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Why haven't I changed that?

Therapeutic inertia in general practice

Background

There are multiple gaps between evidence and practice in our health system. The relatively new concept of 'therapeutic inertia' is useful to understand why these gaps persist. It is defined as 'failure of healthcare providers to initiate or intensify therapy when indicated' and 'recognition of the problem, but failure to act'.

Objective

This article explores the development of therapeutic inertia and its causes, and other concepts useful in closing gaps in general practice, including addressing emotional decisional making by doctors.

Discussion

Clinical inertia is the original term used to describe gaps in practice; and therapeutic inertia is now used interchangeably with it. The author illustrates his practice's approach to overcoming therapeutic inertia. The National Institute for Clinical Studies was set up in Australia to get the best available evidence from health and medical research into everyday practice to help close these gaps.

Keywords: attitude of health personnel; guideline adherence; patient care/standards; practice guidelines as a topic; general practice

CPD

An evidence practice gap is defined as the 'difference between what we know from best available research evidence and what actually happens in current practice'.[1] The relatively new concept of 'therapeutic inertia' is useful to understand why these gaps occur. The term first appeared in the MEDLINE indexed literature in a 2004 article[2] which referred to the 2001 paper by Phillips et al.[3] Although therapeutic inertia is sometimes used to mean failure to use pharmacological agents,[4] a 2009 literature review[5] found it is used more broadly for all types of therapy and interchangeably with the term 'clinical inertia'.

For the purposes of this article, therapeutic inertia equals clinical inertia, and is defined by Phillips et al[3] as the 'failure of healthcare providers to initiate or intensify therapy when indicated' and 'recognition of the problem, but failure to act'.

Therefore to diagnose therapeutic inertia one needs to define:

- the clinical outcomes (goals)
- the therapy in such a way that it can be measured, and
- the period of time in which initiation or intensification is appropriate.[6]

Why is it important?

Underuse of therapy is particularly important in common chronic diseases, such as diabetes, hypertension, dyslipidaemia, coronary artery disease and depression. It has been suggested that therapeutic inertia related to the management of diabetes, hypertension and lipid disorders may contribute to up to 80% of heart attack and strokes.[6] Therefore the problem is not the availability of effective treatments but the extension of them to appropriate patients.

It has been demonstrated that technological advances must yield dramatic, often unrealistic increases in efficacy, to do more good than could be accomplished by simply improving fidelity to current treatment evidence. In two examples (the development of new anti-platelet agents and statins), it was shown that enhanced efficacy would fail to achieve the health gains that would have

occurred by delivering older agents to all eligible patients.[7] In a twist on an adage it can be said 'more is missed by not doing than not knowing'.

The Australian Hypertension and Absolute Risk Study (AusHEART) collected data in 2008 from a nationally representative, cluster stratified, cross sectional survey of 322 general practitioners. The data confirmed substantial undertreatment of patients who are at high risk of a cardiovascular event. Of the 1548 patients with established cardiovascular disease, only 50% were prescribed the recommended combination of a blood pressure (BP) lowering medication, a statin and an antiplatelet agent.[8] This is just one recent Australian example of failure to conform to known best practice.

Why does it occur?

O'Connor et al[6] postulated that there are three principal sources leading to therapeutic inertia: doctor factors, patient factors and office (practice) system factors (*Table 1*). They estimated that the relative percentage of contribution to be 50% doctor factors, 30% patient factors and 20% practice factors.

In their paper, Phillips et al[3] described three doctor factors contributing to failure of a clinician to initiate or intensify treatment when indicated:

- doctors overestimate the care they give (eg. assuming the majority of their hypertensive patients are well controlled)
- doctors use 'soft' reasons to avoid therapy (eg. 'Yes, you have been hurrying all morning so your BP will be up')
- doctors lack the education, training or organisation to achieve therapeutic goals (eg. 'I really need a series of home BP readings but we have no loan BP monitors').

As doctors we seem to be predisposed not to treat in the areas of preventive health and chronic disease because we are, by training and inclination, interested and prepared to problem solve in acute crises; the Hippocratic Oath exhorts the doctor to 'first do no harm'. In stroke prevention studies it has been shown that the experience of an adverse outcome from warfarin (ie. a bleed), makes a clinician less likely to initiate warfarin in at risk patients in the future, but the occurrence of stroke in nonwarfarinised patients does not increase the likelihood of warfarin therapy in the future.[9]

Overcoming therapeutic inertia

The National Institute of Clinical Studies (NICS) aims to improve the implementation in clinical practice of interventions which are known to improve patient care and close evidence-practice gaps.[1] For example, to overcome inertia in putting cancer guidelines into practice, NICS guidelines suggest a tailored intervention for each identified barrier.[10] The NICS guidelines state that the best available evidence suggests that multifaceted interventions to close gaps are no more effective than single interventions. So, in terms of the most efficient use of resources, unless a strong case is made to link interventions to known barriers, the optimism 'more must be better' cannot be justified.[10]

O'Connor et al[3] offer seven suggestions to overcome therapeutic inertia. Many correspond to the NICS interventions in *Table 2*.

- Monitor quality of care and give feedback on specific clinical outcomes to doctors for chronic disease management (NICS audit and feedback)
- Use a diagnostic tool to assess a given doctor's decision making pathologies. For example: a 60 minute tool monitoring a doctor's performance on simulated cases to identify specific areas of errors such as clinical outcome setting; and an algorithm to search clinical databases to identify areas of omission or commission that actually occur in the care that a particular doctor provides for real patients. Once a diagnosis has been established specific learning interventions may be applied

Table 1. Causes of clinical inertia[6]

Doctor factors 50%	Patient factors 30%	Practice systems factors 20%
Goal setting pathologies (failure to set clinical outcomes)	Deny having the disease	No clinical guideline available
Failure to initiate treatment	Believe the disease is not serious	No disease registry (morbidity database)
Failure to titrate treatment until goal achieved	Low health literacy (do not understand the disease implications)	No visit planning (failure to book specific consultations)
Failure to identify and treat comorbid conditions (eg. depression)	Cost of medication	No active outreach (relying on opportunistic recruitment only)
Patient hijacks the clinical encounter	Too many medications	No decision support
Insufficient time	Medication side effects	No team approach to care
Reactive care rather than proactive care approach	Poor communication between patient and doctor	Poor communication between doctor and staff
	Do not trust the doctor	
	Depression, substance abuse	

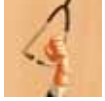


Table 2. NICS choosing the right approach

Identified barrier	Tailored intervention/s
Lack of knowledge	Educational courses Decisional aids
Perception/reality mismatch	Audit and feedback Reminders
Lack of motivation	Incentives/sanctions Leadership
Beliefs/attitudes	Peer influence Opinion leaders
Systems of care	Process re-design

- A planned frequency of surgery visits for chronic disease management (CDM), with pulsed consecutive monthly visits for intensification of therapy, and then a return to the maintenance visit regimen (NICS process re-design)
- Clinical decision support, which is defined as timely information made available to providers, that prompts appropriate initiation and intensification of therapy to reach evidence based care outcomes (NICS decisional aids). *Table 3* provides an example using an escalation of dose of beta blockers and angiotensin converting enzyme inhibitors (ACEIs) for chronic heart failure
- Visit resolution and accountability tools to change doctors behaviour by routinely documenting after each visit if

Table 3. NICS evidence practice gaps[1,13] that may be relevant to general practice and examples of interventions in the author's practice

Recommendation	Tailored intervention – a practice example
Advising smoking cessation	Usual care
Advising smoking cessation in pregnancy	Reminder in antenatal 'auto fill'*
Preventing stroke with warfarin in patients with atrial fibrillation (AF)	Process re-design – all AF patients to cardiovascular clinic Decisional support in protocol regarding initiation of warfarin
Using both ACEIs and beta blockers in cardiac failure (CHF)	Process re-design – all CHF patients to cardiovascular clinic Decisional support in protocol regarding doses and titration
Regularly measuring HbA1c in diabetic patients	Process re-design – all diabetic patients to diabetic clinic
Not prescribing antibiotics for the common cold and acute bronchitis	Decisional support via a scoring aid for sore throat in auto fill Decisional support via cough and cold management auto fill
3–5 yearly colonoscopy follow up after colorectal surgery	Usual care
Encouraging periconceptual use of folic acid supplements	Reminder in 'auto fill'
Promoting and supporting breastfeeding	Reminder in nurse immuniser 'auto fill'
Placing infants on their back to prevent sudden infant death syndrome (SIDS)	Reminder in nurse immuniser 'auto fill'
Promoting the use of preventers in patients with chronic asthma	Process re-design of both recruitment and asthma clinic protocol[15]
Recognising and managing panic disorder and agoraphobia	Usual care
Vaccinating against influenza in at risk groups	Process re-design of influenza immunisation clinics[17]
Achieving optimum control of blood pressure	Process re-design of both BP measurement and cardiovascular risk clinic protocol[16] Decisional support
Preventing osteoporotic fractures from recurring	Usual care
Applying compression therapy to treat chronic venous leg ulcers	Process re-design of wound clinic protocol with ankle-brachial index measurement Decisional support regarding need for compression

* Auto fill is a 'Best Practice' software tool which enables a self designed Word document to be dropped into the progress notes

Table 4. A CBT analysis of the four main emotional reactions to a practice gap

Doctor emotion	Probable belief	Recommended influence to focus on	Desired emotional change
Complacency	I am sure I am doing fine, so I do not have to change	Motivation	Surprise or anxiety
Irritation	I am sick of experts telling me what to do when I have been doing okay for years	Motivation	Surprise or anxiety
Anxiety	I do not know how to fix it I do not know if I am capable of fixing it	Ability	Contentment
Disappointment	I should be doing better than this	Ability	Contentment

recommended therapeutic changes were made and if not, why not (NICS process re-design)

- Financial incentives to doctors to focus on certain clinical outcomes (NICS incentives)
- Achieving agreement on which clinical guideline to follow. (NICS clinical practice guideline portal can be found at www.clinicalguidelines.gov.au).

Many decisions in life have a large emotional component. This idea is acknowledged and utilised in other industries,[11] but emotional decision making is largely ignored in medical literature. Cognitive behaviour therapy (CBT), used to help people to manage change and to initiate desired change for psychological health is a useful tool for looking at why doctors do not initiate change. Patterson[12] describes a 'two do' concept of engendering change: ability ('can I do it?') and motivation ('do I want to do it?'). *Table 4* combines a CBT analysis of four common emotional reactions linked with the 'two do' concept. This may be useful in choosing an intervention.

A practice example

Two reports on evidence practice gaps in Australian medical practice with recommendations have been published by NICS and are combined in *Table 3*.[1,13] The reports are useful, but are not meant to be exhaustive. Those gaps relevant to general practice and how the author's practice has addressed them are shown in *Table 3*. The following illustrates how the author's practice overcame therapeutic inertia.

Overestimating care (NICS: a perception-reality mismatch)

One of the drivers for changing the way we deliver preventive healthcare and CDM was a conversation at morning tea where attention was drawn to a report that in Queensland, fewer than 60% of eligible patients had undergone 2 yearly Pap tests. We were complacent, believing that our practice numbers would be much better. To feed our hubris, the practice undertook an audit. Imagine our surprise when we discovered that our performance was only 53%! We re-designed our system of care for Pap tests by establishing an accurate database to enable searching for women who had not had screening, active letter and follow up telephone recruitment, and provision of nurse Pap test provider. Follow up audit showed a rate of 67.5% and we now maintain a rate of more than 70%.[14]

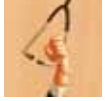
Soft option

To overcome doctors being swayed by their own, or their patients', reluctance to initiate or increase medication or to engage in rigorous surveillance of the disease process, clinical outcomes are measured and presented to the doctor. Thus, home BP is taken by the patient and averaged over 14 readings, pathology requests are sent to patients before their clinic appointments, and spirometry and an asthma score are incorporated into asthma clinics. Limiting repeat prescriptions until the appropriate CDM clinic attendance was instituted often using a 'no recent asthma plan, no repeat preventer script' strategy boosted annual cycles of asthma care from 30 to 56%.[15] Patients now know that the doctor takes seriously the recommended monitoring of their disease.

Lack of education, training or organisation

The practice uses protocol based care for CDM of cardiovascular disease (hypertension, ischaemic heart disease, chronic heart failure, cerebrovascular disease and atrial fibrillation),[16] diabetes, asthma and chronic obstructive pulmonary disease. This incorporates planned surgery visits, consecutive monthly visits for intensification of therapy, and return to a maintenance visit regimen when goals are achieved. The benefit of protocols is that 'while guidelines lack detail and require clinicians to fill in many gaps, protocols are detailed and, when used for complex clinical problems, can generate patient specific, evidence based therapy instructions that can be carried out by different clinicians with almost no inter-clinician variability. Individualisation of patient therapy can be preserved by these protocols when they are driven by individual patient data'.[18] This is called 'process re-design'.

All our protocols incorporate decisional aid tools. These act as an aide memoir and counter to any belief that there is no more to be done. A further benefit is that the practice nurse determines whether a particular patient falls outside the parameters. This then presents the doctor with a specific problem to solve, eg. 'The lipids are



elevated beyond the desired range', so the doctor has to actively treat, and if not treating, decide why not.

Key points

- 'More is missed by not doing than not knowing' and therapeutic inertia is a very important concept in closing this gap.
- NICS reports are an excellent place for any general practice to start looking in order to close gaps in practice.
- More detailed audit with feedback, such as involvement with the Australian Primary Care Collaboratives, is another successful approach to closing gaps.
- Emotional decision making by doctors may be an overlooked component of persisting gaps.

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References

1. National Institute of Clinical Studies. Evidence-Practice Gaps Report, Volume 1. NICS, Melbourne, 2003. Available at www.nhmrc.gov.au/nics/material_resources/resources/evidence_volume_one.htm [Accessed 4 September 2010].
2. Andrade SE, Gurwitz JH, Field TS, et al. Hypertension management: the care gap between clinical guidelines and clinical practice. Am J Manag Care 2004;10:481–6.
3. Phillips LS, Branch WT, Cook CB, et al. Clinical inertia. Ann Intern Med 2001;135:825–34.
4. Okonofua EC, Simpson KN, Jesri A, et al. Therapeutic inertia is an impediment to achieving the Healthy People 2010 Blood Pressure Control goals. Hypertension 2006;47:345–51.
5. Allen JD, Curtiss FR, Fairman KA. Non adherence, clinical inertia, or therapeutic inertia? J Manag Care Pharm 2009;15:690–5.
6. O'Connor PJ, Sperl-Hillen JM, Johnson PE, et al. Clinical inertia and outpatient medical errors. Agency for Healthcare Research and Quality, 2005. Available at www.ahrq.gov/downloads/pub/advances/vol2/OConnor.pdf [Accessed 4 September 2010].
7. Woolf S H, Johnson R E. The break-even point: when medical advances are less important than improving the fidelity with which they are delivered. Ann Fam Med 2005;3:545–52.
8. Heeley EL, Peiris DP, Patel AA, et al. Cardiovascular risk perception and evidence: practice gaps in Australian general practice (the AusHEART study). Med J Aust 2010;192:254–9.
9. Choudhry NK, Anderson GM, Laupacis A, et al. Impact of adverse events on prescribing warfarin in patients with atrial fibrillation: matched pair analysis. BMJ 2006;332:141–5.
10. National Institute of Clinical Studies. Taking action locally: eight steps to putting cancer guidelines into practice. Melbourne: National Institute of Clinical Studies, 2006. Available at www.nhmrc.gov.au/_files_nhmrc/file/nics/material_resources/Taking%20Action%20Locally.pdf [Accessed 4 September 2010].
11. Seo MG, Feldman Barrett L. Being emotional during decision making – good or bad? An empirical investigation. Acad Manag J 2007;50:923–40.
12. Paterson K, Greeny J, Maxfield D, et al. Influencer: the power to change anything. New York: McGraw Hill, 2008.
13. National Institute of Clinical Studies. Evidence-Practice Gaps Report, Volume 2. NICS, Melbourne, 2005. Available at www.nhmrc.gov.au/_files_nhmrc/file/nics/material_resources/evidence_practice_gaps_report_volume_2.pdf [Accessed 4 September 2010].
14. Byrnes PD, McGoldrick C, Crawford MV, et al. Cervical screening in general practice: strategies for improving participation. Aust Fam Physician 2007;36:183–4, 194.
15. Byrnes PD, McGoldrick C, Crawford MV. Asthma Cycle of Care attendance: overcoming therapeutic inertia using an asthma clinic. Aust Fam Physician 2010;39:318–20.
16. Byrnes PD, Mitchell GK, Crawford MV, et al. A cardiovascular risk clinic using home BP monitoring. Aust Fam Physician 2009:38:163–6.
17. Byrnes P, Fulton B, Crawford M. An audit of influenza vaccination rates. Aust Fam Physician 2006;35:551–2.
18. Morris AH. Treatment algorithms and protocolized care. Curr Opin Crit Care 2003;9:236–40.

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