Section: RESEARCH ARTICLES

The words of prevention, part II: ten terms in the realm of quaternary prevention

As palavras da prevenção, parte II: dez termos no âmbito da prevenção quaternária

Las palabras de la prevención, parte II: diez términos en el ámbito de la prevención cuaternaria

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ABSTRACT

Objective: This part II article about the 'words of prevention' presents in a terminological way the content of ten current concepts used in the prevention domain which are closely linked to quaternary prevention: (1) overinformation, (2) overdiagnosis, (3) medically unexplained symptoms, (4) overmedicalisation, (5) incidentaloma, (6) overscreening, (7) overtreatment, (8) shared decision making, (9) deprescribing, and (10) disease mongering. **Methods**: with the support of the laboratory team of the University of Rouen, France, which is dedicated to medical terminology and semantic relationships, it was possible to utilize a graphic user interface (called DBGUI) allowing the construction of links for each of chosen terms, and making automatic links to MeSH, if any. Those concepts are analyzed in their environment in current literature, as well as in their MeSH counterparts, if any, and related semantic online terminologies. **Results and Discussion:** The rules in terminological development aspire to cover the whole field of a concept and in the meantime, it helps to avoid the noise due to proxy and not exactly related issues. This refers to exhaustivity and specificity in information retrieval. Our finds show that referring to MeSH only in information retrieval in General Practice/Family medicine can induce much noise and poor adequacy to the subject investigated. **Conclusion:** Gathering concepts in specially prepared terminologies for further development of ontologies is a necessity to enter in the semantic web area and the era of distributed data.

RESUMO

Objetivo: Este artigo parte II sobre as 'palavras da prevenção' apresenta em uma forma terminológica o conteúdo de dez conceitos atuais utilizados no domínio da prevenção, que estão intimamente ligados à prevenção quaternária: (1) sobrecarga de informação, (2) sobrediagnóstico, (3) sintomas sem explicação médica, (4) sobremedicalização, (5) incidentaloma, (6) sobrerastreamento, (7) sobretratamento, (8) tomada de decisão compartilhada, (9) desprescrição e (10) comercialização de doença. **Métodos:** com o apoio da equipe do laboratório da Universidade de Rouen, França, que se dedica à terminologia médica e às relações semânticas, foi possível utilizar uma interface gráfica de usuário (chamado DBGUI) permitindo a construção de links para cada um dos termos escolhidos, e fazendo ligações automáticas para o MeSH, caso houvesse. Estes conceitos foram analisados no seu ambiente na literatura corrente, bem como os seus homólogos no MeSH, caso houvesse, e terminologias semânticas online a eles relacionadas. **Resultados e Discussão:** As regras em desenvolvimento terminológico aspiraram cobrir todo o campo de um conceito, mas no momento, auxiliam a evitar ruídos devido a aproximações e questões não exatamente relacionadas. Isto se refere à exaustividade e especificidade na recuperação da informação. Nossos achados mostram que referir-se somente ao MeSH na recuperação de informação em medicina de Família pode induzir muito ruídos e uma pobre adequação em relação ao tema investigado. **Conclusão:** Reunir conceitos em terminologias especialmente preparados, para um maior desenvolvimento de ontologias, é uma necessidade para adentrar na área da rede semântica e da era de dados distribuídos.

Resumen

Objetivo: Este artículo parte II de las 'palabras de prevención' presenta en una forma terminológica el contenido de diez conceptos actuales utilizados en el dominio de la prevención que están estrechamente vinculados a la prevención cuaternaria: (1) sobreinformación, (2) sobrediagnóstico, (3) síntomas sin explicación médica, (4) sobremedicalización, (5) incidentaloma, (6) sobrerrastreo, (7) sobretratamiento, (8) toma de decisiones compartida, (9) deprescripción y (10) tráfico de enfermedades. **Métodos:** con el

apoyo del equipo de laboratorio de la Universidad de Rouen, Francia, que se dedica a la terminología médica y las relaciones semánticas, fue posible utilizar la interfaz gráfica de usuario (llamado DBGUI) permitiendo la construcción de enlaces para cada uno de los términos elegidos, y estableciendo vínculos automáticos al MeSH, en su caso. Esos conceptos fueran analizados en el contexto de la literatura actual, así como en sus homólogos MeSH, en su caso, y terminologías semánticos relacionados online. **Resultados e Discusión:** Las reglas en el desarrollo terminológico aspiran a cubrir la totalidad del ámbito del concepto y, mientras tanto, ayuda a evitar el ruido debido al proxy y temas no relacionados con exactitud. Esto se refiere a la exhaustividad y especificidad en la recuperación de la información. Nuestros hallazgos muestran que al referir-se solamente al MeSH la recuperación de información en Medicina General/Medicina Familiar pode inducir a mucho ruidos y mala adecuación al tema investigado. **Conclusión:** la recopilación de conceptos en terminologías especialmente preparados para un mayor desarrollo de ontologías es una necesidad para entrar en el área de la web semántica y la era de los datos distribuidos.

Short title: Words of prevention - Part II.

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INTRODUCTION

There are striking differences in the world of reference[1,2] of General Practice/Family Medicine comparing to those of academic and other specialized branches of medicine. These differences started to be addressed in the part I of this paper. The part I article identified some of the main words of prevention, representing the P4 paradigmatic shift from a chronological based prevention towards a constructivist view based on patient-doctor relationships. It also discussed words such as clinical prevention, primary prevention, secondary prevention, tertiary prevention, and quaternary prevention.

This part II article discusses other P4 related concepts such as overinformation, overdiagnosis, medically unexplained symptoms, overmedicalisation, incidentaloma, overscreening, overtreatment, shared decision making, deprescribing and disease mongering. Since family doctors do not use the same wording as patients, librarians or focal medical specialists (consultants) there is a need for disambiguation of meanings. The latter rules health information retrieval and consequently high-precision information retrieval tools are needed.[3]

As a by-product of the doctor-patient relationships, quaternary prevention encompasses concepts that each of them deals with ethical issues in day to day medicine. These concepts are the focus this paper (see Table 1).

Table 1. Ten terms related to quaternary prevention in the Q-Codes list available online.[4]

QD440	Overinformation	surinformation	exceso de información	sobrecarga de informações
QD441	medically unexplained symptom	symptôme médicalement inexpliqué	síntoma sin explicación médica	sintoma sem explicação médica
QD442	overmedicalisation	surmédicalisation	sobremedicalización	sobremedicalização
QD443	deprescription	déprescription	deprescripción	desprescrição
QD444	shared decision making	prise de décision partagée	toma de decisiones compartida	tomada de decisão compartilhada
QD445	incidentaloma	fortuitome	incidentaloma	incidentaloma
QD446	disease mongering	fabrication de maladie	tráfico de enfermedades	comercialização de doenças
QD447	overscreening	surdépistage	sobrerrastreo	sobrerastreamento
QD448	overtreatment	surtraitement	sobretratamiento	sobretratamento
QD449	overdiagnosis	surdiagnostic	sobrediagnóstico	sobrediagnóstico

Retrieving literature with existing MeSH descriptors can be sometimes a big challenge for the above incisive concepts in the field of GP/FM.[5] Hence, we have decided to explore the literature about those domains (Table 1) and report the most popular words in Family Medicine, echoing the research in the same domain by epidemiologists and hospital based specialists.[6] The help of the Rouen Institute for Research and Innovation in Biomedicine team[7] has been seminal in developing the relationships of those concepts with the appropriate methods, paving the way of health care semantics.

The impact of computer science on terminological issues is striking and Family doctors have to understand that mastering the production and management of knowledge lies at their doorstep. They have to become familiar with semantic web technologies and related language processing as the computer will become omnipresent in their daily life in a near future. For a GP, understanding health information gateways is as important as to understand Evidence Based Medicine (EBM) or pharmacology. This paper highlights some basic steps necessary to master health information.

METHODS

The computer laboratory of the University of Rouen, France, dedicated to medical terminology and semantic relationships, maintain a 50 terminologies crossing website, linked by semantic web technologies under the URL of www.hetop.eu.[8] The Medical Subject headings have been historically the first mapping of this semantic tool. The team of Rouen laboratory has put at disposal a graphic user interface, called DBGUI (Figure 1) allowing the construction of links for each chosen term and automatic link to MeSH, if any. As stated in the first part of this paper, MeSH sometimes does not fully cover the field of GP/FM or

proposed terms which content are historically marked.[9] An external observer, expert in the domain of Family Medicine, has to verify the proposed links.

Gomes et al have pointed, in this special issue on P4, the vicious cycle identified in doctor-patient communication. The link between lay and professional term is essential to enhance communication in primary care. This is the reason for the links of the DBGUI was completed with chosen links to Babelnet.org[10] and to Dbpedia,[11,12] one of the main nodes of the Linked data world[13] and consequently with Wikipedia.[14]

Gathering concepts in specially prepared terminologies for further development of ontologies is a necessity to enter in the semantic web area and the era of distributed data.[15] The present results open the way to build a comprehensive set of main themes addressed by GPs during some conferences.[16,17] Those concepts have been identified by one author (MJ) by careful content analysis of more than 1600 abstracts of congresses of Family Medicine. This is an ongoing work and we have chosen to show the terminological content of ten out of 196 experimental descriptors referred as Q-Codes[4] obtained by careful analysis of communications to GP/FM congresses.[18] The interface allows the user to build a terminological record by entering an ID (identification number) following by the Preferred label of a term, the synonyms and acronyms, if any, the most appropriate definition with bibliographic citation, the links to Babelnet.org and to Dbpedia or to other relevant links. Internal links to already existing terminologies in hetop.eu can be chosen manually (in grey in the Figure 1) or automatically proposed by the interface which allows corrections (in red in the Figure 1). All the gathered data can be expressed in Web Ontology Language (OWL),[19] the computer language used in the semantic web for Health Care and Life Sciences.[20]
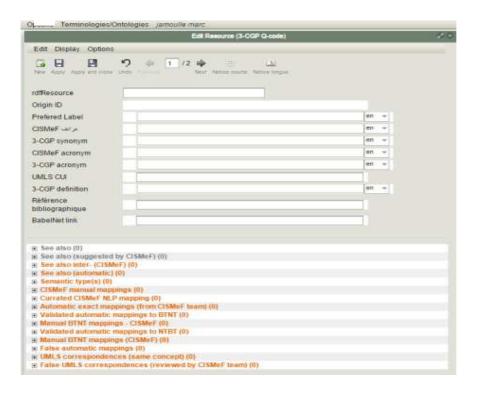
Figure 1. The DBGUI interface of the Rouen computer laboratory**.**

RESULTS

The ten terms are presented here in four languages with the links, definition(s) and their source(s) and bibliographic citation(s). The Table 2 is completed by the corresponding MeSH, if any, with the MeSH definition, the count of the term in Pubmed and the date of first citation. Lastly, the links to Babelnet.org and Dbpedia are shown as the main connection to lay languages.

Table 2. Ten terms related to quaternary prevention: links, definitions, sources and bibliographic citations.

Q-Code	QD440
Pref. Term (PT)	**overinformation (health)**
Syn	misinformation, fake information
French PT	surinformation
Spanish PT	exceso de información
Portuguese PT	sobrecarga de informações
Definition	information overload as: a perception on the part of the individual (or observers of that person) that the flows of information associated with work tasks is greater than can be managed effectively, and a perception that overload in this sense creates a degree of stress for which his or her coping strategies are ineffective. (Wilson 2002)
	healthcare delivery systems, investigators and healthcare providers may be denying their patients opportunities to make informed decisions about their health and healthcare. This occurs when they provide documents requiring reading skills that do not match patient literacy skills and runs counter to calls to provide linguistically and culturally appropriate patient information in the practice of medicine.(Calderon 2004)
Bib. citations	Wilson, T.D. (2001). " Health Informatics Journal, 7(2), 112-117 http://www.informationr.net/tdw/publ/papers/2001IOHealth.html
	Nogales-Gaete J & all. Rev Med Chil. 2013;141(9):1190–6. doi:10.4067/S0034-98872013000900012.
	Calderón JL, Beltrán RA. MedGenMed. 2004;6(1):9. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1140704/
MeSH	Qualifyer needed : Information Dissemination/ethics* The circulation or wide dispersal of information.
	Qualifyer needed ; Information Seeking Behavior/ethics* How information is gathered in personal, academic or work environments and the resources used.

Pubmed	0 citation for overinformation. 128.460 for "over information" (first in 1912)
Babelnet	bn:03275456n Information overload · infobesity · infoglut Information overload refers to the difficulty a person can have understanding an issue and making decisions that can be caused by the presence of too much information.
DBPedia	http://en.wikipedia.org/wiki/Information_overload

Q-Code	QD441
Pref. Term (PT)	**medically unexplained symptom**
Syn	MUS
French PT	symptôme médicalement inexpliqué
Spanish PT	síntoma sin explicación médica
Portuguese PT	sintoma sem explicação médica
Definition	Medically Unexplained Symptoms (MUS) that may, or may not, be due to physical disease, captures conditions characterized by symptoms without corresponding objective findings, often associated with high costs, both direct (health care use) and indirect costs (productivity loss due to sickness absence) such as asthenia, low back pain, fibromyalgia, irritable bowel syndrome, or chronic fatigue syndrome as well as symptoms stemming from a specific somatic disease that are more severe, more persistent, or limit functioning to a greater extent than expected, based on (objective) disease parameters. The patient with MUS often experience significant disability and have difficulty accessing appropriate care.(adapted from Olde Hartman, Aamland and Rask, 2014)
Bib. Citations	Tim C olde Hartman. Br J Gen Pract. Dec 2013; 63(617): 625–626. doi: 10.3399/bjgp13X675241
	Aamland et al. BMC Fam Pract. 2014;15(1):107. doi:10.1186/1471-2296-15-107.
	Rask MT et al. Gen HospPsychiatry, 2014 Oct 22. doi:10.1016/j.genhosppsych.2014.10.007.
MeSH	None
Pubmed	958 citations for medically unexplained symptoms (first 1980) 239 citations for medically unexplained symptom (first 1987)
Babelnet	bn:03305496n Medically unexplained physical symptoms or medically unexplained symptoms are patient symptoms for which the treating physician, other healthcare providers, and research scientists have found no medical cause
DBPedia	http://dbpedia.org/page/Medically_unexplained_physical_symptoms

Q-Code	QD442
Pref. Term (PT)	**overmedicalization**
Syn	unnecessary health care, futile health care
French PT	surmédicalisation
Spanish PT	sobremedicalización
Portuguese PT	sobremedicalização
Definition	overmedicalization - an excess of exposure to – or seeking for healthcare to an extent in which does not confer any benefit in terms of health and welfare, directly related to the terms: overscreening, overdiagnosis, overtreatment (Cardoso, 2015)
Bib. Citations	Cardoso RV. Revista Brasileira de Medicina de Família e Comunidade, 2015
MeSH	Partially related to: Medicalization A process by which nonmedical problems become defined and treated as medical problems, usually in terms of illnesses, or disorders. (Annu Rev Sociol 1992 18:209)
Pubmed	12 citations for overmedicalization (first 1984) 6 for overmedicalisation (first in 2011) 140 for over medicalization (first 1979)
Babelnet	bn:15974546n Unnecessary health care; Unnecessary health care is health care provided with a higher volume or cost than is appropriate.
DBPedia	http://dbpedia.org/page/Unnecessary_health_care

Q-Code	QD443
Pref. Term (PT)	**deprescription (deprescribing)**
Syn	drug utilization review (DUR)
	medication therapy management programs (MTM)
French PT	deprescription
Spanish PT	deprescripción
Portuguese PT	desprescrição
Definition	Drug utilization review (DUR) is defined as an authorized, structured, ongoing review of prescribing, dispensing and use of medication. DUR encompasses a drug review against predetermined criteria that results in changes to drug therapy when these criteria are not met. It involves a comprehensive review of patients' prescription and medication data before, during and after dispensing to ensure appropriate medication decision-making and positive patient outcomes. As a quality assurance measure, DUR programs provide corrective action, prescriber feedback and further evaluations.(Navarro, 2008)
Bib. Citations	Navarro, Robert. Managed Care Pharmacy Practice, pp. 215 – 229. 2008
	Ai AL & all *J Manag Care Pharm*. 2014;20(12):1162–82. http://www.ncbi.nlm.nih.gov/pubmed/25443511.
MeSH	Drug Utilization Review Assistance in managing and monitoring drug therapy for patients receiving treatment for cancer or chronic conditions such as asthma and diabetes, consulting with patients and their families on the proper use of medication; conducting wellness and disease prevention programs to improve public health; overseeing medication use in a variety of settings.
	Medication Therapy Management Formal programs for assessing drug prescription against some standard. Drug utilization review may consider clinical appropriateness, cost effectiveness, and, in some cases, outcomes. Review is usually retrospective, but some analysis may be done before drugs are dispensed (as in computer systems which advise physicians when prescriptions are entered).
Pubmed	39 citations for deprescribing (first in 2007)
Babelnet	bn:16582550n Deprescribing is the process of tapering, withdrawing, discontinuing or stopping medications to reduce polypharmacy, adverse drug effects and inappropriate or ineffective medication use.
DBPedia	http://dbpedia.org/page/Deprescribing

Q-Code	QD 444
Pref. Term (PT)	**shared decision making**
Syn	SDM
French PT	prise de décision partagée
Spanish PT	toma de decisiones compartida
Portuguese PT	tomada de decisão compartilhada
Definition	Under a shared decision making (SDM) process, health care practitioners and patients work together to make joint decisions about a patient's care. SDM requires that patients be educated about and understand risks and benefits of their options. SDM is an important part of patient-centered care; education is often through the use of decision aids such as pamphlets, videos, and computerized tools.(Cochrane Légaré, 2010)
Bib. Citations	Légaré et al. Cochrane Database of Systematic Reviews. 2010;(5):CD006732.
MeSH	Wrongly related to: Decision Making The process of making a selective intellectual judgment when presented with several complex alternatives consisting of several variables, and usually defining a course of action or an idea.
Pubmed	189.688 citations (first in 1952)
Babelnet	bn:01657979n Shared decision-making is an approach where clinicians and patients communicate together using the best available evidence when faced with the task of making decisions, where patients are supported to deliberate about the possible attributes and consequences of options, to arrive at informed preferences in making a determination about the best action and which respects patient autonomy, where this is desired, ethical and legal.
DBPedia	http://dbpedia.org/page/Shared_decision_making

Q-Code	QD445

Pref. Term (PT)	incidentaloma
French PT	fortuitome
Spanish PT	incidentaloma
Portuguese PT	incidentaloma
Definition	Incidentaloma: used to design an incidentally discovered mass, by chance, in an asymptomatic person, which probably never will harm his/her, not excluding a real possibility of damage and a few chance of benefit. It is a form of overdiagnosis emerging from the massive use of high-resolution diagnostic imaging. In many cases, it is associated with the increased rate of new diagnoses, causes anxiety, consumes time and resources, and can even induce damage by the subsequent follow-up. (Mariño M, 2015)
Bib. Citation	Mariño M. Incidentaloma. Revista Brasileira de Medicina de Família e Comunidade, 2015
MeSH	Partially related to: Incidental findings Unanticipated information discovered in the course of testing or medical care. Used in discussions of information that may have social or psychological consequences, such as when it is learned that a child's biological father is someone other than the putative father, or that a person tested for one disease or disorder has, or is at risk for, something else.
Pubmed	926 citations (first 1982)
Babelnet	bn:03555265n In medicine, an incidentaloma is a tumor found by coincidence without clinical symptoms or suspicion.
DBPedia	http://live.dbpedia.org/page/Incidentaloma

Q-Code	QD446
Pref. Term (PT)	**disease mongering**
French PT	fabrication de maladie
Spanish PT	tráfico de enfermedades
Portuguese PT	comercialização de doenças
Definition	Disease mongering is the selling of sickness that widens the boundaries of illness in order to grow markets for those who sell and deliver treatments.(Moynihan et al., 2008)
Bib. Citation	Moynihan R, Doran E, Henry D (2008) PLoS Med 5(5): e106. doi:10.1371/journal.pmed.0050106 http://www.ploscollections.org/article/browseIssue.action?issue=info:doi/10.1371/issue.pcol.v07.i02
MeSH	none
Pubmed	65 citations (first in 1994)
Babelnet	bn:02354871n Disease mongering is a pejorative term for the practice of widening the diagnostic boundaries of illnesses, and promoting public awareness of such, in order to expand the markets for those who sell and deliver treatments, which may include pharmaceutical companies, physicians, and other professional or consumer organizations.
DBPedia	http://dbpedia.org/page/Disease_mongering

Q-Code	QD447
Pref. Term (PT)	**overscreening**
Syn	
French PT	surdépistage
Spanish PT	sobrerrastreo
Portuguese PT	sobrerastreamento
Definition	Overscreening, also called unnecessary screening, is the performance of medical screening without a medical indication to do so. Screening is a medical test in a healthy person who is showing no symptoms of a disease and is intended to detect a disease so that a person may prepare to respond to it. Screening is indicated in people who have some threshold risk for getting a disease, but is not indicated in people who are unlikely to develop a disease. Overscreening is a type of unnecessary health care.(wikipedia)
Bib. citations	Torke et al. JAMA Intern Med. Apr 8, 2013; 173(7): 526–531.
MeSH	none
Pubmed quotes #	48 citations (first 1979)

Babelnet	bn:15968011n Overscreening, also called unnecessary screening, is the performance of medical screening without a medical indication to do so
Freebase	http://www.freebase.com/m/0113zpt0

Q-Code	QD448
Pref. Term (PT)	**overtreatment**
Syn	futile medical treatment/ Unnecessary health care/ Pharmaceuticalisation
French PT	surtraitement
Spanish PT	sobretratamiento
Portuguese PT	sobretratamento
Definitions	Overtreatment: an excessive drug load leading to a suboptimal risk-to-benefit ratio. Initiating treatment in conditions where it is not indicated. Use of excessively fast titration rates. Prescription of excessively high initial target dosages. Failure to consider conditions associated with reduced dosage requirements. Failure to consider the dose-response characteristics of the selected drug. Premature use of combination therapy. Failure to adjust the dosage to prevent or compensate for adverse pharmacokinetic or pharmacodynamic drug interactions. Failure to reduce drug load in patients who have not benefited from high dosages or polypharmacy. Continuation of drug therapy in disease-free patients. (Peruka and Kwan, 2005)
	Futile medical treatment: treatment that is usually considered unable to produce the desired benefit either because it cannot achieve its physiological aim or because the burdens of the treatment are considered to outweigh the benefits for the particular individual. There are necessary value judgments involved in coming to an assessment of futility. These judgments must consider the individual's, or proxy's, assessment of worthwhile outcome. (WHOGloss, 2004)
Bib. citations	Perucca E, Kwan P. CNS Drugs. 2005;19(11):897-908 Williams SJ et al.. Sociol Health Illn. 2011;33(5):710–25. doi:10.1111/j.1467-9566.2011.01320.x.
MeSH	none
Pubmed quotes #	2257 citations (first in 1929)
Babelnet	bn:15974546n Unnecessary health care is health care provided with a higher volume or cost than is appropriate.
DBPedia	http://dbpedia.org/page/Unnecessary_health_care

Q-Code	QD449
Pref. Term (PT)	**overdiagnosis**
French PT	surdiagnostic
Spanish PT	sobrediagnóstico
Portuguese PT	sobrediagnóstico
Definition	Overdiagnosis is the term used when a condition is diagnosed that would otherwise not go on to cause symptoms or death. Cancer overdiagnosis may have of one of two explanations: (1) the cancer never progresses (or, in fact, regresses) or (2) the cancer progresses slowly enough that the patient dies of other causes before the cancer becomes symptomatic. Overdiagnosis should not be confused with false-positive results, that is, a positive test in an individual who is subsequently recognized not to have cancer. By contrast, an overdiagnosed patient has a tumor that fulfills the pathological criteria for cancer.(Welch and Black, 2010)
Bib. Citations	Welch and Black J Natl Cancer Inst. 2010 May 5;102(9):605-13. doi: 10.1093/jnci/djq099. Epub 2010 Apr 22.
MeSH	none
Pubmed quotes	1723 citations (first in 1970)
Babelnet	bn:02698680n Overdiagnosis is the diagnosis of "disease" that will never cause symptoms or death during a patient's lifetime.
DBPedia	http://dbpedia.org/page/Overdiagnosis

DISCUSSION

Out of an ongoing research on the conceptual content of General Practice/Family medicine, 10 terms used by GPs in their communications to congresses have been analyzed in a terminological way with the help of a web based terminological graphic user interface.

The particularity of the selected terms relates to the dangers of medicine and ethical duties of family doctors facing the epidemic of overmedicalization. Each of those ten terms is carefully related to the fourth field of prevention described in this special issue on P4.

Family doctors have to understand the basis and principles of overmedicalization, which encompass overinformation, overscreening, overdiagnosis, incidentaloma, disease mongering, and overtreatment. Each of those moves could imply the surge of possible Medically Unexplained Symptoms. Shared decision making is one of the suggested tools to address the discrepancy between the doctor and the patient, in the chaos described by Stacey, when disagreement meets uncertainty.[21] Deprescription, more frequently referred to deprescribing, is another way to introduce quality assurance and control in the therapeutic process. In this sense, all the means dedicated to establish quaternary prevention are powerful tools to avoid the chaos and the terrible waste of resources either of human or economic, leading to a more sustainable health care by '*effectively implementing and maintaining of evidence-based policies and activities*'.[22]

The rules in terminological development aspire to cover the whole field of a concept and in the meantime, it helps to avoid the noise due to proxy and not exactly related issues. This refers to exhaustivity and specificity in information retrieval. "*A great difficulty is that we cannot read the user's mind to acquire what he/she really wants*".[23] This exercise shows that referring to MeSH only in information retrieval in General Practice/Family medicine can induce much noise and poor adequacy to the subject investigated. Taking the search of 'Shared decision making' as an example, we could show much noise and unfruitful search. Indeed, the term 'Shared, decision making' is linked in the MesH thesaurus with the MeSH 'Decision making' whose use alone retrieve 123.265 entries. As the MeSH Decision making definition does not encompass the participation of the patient to the decision, the results obtained are not adequate. In this case, it is better to use the name of France Légaré,[24] a well-known Canadian GP, researcher in this field, as author (Légaré F[Author]) to identify the main publications relevant to the process of participation of the patient and to follow the related citations in PubMed. This will ensure narrower, but more pertinent results in a bibliographic query.

The syntagm of Medically Unexplained symptoms, although quoted 958 times for medically unexplained symptoms (first 1980) and 239 times for medically unexplained symptom (first 1987), the last one on singular, has no corresponding entry in MeSH. The word overdiagnosis counts 1723 citations (first in 1970) in Pubmed, overtreatment 2257 citations (first in 1929), overscreening 48 citations (first 1979), disease mongering 65 citations (first in 1994) but have no corresponding entry MeSH as well.

Overmedicalization poses different issues as we could use Conrad's definition and adding the qualifier 'ethics' to find back the ongoing meaning of the word overmedicalization which count in Medline varies following its orthographic typing, the European way overmedicalisation with 'S' reflecting more the quaternary prevention mode of the phenomenon. It is important to highlight that overmedicalization and overtreatment refer both to unnecessary health care. This broad category is coming through Babelnet quotations from Wikipedia categorization process. Indeed, the choice of Wikipedia has been to class all the above analyzed terms in the broad category of unnecessary health care. [25] Interestingly, all the ten terms are shared by lay terms terminologies as Babelnet of DBpedia, reflecting the interest of patients and general public for those problems, which are clearly at the meeting point of medicine with the public.

Naturally, all those terms reflecting overutilization and waste of resources have to be complemented by the careful analysis of their counterparts: undermedicalization, undertreatment, underscreening. These are the natural companion of the analyzed terms. But, unfortunately, market driven forces are prevalent, and consequently, the trend is in the direction of overmedicalization or wrong medicalization, which occurs in low-income countries, as well.

CONCLUSION

One can argue that the definitions proposed here are up to only one author and that careful search in published literature could retrieve more appropriate citations. Nevertheless, a lot of colleagues, acknowledged above, have contributed to this work, by spontaneous exchanges through the P4 mailing lists[26] between Europe and mainly South America. This is an open field of research and this paper is only a provocative appeal to invest more in specific terminological work dedicated to family medicine and primary care. Terminologies are evolutionary by essence and require to be adjusted to the need of corresponding domains of

the researchers. They need also to be collaborative and this paper represents only a first step, a first call for more insights on methodological research in terminological field.

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