THE ECOSYSTEM OF CARDIOLOGY GUIDELINES - PATRONS OF THE STATE OF THE ART IN CARDIOLOGY - Part I

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"... guidelines, viewed as anything less than objective and reflecting broad consensus, may be inadequate to overcome the rugged individualism inherent to physicians..." Anthony N. De Maria (Editor-in-chief – Journal of the American College of Cardiology)

"You know how difficult this profession is for one who is conscientious and exact, and who states only that which he can support by argument or authority, or for one who cannot recall where he saw it mentioned or proved..."

Moshe ben Maimon- Maimonides (1135-1204)

"Experience is a hard teacher because she gives the test first, the lesson afterwards."

Vernon Sanders Law (1930-...)

I - Preliminary comment

I hereby declare that I harbor no conflict of interests, but rather an interest in conflicts inherent to the guidelines – conflicts that relate to the choice of scientific data, to interpretation seen as evidence, and to classification of the recommendations and their implementation. My interest constitutes a way to follow up the process of balancing physicians' two focal poles – medical practice and patients – from the inside, from within the ecosystem of cardiology. It is a way to keep close track of the dynamics between what, technically speaking, would be in compliance with the best medical practice available to the doctor-patient relationship (which implies ongoing exercise), the application of its units in the manner that would best complete individual needs (which implies "on-the-spot" exercise) and thus result in the "best decision" for any given situation.

It makes it easier to analyze responsibilities that stem from the privilege of being qualified to make decisions – as the locomotive – and clarifies rights and obligations of those in a subordinate position – that of the railway cars – the same tracks, the same stations, the same destination.

It engender reflection on the question of ethics, of the conflict between a science of objective measures – but that brings to mind a production line and fosters a culture that features control and standardization – and the art of competence and judgment that neither separates persons who know from their knowledge, nor loses sight of intuition and "hunches"[1].

It helps us weigh the outpouring of questions stemming – but not exclusively – from the bedside, inspired by direct contact with the realities of disease and which, transforming themselves into hypotheses for research, generate scientific data, source answers capable of returning to the bedside from whence they originated in the form of value-added evidence.

It helps when delving into the extreme complexity of human biology to discover subtleties inherent to the raw materials furnished by illnesses and to work with them on the various levels of knowledge that, in the universe of heart diseases, comprise what we might call the "gross domestic product" of the ecosystem of cardiology.

It leads us to understand to what extent the bedside would admit to guidelines functioning with the "authority" to recommend and to demand obedience. Although they may inspire confidence, guidelines cannot stifle physicians' professional freedom and in addition they help us appreciate how much that same bedside suffers, not only from pernicious ambivalence – fed back by certain ethical infractions – but also from abdication of the decision-making process – due to bad attitude stemming from lack of knowledge and qualification that can result in malpractice.

It seeks the real dimension of the extent to which the bedside is a fitting environment for indecision – Shall I do it? What shall I do? When shall I do it? How shall I do it? And thus, fall back on the use of guidelines as a strategy for perfecting inversion of the concept (that physicians are already accustomed to practice at the bedside) that humanity *"... is divided into decision-makers and abdicators... the majority tends to behave as abdicators... many require the stimulating pressure of deadlines to make any decision... running the risk of impulsivity..."* (Theodore Isaac Rubin, 1923-...). In therapeutics, the answers seem to be more positive, but in prevention, the implementation of guidelines has been negatively influenced by the above-mentioned in the patient's mind.

Guidelines harmonize decision-making support, but their use cannot be abused by those who, in their desire to solve conflicts of conscience, consult said guidelines systematically whenever faced with some theme on which

Key words

Bioethics; guidelines; comment [publication type]; expert testimony.

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Manuscript received April 25, 2007; Revised manuscript received May 10, 2007; Accepted May 30, 2007.

they lack knowledge.

Guidelines are not omniscient and must not, in themselves, be seen as orders, as though they were capable of transferring the ethical-professional responsibility of the recommendation, which is personal within the scope of the doctor-patient relationship, to a collective mea culpa.

Guidelines are a serious business and, within the limits of the heritage of medical practice – representing the selection of the good part – sufficient reason to not be seen as a safe harbor for those who aim for models of perfectionism, whatever they may be, within the cost-risk-benefit ratio.

Guidelines are a rendering of the service of rediscovery, not of a rewriting of medical literature. They are officially seen as revision, not as original messages. However, the finishing touches that they provide make them the origin of messages on expectations regarding performance and safety, demanding, as state of the art, of the physician's knowledge and leadership, of the efficient decoding by the wisdom of the patient's body, and of the social focus of health.

Guidelines organize the "chaos" of literature and offer one sole language in a tower of Babel; they turn all physicians into "doctors without borders". By classifying gathered past experience, they help strengthen the habit of foreseeing consequences of practice. They fulfill the need for anticipation in a labyrinth; play the role of oracle when doubts arise, and act as codes to invert morbid happenings. However, the real bedside world is not exactly monolingual, and therefore, experiences actually lived through – always "multilingual" – constitute filters interposed in the connecting channels between the perspective informed in the text and that which one perceived at the bedside, including moral values that cardiologists cannot fail to notice. *"The heart has its reasons of which reason knows nothing" (*Blaise Pascal (1623-1662). What this favors is good discernment regarding objectives and good mentalization of end-views in three stages: OBSERVATION of the current clinical situation of the case; retrospective KNOWLEDGE of similarities previously observed within the cardiological ecosystem environment; JUDGMENT of the prospective meaning of the OBSERVATION-KNOWLEDGE meeting point for the case at hand.

Guidelines are not akin to Kantian categorical imperatives (Immanuel Kant 1724-1804) because if they could be acknowledged as moral duties (imperatives), they would not reach all, without exception (categorical), even though the universal principle "*do unto others what you would have all others do unto all*" must always be present. Further in the Kantian line, an explanation for the non-categorical is that if a guideline represents a *theoretic reason* for a recommendation, the desire expressed by the patient's own free will can determine a *practical reason* for not heeding said recommendation.

Far be it from me any intention to philosophize – merely a passing thought – a guideline can be analyzed by its capacity to answer a triad of basic questions from Kantian criticism, when posed at the bedside: a) *What can I know?* A guideline might have the intention of answering that the physician can know about probabilities of utility and diagnostic, therapeutic, and preventive efficacy; b) *What should I do?* Mentalizing what should be universal conduct, start from the "best scientific evidence", which is diffuse, and arrive at the "best clinical evidence", individualized according to precepts of freedom, clarification and reorganization within the doctor-patient relationship; c) *What can I expect?* Maximization of successes thanks to knowledge of the best practices and interpretation of failures due to the biological nature of human beings.

A guideline is a plural tool when one perceives that it can satisfy philosophical theorizations such as the *realism* of a fact that serves as a reference point to a recommendation (example: blood pressure of 180x120 mmHg measured with a sphygmomanometer); the *idealism* of the need to take measures to reduce (the) blood pressure levels; the *rationalism* of the essential human and technical qualification to perform that mission, and the empiricism of the research-based recommendations.

If we were to draw an analogy with the concept of media, guidelines would be mass media communication – high probability of a good (clinical) return on (scientific) investment. Guidelines represent an emerging power that must be considered from the viewpoint of their inter-relation with the classic concept of *the clinic is sovereign* and, more recently, from the viewpoint of the notion that *the clinic is sovereign and the image is powerful* [2].

In the analysis that follows, I sought to support the concept that data/evidence – due to ongoing construction/deconstruction – has both the strength of the "efficient scientific stint of duty", and the fragility of "probability, not precisely clinical certification", to cater to the best bedside practices. We must keep in mind that the essence of medical practice comprises the many anxieties physicians are subject to, to transform the recommendation *should apply,* to the statement *applied in the line of duty*.

I tried to keep a keen "outside view" to ensure that the text was, as far as possible, based on evidence from learned publications about guidelines and that it contained an inkling from the teachings of Osler who said that *the more you look outside of the narrow circle of your work, the better equipped you will be for the struggle in your profession*. Any feeling of rarefaction of general culture in the atmosphere of the ecosystem of cardiology jeopardizes the technical-scientific rationality in the context of the specialty.

I justify certain excerpts featuring the use of the personification style of language because of the view of dialogue we must have with the content of the guideline and which is "a dialogue with colleagues" with the power to influence the "me with myself" dialogue, and due to the custom of personifications (anthromorphisms) at the bedside such as: *the heart accelerated, the blood pressure dropped, the hypertrophy pulled the vector back, the aorta is overriding the interventricular septum, or the echocardiogram didn't say anything about the mitral valve score*.

I explain some repetitions in the course of the article due to the chance of "revolving reading" that occurs with texts that deal with viewpoints because these lead to thoughts, engender ideas in a permanent merry-go-round that, contrary to an original article, needn't – or shouldn't – have the virtuosity of rigorous conciseness. And the merry-go-round in this instance is called GUIDELINES TO BE RESPECTED IN THE PROPER DOSAGE. Consensus regarding w*hat the proper dosage is* seems to be as impossible to determine as the chance of each little horse representing a supposition of an answer and all

racing off to get a winner.

I presume that the text may contain certain biases of appreciation, self-conflicts of interest between an unconsciously partial self and a self that wants to be impartial, but they will not be prejudices. I believe that, at least in part, possible biases could be attributed to habits in the treatment of valvular heart disease because the conceptual bases of conduct in this pioneer sub-specialty of cardiology, entwined as it is with cardiovascular surgery, have been put to the test for decades; so many years at the bedside, countless randomizations due to human nature in the broadest sense, lent them high "study-power", strong significance, and a narrowing of the confidence interval.

Time – that cruel purifier – because it is the unblemished guardian of the truth, is the best method of evidence. And, in this respect, the *Framingham Heart Study,* nearly sixty years old and with 3900 grandchildren "born" in 2002, is worthy of praise – an hors-concours purifier of evidence.

Chronos is the father of Kiron, who created Asclepius, a hero and the god of medicine *"...at night, Asclepius appeared in the dreams of the ill and gave them advice... in the morning the priests collected the prescriptions and explained them..."* Meaningful coincidences!

II - Plato on the duty roster

Here I transcribe an excerpt from *Banquet*, a symposium by Plato (428-347 B.C.) that deals with "ascending dialectic", heading constantly upward without stopping, stage by stage, after an initiation. The object is to carpet some steps on the subject of guidelines. *"...to pass from the love of one beautiful body, to the love "of all beautiful bodies", and after the beauty of bodies, to the "beauty of souls", then to the "beauty of actions and laws", then to that of the sciences, until ultimately, his spirit fortified and broadened, he perceives one sole science..."*.

III - Kafka parable

Below is a parable by Franz Kafka (1883-1924)[3]. My intent in reproducing this parable is to provoke thought about conciliating guidelines with the bedside. I suggest that the term 'antagonist' be decoded as the interface between the past – the workforce that we know and that can be synthesized in a guideline – and the future – the next case, while 'he' is a physician eager to deal with beneficence/non-harmfulness.

*"He has two adversaries: the first (knowledge of medicine) presses him from behind, from the origin. The second blocks the road ahead (*the patient in need of expertise*). He gives battle to both. To be sure, the first supports him in his fight with the second (*guideline furnishing the recommendation*), for he wants to push him forward, and in the same way the second supports him in his fight with the first, since he drives him back (*the specificity of a case*). But it is only theoretically so. For it is not only the two antagonists who are there, but he himself as well (*the physician between the past and the future*), and who really knows his intentions?* (to lend meaning to the care provided*). His dream, though, is that some time in an unguarded moment – and this would require a night darker than any night has ever been yet – he will jump out of the fighting line (*preserve his autonomy in the face of the patient's autonomy*) and be promoted, on account of his experience in fighting, to the position of umpire (*beneficence/nonharmfulness of what the past taught for the future of the clinical situation*) over his antagonists in their fight with each other."*

IV - Gross domestic product

The gravitational pull of the cardiological ecosystem's atmosphere attracts the specialty's evolution and stabilizes it in its three layers – assistential, educational, and research.

Gravity, by definition, means 'a natural force of attraction', and also means 'seriousness'. Cardiologists are zealous and have their feet planted firmly on the ground, and Brazilian cardiologists, heirs to 60 years of accumulated expertise in this specialty in Brazil, have been committed to technical-scientific biosafety, preservation of the interpersonal relationship environment, decisions that entail the least risk of offending human nature due to carelessness or negligence – in short – committed to protecting the ecosystem of cardiology.

Because of their moral responsibility, cardiologists all get involved, to the best of their ability, in investments, consumption, costs, imports and exports, and consequently help promote the accumulation of scientific assets and cardiological services.

The consequence is the composition of a true 'gross domestic product' of cardiology, a clinical wealth that, in the name of technical-scientific equity, has various forms of per capita distribution.

It is worthwhile to reiterate one of these – the entity that plays the role of vector of the idea that optimizing clinical practice cannot be separated from the capacity of knowing how to choose literature – the GUIDELINES. The well-known highlighting in modern medical communication, which personifies scientific excellence, is a very good example of the truism "knowledge is power".

V - Human warmth, ethical humidity, and a bioethical breeze

In the ecosystem of cardiology, the guidelines lend the bedside a dry climate devoid of any major thermal fluctuations, with a tendency toward cold, less cloudy, and with scant wind. However, the monotony seems incapable of fulfilling human nature's various needs. Therefore, equilibrium in the ecosystem of cardiology requires at least three bedside-softening factors: human warmth, ethical humidity, and a bioethical breeze. The guidelines help physicians make decisions according to their own conscience. When that conscience is contrary to the evidence and its alleged universal validity, they set out to search for some agreement by means of a medicine-physician-patient dialogue that can be symbolized in a bedside triangulation[4].

The triad thus formed tempers respect for the limits of moderation between intensive and extensive, of grasp, and of the acknowledgment of inadequacies in the face of circumstances that are marginal to what was idealized elsewhere under rigid methodological controls – "... *research customarily uses carefully selected populations*..." [5]. This proviso is reinforced by a unisonant text in the introduction to the updated guidelines: "... *therefore,*

deviating from these guidelines may be appropriate under certain circumstances…" [6], or "*… there are circumstances in which deviation from these guidelines is appropriate…*"[7]. The same is seen in the AMB/CFM Guidelines Project: "*… the relation between study quality and recommendation grade is insufficient if used in an isolated manner and it will be up to the physician to judge the form, timing, and pertinence of utilization according to the guideline…*"[8].

At the bedside, inclusion criteria, exclusion criteria, limitations of the study, editorials, and letters to the editor transform themselves according to individual needs of beneficence/nonharmfulness in the ecosystem of cardiology. The actual patient's right to autonomy influences the weight of the beneficence and the weight of the harmfulness to be placed on the plates of the scales of humanization of the doctor-patient link. Prospects of harmfulness are usually feather-light in comparison to the heavy-weight measures of the so-called heroic beneficence in light of the imminent risk to life, and heavy as lead in view of the light nihilism of certain "discharges upon request". The guidelines can be relegated to a second level.

Virtual patients mentioned in publications represent characters to whose conflict –after having been worked out – at the end was added the foreseeability of a fact ('A' would work well, 'B', not so well). Real patients represent a conflict that contains an explanatory factor to be associated to the foreseeability of the virtual patient. The nuances of the conflict we are faced with raise additional arguments to explain the "whys" of a decision. Furthermore, the endpoints that encourage research are not necessarily identical to those of real patients in terms of need or in terms of priority.

When the boomerang of the evidence launched with the expectation stemming from research returns, it may be surprised by a combination of forces (given by the assistance) that changes the course that had been foreseen in view of the concept. Nature teaches: a scientific element, we will call hydrogen, a clinical fact, let's call it oxygen: the first element can cause a fire, the second can cause it to spread. When the two elements combine to form water, the effects are inverted.

But it is certain that the presence of guidelines oxygenates the organizational climate of the bedside. They lend vitality and support against routine factors of clinical anoxia: the myriad difficulties to arrive at a diagnosis, the toxicity of ambivalent therapeutics, and those dreadful immersions in the swampland of prognosis.

On the other hand, it is also certain that "breathing" guidelines leads to "exhaling" carbon dioxide, which causes concern regarding excesses; exaggerations are associated with the risk of hypercapnia and dulling of the clinical senses. In addition, paradoxical as it may seem, excess can result in a greenhouse effect and consequently heighten possible humanization irradiation unbalances in the bedside atmosphere, especially at times when holes are detected in the ethical-ozone layer.

VI - Truth – an endless quest

Research finds "truths", teaching divulges them, and health care applies them. The quotation marks are justified by the sense of revelations that sound like truths because they happen to be useful and effective. The majority of these, however, are susceptible only to endless forms of discussion because in medicine, contrary to other environments, the "self-evident" nature of truth is not the rule. Without the quotation marks, the opposite meaning could be "lie" or "error" – which certainly does not comply with the spirit of good faith in the quest for truth in medicine; nor does it comply with the conviction that not using a guideline is an error because what one knows by means of it is true.

It is in these three doctorly activities – etymologically speaking, doctor is one who teaches a colleague or layperson, directly or indirectly – that the unchangeable truth, "devoid of competition", and the "on-call truths" circulate (or at least as far as we can see), and which, being viewpoints, represent approximations of the truth by the momentary force of their connection with utility within the ecosystem of cardiology. It is what distinguishes a pericardial rub – eternal in the clinical meaning – from the dosage of corticosteroids it provokes – something temporary, depending on a new conclusion regarding utility. The "on-call" truths are habitually seen as having a contingent nature. They feature a built-in uncertainty, and the "will it or will it not occur" duality is the fuel that keeps the flame of the search for the "best evidence" always burning.

The history of cardiology registers some peculiar types of immutable truth: the "adopted" truth, such as the Doppler effect (Christian Johann Doppler,1803-1853); or that found by a physician during a war, such as the Korotkoff sounds (Nicolai Sergeyvich Korotkoff, 1874-1920); or the "lay" truth of Musset's sign (Louis Charles Alfred de Musset, 1810-1857); or the "literary" truth (Charles Dickens-1812-1870) of the Pickwickian syndrome (proposed by Charles Sidney Burwell – 1893-1967); or that "learned from a layperson" such as Withering (William Withering, 1741-1799); or the "predestined", such as Chagas disease (Carlos Ribeiro Justiniano das Chagas, 1879-1934); and the monomorphic truth of Ebstein's anomaly (Wilhelm Ebstein 1836-1912)[9]. One historic "on-call truth" is Peter's aphorism, which in fact we can consider an emblematic forerunner of a guideline. Michel Peter (1824-1893) "inaugurated" a Class III recommendation when he discouraged pregnancy in women with heart disease because *"… it puts the mother's life at risk… it is associated with premature birth or abortion… it aggravates heart disease…"*[9]. There is also the truth that is idealized and not yet realized half a century later, known as Harken's criteria for an ideal heart valve prosthesis [10].

The enthusiasm of the moment usually speaks out loudly and makes statements that quickly become obsolete: *"… a remarkable characteristic of modern medical treatment…"* was written by William Bart Osler (1849-1010), always Osler…, in the early 20th century, something along the lines of the hot-cold empathy gap[11]. It is a warning of a symptom of the "SYNDROME OF THE MOST RECENTLY PUBLISHED ARTICLE": an ardent "we have the truth…" instead of a guarded "we may have a truth…" The guidelines, somehow, constitute a counterbalance to this context of indisputable superiority of the latest information, even though they deal with the most recent, as long as they meet criteria such as "…a moral imperative…"[12]. The context of a new fact in medical literature is different from a new clinical

fact, and at times we tend toward group reasoning as though we were conditioned by the habits of day-to-day communication. One thing is the mobility of a temporary certainty of the clinical moment blood glucose tests repeated several times to follow up on treatment of decompensated diabetes, a *sine qua non* condition for immediate therapy. Another thing is the mutability of a temporary certainty of the scientific moment. For example: *"...statins significantly reduce the hemodynamic progression of moderate-to-severe aortic stenosis, an effect that may not be related to cholesterol lowering..."* – Raphael Rosenhek – Circulation 7, September 2004[13]. Nine months later, *"...in view of studies by Cowell and colleagues, prescribing statins is not justified for aortic stenosis, unless due to other indications..."* – Raphael Rosenhek – NEJM – 09 June 2005[14].

The guidelines are collections of "truths" that would be closer to scientific excellencies, evidence of reasons for use and the probability of success – class I recommendations – or reasons for avoiding use and the probability of failure – class III recommendations.

The guidelines testify that progress in medicine is achieved by establishing "truths" with undefined validity, the infinite is the minority. Each novelty is capable of "vanquishing the on-call truth" due to acknowledged superiority, or it may even re-label the one it replaced as an untruth. Thus, there is a cycle of truthfulness in the guidelines. To parody Lewellys Barker, successor of William Osler – that name again – as physician-in-chief at Johns Hopkins University School of Medicine, in his observation on early 20th century technological advances (sphygmomanometers, electrocardiogram, x-ray)[9]: if a cardiologist were to sleep for quite some time he would wake up astounded – and feeling rather disoriented – by the changes in the environment.

The notion of a succession of truths over time, in medicine, is closely linked to a permanent state of doubt, atavistic in physicians – diagnostic hypothesis, surgical risk, guarded prognosis. Degrees of skepticism are useful drivers of advantageous replacements – the pencil and eraser style of research, write and erase, erase and write, in search of the "best expression". The intention to achieve perfection, knowing it to be unachievable, is inherent to the "best evidence" concept of the guidelines. The commitment to time is promising *"...the guidelines will be reviewed annually..."*[6].

Inclusions and exclusions in accelerated remakes of the 'state-of-the-art' reinforce the notion that guidelines are advisors to those reasonably up-to-date in knowledge of the theme and qualified to apply them. The problem lies in how much we fill in – or fail to fill in – gaps in the guidelines with what we know – or do not know – and then, how much prevails of the information researched and of the complementation mentalized. Following are two illustrative examples based on the ACC/AHA 2006 Guidelines for the Management of Patients with Valvular Heart Disease[6]. The first: *"...Aortic valve replacement may be considered for asymptomatic patients with severe aortic stenosis and abnormal response to..."* was downgraded from APPLICATION IS REASONABLE (CLASS IIa), to COULD BE CONSIDERED (CLASS IIb), from 1998[15] to 2006[6]. There was an impact, although, in this case, slight, since all cardiologists, according to their knowledge and qualification, can have their own convictions regarding the usefulness and effectiveness of functional evaluations. The second: *"...aortic balloon valvotomy might be reasonable as a bridge to surgery in hemodynamically unstable adult patients who are at high risk for valve replacement..."* was downgraded in exactly the same way as the first. However, cardiologists must have already changed their concept regarding the beneficence/nonharmfulness of the method quite some time before by staying abreast of medical literature and by their own experience. In other words, anyone who had not experienced complex cases of aortic stenosis, up to August 2006, by following a guideline valid for eight years, was running the risk of following the advice of an unsuitable APPLICATION IS REASONABLE guideline. It is well worth while to think about the following phrase: *"...within the context of rapid technological evolution, guidelines must be dynamic and reviewed/revised with greater frequency..."*[16].

VII - Guideline reader – bedside author

Guidelines are practice, both noun and adjective. Three uses stand out:

Use 1 – A guide for *what I should do*. When faced with a clinical situation, guidelines work like a compass to orient the information to be obtained from the anamnesis, the prime signals of a physical examination, the dynamics of complementary tests, the therapeutic conduct to deal with the manifestation and at the same time benefit prolongation of life and the programming of prevention. From the moral and ethical viewpoint, they should be used preferably by those who have expertise – past, tradition - in the theme *"...physicians who are not familiar with the evidence that supports the recommendation are not prepared to follow the guidelines..."*[17] Guidelines must be internalized, in the sense that they help us to add missing links to our chain of knowledge of the theme. On principle, guidelines must not overprotect us from lack of knowledge of the theme.

Analogy 1A – *Cake recipe*. Guidelines list ingredients and recommendations on how to handle them [18-20]. However, the actual making of a cake requires something more, and those who apply guidelines as though they were using cake mix *"...tend to disregard the patient's participation in the decision..."*[19], and to disregard the fact that *"...uniform recommendations may ignore a patient's special needs..."*[20]. One might say that the degree of acknowledgment of guidelines as "a monopoly of conduct" is reduced in the same proportion as the weight of another type of cake – the stack of prescriptions signed and stamped by the hands of commitment and involvement at the bedside.

Analogy 1B – *Changing a light bulb*. Guidelines officialize certain obvious features that are intuitive: *"...postoperative visits... for patients with valve prostheses, anamnesis, physical examinations and appropriate tests should be carried out upon the first postoperative outpatient evaluation..."*[6]. The level of evidence is C (consensual opinion of specialists). Obviously, there is no justifying a randomized study that would sound like evaluating the usefulness and effectiveness of the sequence: get a ladder, place the ladder under the light bulb, find a new light bulb, climb up on the ladder, remove the burned-out bulb, and screw in the new bulb. No double-blind trial is suggested..., nor is there any fear that someone might suggest holding the ladder and spinning the world... The fact is that *"...a well-informed and highly-trained practitioner can practice content equivalent to a guideline without ever actually having resorted or adhered to the guidelines..."*[20].

Analogy 1C – *The ventriloquist's art*. Guidelines speak with the voice of medical literature; physicians may speak with the voice of guidelines. Or could it be that the guidelines open physicians' mouths and the physicians say what serves their purpose? In situations of poor clinical outcome, blaming the guideline recommendation is tantamount to blaming the ventriloquist's dummy.

Analogy 1D – *The Peter Pan effect*. Guidelines, when seen merely as labels to be glued on with superficial involvement and commitment, inhibit both full accountability and the growth of clinical qualification. "*... Physicians are concerned because their management of patients is increasingly worse due to a standardized and automated process...*"[21]. Bertrand Russell (1872-1970) left this legacy: "*...Passive acceptance of the teacher's wisdom ... seems rational because the teacher knows more... Yet the habit of passive acceptance is a disastrous one in later life. It causes man to seek and to accept a leader, and to accept as a leader whoever is established in that position...*".

Analogy 1E – *The magic flute behavior.* Guidelines may be the sound that "eliminates rats", or the sound that "makes children disappear", depending on intra- and interpersonal variables. Bedside music may not be the same as the desk-side music of health care managers.

Analogy 1F – *Chameleon effect*. Guidelines must be integrated in the clinical circumstances and environmental aspects determined by the health care system. "*...There is a vacuum between the scientific aspects of medicine and clinical practice...*"[17]. The analogy goes beyond this change-of-skin folkloric mimicry. It includes flexibility in a broader sense, with aspects of freedom – we need only recall that chameleons have independent eye movement. Osler (that man again): "*... educating the eyes to observe facts takes time, but it begins with the patient, continues with the patient, and ends with the patient...*"

Use 2 – Guide for *a brief overall vision of the theme*. Guidelines make it easier to appreciate the submerged part of the iceberg.

Use 3 – Guide for *delving more deeply into medical literature*. Guidelines orient the choice of articles that reveal the submerged part of the iceberg.

VIII - Nomenclature

• Scientific fact – the result of scientific research. Scientific fact constitutes the largest component of the cardiological ecosystem's gross domestic product. More than "an original", it must be "a universal asset" because more than a scientific novelty, what counts is reproducibility and safety.

• Clinical fact – occurrence whose existence can be indisputably verified; many could dispense with research. What follows was published in the British Medical Journal[22], with the following summary. *Objective*: to determine if parachutes are effective in preventing major trauma related to gravitational challenge. *Structure*: systematic review of randomized controlled trials. *Data source*: Medline, Web of Science, Embase, Cochrane Library, Internet sites, and lists of citations. *Study selection*: studies on the use of parachutes during free fall. *Points of interest*: death or major trauma, defined as lesion with severity score>15. *Results*: we were unable to identify any randomized and controlled trial on intervention with parachutes. *Conclusion*: as is the case with many interventions that aim to prevent disease, the efficacy of parachutes was not submitted to a strict evaluation by randomized controlled trials. Followers of evidence-based medicine have criticized the adoption of interventions that are evaluated exclusively by observational data. It is our opinion that benefit would be forthcoming if the more radical proponents of evidence-based medicine were to organize and participate in randomized, double-blind, placebo-controlled, crossover trials of the efficacy of the parachute.

A word to the wise: "*...the popular belief that only randomized controlled trials produce reliable results and that all observational trials are illusions constitutes a disservice to patient care and to the education of health professionals...*"[23].

• Evidence – interpretation and qualification of scientific data is an attribute. To judgment of the scientific finding (fact) a value judgment is added. The authors conclude and publish after passing through the filter of the publishing house. Based on the data, the power of the society of the specialty, fundamented by means of a committee, analyzes the status of approximation to the truth by a mixture of SOOTHSAYING (in the sense of an asset, a value because it will come to be good for the patient), and DOGMATISM (in the sense of a truth to be offered to the patient), each portion of which, when joined in the realm of science, loses its everyday meaning – not well thought of in the medical field. Humanist philosopher André Comte-Sponville (1952-....) defines SOOTHSAYING + DOGMATISM as UTOPIA, not in the sense of something unattainable because it is based on a concept that we judge fanciful, but in the sense of another philosophical school that sees it as something with potential to be attained because it is plausible to give the concept the benefit of the doubt.

• There is no "best" objective evidence – there is a choice (and a degree of subjectivity is inherent to choice) that is considered to be best, under certain premises, to "reintegrate itself" at the bedside, upon each new case. Because we can disagree with the committee-certified qualification at any time, the evidence cannot be termed absolute truth. An insightful definition is: "*...evidence is a status granted based on a fact; it reflects, at least in part, that this subjective and social judgment of the fact increases the probability of a given conclusion being true... thus, evidence is not merely a research datum or a fact, but the result of some interpretations that cater to social and philosophical needs...*"[24].

• Guideline – a structured recommendation that stems from scientific data, "reproduced" as evidence and transcending individual limitations in the figure of a committee that aspires to drawing up excellence, the best that can possibly be hoped for, with the best evidence. A guideline constitutes a disclosure, colleague-to-colleague, stipulated and delegated to a society of specialties – the most common – a clinical identity, articulation of values "assured" in an *a priori* manner, a sort of authority franchise – worthy of respect for a scientific reason, but without the sense of coercion – collective, with freely granted permission to use. However, having in hand, as it were, an authorization to believe that the guideline is true, the members of the specialty society, given their due responsibilities, maintain their free will in regard to the scientific fact – after all, "scientific obedience" is not mandatory. But there is vigilance, "*... once the guideline*

is adopted by the health care service, all physicians are expected to comply with it..."[25], and there are ways of thinking, such as *"...without due reason, deviation from compliance should lead to corrective action..."* or *"...latitude for exercising professional judgment..."* or *"... replacing the vague language of "standards of care" with explicit contractual terminology, such as "expectations of performance" and incorporating guidelines selected and adjusted directly to physicians' routine could result in equilibrium between public concern regarding the quality of health care and physicians' interest in a fair performance evaluation review carried out by other physicians to ensure quality health care in the institution (peer review)..."* [25].

The strength and value of the guidelines for consensual treatment lie in the best possible approximation to usefulness and effectiveness, in the critique and hierarchy of options, in scientific updating, and clinical clarity as opposed to the contradictions of medical literature. Stratifying the recommendations into critical and non-critical seems to be useful in the realm of the cost-risk-benefit ratio[26].

A relevant aspect is the cultural influence, most commonly of the language used to decode the message. How is it possible to properly grasp and apply *"is reasonable, may be considered, might be considered"*, and "translate" it at the bedside into *"I'm going to do it & I'm not going to do it, I'll probably do it & I'll probably not do it"*?

Guidelines do not cause physicians to exist; it is physicians who lend existence to the guidelines. And that existence comes to take part in the physician's professional life in such a manner that it becomes the goose that lays the golden eggs, but fails to reveal which came first. Guidelines are not exactly an exaltation to science, they are linked to the state-of-the-art in medicine and, because of the "little bit more" that they provide, they require clinical reading. In other words, guidelines do not constitute a manual for those who have no clinical vision, or an interpreter for those who are deaf and dumb in regard to their patients. Guidelines are not exactly an "out" for building up a stereotype professional image. Triangles, due to the interdependence of their vertices, help one to perceive the multiple facets of what might be considered admissible as a humane attitude in regard to disease[4]: there is that facet resulting from the "dialogue" between the medical recommendation (guideline) and the patient's preferences and perceptions; there is that resulting from the "dialogue" between the medical recommendation (guideline) and the physician's ethical, moral, and legal responsibilities; and there is that resulting from the "dialogue" between the patient's preferences and perceptions and the physician's ethical, moral, and legal responsibilities. Each "dialogue" has its "evidence" regarding beneficence/nonharmfulness/autonomy and thus *"...dealing with patients should be seen more as cooperation of a team of specialists (doctor, nurse, lab personnel, patient, family, etc...) than as a physician shooting a magic bullet of authoritarian competence... protecting the freedom and equality of this cooperation would be the prime clinical objective on both individual and institutional levels..."*[27].

• Conflicts of interest – conditions in which judgment of a primary interest has the potential to be influenced in an undue fashion by a secondary interest that may be linked to an economic, or even personal, social, or scientific aspect[28].

• Selected publication – article in a scientific journal that has passed the quality control of the guideline committee and was included in the references. It represents certification as an asset of scientific value, and in our specialty, is to be held under the guardianship of the ecosystem of cardiology. Having been examined and selected to be "part of such a blessedly select group" is the high point of a publication's *curriculum* – the feeling of winning an Oscar for the best script or a Nobel Prize for medical literature. Such an honor broadens the definition of *"... primarily, a means of scientific communication, information for colleagues, proof of academic competence, a criterion for academic promotion, an argument for funding, and a fundamental prestige-enhancing factor for universities..."*[12]. We must also keep in mind the academic maxim, "publish or perish".

Every article is a primary source as long as it is in the hands of its author(s), a stage that includes the publication of data and interpretation of that data by the person(s) who obtained it. The community's reading of the article is a re-interpretation – an interpretation of the interpretation actually contained in the original, or interpretation of the non-interpretation of data which, after having been classified and awarded merit, can become a secondary source in a revision, in an update, in a view point, in discussion about some similar article, or in a guideline. As is usually the case with a good book, it is the first paragraph – the primary source – and the last paragraph – the reproducibility – that foretell the quality of a guideline text.

• The aspects of colloquial language – It would be fitting to say *"no scientific data is available"*, but it would not be fitting to say *"no evidence is available"*. Availability refers to the research that generates data and not to the interpretation of that data, because any data, if available, can be qualified as evidence – good or bad, positive or negative. In like fashion, it would not be fitting to say *"no guideline is available"*, unless that is literally the case, in other words, that no guideline was drawn up by a committee. It would not be fitting to state that no scientific data capable of serving as a fundament and guide exist. Scientific fact is not born as a guideline. First it must become a source; second, be analyzed as evidence; third, acquire a new form – that of acceptance or refusal of its recommendation status.

IX - Guidelines and moral commitment

A guideline is not an eleventh commandment. We might see it as a compact ideal of scientific data and of the value (evidence) of those data, or as a guide to what might be missing in our treatment of the patient. If we were to see it as an ideal, we would be admitting duty and subjection, but if we see it as a guide, we would be doing away with the submission.

What we might lack could be the objectivity of a pharmacological effect, or it could be the subjectivity of the patient's perceptions and preferences. One can deduce that although a guideline may not complete a bedside ordination – when, for example, a patient favors emotional reasoning to the detriment of intellectual fundamentation – it can certainly arouse awareness of what may not have been thought out and point out possible strategies. After all, if the bedside-care concept did not exist, why would we have guidelines?

But that which is capable of completing the classification nominates itself as the spokesperson of a scientific consortium that offers a product of continued education with global raw material (we are doctors without borders), produced,

packaged, and labeled in certain communities. The right to one sole quota for all harks back to twenty-five centuries ago, acquired and eternalized in the rationale of the Hippocratic Oath: "*...to teach them this art - if they desire to learn it... to give a share of precepts and oral instruction and all the other learning...*". One deduces that guidelines have roots in an archetypal fraternity of medicine.

Guidelines imply awareness of the data's legitimacy, reasoning as to their reproducibility and their honesty of purpose regarding what may or may not be recommendable. One deduces that guidelines are an "open system" that turns on an axis of renewed reflection on contradictory probabilities and the Aristotelian classification of agonist and antagonist trends that coexist in the field of medical literature.

Guidelines focalize strong moral commitment – in their elaboration, in view of the data selection process, and in their application, since the intention to use what is a diffuse asset of medicine ("the best evidence" in literature) must not clash with what would in fact be good for the patient, which is specific ("the best evidence" at the bedside) – in accordance with what is implied in the beneficence/nonharmfulness binomial.

One concept that knocks on door after door of medical scholars from the earliest days of their training is that technical availability is not a synonym of clinical recommendation – after graduating it is also useful to knock on the door of one physician after the other. Having a valve prosthesis still in its original packaging, presumption of "*best hemodynamics*", is not, in itself, an argument for replacing an abnormal native valve, knowingly in "*worst hemodynamics*". And not having something available is not an antonym – the lack of expertise to perform a mitral balloon valvuloplasty does not eliminate that procedure from the list of options to be commented by the physician who practices autonomy with a patient suffering from mitral stenosis. One might add that the relevance of the moral aspects of a decision is proportional to the degree of risk of each option to attain benefit and/or avoid harmfulness. One can deduce that the effort to achieve a communion of interests in the doctor-patient relationship is an undebatable stimulus for collective "best evidence" in literature to adjust itself to individualized "best evidence" at the bedside.

Guidelines constitute a reciprocity agreement among colleagues. By means of a tacit agreement of wills, a physician furnishes a clinical situation and the guideline committee offers a recommendation certified as reliable. This is in compliance with "*...formulation of a clear patient-based clinical issue... search for relevant articles in medical literature... critical evaluation of the evidence... selection of the best evidence for the clinical decision... linking of the evidence with clinical experience, knowledge, and practice... implementation of the useful findings in clinical practice...*"[29] Be it a convention "*...echocardiography is recommended annually for patients with asymptomatic mitral stenosis and mitral valve area >1.5 cm²...*"[6], or an imperative, "*....mitral balloon valvotomy is not recommended in patients with mild mitral stenosis...*"[6], there is a capital commitment related to the Hippocratic "*...to no one shall I give advice that induces loss...*" One can deduce that guidelines incorporate a symbolism of service rendered with zeal and prudence.

It just so happens that because this process involves an exchange, it requires an endorsement: we must verify if we, putting ourselves in the place of the guideline committee and having total autonomy, would apply the same process that resulted in the final product that we are accepting – "we" in this case referring to any cardiologist who is familiar with heart disease, whether active in academic life or not. The answer is complex. One can deduce that it must be broken down.

During the phase of panning for scientific data, we could explore the same veins of the 'literature mine' and make identical selection and classification of nuggets – restrictions are not usually of an intellectual nature, they are on duty on days that have "only" 24 hours. We can conclude that, conceptually, this first half of the answer has a good chance of being *'yes, we would use an analogous process'*.

The answer in the phase of certifying scientific data as evidence – where those data that are supposedly closest to the truth (useful and effective intervention) are chosen – has a good chance of being ambiguous. The tasks of ranking evidence and making the "best evidence" hegemonic are subject to subjective judgment and therefore far from being neutral. One can deduce that giving a 'yes' in this second part is associated with a high degree of transfer of trust to the patron committee.

In the case of a double 'yes', approval is complete and we project in it the outlook of the best result. We feel that a result that may differ from what was expected would not be due to malpractice. One of the angles of the concept of guidelines is exactly to shield, as far as possible, from imprudence – because by following the guidelines, we would not be doing something that the majority does not do either – as well as from negligence – because we would not be failing to do something that the majority does – so the guidelines would represent the guardian of "*...acting in the benefit of the patient...*" (Art. 6 of the Code of Medical Ethics). But there is the other side of the bedside: adherence to a guideline can become imprudent when its beneficence is not passed through the filter of non-harmfulness. Here is an example in valve treatment. Let us suppose that there has been adhesion to the following recommendation: "…a bioprosthesis is indicated for mitral valve replacement in a patient who will not receive anticoagulation, is incapable of receiving anticoagulation, or has a clear contraindication to anticoagulation therapy..." (class I recommendation in selection of mitral prosthesis)[6]. Immediately following implantation of the selected bioprosthesis because the patient does not have a profile for anticoagulation, care must be taken to avoid adhering to "*... during the first three months after replacing the mitral with a bioprosthesis, the use of warfarin is reasonable...*" (class IIa recommendation for antithrombotic therapy in patients with prosthetic heart valves)[6]. One deduces that standardization by guideline, as an ideology, must have interdependencies legitimized as being of real interest to the community.

To be well suited to the sensed result, guidelines should not be seen as bedside "package inserts" or as "cheat sheets" for examining patients. For those who have not read a bare minimum of articles mentioned in the references, guidelines are little more than caricatures of the available literature. In fact, when guidelines are not read as the revelation of secrets, they contribute to professional success in that they represent

a second reading in accordance with the concept that "... *Curiously enough, one cannot read a book: one can only reread it*..." (Wladimir Nabokov, 1899-1977). Nabokov teaches us that the first reading leaves a sediment, a mark of the effort to understand, and that when we are faced with the need, we recover the stored recollection, a sort of mental *search-copy-paste* that causes a second, more immediatist reading – a second look at the literature just to make sure.

It is essential that physicians who intend to hitch a ride on the guidelines do not do so without first checking the itinerary at the ticket booth of experience. At this point, "doubly informed" and clarified by their own clinical sensibility, they can fulfill one more of Osler's words of wisdom (one more and he will be a co-author) "*...Lack of systematic personal training....leads to... misapplication …*" For everything else we have the "credit card guidelines" that even admit an effort to develop "*...systems of guidelines interpretable by computers and targeting non-specialists...*"[30] It brings to mind pioneer scientific publications, centuries ago, which were anagrams that preserved the credit of authorship, but were intelligible only to those who shared the password.

It hardly seems ethical to consider ourselves multispecialized simply because we have access to a collection of guidelines. Contrary to what many may believe, one can deduce that guidelines are not meant to be used as Personal Protective Equipment (PPE) by those who are not intimate with the subject. Guidelines may even give us a feeling of being free and protected, but using "gloves and goggles" without a proper initiation ritual hampers our sensitivity to light touch and visual acuity, and therefore run the risk of protected freedom in a labyrinth. Once caught up in that labyrinth, we will have to face a series of realities with which we are not familiar and we will soon start contradicting ourselves. It is something like "not confirming tomorrow the untruth that you uttered today" because those who are unable to tell a story based on their own experience – the more kaleidoscopic, the more they tend to base their practice on theory – will probably not feel at ease to play the role of the character that "recites guidelines" at the bedside with the authenticity of an expert's opinion. In situations far from the clinical interrelations of our daily routine, applying guidelines like cake recipes – other than in cases of "extreme isolation from colleagues" when the guidelines become lifesavers – ethically speaking, constitutes a borderline case of Munchausen's syndrome. Hippocrates would say to Osler: They forgot that they swore "*...I will follow that system of regimen, which, according to my ability and judgment, I consider for the benefit of my patients...*" – and Osler would reply: "*...lack of systematic training is apt to place us, in the eyes of the public, on a level with empirics and quacks...*"

If some fact is interpreted as *the most* [applicable], in complementation there must be another interpreted as *the least*, but not necessarily inapplicable. Likewise, if there is *best* evidence, we can assume that there is also *worst*, but not necessarily bad. Comparisons are made in relation to non-absolute references, not like when one uses a placebo. Thus, evidence should not admit to any appreciation other than as the representation of the probability – and not the veracity – that recommends (class I) or discourages (class III). In other words, the dictionary of biostatistics respects alphabetical order: probability (evidence closest to success) always precedes veracity (proven success).

British authors Lockey, Crewdson, and Davies of the London Helicopter Emergency Medical Service[31] analyzed a highly complex biopsychosocial situation – cardiac arrest. They observed that 19% (13 of 68) of the survivors of post-traumatic cardiac arrest – a situation that carries a dismal prognosis in which many consider resuscitation to be futile – contradicted recently published guidelines. The conclusion was: "*...adherence to the guidelines may rule out a number of patients with chances of survival...*"

And what happens with the "less-than-best evidence"? What do those data represent that, making up the gross domestic product of cardiology and far from being scientific trash, acquired the status of a lower grade of evidence on the scale of scientific value in accordance with the agreed criteria? They make up a sort of vice-evidence of the "best" evidence. This being the case, there is no denying their legitimacy to take first place when the lead-evidence is barred. A strong argument in favor of the view that "less than the best evidence" is not the antithesis of beneficence is that we know how improbable it is that all patients with the same disease will always require the same prescription[32]. One can deduce that recommendations, both classes I and II, can determine similar results at the bedside regardless of the degree of probability we may sense in the scientific source.

This raises the question: The "best" evidence for whom? If it is for the guideline committee, it is insufficient. If it is for the academic satisfaction of a pathophysiological concept, it is insufficient. If it is for the administrative view of recomposing the cost-benefit ratio, it is insufficient. If it is for the physician who will apply it, it is insufficient. If it is for the beneficence/nonharmfulness following (the patient's informed consent, it is sufficient. One can deduce that the guarantor feedback "*guideline evidence*" – "*bedside result*" depends on the multiplicity of case series because "*...observation data can cooperate with the randomized trials to confirm or not if the same efficiency obtained under controlled conditions occurs in routine practice...*" [33], curiously enough, an inferior scientific method in the concept of evidence. "On-call truths" dealing with prevention have notorious differences in relation to the timing for appreciation of the usefulness and efficacy as compared to those dealing with therapeutics. Therapeutics feature the proposition – opening the mitral valve by an intervention in view of due to acute pulmonary edema; the execution – obtaining a mitral valve area of 2.1 cm^2 by means of balloon valvuloplasty; and the result – functional class I, in the short term. As far as clinical epidemiology and biostatistics and their effects in Evidence-Based Medicine are concerned, the conceptual beneficial effects of a reduction (qualitative and quantitative) in exposure of the hypercholesterolemia are less explicit in the real life history of the "nearly ill". This finding, twenty years after the catch phrase "*...a dimmer reduces the light when we leave the plasma compartment and enter the arterial wall...*"[34], brings to mind the teachings of epidemiologist Geoffrey Rose, famous for formulating that the concept ill x non-ill (medicate or observe) is a dichotomic clinical logic that does not apply to the populational realm where there is a subclinical continuum: "*...in a mass population policy, a small benefit for each individual can become unexpectedly large...*"[35], and warns that the nature of beneficence of the change in

habits cannot be seen separate from "*...disease is a restraint applied to daily routine... medicine must insert itself in the context and values of the restraints of each life...*"[36].

A paradox with ethical implications seems to be taking shape: "*...according to evidence-based medicine there is no acceptable evidence that evidence-based medicine is a way to the truth... that randomization, when there is a discrepancy with some other method, is a belief, not evidence. After all, divergence between studies is the rule, not the exception, if not, if everything were identical, why would there be any need for systematic review?*"[5]. Remember that one of the most common expressions in cardiologic literature is "conflicting results", justification for new research projects. One can deduce that it is valid to examine the context of the guidelines from the point of view of current medical culture, resorting to a metonym linked to Gaius Maecenas who was a Roman citizen of the imperial era who helped the autocracy satisfy the interests of the aristocracy: do guidelines, given the determination to gather a valuable collection, correspond to the Maecenas of the state of the art in the ecosystem of cardiology?

X - "Guideline-Centrism": the current era's cultural phenomenon

Guidelines immigrated to the Brazilian ecosystem of cardiology about 15 years ago, and upon their arrival demonstrated international competence for a *vini, vidi, vince* attitude in regard to selecting & interpreting & organizing.

They never failed to recall the difficulties represented by the notion that extracting a finding from the "scientific recipient" was no guarantee of its subsequent smooth insertion – now in the form of evidence – in the "recipient patient" due to: a) a not very realistic – unskillful – bedside vision "*...the proclaimed hemodynamic superiority of a stentless bioprosthesis does not necessarily translate into best clinical evidence...*" (37); b) ambiguity of the recommendation; c) the lack of tips on application; d) the lack of encouragement in regard to educating the patient.

The guideline's identity was registered in the immigration form: *a specialized committee's recommendation, based on qualified scientific data, for zeal and prudence in the management of specific clinical circumstances*. The admission opinion was: *[guidelines] should contribute toward cultural improvement, divert from medical judgment any ungranted trust, and lend structured and responsible support*.

Adherence to the guidelines came face-to-face with the "teflon effect", while "*...some practitioners found the guidelines useful, others described them as anti-intelligent...*" (20). An atmosphere of postural ambivalence led to something like a 'good past conduct certificate' issued by experience vs. a 'good past conduct certificate' issued by a committee.

And why is that? Because clinical habits were always strong, backfed by the fact that practitioners feel confident about what they do and protected by a feeling of veneration toward antiquity, as Professor Décourt (38) reminds us; because dealing with change depends on each individual's rhythm; because there is always a climate for a fantasy version; because people always fear impositions – realities worked out with a high degree of freedom could dictate standards and then, in a climate of restriction of the degree of freedom, every standard would dictate reality. Concerns in regard to ethical attitudes are obvious: "*...ethics should value the use of the best available in medical research, but the ethics of an attitude cannot be limited to the best medical evidence...*" (39).

Fears? That a movement intended to sanitize the impurities of medical literature might serve as a pretext for authoritarian interference of the classes of evidence in the Hippocratic and Oslerian traditions of dealing with conflict, which could thus lead to centralized control in power relations of the ecosystem of cardiology and, because of the deformation of historic roots or distortion of realities, bring about a consequent threat of ostracism of conventional medicine; that freezing knowledge in a guideline could depreciate certain skills classically considered essential to being a physician, such as skepticism with its permanent doubting attitude, or self-criticism and its lessons; that exalting the superiority of guidelines would be to depreciate experience itself, which would depreciate truth, which in turn would depreciate a dream, something like the feeling that physicians would disappear, replaced by professionals who medicate.

Benefits? Anti-imprudence & anti-malpractice, useful when making a clinical decision; a less abstract connection with secular principles; individual or group teaching; and, a guide for costs. In other words, a favorable cost-risk-benefit equation.

Harmfulness? Instilling a conformist and complacent attitude; going counter to awareness of inductive/deductive reasoning in the practice of medicine; serving as an instrument of "sub-clinical" intentions to limit professional practice; and representing a sword more than a shield (40) in the case of law suits.

Prospects? That selection, analysis, construction, and incorporation would increasingly gain receptivity and that guidelines would be appreciated as weavers of clinical strategies; that coexistence might gradually lead to a softening of the "orders to fulfill" image, because this image carries with it the assumption that a state of disease should – or could – only be controlled, partially or completely, according to the reason of its recommendations, and thus, all the rest could be iatrogenic. And we must not assume that guidelines "*...that fail to solve all the uncertainties of habitual medical practice and should be seen merely as strategies aimed to improve the quality of health care...*" (41) are an active immunization against iatrogenesis, since guidelines building up antibodies against malpractice by means of the knowledge they impart is one thing, and another thing is how far undue attitudes toward patients can go to multiply antigens.

Based as they are on the ideology of Evidence Based Medicine, the guidelines:

1. Progressively broke through "mental frontiers". Here and there they managed to overcome a climate of indifference and the image of second-hand products – in the form of reviews – and expanded on an ascending course: scientific fact-evidence-clinical result. They won over sympathizers of the concept that guidelines are assets and that approving and applying them is a joyful obligation. Guidelines encrusted themselves like barnacles on the clinical consciousness and came to influence the generation of physicians with higher medical association numbers as of their internships – that

generation that never had any tailor-made clothes and, accustomed as they are to "off-the-rack" (*prêt-à-porter*) clothing, must be warned against "already-thought-out" (*prêt-à-penser*) guidelines.

Nevertheless, the guidelines aroused adversaries of this "moral duty" attitude – adversaries who attributed a mystic character to them – more "*...faith in a dogma that confuses evidence with truth...*" (12) than reason by means of proof. Even taking into account those who usually manifest a compulsively independent attitude in regard to prevailing opinion, it seems that rejection stems from a pretentious exaltation of the self-evaluation of superiority of the adjective "Evidence-Based" as compared to conventional – and perhaps "unadjectivable" – medicine, since wisdom is merely wisdom.

In the course of these last 15 years, medical literature has collected countless tales of grief in regard to underutilization of the guidelines "*...they're more preached than practiced...*" (20) By the tone of many articles, suggestions for increasing the degree of compliance (42-44) achieved only modest results. To judge by the results of the many pro-adhesion juggling acts, a safety net under the trapeze is still essential, and a very well anchored net at that.

A certain "Official Gazette" nature of scientific literature of the ecosystem of cardiology raises controversy. The Norwegian government (32), for example, considered simply mailing the guidelines to physicians insufficient to change prescription habits and reduce costs. A proactive attitude featuring organized visits to physicians was frustrating: despite this personalized promotion, 83% of the patients of the physicians visited failed to receive thiazides for hypertension in accordance with the guidelines. Even so, this result was better than the 89% of the control group that received the guidelines by mail and simply trashed the envelope unopened;

2. Highlighted by praise to advances in science and technology and by the fear of vulnerabilities stemming from them, the guidelines came to be seen as an avant-garde value – an ever safer future – and safeguard of a present more scientific than the past;

3. Incorporated in the image of modernity and referenced on progress, the guidelines optimized themselves as tutors, those that know what is best, highlighting from the protocol of intentions: *unquestionable reliability in their elaboration, sagacious interpretation of the content of the references, and objective contribution to people's health;*

4. The guidelines legitimized themselves as partners, advisors, and teachers, with altruism and confidence. Databases facilitated communication: "*...The Guidelines Finder of The National Library for Health provides an index with more than 1500 guidelines, updated weekly and featuring easy download...*" (45).

5. The intelligentsia adopted them with the spontaneity of critical post-reflection, but also in other forms that, on the contrary, raise critical reflections which, in the name of conflicts of interests, managed to gather sponsors and promoters by recommending the collection of "a practical encyclopedia".;

6. They assimilated the "good tree-good fruit" concept and articulated themselves with both bedside decisions – tree by tree – and health care manager desk-side decisions – the forest;

7. They took care to present themselves as clinically friendly – to ease the clinical encounter – and scientifically concise – to provide re-encounters in the midst of the labyrinths of medical literature;

8. They promoted a curricular remodeling with the highlight on evidence (interpreted data);

9. They filled gaps in the university training space and in the time for professional updating, encouraged capacities for a next conscious step, and catalyzed interdisciplinarity. As a point of honor, they made an effort to make very clear what is evidence and what is opinion as the basis for giving answers at the bedside;

10. They were harshly criticized – indirectly – for critical vigilance over bias in the support base, in regard to: changes in research in the course of its execution, arbitrariness of endpoints; discrepancies between statistical and clinical meaning "*...statistical meaning must not be confused with clinical importance... biological pertinence, the test of the power of theoretic consideration and the force of correlated evidence are more important than the value of p... the erroneous idea that one sole number can capture both delayed effects of an experiment and the meaning of one sole result...*"[46]; non-publication of unfavorable results; the effects of polypharmacy, and conflicts of interests[47]. They were unable to eliminate the reductionist impression of a certain "magical realism" – class I x class III – of well imposed occultism – class IIa x class IIb – and even of "canned" medical literature.

Potential Conflict of Interest

No potential conflict of interest relevant to this article was reported.

Sources of Funding

There were no external funding sources for this study.

Study Association

This study is not associated with any graduation program.

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