

## Quaternary Prevention: Medical Ethics, Evaluation and Efficiency in the Health Systems

Prevenção Quaternária: Ética Médica, Avaliação e Eficiência nos Sistemas de Saúde

*Prevencción Cuaternaria: Ética Médica, Evaluación y Eficiencia en los Sistemas de Salud*

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## Abstract

Quaternary Prevention as main focus and practice, promotes changes in developing health care and practicing medicine, prioritizing the person centred care. Their conceptual framework is sustained on ethical and philosophical aspects essential to medicine practice, in epistemological aspects of social and others related to political nature. Its objective is to protect fundamentally the patients, but also the members of the health group from excessive medicalization and unnecessary and hurtful practices. The present article is the result of the synthesis of the work documents, discussion and proposals carried forward by a large group of committed professionals from CIMF, with particular interest in Quaternary Prevention. The materials were produced in collaboration through a complex long distance work process, done during preparatory forums of the VI Ibero-American Summit of Family And Community Medicine. The work documents made during the same summit in San José of Costa Rica, in April 2016 were added to this material. The purpose of this document is to spread the state of development and current commitment to this approach and the outstanding initiative that it has had in Ibero America in the last five years. Due to its relevance, the intention is to stimulate greater dissemination of the concept; the implementation of content related to at in the training and academic levels. At a political level, to promote its consideration on decision making and public health issues so as to broadcast to demographic levels and promote the making of quality content. Finally to offer reflection clues to consider and concrete application tools.

### Keywords:

Quaternary Prevention  
Physician-Patient Relations  
Bioethics  
Medicalization  
Overdiagnosis

## Resumo

A Prevenção Quaternária consiste em desenvolver cuidados de saúde e exercer a medicina priorizando o cuidado centrado na pessoa. Seu arcabouço conceitual se sustenta em aspectos éticos e filosóficos fundamentais ao exercício da prática médica, também em aspectos epistemológicos e de caráter social. O seu objetivo é proteger os pacientes, mas também os membros da equipe de saúde, dos excessos da medicalização e das práticas excessivas ou desnecessárias ou prejudiciais. Este artigo é o resultado da síntese dos documentos de trabalho, discussão e propostas levada a cabo por um numeroso grupo de profissionais comprometidos com a CIMF, com particular interesse na Prevenção Quaternária. Os materiais foram produzidos de forma colaborativa através de um extenso e complexo processo de trabalho a distancia, realizado durante as reuniões preparatórias da VI Cúpula Ibero-Americana de Medicina de Família e Comunidade. A estes materiais se somaram os documentos de trabalho preparados durante a mesma cúpula em San Jose, Costa Rica, em abril de 2016. O objetivo deste artigo é o de difundir o estado de desenvolvimento e de compromisso atual com esta abordagem e o impulso notável que tem havido na Iberoamerica nos últimos cinco anos. Por sua relevância, pretende-se estimular uma maior difusão do conceito, bem como a implementação de conteúdos relacionados a ele na formação e em nível acadêmico; a nível político, promover sua consideração na tomada de decisões de políticas públicas de saúde; difundir a nível da população e promover o desenvolvimento de conteúdo de qualidade; oferecer pistas de reflexão e ferramentas práticas para sua implementação.

### Palavras-chave:

Prevenção Quaternária  
Relações Médico-Paciente  
Bioética  
Medicalização  
Sobre diagnóstico

## Resumen

La prevención Cuaternaria consiste en desarrollar cuidados de salud y de ejercer la medicina, priorizando los cuidados centrados en la persona. Su marco conceptual se sustenta en aspectos éticos y filosóficos centrales en el ejercicio de la medicina, en aspectos epistemológicos y de carácter social. Su objeto es proteger fundamentalmente a los pacientes, pero también a los integrantes del equipo de salud, de los excesos de la medicalización y de los excesos o prácticas innecesarias o dañinas. El presente artículo es el resultado de la síntesis de los documentos de trabajo, discusión y propuestas llevadas adelante por un amplio grupo de comprometidos profesionales de CIMF, con interés particular sobre la Prevención Cuaternaria. Los materiales se produjeron en forma colaborativa por medio de un largo y complejo proceso de trabajo a distancia, realizado durante los foros preparatorios de la VI Cumbre Iberoamericana de Medicina Familiar y Comunitaria. A estos materiales se sumaron los documentos de trabajo elaborados durante la misma cumbre en San José de Costa Rica, en el mes de abril de 2016. El cometido de este artículo es difundir el estado de desarrollo y de compromiso actual con este enfoque y el destacado impulso que ha tenido en Iberoamérica en los últimos cinco años. Por su relevancia, se pretende estimular una mayor difusión del concepto: la implementación de contenidos relacionados con él en la formación y en el nivel académico. A nivel político promover su consideración en la toma de decisión, en políticas de salud pública. Difundir a nivel poblacional y promover la elaboración de contenidos de calidad. Ofrecer pistas de reflexión y herramientas concretas para su aplicación.

### Palabras clave:

Prevención Cuaternaria  
Relaciones médico paciente  
Bioética  
Medicalización  
Sobre diagnóstico

## Introduction

The current article has been the result of a process of a tight summary of documents, discussions and proposals of a large group of professionals. The material leading to the elaboration of this communication was taken from a collaborative environment during a vast and complex process of long distance work that were part of the preparatory forum of the VI Ibero American Family and Community Medicine Summit. To the existing material were added the documents result of the San José de Costa Rica Summit, that took place during April 2016. This should be understood then as a very concise version of the production content the objective of which is to communicate advances. To access the whole document it is necessary to do it through the Member Scientific Associations or making contact with the CIMF Task Force of Quaternary Prevention.

It was in March 2015 during the 4<sup>o</sup> Family and Community Medicine Congress that Quaternary Prevention was considered for the very first time as one of the theme axis in an Ibero American Congress. It was during this event that the Quaternary Prevention Interest Group was formally created within CIMF.<sup>1</sup> Likewise, Quaternary Prevention appeared for the first time as part of the agenda of an Ibero American Summit.

## Definition/Concept principles

Quaternary Prevention can be defined as: *“a group of implemented actions to identify a patient or a population under medicalization risk, protect them from invasive medical interventions and suggest ethically accepted care/proceedings”*.<sup>2</sup>

Quaternary Prevention, in terms of approach and practice, fosters changes in the way that health care is developed and medicine is practiced, prioritizing that the care be centred in people.

Its concept framework is based on ethical and philosophical key principles. Its main goal is not only protecting patients, but also the health team, from excessive medicalization or unnecessary hurtful practices.

The concept was born in 1986 when Marc Jamouille (Figure 1) combined in the same concept scheme, prevention timeline with relational dimension (person - doctor): the concept of a patient's vision facing the doctor's in a health episode.<sup>3</sup>

From the model Leavell and Clark proposed,<sup>4</sup> prevention levels have been established. Every level sets out actions to avoid illness onset, interrupting its advance and mitigating side effects once they have shown up. Each measure is in close relation to the stages of the natural history of the illness and they are commonly classified until the emergence of quaternary prevention in the three levels. Thus, quaternary prevention is not lineal regarding the others, it can also be applied in other action fields thriving for necessary, pertinent safe activities based on balanced evidence without risks. This approach can be applied to every level of traditional prevention but it is not exclusive to it. It is oriented to health care in general thus it is not restricted to preventive or healing processes.

Quaternary prevention can be understood as a strategy meant to diminish iatrogenia and avoid unnecessary practices and to ease secondary effects deriving from those necessary practices.

In other words, it would be a new and updated concept of *“Primum non nocere”* passed on doctors' generations.

Quaternary Prevention is more than an objective activity. It invites to think more broadly about practices from different levels of complexity. The reflection and later modification of practices can be used in different ways: thinking about health organizations differently, the way we face people's communication, the approach to the survey questions, sifts risk benefit balance, the effects on over diagnosis and excessive treatment, the consequences of unnecessary treatment, conflict of interests. Excessive care and the resulting resources exhaustion must be analyzed from an ethical point of view as they can result in people with unnecessary care or populations with difficulties to access the right assistance, something that happens quiet frequently in Ibero-America.<sup>5</sup>

Conscience or patient feeling	Scientific or doctor knowledge, disease natural evolution Absent .....> Present	
	<p>I Primary (prevention)</p> <p>Action taken to avoid or remove the cause of a health problem in an individual or a population before it arises. Includes health promotion and specific protection (e.g. immunisation).</p>	<p>II Secondary (prevention)</p> <p>Action taken to detect a health problem at an early stage in an individual or a population, thereby facilitating cure, or reducing or preventing it spreading or its long-term effects (e.g. methods, screening, case finding and early diagnosis).</p>
healthy feeling		
sick feeling	<p>IV Quaternary (prevention)</p> <p>Quaternary Prevention: Action taken to identify patient at risk of overmedicalisation, to protect him from new medical invasion, and to suggest to him interventions, which are ethically acceptable.</p>	<p>III Tertiary (prevention)</p> <p>Action taken to reduce the chronic effects of a health problem in an individual or a population by minimising the functional impairment consequent to the acute or chronic health problem (e.g. prevent complications of diabetes). Includes rehabilitation.</p>

**Figure 1.** The definitions already published on Prevention I, II and III are complemented by Prevention IV and offer a new vision of family physician activity fields.

Source: Adapted from Jamoulle M, Gomes LF. Quaternary Prevention and limits in medicine. Rev Bras Med Fam Community. 2014;9(31):186-91. Available in: [http://dx.doi.org/10.5712/rbmf9\(31\)867](http://dx.doi.org/10.5712/rbmf9(31)867)

## Medicalization

Medicalization is understood as the process of changing vital situations into pathological ones and trying to solve by means of medicine situations that are social, professional or interpersonal relationships but not medical.<sup>6,7</sup>

It is also a medical issue solving situations that are not medical or which were not considered as such. Health professionals are at the same time actors and victims in the process.<sup>8,9</sup> Medicalization has as main consequences making healthy people ill, increasing iatrogenic harm, the consumption of sanitary resources and the lack of processes meant to regulate population’s expectations, setting medicine’s action field, fostering self care and behaving according to existing health evidence.

## Description on the current situation of dissemination and application in Ibero America

Although there is an enormous drive to make the concept popular in the region from the CIMF societies, it is necessary to improve dissemination and impact.<sup>10</sup>

## Method

In order to gather more reliable data on this reality, doctors active in the team work participated in a survey on some topics related to dissemination and application of Quaternary Prevention in health systems, governments and each country.

Data on the situation of the following 13 countries was gathered: Argentina, Bolivia, Chile, Colombia, Costa Rica, Cuba, Spain, Mexico, Nicaragua, Paraguay, Puerto Rico, Dominican Republic and Uruguay.

From the total, 58% of the participants, stated that their countries have promoted the incorporation of Quaternary Prevention. Only two countries confirmed the adoption of recommendations based on the principles of Quaternary Prevention in Family Physicians practices.

## Results

58% reported knowing about activities on the topic carried out in congresses, scientific events or training societies.

50% reported having areas to think about the issue. Four countries (33%) published information related to the subject, though. Three countries reported knowledge on research projects with a related approach.

Only two of the surveys reported knowledge on Quaternary Prevention on the general population.

Two thirds of the surveyed parts confirmed talking about Quaternary Prevention with patients. Two countries (16%) reported knowledge on behalf of governmental institutions in their countries. Only 4 countries (33%) confirmed government Quaternary Prevention actions in their countries and 63% recognized the real possibility of having this topic discussed at a government level.

## Discussion

Although the obtained results cannot be considered totally representative of Latin America, it is still necessary and insufficient the dissemination at a population level within the medical and academic environments as well as between health authorities and decision makers.

The methodology to elaborate preparatory documents and those oriented to elaborate recommendations to the Summit, was carried out in a very participative way and was divided in two parts: a virtual and a face to face one. The first one was through networking sites, long distance work and communication and took place between August 2015 and April 2016. The second part (face to face) took place in the summit resulting in: final conclusions, recommendations, contributions to the final declaration and conclusions and communication products were shown during the plenary.

Different contents and strategic lines were developed in three working axis: recommendations to introduce the concept of family doctor's training (under and post graduate), in the community, in the general population and in public health policies levels.

## Action Lines in the Academic Scenario

At an academic level, it is necessary to disseminate, consolidate and apply the concept of Quaternary Prevention among health professionals, especially in the under and post graduate circles at universities.

It is imperative to promote the concept of Quaternary Prevention and present it as a genuine clinical activity in our daily community practice. It should deepen and invite colleges to think on its meaning and how to apply it in real situations.

University binding to have a proposal for Quaternary Prevention in the C.V.

The university must consider, as its own, the problems identified in the environment and contribute to its solution and thus gain prestige in the community who, in turn, will transform their opinion about the institution. At the same time, the university will be assuming the role that corresponds to itself, especially with regard to undergraduate and graduate education and training.<sup>11-15</sup>

## Strategies for curricular management on Quaternary Prevention in Ibero-American professional training

Making a document on curricular recommendations with a basic concept of Quaternary Prevention and its implications in health; setting the competencies it implies with their respective cognitive, procedural and attitudinal knowledge.

### 1. Training: under and post grade.

Inserting Quaternary Prevention Modules in under and post grades.

Promoting participation of Quaternary Prevention in professional training.

Strengthening the use of critical reading tools of articles that help develop critical thinking and bias analysis.

Developing workshops for ethical discussions, effective communication, health care centered in people and shared decisions.

Favoring research development focusing on Quaternary Prevention for Resident Family Doctors.

Inclusion of Quaternary Prevention in professional evaluations or certifications for Specialization Councils.

### 2. Generating documented heritage on Quaternary Prevention.

Developing a Quaternary Prevention Observatory.

Generating a digital normative file on Quaternary Prevention.

Developing journals and videos on Quaternary Prevention.

Favoring interdisciplinary work on Quaternary Prevention (health teams, other health and technical professionals, specialists).

Quaternary Prevention includes topics such as:

- Medicalization;
- Concept of health and illness;
- Over diagnosis;<sup>16</sup>
- Excessive preventive interventions;<sup>17</sup>
- Cancer Screening;<sup>18</sup>
- Cardiovascular risk;
- Executive Check ups;
- Vaccination effectiveness and safety;
- Illnesses Marketing;
- Excessive use of laboratory tests, diagnostic imaging, incidentalomas;
- Over medicalization: polipharmacy, deprescription (rational use of medicines), side effects and pharmacological cascade;
- Patients' safety;
- Research on factors that affect medicalization, Medicine Based on evidence: Research Ethics, Bioethics on current clinical practice;
- Clinical Method: effective communication, clinical method centered on people, rel clinical method centered on relation, health care centered on people, shared decision making and decision making help.

## Curricular Path

The process of how to materialize the previous into a micro curriculum, is a complex task because every university has its own syllabus. The following exercise is a mere theoretical approach to the contents that could be included in certain courses in a specific curricular sequencing.

## Proposals to establish policies in accordance with Quaternary Prevention thinking

Any reform of a health system must start from the ethics standpoint and be founded on sustainable development with clearly established political principles that assure ecologic care, community participation and different sectors as a group so as to co create solutions for a sustainable change.<sup>19</sup>

A comprehensive strategy on human development and health strategy, with an equity approach and impact on health determinants requires: a health system that pursues poverty and starvation overcoming; that assures health care and promotes well being for everyone all over their life cycles; that contributes to education and development opportunities and genre equity, to water sustainable use and management, to sustainable economic growth with dignifying work, fosters access reliable and sustainable energy, that helps design nature disasters resiliency infrastructure; fosters steady innovation and industrialization, encourages country inequity reduction, contributes to production patterns and sustainable consumption, takes measures to fight climate change and its impact, fosters the rational use of natural resources towards sustainable growth, collaborates to protect land ecosystems and biodiversity, participates promoting peace in inclusive cities, strengthens the means to implement social associations, in this particular case, global health for sustainable growth.

In this context quaternary prevention has a special contribution. If we consider it as a movement,<sup>20</sup> it can bring about changes in the way medicine is and is used, in the way health systems are organized emphasizing the ethical and philosophical goal of protecting patients and health team members from medicalization excess and commodification and profit eagerness of some actors. The following principles are suggested to begin this change:

1. Health is a right not a marketing object.<sup>21</sup>
2. Health cannot be understood only analyzing the health sector and ignoring its context, it is necessary to incorporate the social and political look in favor of the profession and include the social determinants when developing health policies. The predominant current medical model, analyzed from the sociological point of view can be defined as hegemonic, reductionist, fragmented, inhumane and profit oriented and mercantilist.<sup>22</sup>
3. Medicine as a science is mainly social. It should quit the reductionist view from positivism and neo positivism and become an art before becoming a science to recover that capacity to deal with people who feel and suffer, understanding the importance of incorporating science and technology without overlooking their biomedical knowledge.
4. The definition of a health system is political and it is engrained in the definition of the model country it belongs to.
5. The practice of medicine is cut and determined by politics and physicians thus, they can not have a passive role, they must contribute with their particular view of the society and participate in the role model.
6. Primary Health Care (APS) only works when it is integrated to a health system, it can not work isolated from the rest. It has to be integrated to all attention levels transversally distributed in complexity levels.
7. Family Medicine must be considered as a transversal specialization.
8. Complexity in medicine must be defined in relation to the health agent problem solving capacity and not in relation to technology.
9. Knowledge and medicines are social goods. The seventh principle in the World Health Organization Preamble "The benefits of Medical and psychological knowledge and the like, must be extensive to all nations as it is essential to achieve the highest grade of health".<sup>23</sup> The existence of obstacles to access it, patents and excessive pricing are against the task of achieving this goal.

Some concrete measures to take this to a political level:

- Identifying public policies in the countries signing the San José Charter, which do not fulfill with the criteria stated in it.

- Creating working environments in every scientific society, with the aim of revising and periodically updating the implemented national guidelines.
- Promoting thinking and continuously design associated policies to disseminate information related to health interventions.

## Proposal on action lines to disseminate and apply the concept of Quaternary Prevention in the society

Medicalization and risk management as health practice, brings about new categories, totally unknown to medicine “the new sick or healthy sick” Healthy people are given importance in the world of the sick, in many occasions with a lot to lose in terms of damages and nothing to gain in terms of health. There are several engines that have driven to this situation in which almost no one is healthy. One of those engines is the excessive worry on behalf of the public in general for keeping health at very high prices. In many cases patients force medication<sup>24</sup> ignoring the causes this can have.

The demand for a cure is usually present together with total abolition of symptoms. Sometimes the patient does not relate what is going on and that the body expresses with a symptom something that has to do with life and not necessarily with an illness. In some sectors health is viewed as a consumable good and not as a right. This situation favors medicalization, the abundance of test, unnecessary and harmful many times and drugs prescription. Society has displaced to the medical field the search for solutions inherent to social and subjective reality, besides their obsession for perfect health has become a pathogenic factor.

There is a phenomenon called (health paradox) that keeps an eye on developed countries and middle and high class layers in developing countries. This paradox consists of: the higher the objective health (health indicators, life expectancy) the more the declared health problems and the more the resources used in health, the bigger amount of people that feel sick. That is to say, society lives overly worried exaggerating about their health. There is such dependence on medicine “call your doctor in case of any question” that people become incapable of taking care of themselves, tolerating suffering or discomfort.

The idea is walking towards an information transmission model in every possible way: leaflets, social networking sites, billboards, radio, television, networking sites ads, blogs, videos. The purpose of the dissemination of material is showing balanced content, with pros and cons and assuring quality material that avoid sift. It is like this then, that each person will have a more balanced opportunity of choosing according to their values and their rights for self determination.

### Proposals:

- Spreading the concept of Quaternary Prevention as a fundamental aspect of the current medical practice.
- Promoting the fact that practices should match people’s needs, prevention levels and be based on the best possible evidence.
- Stablishing clearly and with scientific evidence how suitable a test can be measuring its cost/effectiveness in every preventive level matching people, family or community needs.
- Creating messages that stimulate relevant dialogues between the public and the family doctor.
- Recommending the idea of non medicalization in normal life stages or existential problems.
- Setting practices in which the proceedings are accurate from the ethical and scientific point of view, people centered and based on shared decisions.
- Helping patients to ask about their options and pro and cons of each of them.
- Fostering among doctors, general population, politicians and decision makers the search for necessary documentation to strengthen the knowledge on Quaternary Prevention on portal or virtual libraries such as: Choosing Wisely, USPSTF, Evalmed.es.

- Promoting the use of documents, billboards, leaflets and educational videos with access through CIMF Quaternary Prevention networks.

## Conclusions

Priority proposals are included as conclusions for the summit's final document:

- Disseminating the concept of Quaternary Prevention as the main approach among health professional practices, in under and post graduate levels, on continuous training, on investigation, making a recommendation document with that purpose and making contact with the different organizations that define current Medical education policies.
- Promoting non medicalization during typical life stages by means of strategies jointly developed with health teams and communities.
- Fostering health interventions directed to the population, are based on the best scientific evidence and ethically acceptable for the local context where people are centered.

**QUATERNARY PREVENTION**

Sometimes it is not an illness...  
Sometimes it is our own life

Do you feel anxious because a test is approaching?  
Only in some cases medication is needed

Your boyfriend left you and you feel sad?  
Not necessarily a depressive disorder

Feeling down just because of a cold does not mean taking antibiotics

**TALK TO YOUR DOCTOR  
AVOID EXCESSIVE  
TREATMENTS AND PRACTICES**

www.nogracias.eu  
PrevencionCuaternaria  
www.choosingwisely.org  
www.familydoctor.org  
www.uspreventiveservicestaskforce.com

*Quaternary Prevention* deals with the activities that mitigate or avoid unnecessary or excessive practices.

**SHARED  
DECISION  
MAKING**

Doctor and patient can work together, to select better options, having in mind the best available scientific evidence, as well as values and preferences of a well informed patient.

FOR MORE INFORMATION:  
Some websites where you can learn more about Quaternary Intervention

[www.choosingwisely.org](http://www.choosingwisely.org)  
[www.familydoctor.org](http://www.familydoctor.org)  
[www.uspreventiveservicetaskforce.org](http://www.uspreventiveservicetaskforce.org)  
[www.nogracias.eu](http://www.nogracias.eu)  
[www.facebook.com/PrevenccionCuaternaria](http://www.facebook.com/PrevenccionCuaternaria)

GRUPO DE TRABAJO DE PREVENCIÓN CUATERNARIA-CIUMBRE IBEROAMERICANA DE MEDICINA FAMILIAR SAN JOSÉ, COSTA RICA 2016

**What is Quaternary Prevention?**

*Mandatory screening*

Some massive programs are fostered and instituted by the health system by means of regulations or law. In other cases they are imposed by habits and customs.

*Excessive Screening by frequency*

The inadequate frequency of screening tests increases the possibility of a positive test result.



**WHAT IS IT FOR?**

•It can be understood as a strategy that intends to diminish unnecessary practices and palliate side effects.

•Fights iatrogenic health problems: those processes that would have never happened if recommendations, tests, pharmacological or health available treatments that have serious side effects had not been used.

**What is Quaternary Prevention?**

There are various kinds of prevention being primary, secondary and tertiary the most common but Quaternary Prevention is equally important.

Quaternary Prevention refers to a group of actions taken to avoid or mitigate side effects deriving from excessive and unnecessary practices.

•It fights life medicalization: the process of making situations that have been regular in pathological cases, and intends to solve, by means of medicine, social, professional or interpersonal situations that are not medical.



•Quaternary Prescription intends to raise a voice and give currency to one of the most valuable methods "Primum non nocere" (avoid damaging first)

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