

## Chapter 8. Demedicalization of care

### Vignette with a vision of the future

*At age 66, Alice has had her share of health woes: breast cancer, high cholesterol, hypertension, osteoporosis, and scoliosis. Once a year she journeys from her home to a University Medical Center where a general internist, an endocrinologist, a rheumatologist and other specialists monitor her with blood tests, X-rays, bone scans, and other tests. But Alice knows that she's more than the sum of her illnesses. When her checkup ends, she heads for an Integrative Medicine Center staffed by university professors, alternative medicine practitioners and other certified specialists, where she has learned about nutrition, fitness, yoga, tai chi, prayer and other practices she says have helped her to live a longer, better and more meaningful life.*

### Summary

- Advances in information technology and the increased cost of health care in the 21<sup>st</sup> Century are rapidly creating a socio-cultural shift in medical care and health care services.
- Traditional Complementary and Alternative Medicine (TCAM) incorporate several different approaches and methodologies including : mind-body medicine (i.e., meditation) , manipulative and body-based therapies (i.e. chiropractic); energy medicine (i.e. Reiki) , whole medical systems (ie.TCM, Ayurveda); and biologically based therapies (i.e., dietary supplements, herbs, vitamins)
- TACM in the Western world is a consumer driven movement where patients tend to self-educate, self-diagnose and self-treat with interventions that may help or may also exacerbate illness.
- Demedicalization is the social-cultural shift of the health system that focuses on individual responsibility to promote better health rather than on the professional or social system.
- Demedicalization of care is an important step in creating a healthy population by putting the responsibility back on the individual for engaging in activities that promote healthy living, and for having health-enhancing interactions with their communities and the environment.
- Integrative Medicine (IM) is a model of health care based on a systematic approach to bring together the best available knowledge from both conventional and alternative medicine to address the biological, psychological, social and spiritual aspects of health and illness. It focuses on respect for the human capacity for healing, promotes collaboration among practitioners, and stresses the importance of the relationship between the practitioner and the patient, and of evidence based health care.
- The World Health Organization is supporting health care policies to institute TCAM along with conventional medicine around the globe.
- As populations throughout the world continue to age, the concomitant increase in

the prevalence of complex chronic diseases will make TCAM an inevitable component of a modern health system.

Management of chronic diseases in the 21<sup>st</sup> century should include an integration of conventional/orthodox and traditional complementary or alternative medicine with the goal of restoring health, improving quality of life or both.

### **Why is this topic important?**

*Disease-based health care, conventional medicine, physicians authority.* These concepts are all too familiar to us. *Demedicalization of care? Holistic medicine? Restorative Healing?* These are new terms that are hinting at a new vision.

The world today is rapidly changing, and vast amounts of information are readily and quickly available, literally, at our fingertips. Yet health and disease are concepts that have evolved slowly, carefully and incompletely. For more than 200 years, biomedicine has approached diseases by studying their underlying processes (pathogenesis), inferring causal connections and developing specific approaches to interfere with those processes through therapies. This pathogenic approach has been highly successful in acute and traumatic disease but less successful in chronic disease, primarily because of the complex, multifactorial nature of most conditions, which does not allow for simple causal, linear inference or for recipe-like therapeutic interventions.

In this chapter, we contend that chronic disease management, and especially when people live with multiple conditions, is best approached by enhancing the individual healing processes through an integrative model of care within the more general concept of Demedicalization of health care.

Demedicalization is not the opposite of medicalization. In fact, it is a cultural shift that situates health promotion as an individual, rather than a professional or social, responsibility. It provides the opportunity for individualized medicine to rise, in order to treat the whole human rather than just treating separate illnesses (1). This inevitably requires better education and access to education as well as an open dialogue and collaboration at all levels within the health system and society at large, particularly between practitioners and patients.

A health system that is powered by technological advancements, focusing on individualized treatments and emphasizing prevention does not appear to be so distant, at least in theory. However, most systems still require an urgent response to the need to bridge the gap between traditional complementary and alternative medicine (TCAM) and conventional medicine, thus promoting holistic medicine in a way that would align the interests of clinicians, researchers, policy makers, industry executives and the general public.

In other words, there is a need to harmonize the benefits of both worlds. Analogous to what is happening around the globe to address the needs of millions suffering from communicable diseases, greater effort is required to deal with the unmet needs of people living with chronic diseases through the strategic, efficient, and effective combination of traditional medicine with conventional interventions designed to improve their quality of life.

Bridging the gap between conventional/orthodox and TCAM with the goal of healing should be one of our top priorities for the 21st century.

## **Alternative, Complementary, Holistic or Integrative care: Whats in a name?**

Medicine has never been more powerful, and yet it seems patients are increasingly dissatisfied, health care systems are in disarray, unable to meet increasing demand with limited resources, and chronic care management is still far from being whole.

For too long we have been immersed in the disease-based model that views individuals as cases with malfunctioning organs or systems, and undervalues the sociocultural and humanistic aspects of care (2). The surge in technological development, the increased need for immediate reward and the overestimation of our capacity to deal with human suffering have driven the medical system further toward this disease-based approach to health care. The results are a diminishing public faith in the medical establishment and the rise of alternative medical philosophies and practices. The real crisis in medicine and healthcare in general today is not about economics, insurance, or managed care--it's about the loss of the fundamental human relationship between the system and the public; between health professionals and patients (3). Others have echoed this concern and new models are re-emerging to allow physicians and other health care professionals to refocus on the patient-centered, personal, and unique experience of illness. This is an imperative for our time (4).

For the past 30 years we have observed an increased interest in TCAM. This emerging field draws from indigenous healing knowledge systems from around the world and has been recognized by the World Health Organization (WHO) as providing culturally acceptable, affordable and sustainable primary healthcare (5). According to the WHO, *Traditional Medicine* refers to health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being (6, 7).

In industrialized countries, adaptations of traditional medicine are termed *Complementary or Alternative Medicine* (CAM). CAM is defined as the broad range of healing philosophies, approaches, and therapies that mainstream Western (conventional) medicine does not commonly use, accept, study, understand, or make available. CAM therapies may be used alone, as an alternative to conventional therapies, or in addition to conventional, mainstream medicine to treat conditions and promote wellbeing (8). CAM has been further defined as any treatment and/or prevention, which complements mainstream medicine by contributing to a common whole by satisfying a demand not met by orthodoxy or by diversifying the conceptual framework of medicine" (9, 10).

Within this context a combination but distinctive approach known as Integrative Medicine is evolving. *Integrative Medicine* (IM) then is a broadest concept, which focuses on health and healing through the integration of conventional medicine and TCAM. IM emphasizes the relationship between the patient and health practitioner, and the responsibility of the latter to enable the patient to benefit from a full array of modalities that can be shown to benefit health. It addresses the biological, psychological, social and spiritual aspects of health and illness and has a strong focus on preventive maintenance of health (8, 11, 12, 13). In addition, *IM Systems* are also defined as health care systems that integrate self-care, lifestyle based interventions, and TCAM with conventional medicine through rational, comprehensive patient evaluation, and monitoring. It emphasizes respect for the human capacity for healing and awareness about the status of individual health, promotes collaboration among practitioners, stresses the importance of the relationship between the practitioner and the patient, support individual behavioral changes and focuses on evidence based health care, whether conventional, alternative, or complementary (14, 15).

IM, in addition, seeks to harmonize the treatment methods of conventional biopharmaceutical medical approaches with the TCAM of various cultures for the correction and maintenance of health (16, 17). However, over the past century, these two approaches have been at odds with each other, particularly in the scientific biopharmaceutical (so called Western medicine) realm. Yet without the more traditional approach, thanks to herbal products, the pharmaceutical business would not have reached the level of sophistication and financial might it enjoys today.

It is within this paired approach that is imperative to integrate the different healing systems to improve the art of healing and benefit those who live with multiple chronic diseases. The integration of ancient practices of healing with modern scientific approaches with the objective of helping people to be well and stay well is paramount to a modern health care system.

In order to accomplish this haunting task we must incorporate the advances of modern science into a sensitive, humane and enlightened approach to medical care. And to do so the process of *Demedicalization of Care* should move towards a more individualized and research-based approach. Along the way, new concepts are springing up, risking the creation of a veritable Tower of Babel.

One of the most popular terms is *Holistic Medicine*, which is used to describe the medical care of the whole person considered as subject to personal and social as well as organic factors, emphasizing the connection of mind, body and spirit and how the whole person interacts with his or her environment. Holistic medicine seeks to shift the conversation from illness treatment to approaching patients as individuals who accept responsibility for their own level of well-being and take charge over their health in everyday choices they take. Such an emphasis on making sure the patients environment, choices, emotions and spirit are considered becomes ever more relevant for people living with multiple chronic diseases, whose conditions are caused and fueled by the complex interaction of multiple factors (18, 19, 20).

*Reorganization Healing* on the other hand, reflects on the highly complex and dynamic nature of health across all biologic, psychological, social, and spiritual domains. It seeks to bring about changes in individuals, by helping them to develop new resources to approach their health challenge consciously, bringing about greater understanding and an increased ability to thrive under most circumstances (21, 22).

*Whole Systems Research*, on the other hand, is a term used increasingly in relation to the study of complex TCAM interventions at a system level, taking into account the myriad interactions that contribute to their effects on health (23, 24).

TCAM and IM will be the terms that will be used most frequently in the rest of this chapter.

### **What do we know?**

IM services for chronic disease prevention and management seem to be growing at a fast pace, largely mediated, demanded, pursued and sustained by the public (25,20,26). Most people living in Africa, Asia and Latin America use TCAM to help meet some of their primary health care needs. In Africa, up to 80% of the population uses TCAM for primary health care, while in India the corresponding figure is 70%(27). The percentage of the population that has used TCAM at least once in the past 10 years in high-income countries is also important, with 42% in the US, 48% in Australia, 49% in France and

70% in Canada ([28](#), [29](#)).

A 2002 survey indicated that approximately 72 million US adults used TCAM mainly to control diseases such as diabetes, cancer, depression, chronic liver disease, arthritis, and pain management. TCAM used just for pain relief include acupuncture, low-level laser therapy, meditation, aromatherapy, dance therapy, music therapy, massage, herbalism, therapeutic touch, yoga, osteopathy, chiropractic, naturopathy, and homeopathy([30](#)).

A number of surveys indicate that TCAM use has increased around the world regardless of socio-economic status or cultures. However, in developed countries most users tend to be younger, affluent and well educated people hopeful to gain control over their disease and its management ([29,30](#), [31,32,33,34,35,36](#)).

In general, WHO has estimated that 80% of the world's population currently uses TCAM as a primary source of medical treatment ([5,7](#)). Findings from the 2007 National Health Interview Survey (NHIS) in the United States, an annual in-person survey of Americans regarding their health- and illness-related experiences indicated that approximately 38% of adults (about 4 in 10) and approximately 12% of children (about 1 in 9) are using some form of TCAM. Nonvitamin, nonmineral natural products are the most commonly used therapy among adults and are likely to be used for musculoskeletal problems such as back, neck, or joint pain ([35](#)).

In patients suffering from severe depression, TCAM use may be greater than 40% and 50% of cancer patients use these methods in conjunction with traditional cancer treatments ([37](#)). A literature review of 26 surveys from 13 countries including USA, Germany, UK, Norway, Austria, Australia, Taiwan, Italy, Argentina, Finland, Holland, Switzerland and China suggested that the use of TCAM among cancer patients is common, with an average prevalence rate across studies of 31% (range 7% to 64%) ([38](#)). More recent studies suggest that the use of TCAM could be considerably higher, with some studies reporting rates of 83% in an outpatient sample of 453 patients ([39](#)), 70% in a sample of 356 colon, breast and prostate cancer patients ([40](#)) and up to 73% among 14 European countries ([41](#)).

In pediatric patients rates seem equally high, ranging from 33% in the UK ([42](#)) to 84% in the USA ([43](#)).

For cancer, herbal medicines and remedies together with homeopathy, vitamins/minerals, medicinal teas, spiritual therapies and relaxation techniques appear to be the most commonly used TCAM therapies ([41,44](#)). Outside cancer management, TCAM use is most often associated with the 'chronic disease triad' of arthritis, musculoskeletal disorders and stroke; with those who experience low satisfaction with care; and those who have strong cultural beliefs ([45](#)).

The use of TCAM also appears most likely among those who have been diagnosed with chronic disease compared with those who have not ([26](#)), playing also an important role in the prevention of disease and the preservation of health ([46](#)).

### **What is the evidence of effectiveness and potential harm of integrative care, particularly for people living with multiple chronic diseases?**

An emphasis on integration is not based on shunning conventional medicine, nor is there the assumption that all modes of TCAM are worthwhile ([47](#)). Advocates of TCAM hold that their interventions and methods are effective in treating a wide range of major and minor

medical conditions, and that integrative medicine interventions support positive behavioral changes in diet, exercise, stress management and emotional well-being (11, 12, 48). However, most treatments are recommended based on opinion rather than evidence from research. Obviously, opinion and evidence can differ without either being wrong, and one intervention could for instance be recommended without the back-up of research simply because trials are not yet available. As pointed out by Ernst and colleagues the absence of evidence of effectiveness does not imply absence of effectiveness (9).

There is limited evidence however, about the effectiveness, potential harm and overall cost of integrating TACM with conventional Western care (25, 49) and there is concern about divining integrative medicine particularly when clear definitions and descriptions of this field are missing (50, 51). There is also a strong need for standardized integrative medicine education (13, 52, 53, 54) and more thorough scientific research about the use and efficacy of TCAM in chronic disease or conditions as well as in relation to the appropriateness, quality, availability, and cost of TCAM modalities in the current healthcare system.

A number of studies and systematic reviews have been published addressing evidence of efficacy of TCAM in chronic conditions and recent trials have reported both positive (55, 56, 57, 58) and negative (59, 60, 61) results of specific interventions. However, evidence greatly varies across countries and type of studies.

A recent review of fifty-one CAM treatments characterized as having maximum weight of evidence as well as being clearly positive concluded that only 7.4% of them were based on sound evidence (62) [See Table 1].

**Table 1. CAM treatments based on sound evidence\***

<b>Intervention</b>	<b>Conditions</b>
Acupuncture	Nausea/vomiting induced by chemotherapy
Acupuncture	Osteoarthritis
African plum	Benign prostatic hyperplasia
Allium vegetables	Cancer prevention
Aromatherapy/massage	Cancer palliation
Biofeedback	Hypertension
Biofeedback	Migraine
Chondroitin	Osteoarthritis
Co-enzyme Q10	Hypertension
Diet	Rheumatoid arthritis
Ephedra sinica	Overweight
Exercise	Cancer prevention
Exercise	Cancer palliation
Exercise	Chronic fatigue syndrome
Exercise	Depression
Exercise	HIV/AIDS
Fiber	Irritable bowel syndrome
Ginkgo biloba	Alzheimer's disease
Ginkgo biloba	Peripheral vascular disease

Glucosamine	Osteoarthritis
Green tea	Cancer prevention
Group behaviour therapy	Smoking cessation
Guar gum	Diabetes
Guar gum	Hypercholesterolemia
Hawthorn	Chronic heart failure
Horse chestnut	Chronic venous insufficiency
Hypnotherapy	Labor pain
Kava	Anxiety
Massage	Anxiety
Melatonin	Insomnia
Music therapy	Anxiety
Oat	Hypercholesterolemia
Padma 28	Peripheral vascular disease
Peppermint/caraway	Non-ulcer dyspepsia
Phytodolor	Osteoarthritis
Phytodolor	Rheumatoid arthritis
Psyllium	Constipation
Psyllium	Diabetes
Red clover	Menopause
Relaxation	Anxiety
Relaxation	Insomnia
Relaxation	Nausea/vomiting induced by chemotherapy
S-adenosylmethionine	Osteoarthritis
Saw palmetto	Benign prostatic hyperplasia
Soy	Hypercholesterolemia
St John's wort	Depression
Stress management	HIV/AIDS
Tomato (lycopene)	Cancer prevention
Vitamin C	Upper respiratory tract infection (treatment)
Water immersion	Labor pain
Yohimbine	Erectile dysfunction

\*From Ernst 2009 How Much of CAM is Based on Research Evidence?

Clearly there is a need for more thorough scientific research of the use of TCAM in chronic disease or conditions but the overriding conclusions are that some forms of CAM do have a role in modern health care.

Probably the most evaluated approach has been the combination of medicinal plants with conventional drugs. WHO estimates that of the 35,00070,000 species of plants that are used for medicinal purposes around the world, 5,000 have been submitted to formal biomedical scrutiny (7). Of these, a much smaller number has been evaluated to confirm either beneficial or adverse effects particularly those associated with herb-drug interactions (63, 64, 65). Nevertheless, in many countries scientific evidence of efficacy is beginning to emerge from randomized controlled trials in which herbs compare

favorably with placebo. In addition, a number of studies indicate that herbal products may in fact complement and improve the efficacy and/or adversely affect the properties of commonly used drugs (66).

Much work has been done in recent years to increase credibility and acceptance of herbal medicines and to comply with new regulations addressing quality issues, good manufacturing practices and science-based research. Government and non-government institutions around the world are spending a great amount of resources to facilitate research in this area and to increase the body of evidence about the value of herbal medicines to improve human health (67, 68, 69, 70,71).

### **How is Integrative Medicine shaping the Demedicalization of health care?**

Demedicalization is the result of a growing belief in lifestyle as a determinant of health; a desire to keep ones health under ones own control; the recognition of the role of the best available information as the basis for choice and action; the fear of treatment, surgery especially; some loss of faith in the medical industry; and a growing repertoire of test kits, diagnostic instruments, and OTC drugs that promote self-management (72).

An important outcome and ultimate goal of demedicalization is to reduce the cost of medical health care without sacrificing quality of life. Two key principles: *Normalization* and *Substitution* have been identified as critical for this to occur. Normalization enables self-determination and a civil right for a person to live independently. The principle of substitution involves the exchange of services that are most costly for those that are less costly. Within the mainstream health system, it happens when a health insurance company or a health care facility uses generic instead of brand name drugs, or when patients are discharged home following a surgical procedure, armed with resources to engage in self-care. Ultimately, cost is reduced significantly while patient empowerment is increased in a way that does not jeopardize the overall health outcomes and reduces the undue burden on professionally trained health care workers (73, 74).

Self-care or self-management defined as the individuals ability to manage symptoms, treatment, physical and psychosocial consequences and life style changes inherent in living with a chronic condition (75) then becomes an important aspect of demedicalization.

In some settings, however, substitution and self-care do not happen by choice. In the poorest communities in the world, people are forced to rely on traditional systems and traditional healers as well as on herbal medicines and concoctions of questionable quality as substitutes to conventional care, in an effort to compensate for limited access. This limited access however, is not only due to lack of money but to lack of access to appropriate medicines. In fact, the WHO reports less than 1% of the nearly 1,400 pharmaceutical drugs registered between 1975 and 1999 were for diseases affecting the poorest in the world (76,77).

Although the WHO has instituted plans to help countries integrate traditional medicine with national health care plans, the wealthiest of the world continues to use TCAM as a complement rather than as an alternative to mainstream care. In the past decade, integrative medicine centers have opened across the world. In the US, the American Hospital Associations 2003 Annual Survey of Hospitals showed that the percentage of hospitals that offer TCAM has more than doubled in less than a decade, from close to 9% in 1998 to almost 20% in 2003. Among 1,007 respondents, 269 hospitals stated that they offered some CAM services. Their top three reasons for doing so were: patient

demand (83%); organizational mission (69%); and clinical effectiveness (61%). Among hospitals not currently offering TCAM, 24% stated that they planned to do so in the future.

Patients usually pay out of pocket, although some services -- such as nutritional counseling, chiropractic treatments, and biofeedback -- are more likely to be reimbursed by insurance companies (78). A similar 2007 survey indicated that more than 37% of US hospitals offer one or more CAM therapies, up from 26% in 2005, with 67% of survey respondents stated that clinical effectiveness was the top reason for choosing them. According to the current President and CEO of the American Hospital Association, Rich Umbdenstock, "Complementary and alternative medicine has shown great promise in supporting and stimulating healing and it is one of the many tools hospitals look to as they continue to create optimal healing environments for the patients they serve" (79).

One of the biggest challenges of this integration process, however, relies on the practices per se. Traditional healing systems tend to rely on expertise, traditional knowledge and observation, and are often intrinsically related to the culture and expertise of individual masters or practitioners. To embrace these practices as a whole and make them work within current mainstream conventional care systems, more education, research and collaboration is required.

### **What do we need to know?**

One of the biggest challenges to fill existing knowledge gaps in relation to TCAM is the lack of accepted research processes and methodologies to evaluate complex interventions that intend to treat chronic diseases, particularly when two or more are present in the same person, or even less to prevent their progression. As noted in the previous section, little is known about the efficacy and adverse effects profile of many specific TACM interventions and practices. Similarly, there are few guidelines on how to assess the impact of any TCAM interventions on healthy people.

Many socio-economic challenges also remain unaddressed. Highly developed mass marketing campaigns invite and entice consumers to go back to the basics, appealing to the populace to go natural, without taking into consideration the myriad of differences between the old natural agricultural peasant society and the technology-driven, industrialized distribution chains of today. It is unclear whether existing government agencies, professional associations and consumer advocacy groups could play a significant role to protect the public from unscrupulous TCAM marketers, while promoting access to beneficial products.

Another set of challenges is societal in nature. We have become a society in which we believe that we are entitled to cures for all our diseases regardless of how we neglect and misuse our bodies. We are willing to pay for pills and therapies to cure self-inflicted conditions that result, to a large extent, from our own sedentary and stressed lifestyles and gluttony. We want quick fixes to our problems, no matter how little we understand them, but we are unwilling to take any risks or to participate in research that may improve our understanding about their benefits or risks. We want protection from unscrupulous quacks but then we declare conspiracy and untrustworthiness in those very institutions we created for our protection.

An additional societal challenge is associated with individual disease perception and the meaning of suffering. The literature suggests that there are two types of individual approaches to chronic diseases: accepting and progressive, or non-accepting and

regressive. A study evaluating the life course of coronary artery disease patients from their own perspective revealed that participants who represented an accepting and progressive life course achieved a better level of rehabilitation than those with a non-accepting and regressive life course ([80](#)).

The Judeo-Christian approach to suffering implies acceptance as well as coping within the broader concept of a perfect/higher purpose. Suffering is transient and it has an eternal perspective. I consider that our present sufferings are not worth comparing to the glory that will be revealed in us" (Letter of Paul to the Romans, Romans 8:18).

Accepting chronic diseases as a part of the life course may impact not only its management but also its burden. A person's attitude as well as his or her subjective meaning structures, spirituality or religion, values and thoughts influence both health and illness experiences. This depends on factors such as: irreversibility of the condition, availability of medical technology to improve it, the desire of the individual to live a full life and a realistic approach to life and death. When confronted with traumatic or chronic conditions patients may feel the need to understand their own experiences in the context of their religious or spiritual views. Incorporation of culturally appropriate religious or spiritual practices alongside the delivery of medical care in an integrated and holistic manner may be needed for a real demedicalization of care.

### **What innovative strategies could fill the gap?**

A future in which we understand the intrinsic value of integrative approaches, focusing on the whole person and prescribing effective combinations of TCAM and conventional interventions to treat and prevent illness, alleviate pain, and improve quality of life for complex chronic diseases will require unprecedented levels of collaboration among regulators, industry representatives, health care practitioners, researchers, and patients/consumers.

There are some encouraging examples of this level of collaboration ([81](#)). For example, the WHO has issued Guidelines for the Assessment of Herbal Medicines, which are based on the classical paradigm and follow the classical approach to validating quality, safety and efficacy used for conventional pharmaceutical products, with one major difference: the starting point is to look at the effects of the interventions in humans, instead of animal models. By taking into account the traditional experience with the herb, and viewing commercially driven datasets suggesting the apparently uneventful use of a substance for long periods of time as evidence of its safety, manufacturers are encouraged to support research efforts that seek to develop a drug or a derivative, following good development practices and standard operating procedures from initial identification, collection and processing of plant or natural product material. Major challenges remain, however, particularly in relation to the marked variations in the source material, the lack of understanding of the synergistic effects of multiple chemical ingredients and the absence of information on the potency of various formulations.

The WHO, given its reach and global role as an overseer and de facto coordinating body for matters related to human health, may need to go even further ahead, adopting a much more aggressive role to complement its already important efforts to promote better chronic disease management. There is a good foundation for this, as the organization has already encouraged the publication of reports proposing several detailed options to facilitate the implementation of Integrative Medicine services as part of

reforms being planned in national health care systems (25). This work, which already involves substantial international collaboration, includes valuable information to those interested in harmonizing science and traditional medicines diagnosis and goals, promoting health education and complementary treatment methods and ensuring optimal quality of CAM products in their home countries. Joint efforts with other global bodies such as the World Trade Organization will likely be needed if efforts to achieving these goals are to succeed. Both industry and health professional organizations may also have to play a much greater role as well.

Documentation of safety and efficacy of TCAM practices and interventions as well as innovative methods to develop cheaper, faster and effective medicines should be encouraged (77). This is being facilitated nowadays by powerful information and communication technologies that allow easy tracking of individuals and societies, tendencies and styles almost in real time. These technologies could also strengthen our efforts to gain a much better understanding of the basic sciences, chemistry, physics and mathematics underlying the effects of TCAM, enabling us to shed light onto sorcerers wisdom and mystical forces and to improve our comprehension of the incredible complexity of the processes involved in healing.

Other initiatives are currently being carried out at Integrative Medicine Centers such as Integrative Health Coaching at Duke Integrative Medicine Center ([www.dukeintegrativemedicine.org](http://www.dukeintegrativemedicine.org)). This personalized health planning and coaching program expands conventional behavior change models by linking behaviors to personal values in the context of whole life and focus on relationship and partnership between patients and a team of providers (82). This team includes physicians, TCAM providers and health coaches among others.

The importance of integrative medicine health care that addresses together the mental, emotional, and physical aspects of the healing process and patients involvement in their own health care is being considered in a report by the Institute of Medicine in the US as a spin off from a Summit on Integrative Medicine in the Health of the Public that was held in February 2009, as an effort to promote the exploration of the science and practice of integrative medicine. The meeting reviewed the state of the science, assessed the potential and the priorities, and began to identify elements of an agenda to improve understanding, training, practice, and other actions that might help improve the prospects for integrative medicine's contributions to better health and health care ([www.iom.edu](http://www.iom.edu), 83).

The gap between knowledge and practice, conventional and traditional and between alternative and integrative is still wide, despite the fact that health professional associations are starting to concede value to TCAM interventions, health care professionals are enrolling in CAM continuing medical education courses and consumers are seeking information about interventions they believe should be good for them, while advocating for more freedom, less regulations and better access. Systematic research on delivery, organization and financing of different integrative healthcare models, medical and public education, geared to expanding the reductionist disease oriented model and understanding the changing dynamics of TCAM are needed to fill this gap.

As populations throughout the world continue to age, the concomitant increase in the prevalence of complex chronic diseases will make TCAM an inevitable component of a modern health system. It is now our turn to ensure that they are properly integrated with conventional biomedical options as part of a relationship with the public that is built on trust, respect, and commitment to achieving optimal levels of well-being. A healing environment should be the ultimate goal for all.

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## Comments to the whole document

- 22 Apr 2010 05:10 [Josephine Fagan](#) commented, on

"Medicalization may be defined as a process whereby nonmedical problems become defined and treated as medical problems. It could be argued that childbirth, menopause and obesity are examples of this. Far less common, demedicalization may be defined as the process whereby a condition or life process under medical jurisdiction is reconsidered to no longer be a medical problem, and therefore no longer requires the intervention of medical personnel. Historically, homosexuality could be seen in this context - could ageing? Even without co-existent chronic disease, the ageing process brings physical co-morbidities, emotional traumas such as bereavement and social concerns such as loneliness. Have we medicalized these issues?

Do concerns about demedicalization of health care stem from outmoded paternalistic attitudes and beliefs, which assume that providers of care should be health professionals? I believe we must begin by asking what patients / clients / communities want and how their needs change as time passes. This patient-centered approach begins with communication, which in order to be effective depends on active listening. Having read an early draft of Dr Peter Bailey's excellent book on communication skills (my old *Jefe* from Cambridge), I'd strongly advocate the model he suggests. (Unfortunately, he's had a lumbar disc prolapse & his manuscript is still in draft form. However, he will speak to his publisher & ask if he can share it with you.)

In chapter 8 the only example of demedicalization discussed is the apparently increasing numbers of patients resorting to CAM, which is viewed as both an expression of independence, and a search to meet unfulfilled needs. However given the ever increasing number of social-networking sites & self-help groups, a degree of demedicalization is inevitable as patients reclaim autonomy & rely on each other for support and advice. I agree that chapter 5 covers this topic, albeit through a 'medical' prism, while chapter 6 considers the role of primary care, it's mainly from an organizational standpoint."

- 11 Apr 2010 **Ligia J Domínguez and Mario Barbagallo** commented, on

### **What is in a name..**

- Non pharmacological strategies
  - Lifestyle strategies
    - Diet
    - Exercise
    - Avoiding smoking
    - Avoiding falling
  - Therapeutic education
  - Healthy environments

### **Switching drugs to other drugs**

Elderly people who consume multiple prescription medications for comorbid conditions are frequent users of herbal products and multivitamins; they may be at increased risk of adverse herb-drug-disease unknown interactions. Harmful and fatal outcomes related to specific herbal therapies are reported with increasing frequency. Despite the lack of scientific evidence supporting the safety or efficacy of herbal products, their widespread promotion and unproven health claims influence the lay public. The suggestion to perform RCT for the myriad of CAM compounds in a similar way as it has been done for pharmaceutical compounds, means to develop new drugs to replace old drugs, not to "demedicalize" care. Perhaps demedicalization may be better achieved with CAM strategies not involving active administration of any chemical substance, i.e. herbs, isolated compounds of vegetable origin etc.

### **Adverse Drug Reactions (ADR)**

Aging is by far the main risk factor for chronic diseases, hence, most of people living with chronic diseases are elderly. In a large sample of over 65-year old Americans, 55% had at least one of five index conditions, and 20 to 55% had two or more concurrent conditions (1). This leads to the need for complex drug combinations. Yet, age-related modifications in pharmacokinetics and pharmacodynamics, together with comorbidity and polypharmacy, put older persons at high risk of adverse drug reactions (ADR), which are a common cause of relevant health burden and costs (2). A meta-analysis estimated an incidence of fatal ADRs of 0.32% amongst patients from 39 prospective studies (3). This is a good reason to avoid unnecessary medications and those with a high potential for ADRs in older populations preferring alternatives with lower risk. However, age per se is not a reason for withholding effective therapies since the proportional reduction in mortality is often as great or greater in the elderly than in younger people. In this context, the use of computer-based access to complete drug profiles and alerts about potential prescribing problems may help to reduce inappropriate prescriptions and also may help on the decision to stop some prescriptions (4). Encouraging the addition of

evidence-based effective non-pharmacological strategies in order to decrease the need of drugs is mandatory.

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Different specialists for different diseases and each one prescribes a drug or different drugs. Need of geriatric training

Although medical advances and evidence-based effects of drugs have certainly saved millions of lives, the current medicine model and health care are focused mostly on immediate events of disease, neglecting socioeconomic factors, such as education and behavioral risk factors, which are particularly pressing in older patients with concurrent chronic diseases. The disease-driven approach has resulted in a fragmented, specialized care, typically episodic, impersonal, organ-centered and frequently inefficient in elderly patients, leading to undertreatment, overtreatment, or mistreatment (1). Multiple studies indicate that most physicians' and surgeons' knowledge of appropriate care for elderly patients with multiple comorbidities is inadequate and that availability of trained geriatric specialists is marginal and indeed their number are decreasing (2). Also medical and nursing students must learn to care for the ever increasing elderly patients with chronic illnesses and non-disease-specific complaints. The Association of American Medical Colleges recently put forward a set of 26 competencies in the care of the elderly that should be achieved as the senior student approaches residency programs to, namely, "Don't Kill Granny" (3). Specialized medicine recommends adherence to evidence-based guidelines for the management of particular diseases, developed by national and international organizations. These guidelines may provide benefit at least for subgroups of patients (i.e. young) with similar characteristics as those included in the studies used to construct the recommendations. This may not apply in an older person with comorbidity. In a 70-year-old woman with hypertension, myocardial infarction, depression, diabetes, and osteoporosis, adherence to guidelines may result in the use of at least ten drugs without taking into account OTC drugs for pain, dyspepsia or insomnia (4).

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### **Drug industry and fake diseases**

In the past decade, concern has raised on the rapidly increasing expenditures for drugs, due to a greater use and higher prices, which have put pharmaceutical industry under mounting scrutiny (1). It is suggested that a large proportion of the huge revenue generated from the commercialization of new drugs does not go into research and development but into aggressive marketing campaigns. Another serious concern has to do with research done by academic centers and sponsored by drug companies, which can make the results biased since the beginning (2). There are also problems with the development of new drugs that are only slightly modified versions of existing compounds at higher prices; to create new markets drug companies may "medicalize" a host of minor complaints or physiological conditions developing specific compounds for those "new diseases". The definition of standards for ethical interactions between industry and physicians is warranted (3).

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### **Lifestyle Strategies as Therapy for Chronic Diseases**

Numerous epidemiological studies have shown that interventions on lifestyle (i.e. smoking cessation, a balanced diet, regular physical and mental activity) may decrease the susceptibility to disease development and their complications, increasing longevity and healthspan. Nonpharmacological strategies have a role not only in the prevention of chronic diseases and age-associated conditions but also in their treatment.

For example, hypertension may be partially or completely controlled by the appropriate use of nondrug strategies. For overweight or obese persons with hypertension the use of DASH (dietary approaches to stop hypertension) in addition to exercise resulted in large blood pressure reductions, improvements in vascular and autonomic function, and reduced left ventricular mass (1). Modest reductions in dietary salt (3 g) could substantially reduce cardiovascular events and medical costs becoming an important public health aim (2). Smoking cessation is the most important intervention to stop chronic obstructive pulmonary disease progression, and pulmonary rehabilitation including exercise training and patient education improves symptoms and morbidity (3). In type 2 diabetes a meta-analysis suggests that exercise training per se reduces HbA1c by about 0.66% (4). In a prospective study of nurses with diabetes, those who exercised 7 or more hours a week had lower cardiovascular disease (5). Diet is also pivotal in long-term treatment of diabetes: it is extensively admitted that a balanced, moderate,

hypocaloric diet significantly improves glycemic control (6). A recent study showed that Mediterranean diet decreases the need of oral hypoglycemic agents for newly diagnosed diabetics (7). There is also strong evidence that Mediterranean diet reduces total mortality, cardiovascular mortality, and cancer-related mortality (8)(9-11). A meta-analysis of 12 large studies including a total of over 1.5 million subjects confirmed a significant reduction in all-cause mortality associated to increases in Mediterranean diet adherence (12).

Disability increases the risk for need of home help, hospitalization, nursing home admission and premature death. Economic burden presented to society by disability is substantial. There is urgent need for effective intervention programs for disability. The Lifestyle Interventions and Independence for Elders (LIFE-Pilot) study demonstrated that a structured physical activity program significantly improved functional performance, measured with the Short Physical Performance Battery, which includes walking, balance, and chair stands tests, as well as the 400-meter walking speed, suggesting that this type of intervention may offer benefit on more distal health outcomes, such as mobility disability (13). In addition, it has been reported that regular physical activity reduces the rate of deterioration in persons with dementia (14).

Even if several effective pharmacological options for reducing osteoporosis fractures are available, it should not be forgotten that nonpharmacological strategies can achieve results comparable to those of drugs. This include a reduction of fracture incidence by 33% with correction of visual acuity impairments, by 40% with reduction in sedatives usage, by 30% with daily walking, and by 40% with smoking cessation (15). Because falls play a role in 90% of fractures, fall prevention is a major issue in patients with osteoporosis, and a relevant economic burden to society. Fall-prevention strategies include checking and correcting vision and hearing acuity, evaluating neurological problems, reviewing medications for adverse effects that may affect balance or stability, promoting exercise, and eliminating safety hazards at home (16).

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### **Therapeutic Patient Education for Chronic Diseases**

Long-term and structured education of chronically ill patients is proving to be one of the most successful key strategies to cope with the challenge of managing these complex conditions, adding pedagogic, psychological and sociological dimensions to traditional methods. It expands the role of the physician and of the multidisciplinary health care team beyond the established biomedical approach, which means a truly effective "demedicalization".

Jean-Philippe Assal is the founder of one of the first centers in Switzerland to be entirely devoted to therapeutic education of patients, opened at the University of Geneva in 1975 (1). Therapeutic patient education consists in the management of comprehension and compromise in order to obtain good quality of life even in the presence of disease (2). Therapeutic education is not an "education for the treatment" instead is education "as treatment" of an illness, with trained physicians and other health care providers being "coaches" along the process. Diabetes was the first model chosen since the positive consequences of patient education can be seen in the long-term (i.e. reduction in diabetic coma and amputations). The first sound successful application of pedagogy to reduce hospital recovery rate and hospital stay was reported by Miller and Goldstein among under-privileged Mexican-Americans diabetics (3). A computerized health education program was proposed as early as 1978 (4). In Geneva, the rate of amputation has been decreased by approximately 80% in ten years (5). Patients' education is now considered fundamental and included in worldwide used recommendations for the treatment of diabetes (6). The role of therapeutic education has been extended to the management of other chronic diseases (7), including asthma (8) and coronary heart disease (9). Since the most difficult part of therapeutic patient education occurs when patients must face changing their behavior, the use of motivational interviewing and cognitive-behavioral methods, with the participation of patients as direct actors of their own treatment, seems to enhance positive results (10). Nevertheless, uneven results call for the need of careful evaluation of the education programs (11).

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## Healthy environments

Health depends not only on individual health behavior but also on existing social, physical and economic environment surrounding the individuals. Healthy environments, in particular healthy cities where most of the world population live, are currently the focus of WHO programs aiming to recognize that people form an integral part of the earth's ecosystem, and therefore their health is fundamentally interlinked with the living environment.

A healthy environment not only may help to prevent chronic complex disease but it is fundamental to cope with nondrug therapeutic strategies for these conditions. Most people with multiple chronic diseases are elderly and cities might adapt their structures and services to be accessible and inclusive of older people with various needs and frequent disability. Community action is required to implement appropriate support to disabled community members. Building of healthy and supportive environments need the involvement of other sectors besides health sector. Town planning processes might include outdoor spaces, adequate transportation, housing, social participation, and health services easy access for older people with multiple comorbidities (1).

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## Comments by section

### Summary

- 30 Apr 2010 **Ligia J Domínguez and Mario Barbagallo** commented, on

Most of patients with chronic diseases are elderly and attention is needed to their higher risk of adverse drug reactions. There is need for geriatric training of health care providers

There is solid evidence of the effects on nonpharmacological therapy in different chronic diseases

Therapeutic patient education is a key player in chronic disease management

Healthy and age-friendly environments help not only in the prevention but also in decreasing the progression and help managing chronic illness and disability

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### Why is this topic important?

- 30 Apr 2010 **Ligia J Domínguez and Mario Barbagallo** commented, on

Adverse drug reactions

Different specialties for different diseases and each one prescribes a drug or different drugs. Need of geriatric training.

Drug industry and fake diseases

- 23 Feb 2010 08:56 [Jaime Espin](#) commented, on

El enfoque de desmedicalización es muy interesante, pero quizás es demasiado "encorsetado" restringirlo a la medicina alternativa.

Sería interesante, además, hablar de las nuevas enfermedades, medicamentos inútiles (no por ello no dañinos), papel de la industria, etc.

### Alternative, Complementary, Holistic or Integrativ

23 Feb 2010 09:03 [Jaime Espin](#) commented, on

Muy interesante esta introducción. Yo intentaría hacer una mención explícita a que todo medicamento tiene unos efectos adversos que pocas veces son tenidos en cuenta. Asimismo, mencionar datos de la excesiva medicalización de las sociedad donde, por ejemplo, un número importante de visitas al médico terminan con una prescripción (a veces la no prescripción de un fármaco es recibida como una falta de atención del profesional)

### What do we know?

23 Feb 2010 09:12 [Jaime Espin](#) commented, on

Muy interesante la parte inicial cuando habla de la desorganización del sistema, la

incapacidad para hacer frente a la demanda...Aquí sería interesante añadir algo de la complejidad de los sistemas de salud y sus características como mercado (riesgo moral, relación de agencia imperfecta, etc.). Nos ayudaría a centrarnos más en el contexto