Life & Times

Quaternary prevention:

a balanced approach to demedicalisation

In 1982, the *Journal of the Royal College of General Practitioners* published Ivan Illich's article 'Medicalization in Primary Care'.[1] Illich held a paradoxical belief that GPs could contribute to the healthy process of demedicalisation, that is:

'... to offer their patients the occasion to de-medicalize their own attitude to pain, disability, discomfort, ageing, birth and death.'[1]

In other words, *'unhooking* [patients] *from the health system'*.[1] This article presents WONCA's definition of Quaternary Prevention (P4) as a unifying framework that organises GPs' scope on demedicalisation.[2]

EXPLAINING QUATERNARY PREVENTION

Devised in 1986 by Marc Jamoulle, a Belgian GP, P4 is:

'... an action taken to identify a patient at risk of over-medicalization, to protect him from new medical invasion, and to suggest to him interventions which are ethically acceptable.'[3]

P4 was initially oriented to those patients who were feeling ill, but who had no clinically established disease: the worried well and those presenting with medically unexplained symptoms.[3] The former are concerned about their health status and usually demand check-ups; the latter present with symptoms that lack pathophysiological explanations. Some of these symptoms stem from psychosocial circumstances. Both groups of patients are subjected to overmedicalisation.[4]

Box 1 provides a framework that organises the scope of P4. Its clockwise-arrow at the centre indicates that P4 impacts the other three preventive levels: primary prevention (P1), secondary prevention (P2), and tertiary prevention (P3). Box 1 also differentiates two demedicalisation scenarios: 1) P1 and P2, which deals with symptomless individuals; and 2) P3 and P4, which comprises disease/illness dimensions, merging clinical care with preventive activities.

Individuals undergoing P1 and P2 might be subjected to overdiagnosis and overtreatment (that is, overmedicalisation). Overdiagnosis is *'the diagnosis of a condition that would have remained indolent in the patient's lifetime if left undetected'*.[5] Thus, patients end up dying from competing diseases and not gaining in longevity.

> *"The main problem of overdiagnosis is overtreatment: treating pseudo-diseases that bear no prospect of benefit."*

The main problem of overdiagnosis is overtreatment: treating pseudo-diseases that bear no prospect of benefit.[6] This represents harm both to individuals' wellbeing and to health systems as it generates unnecessary costs and waste of resources. Potential sources of overdiagnosis are disease screening, altering cut-off points for defining a risk factor or a disease, and financial incentives (for example, pay-for-performance schemes).[5]

FIRST DO NO HARM

An example of controversial P1 is prescription of statins for individuals with 10% cardiovascular mortality risk in 10 years.[7] This increases the overdiagnosis effect and offers minimal individual benefit. Regarding P2, there are lots of instances of overmedicalisation due to non-evidence-based screening for thyroid, prostate, and ovarian cancers. Breast cancer screening also needs to be readdressed. After an average of two decades of breast cancer screening in Canada[8] and the US,[9] there are considerable overdiagnosis rates (roughly 30%), minimal (if any) impacts on mortality,[10] but known potential harms such as an increase in heart disease (27%) and lung cancer (78%) mortality.[11]

Concerning P3, diabetes care provides a good example. The belief in 'the lower the better' Hb1Ac levels has potentially done more harm than good due to polypharmacy, reduction in quality of life, and an increase in

Box 1. Quaternary prevention framework as an organising principle for demedicalisation

		Clinicians' perspective (biomedical gaze)		
		No disease	**Disease**	**Demedicalisation**
Patients' perspective	**Feeling well**	**P1** An action taken to avoid or remove the cause of a health problem in an individual or population before it arises. It includes health promotion and specific protections (for example, immunisation)	**P2** An action taken to detect a health problem at an early stage in an individual or population, thereby facilitating its cure, reducing or preventing its spreading, and/or long-term effects (for example, screening and early diagnosis)	P1 and P2 originally belong to public health tradition, as they deal with population outcomes. Patients need to be informed about potential harms of each specific intervention due to overdiagnosis and overtreatment
	Feeling ill	**P4** An action taken to identify a patient or population at risk of overmedicalisation, to protect them from invasive medical interventions, and to suggest interventions that are ethically acceptable	**P3** An action taken to reduce the chronic effect of a health problem in an individual or population by minimising the functional impairment of an acute or chronic health problem (for example, prevent the consequences of diabetes), including rehabilitation	P3 and P4 are the realm of personalised clinical care. Clinicians' art of relieving patients' suffering and/or reassuring their wellbeing

mortality.[12] Therefore, distinction between clinical and preventive activities is essential to circumvent the excesses of biomedicine. In prevention, the bioethical principle of non-maleficence should prevail as we are dealing with healthy or asymptomatic people, and the oath First Do No Harm should guide GPs' practice.[13] P4 implies an attitudinal shift of self-containment, caution, and reassurance of patients' integrity when dealing with preventive interventions. It requires a critical appraisal of current biomedical knowledge, inviting GPs to be more autonomous, proactive, and to follow protocol less slavishly.

CONCLUSION

Quaternary prevention is a well-devised concept that embeds three main points: risk of overmedicalisation, patients' protection, and ethical alternatives. This definition is more comprehensive than the recent initiative to redefine it in terms of the harm/benefit ratio.[3] P4 provides a platform that may help GPs to realise the vital task of demedicalising by sorting out what can or should be demedicalised in clinical care.

To realise this task, as paradoxically envisioned by Illich, P4 needs support and further research to be globally disseminated in primary care.

Armando Henrique Norman,
Lecturer, Department of Internal Medicine, Federal University of Santa Catarina, Santa Catarina, Brazil.

Charles Dalcanale Tesser,
Professor, Department of Public Health, Federal University of Santa Catarina, Santa Catarina, Brazil.

DOI: https://doi.org/10.3399/bjgp19X700517

ADDRESS FOR CORRESPONDENCE

Armando H Norman
Department of Internal Medicine, Federal University of Santa Catarina; Campus Reitor João David Ferreira Lima, s/n —Trindade, Florianópolis — SC, 88040-900, Brazil.
Email: a.h.norman@ufsc.br

REFERENCES

1. Illich I. Medicalization and primary care. *J R Coll Gen Pract* 1982; **32(241):** 463–470.
2. Bentzen N. Wonca International Classification Committee. *Wonca international dictionary for general/family practice*. Copenhagen, 2003. http://www.ph3c.org/PH3C/docs/27/000092/0000052.pdf (accessed 3 Dec 2018).
3. Martins C, Godycki-Cwirko M, Heleno B, Brodersen J. Quaternary prevention: reviewing the concept. *Eur J Gen Pract* 2018; **24(1):** 106–111.
4. Norman AH, Tesser CD. Quaternary prevention: the basis for its operationalization in the doctor–patient relationship. *Rev Bras Med Família e Comunidade* 2015; **10(35):** 1.
5. Bulliard J-L, Chiolero A. Screening and overdiagnosis: public health implications. *Public Health Rev* 2015; **36(1):** 1–5.
6. Welch HG, Schwartz L, Woloshin S. *Overdiagnosed: making people sick in the pursuit of health*. Boston, MA: Beacon Press, 2011.
7. Redberg RF, Katz MH. Statins for primary prevention. *JAMA Intern Med* 2017; **177(1):** 21.
8. Miller AB, Wall C, Baines CJ, *et al*. Twenty five year follow-up for breast cancer incidence and mortality of the Canadian National Breast Screening Study: randomised screening trial. *BMJ* 2014; **348:** g366.
9. Bleyer A, Welch HG. Effect of three decades of screening mammography on breast-cancer incidence. *N Engl J Med* 2012; **367(21):** 1998–2005.
10. Welch HG, Black WC. Overdiagnosis in cancer. *J Natl Cancer Inst* 2010;**102:** 605–613.
11. Gøtzsche PC, Jørgensen KJ. Screening for breast cancer with mammography. *Cochrane Database Syst Rev* 2013; **(6):** CD001877.
12. Shaughnessy AF, Erlich DR, Slawson DC. Type 2 diabetes: updated evidence requires updated decision making. *Am Fam Physician* 2015; **92(1):** 22.
13. Tesser CD, Norman AH. Differentiating clinical care from disease prevention: a prerequisite for practicing quaternary prevention. *Cad Saude Publica* 2016; **32(10):** e00012316.