [16].

Figure 4 Scientifically Informed Medical Practice and Learning [41,43]. A model of clinical practice integrates an explicitly relationship-centered construct with information literacy. The latter subsumes the principles of evidence based medicine. PACT is a complex tool of representation that defines categories of clinical action corresponding to therapy, diagnosis, prognosis and harm and facilitates knowledge exchange between tacit and explicit dimensions as suggested by Nonaka [50]. The model does not offer a formula for bringing different categories of knowledge and information to bear on healthcare decisions. Decisions and actions are constructed within the relational field.



Originally published in Journal of Evaluation in Clinical Practice (2011) 17:585-593. Reproduced with permission

The SIMPLE model recognizes the tacit dimension of cognition, which we believe will please Malterud [51] and subsumes several important concepts borrowed from narrative medicine [42,44]. It is an outgrowth of an

integrative effort undertaken with an important founder of that discipline [52]. At the heart of the figure, generating the dynamic pathway that traverses the 2 fields and also the domains of tacit and explicit knowledge, is the ‘‘PACT’’ construct. PACT is a complex tool of representation [42]. It allows differentiation and prioritization of clinical actions and facilitates construction of priorities between patient and practitioner. It also makes possible an efficient harnessing of research information in a way that coheres with those priorities. Clinical actions can be categorized as therapeutic, diagnostic, prognostic or related to harm from exposures, using definitions included within the construct. When a patient and practitioner address a healthcare problem of importance, these potential categories reside within the tacit dimension in the form of feeling states, concerns, anxieties, uncertainties. The concerns embedded in all 4 action categories are all at play at this stage. The patient may not yet be able to articulate whether she is primarily concerned about ‘what is wrong with me’, ‘what can be done about it’, ‘what is going to happen to me’ or ‘why is this happening to me’? The concerns and priorities will furthermore be different on the part of the practitioner. Both sets of inter-related concerns reflect the tacit role of ‘others’: family and friends for the patient; colleagues and institutional priorities for the practitioner. The ‘actions’ embedded within the PACT categories are primarily defined as relational, with a common stem consisting of ‘‘share consideration’’. For example, within this framework, ‘prognosis’ is understood as a category of ‘action’. If there is no sharing, there is no ‘‘pact’’. Practitioner responses, including references to the medical literature, may then follow a course entirely tangential to the actuality of patient concerns and needs.

When we lead students through the PACT process in an explicit fashion, it takes on a form very analogous to that described by Levenstein *et al.* [53]. Patient and practitioner mappings of clinical action categories and corresponding priorities, are delineated in parallel in a fashion that generates discussion regarding the 2 contrasting perspectives. The perspectives and priorities do not need to become identical for constructed action [48] or enaction [15], to emerge. Transformation from the tacit to the explicit domain naturally leads to the necessary degree of convergence. This process takes place in actual practice. Teaching approaches are developed from observations of the process. The PACT process follows narrative principles. It provides a framework that moves a practitioner from the phase of ‘attention’ to that of ‘representation’ and is primarily relational, thereby facilitating what Charon means by ‘affiliation’ [42,44].

Finally, the PACT system is not reductionist. Not all dimensions of experience that co-determine choices, decisions and actions are directly reducible to the PACT categories. Such dimensions include the patient’s experience of illness and the practitioner’s knowledge and experience of disease. However, the distillation of the experiential aspects of clinical interaction results, conveniently, in a form that is immediately transferable to the information field and to the design of clinical research within it. In this way, the useful tools that EBM has



brought us are efficiently harnessed with a minimum of distortion of the primary, relational, process.

The SIMPLE model has a different mission from those reviewed by Charles *et al.* [6], as well as Tonelli's casuistic model [7,54]. It does not attempt to propose a formula for deriving healthcare decisions from values, circumstances, research findings and other categories of information and knowledge. It is not to be considered a 'reconstitution of EBM'. It is, however, consistent with the concept of relationship-centered practice and the epistemological underpinnings of that formulation, a universe in which the knower and the known are no longer hopelessly dichotomized. In this regard - and we believe in the spirit of Miles and Mezzich's quest for integrated, person-centered care - it attempts to put the elements where they belong, without negating the value of any of them.

## Conflicts of interest

The authors declare no conflict of interest.

## References

- [1] Guyatt, G.H. (1991). Evidence-Based Medicine (editorial) *American College of Physicians Journal Club. Annals of Internal Medicine* 114 (Supplement 2) A1-16.
- [2] Evidence-Based Medicine Working Group. (1992). Evidence-based medicine: A new approach to teaching the practice of medicine. *Journal of the American Medical Association* 268, 2420-2425.
- [3] Tanenbaum, S.J. (1993). What Physicians Know. *New England Journal of Medicine* 329, 1268-1271.
- [4] Miles, A. & Mezzich, J.E. (2011). The care of the patient and the soul of the clinic: person-centered medicine as an emergent model of modern clinical practice. *International Journal of Person Centered Medicine*. 1 (2) 207-222.
- [5] Harzband, P. & Groopman, J. (2009). Keeping the Patient in the Equation: Humanism and Health Care Reform. *New England Journal of Medicine* 361, 554-555.
- [6] Charles, C., Gafni, A. & Freeman, E. (2010). The evidence-based medicine model of clinical practice: scientific teaching or belief-based preaching? *Journal of Evaluation in Clinical Practice* 17, 597-605.
- [7] Tonelli, M.R. (2006). Integrating evidence into clinical practice: an alternative to evidence-based approaches. *Journal of Evaluation in Clinical Practice* 12 (3) 248-256.
- [8] Balint, E. (1969). The possibilities of patient-centered medicine. *Journal of the Royal College of General Practice* 17, 269-276.
- [9] Berwick, D.M. (2009). What "Patient-Centered" should mean: confessions of an extremist. *Health Affairs* 28, w555-w565.
- [10] Frank, A.W. (2002). At the will of the body: Reflections on illness. New York: Houghton Mifflin.
- [11] Epstein, R.M. & Street, R.L. (2011). The Values and Value of Patient-Centered Care (Editorial). *Annals of Family Medicine* 9, 100-103.
- [12] Pew-Fetzer Task Force. (1994). Health professions education and relationship-centered care: Pew Health Professions Commission at: <[http://futurehealth.ucsf.edu/Public/Publications-and-Resources/Content.aspx?topic=Health\\_Professions\\_Education\\_and\\_Relationship\\_centered\\_Care](http://futurehealth.ucsf.edu/Public/Publications-and-Resources/Content.aspx?topic=Health_Professions_Education_and_Relationship_centered_Care)>. Accessed 4 April, 2012.
- [13] Engel, G.L. (1977). The Need for a New Medical Model: A Challenge for Biomedicine. *Science* 196, 129-136.
- [14] Maturana, H.R. & Varela, F.J. (1998). *The Tree of Knowledge: The Biological Roots of Human Understanding*. Boston: Shambhala.
- [15] Varela, F.J., Thompson, E. & Rosch, E. (1991). *The Embodied Mind*. Cambridge, MA: MIT.
- [16] Malterud, K. (1995). The legitimacy of clinical knowledge: Towards a medical epistemology embracing the art of medicine. *Theoretical Medicine and Bioethics* 16 (2) 183-198.
- [17] Beach, M.C. & Inui, T. (2006). Relationship-centered Care: A Constructive Reframing. *Journal of General Internal Medicine* 21, S3-S8.
- [18] Frankel, R.M., Eddins-Folensbee, F. & Inui, T.S. (2011). Crossing the Patient-Centered Divide: Transforming Health Care Quality Through Enhanced Faculty Development. *Academic Medicine* 86, 445-452.
- [19] Schon, S.R. & Stanley, D.E. (2003). A philosophical analysis of the evidence-based medicine debate. *BMC Health Services Research* 3, 14.
- [20] Wyer, P.C. & Silva, S.A. (2009). Where Is The Wisdom: I. A Conceptual History of Evidence Based Medicine *Journal of Evaluation in Clinical Practice* 15, 891-898.
- [21] Eddy, D.M. (2005). Evidence-based medicine: A unified approach. *Health Affairs* 24, 9-17.
- [22] Charon, R. (1986). To render the lives of patients. *Literature in Medicine* 5, 58-74.
- [23] Hunter, K.M., Charon, R. & Coulehan, J.L. (1995). The study of literature in medical education. *Academic Medicine* 70, 787-794.
- [24] Haynes, R.B., Devereaux, P.J & Guyatt, G.H. (2002). Clinical expertise in the era of evidence-based medicine and patient choice. *American College of Physicians Journal Club* 136, A11-A14.
- [25] Haynes, R.B., Sackett, D.L., Gray, J.R., Cook, D.C. & Guyatt, G.H. (1996). Transferring evidence from research into practice: 1. The role of clinical care research evidence in clinical decisions (Editorial). *American College of Physicians Journal Club* 125, A14-A16.
- [26] Silva, S.A. & Wyer, P.C. (2009). Where is the wisdom? II - Evidence-based medicine and the epistemological crisis in clinical medicine. Exposition and commentary on Djulbegovic, B., Guyatt, G. H. & Ashcroft, R. E. (2009) *Cancer Control* 16, 158-168. *Journal of Evaluation in Clinical Practice* 15, 899-906.
- [27] Polanyi, M. (1967). *The Tacit Dimension*. New York: Anchor Books.

- [28] Tonelli, M.R. (1998). The philosophical limits of evidence-based medicine. *Academic Medicine* 73, 1234-1240.
- [29] Tonelli, M.R. (1999). In Defense of Expert Opinion. *Academic Medicine* 74, 1187-1192.
- [30] Tonelli, M.R. & Callahan, T.C. (2001). Why Alternative Medicine Cannot Be Evidence-based. *Academic Medicine* 76, 1213-1220.
- [31] Malterud, K. (2006). The social construction of clinical knowledge – the context of culture and discourse. Commentary on Tonelli (2006), Integrating evidence into clinical practice: an alternative to evidence-based approaches. [*Journal of Evaluation in Clinical Practice* 12, 248–256.] *Journal of Evaluation in Clinical Practice* 12, 292-295.
- [32] Charles, C., Gafni, A. & Whelan, T. (1997). Shared decision-making in the medical encounter: what does it mean? (or, it takes at least two to tango). *Social Science and Medicine* 44, 681-692.
- [33] Gafni, A., Charles, C. & Whelan, T. (1998). The physician-patient encounter: the physician as a perfect agent for the patient versus the informed treatment decision-making model. *Social Science and Medicine* 47, 347-354.
- [34] Joosten, E.A.G., DeFuentes-Merillas, L., de Weert, G.H., Sensky, T., van der Staak, C.P.F. & de Jong, C.A.J. (2008). Systematic Review of the Effects of Shared Decision-Making on Patient Satisfaction, Treatment Adherence and Health Status. *Psychotherapy and Psychosomatics* 77, 219-226.
- [35] Barratt, A. (2008). Evidence Based Medicine and Shared Decision Making: The challenge of getting both evidence and preferences into health care. *Patient Education and Counseling* 73, 407-412.
- [36] Barry, M.J. & Edgman-Levitan, S. (2012). Shared Decision Making: The Pinnacle of Patient-Centered Care. *New England Journal of Medicine* 366, 780-781.
- [37] Goyal, R.K., Charon, R., Lekas, H., Fullilove, M.T., Devlin, M.J., Falzon, L. & Wyer, P.C. (2008). 'A local habitation and a name': how narrative evidence-based medicine transforms the translational research paradigm. *Journal of Evaluation in Clinical Practice* 14, 732-741.
- [38] Thaler, R.H. & Sunstein, C.R. (2003). Libertarian Paternalism. *American Economic Review* 93, 175-179.
- [39] Foucault, M. (1973). *The Birth of the Clinic: An Archaeology of Medical Perception*. New York: Vintage Books.
- [40] Rier, D.A. (2000). The missing voice of the critically ill: a medical sociologist's first-person account. *Sociology of Health and Illness* 22, 68-93.
- [41] Silva, S.A., Charon, R. & Wyer, P.C. (2011). The marriage of evidence and narrative: scientific nurturance within clinical practice. *Journal of Evaluation in Clinical Practice* 17, 585-593.
- [42] Charon, R. (2005). Narrative Medicine: Attention, Representation, Affiliation. *Narrative* 13, 261-269.
- [43] Silva, S.A. & Wyer, P.C. (2012). The Roadmap: a blueprint for evidence literacy within a Scientifically Informed Medical Practice and Learning model. *European Journal for Person Centered Healthcare* 1 (1) 53-68.
- [44] Charon, R. (2006). Attention, Representation, Affiliation. In: *Narrative Medicine: Honoring the Stories of Illness* pp. 131-153. New York: Oxford University Press.
- [45] Straus, S., Tetroe, J. & Graham, I.D. (2009). *Knowledge Translation in Health Care*. Oxford: Wiley-Blackwell.
- [46] Freire, P. (1974). *Education for Critical Consciousness*. New York: Continuum.
- [47] Wilson, H.J. (2000). The myth of objectivity: is medicine moving towards a social constructivist medical paradigm? *Family Practice* 17, 203-209.
- [48] Epstein, R.M. & Peters, E. (2009). Beyond Information: Exploring Patient's Preferences. *Journal of the American Medical Association* 302, 195-197.
- [49] Heng, H.H.Q. (2008). The conflict between complex systems and reductionism. *Journal of the American Medical Association* 300, 1580-1581.
- [50] Nonaka, I. & Takeuchi, H. (1995). *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. New York: Oxford University Press.
- [51] Malterud, K. (2001). The art and science of clinical knowledge: evidence beyond measures and numbers. *Lancet* 358, 397-400.
- [52] Charon, R., Wyer, P., for the NEBM Working Group X. (2008). The art of medicine: Narrative Evidence-Based Medicine. *Lancet* 371, 296-297.
- [53] Levenstein, J.H., McCracken, E.C., McWhinney, I.R. & Stewart, M.A. (1986). The patient-centred clinical method: a. A model for the doctor-patient interaction in family medicine. *Family Practice* 3, 24-30.
- [54] Tonelli, M.R. (2007). Advancing a casuistic model of clinical decision making: a response to commentators. *Journal of Evaluation in Clinical Practice* 13, 504-507.