# Position Paper on Overdiagnosis and Action to Be Taken

By WONCA Europe
The World Organization of Family Doctors in the European Region

Modern medicine has brought impressive benefits to mankind. A side-effect of its many successes is however an unfounded, cultural belief that more medicine is necessarily better, irrespective of context. Consequently, problems related to "too much medicine", overdiagnosis and overtreatment are on the rise. Ever more methods of surveillance, investigation and treatment become available, and health anxiety has become widespread. Unwarranted medical activity leads to unnecessary waste of resources, more inequalities in healthcare and, at worst, direct harm to patients and healthy citizens.

In order to avert the further escalation of overdiagnosis there is a need to reassess and disseminate new evidence on timely and appropriate diagnostic processes along with the communication skills needed to inform patients and their families about the relevant significance of their diagnoses.

Most general practitioners/family physicians (GPs/FPs) work in the clinical setting, which represents the patient's first contact with the healthcare system, providing easy access and help with the whole range of health problems, regardless of age, sex and other personal characteristics. Furthermore, many GPs/FPs also carry administrative, academic and teaching responsibilities/opportunities. They may be involved in teams locally, regionally, nationally, and sometimes globally. In total, European GPs/FPs have many opportunities to influence the evolution of healthcare. This introduces a professional responsibility for GPs/FPs to observe and analyse the development, and take action.

WONCA Europe wants to strengthen the ability of GPs/FPs to exercise sound professional judgment in their clinical practice, informed by best evidence (The European Definition of General Practice / Family Medicine 2011). In that context, WONCA now puts the problem of overdiagnosis on the agenda, hoping to reach all influential stakeholders, including health professionals, health authorities, the mass media, and the general population.

WONCA Europe acknowledges that many GPs/FPs work in regions with scarce resources and poor access to appropriate and timely medical investigations and care. This might result in delayed diagnoses, delayed "all clear", and distress both for patients and doctors, and in such settings, increased use of medical resources is evidently warranted. It is important to note, however, that underdiagnosis and overdiagnosis may exist side by side, even in the same clinical settings. The problems have different drivers and mechanisms but are nevertheless interlinked. In conclusion, preventing overdiagnosis must involve the allocation of medical resources as effectively as possible for the benefit of population health, while incorporating the ethos of the following three principles:

- Overdiagnosis means making people into patients unnecessarily, by identifying problems that were never going to cause harm (overdetection) or by medicalising ordinary life experiences through expanded definitions of diseases (overdefinition) (see further definitions and clarifications in the supplementary material below).
- Overdiagnosis decreases the quality of healthcare, endangers patients, increases perceptions of disability among patients, and undermines public health. In order to fulfil their professional role as gatekeepers and coordinators for the citizens' use of healthcare services, GPs/FPs are hereby encouraged to recognise and minimise overdiagnosis.
- Along with other stakeholders, GPs/FPs have an important role in informing both healthcare authorities, fellow professionals and the wider public that a vision of no medical risks in life (a medical "zero vision") is unrealistic and potentially harmful. Some unfortunate cases of potentially preventable disease will continue to arise, even in affluent settings with well-functioning healthcare.

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# SUPPLEMENTARY TEXT

## DEFINITION

WONCA Europe refers to the definitions from 2018: "Overdiagnosis: what it is and what it isn't" described by members of the European Network for Prevention and Health Promotion in Family Medicine and General Practice (EUROPREV, a WONCA Europe network) and others (Brodersen J, et al. *BMJ Evidence-Based Medicine* 2018; 23:1–3. https://www.ncbi.nlm.nih.gov/pubmed/29367314)

Below follow relevant definitions:

**Overdiagnosis** means transforming people to patients unnecessarily (i.e. without clear benefit, and with potential for damage) by identifying problems that were never going to cause harm, or by medicalising ordinary life experiences. It has two major causes: *overdetection* and *overdefinition* of disease. While the forms of overdiagnosis differ, the consequences are the same: diagnoses that ultimately cause more harm than benefit. Overdiagnosis is driven by the notion that detecting a disease at an early stage will always have a favourable effect on the natural history of the disease, but it may actually decrease the quality of healthcare, endanger patients, and undermine public health.

*Overdetection* refers to identification of pathologies in healthy people that would never cause clinically relevant disease or death. It entails identification of inconsequential abnormalities, either through regular clinical practice or screening programmes.

*Overdefinition* occurs by two mechanisms: i) lowering the threshold for a risk factor without evidence that doing so helps people feel better or live longer. Recently, a new category, "pre-risk," was introduced in the medical literature (pre-hypertension, pre-diabetes). ii) by expanding disease definitions to include patients with ambiguous or very mild problems that might be better tackled outside the healthcare system.

*Overselling* or overinterpretation of symptoms is an insidious tactic for promoting more medicine - the supposed 'diseases' are unpleasant experiences that most people have from time to time (trouble sleeping, sadness, anxiousness, difficulty focusing), moving the boundary between normal and abnormal.

*Quaternary prevention*. By tradition, preventive measures have been divided into primary, secondary and tertiary prevention. In recent years, the term 'quaternary prevention' was added to this classification. Quaternary prevention is: "Action taken to protect individuals (persons/patients) from medical interventions that are likely to cause more harm than good" (Martins C. et al. Eur J Gen Pract 2018 Dec;24(1):106-111. doi:10.1080/ 13814788.2017.1422177).

## WIDER PERSPECTICES ON OVERDIAGNOSIS AND ACTION TO BE TAKEN

Different subtypes of overdiagnosis have been suggested. Some examples/perspectives are listed below, followed by notes on the driving forces and potential ways to counteract the problems. The categories of overdiagnosis should be seen as dynamic and open for debate. It must be acknowledged that sometimes the boundaries can be blurred between over-zealous medical activity and useful proactive medical activity. Different perspectives may apply in different contexts, for instance depending on the relationship between diagnoses on the one hand and reimbursement systems, welfare benefits etc., on the other.

1. **Avoidable overdiagnosis** means that existing knowledge and guidelines that aim to limit overconsumption of healthcare and/or overdiagnosis are ignored. As an example, some clinicians ignore guidelines that advocate a period of "watchful waiting" before ordering medical imaging for typically self-limited problems. Widespread, premature use of imaging will lead to overdetection of insignificant "abnormalities," causing clinical distraction and patient worries with no clinical benefit. In addition, ambiguous incidental findings might release a cascade of diagnostic workup that might do harm. *Avoidable overdiagnosis can be prevented on the level of individual clinicians.*
2. **Unavoidable overdiagnosis** arises when "good medical practice" is associated with unintended harm. It involves *overdetection* that occurs because acknowledged disease definitions are so wide and/or intervention thresholds so low as to prescribe intervention (with potential side effects) in situations that would never cause significant health problems. Some cancer screening programs may be burdened with this phenomenon: Current medical evidence does not provide a clear demarcation line between genuinely malignant and malignant-appearing, indolent tumours. *Unavoidable overdiagnosis cannot be identified on the level of individual patients but can, and should, be foreseen and investigated by systematic, empirical research, ideally randomized trials.*
3. **Disease mongering** means that normal life distress or obstacles are included under the domain of medical problems/diseases. An important driver behind disease mongering is the fact that pharmaceutical/healthcare industries profit more from expanding the indications (market) for existing products than from developing new ones.
4. **"Conflicts of interest" - driven overdiagnosis** results from selective or *skewed presentation of scientific data/evidence.* Such a tendency is well documented in research and guidelines sponsored by the pharmaceutical industry and/or other stakeholders with competing interests (financial or intellectual). Private health insurance programs and opportunistic health surveillance in commercial settings (e.g. pharmacies) may also generate unnecessary investigations and treatment. Some patient organizations tend to promote "survivor testimonies" that disregard evidence of potential overdiagnosis.

   *Provider induced demand (PID)* exists when a physician (or other healthcare players) influences a patient's demand for care in a manner that is not necessarily in the patient's best interest. *This type of overtreatment and possibly overdiagnosis can be counteracted by awareness, population education, transparency regarding funding, sponsorship and authorship, and in some instances direct legislative control.*
5. **Strategic and obscuring overdiagnosis** occurs when diagnoses are applied for a purpose that is not intrinsically medical, for instance to increase economic reimbursement for the healthcare provider or to evoke social/welfare benefits for the person/patient in question. *This type of overdiagnosis is typically context dependent. Prevention begins by awareness. Analysis of the phenomenon needs to encompass the wider system and solutions must be tailored correspondingly.*
6. **Fear-driven overdiagnosis** is an epidemic of our time, as western culture has become highly risk aversive. The healthcare system has itself contributed to health anxiety, and clinicians practice defensive medicine to avoid blame and lawsuits. An everyday example of overdiagnosis driven by fear involves exaggerated use of "routine" blood tests in situations where sound clinical judgement and good practice routines would suffice to manage the problem. From the doctor's perspective, fear of sanctions is a driver of defensive medical practice. Doctors are more likely to be sanctioned

for non-intervention (failure to test/treat, “errors of omission”) than for inappropriate or excessive intervention (too much medical activity, “errors of commission”).

Furthermore, a recent paper by Pathirana T. et al (BMJ 2017) has analysed potential drivers of overdiagnosis and suggested solutions on all levels of care (Figure 1).

**As GPs/FPs, you are encouraged to:**

- On behalf of your patients, demand balanced evidence informed and non emotional information material (e.g. invitation brochures) from providers and authorities in relation to cancer screening, health checks, etc.
- Take initiatives to discuss potentials for overdiagnosis in settings where you have influence; in relation to colleagues, GP/FP representative organisations, lay people and health authorities.
- Demand that authorities and funders put overdiagnosis on the public agenda and support research and dissemination of information on overdiagnosis.
- Initiate and take part in research and professional development related to the problem of overdiagnosis. Share your findings and experience in relevant fora, e.g. the WONCA networks, WONCA Special Interest Groups (SIGs), and congresses.
- Strive to adhere to guidelines and recommendations that aim at reducing unnecessary healthcare, when such recommendations exist.
- Generally support a professional attitude of moderation among colleagues and students in keeping with the European Definition of General Practice / Family Medicine 2011. Strategies and skills such as ‘watchful waiting’ and appropriate use of technology must go hand in hand with good communication skills and a practice organization where patients have good access to follow-up and return visits.
- Enlist the support of GP/FP organisations to engage critically with stakeholders who are likely to be motivated by competing interests.

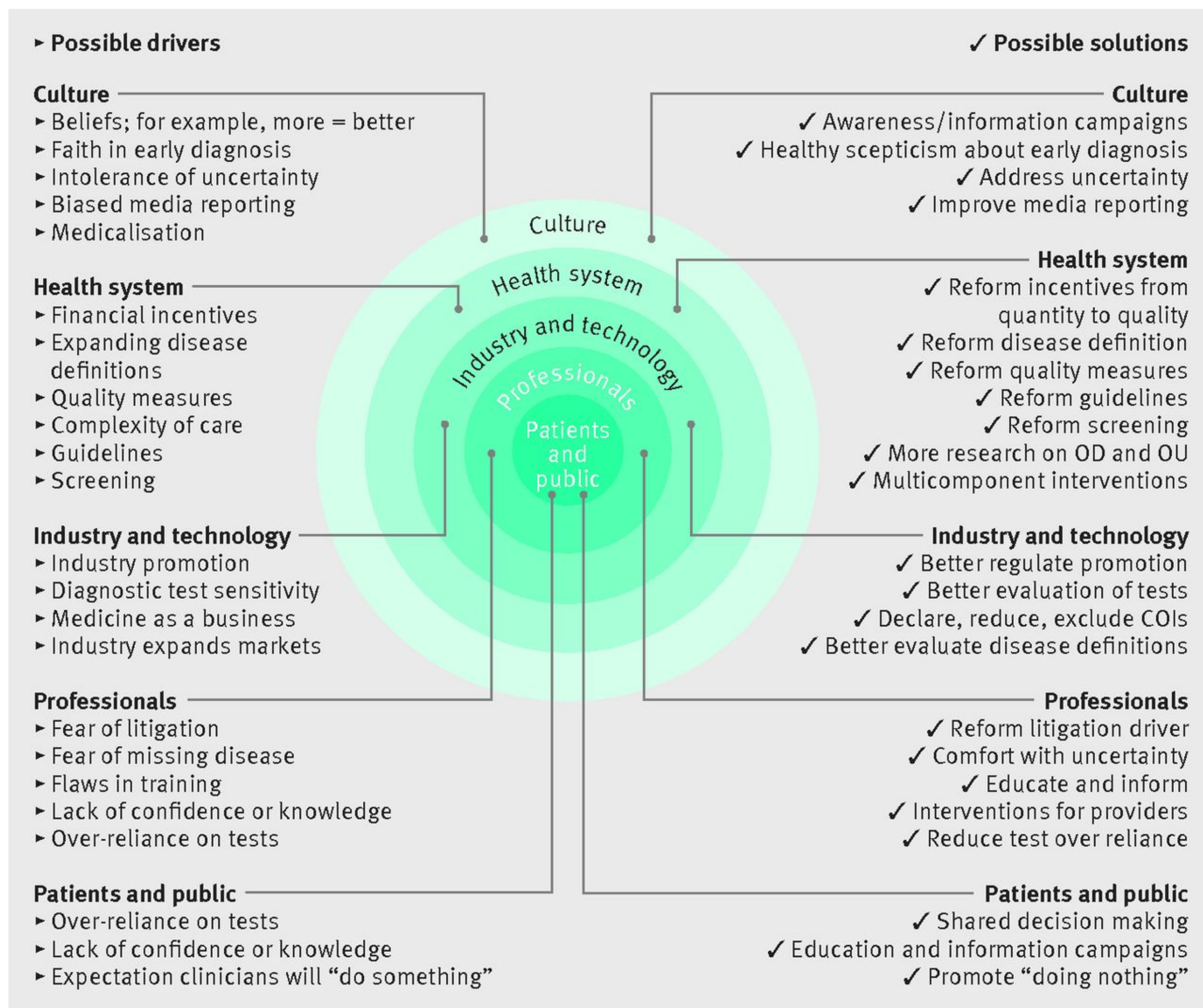


Figure 1. Overdiagnosis and related overuse. Mapping possible drivers to potential solutions. COI=conflict of interest; OD=overdiagnosis; OU=overuse. From: Pathirana T, Clark J, Moynihan R. Mapping the drivers of overdiagnosis to potential solutions. BMJ 2017;358:3879 doi: 10.1136/bmj.j3879