

Simplicity on the other side of complexity:

A commentary on the challenge posed by chronic conditions in the general practice setting

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'I would not give a fig for the simplicity on this side of complexity, but I would give my life for the simplicity on the other side of complexity' – Oliver Wendell Holmes, Jr.

The simple view of the challenge posed by chronic conditions is that providers and purchasers would like to offer best practice care to all the people with chronic conditions, all the time. This is important as we now know that non-communicable long-term conditions carry the greatest risk of morbidity and early mortality, which is true in the developed and developing worlds. Furthermore this burden is rising rapidly and is disproportionately carried by some population groups.

However, the simplicity of this high level goal belies the complexities of the interventions required and their implementation processes. Reducing this complexity to simple and understandable frameworks underpins the 'destination conversations' to decide the way forward, and enables us to more clearly synergise and coordinate our initiatives. The articles in this issue explore some frameworks and the fundamental issues involved.

This commentary looks at the success of our health system to date in order that, as family physicians, we can determine where our future roles lie within the complexity of this challenge and the complexity of the health system itself.

What would we like to achieve?

The war on managing chronic conditions prior to them becoming an

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overwhelming burden for individuals, their whanau, the clinicians involved, and the publicly funded secondary and tertiary care sectors has started across the world and New Zealand is no exception. It was declared in a 1998 WHO press statement:¹

'A major resolution on non-communicable diseases was adopted by the highest governing body of the World Health Organization (WHO) – the World Health Assembly, which met last week in Geneva.

The resolution called upon the WHO, together with its Member States and other interested parties, to develop a strategy, which could address the growing global burden of this group of ailments including cancers, cardiovascular diseases (CVDs), diabetes mellitus, chronic respiratory diseases and other degenerative disorders.'

We see this reflected in the 13 population health objectives of the NZ Health Strategy of 2000 and subsequently in the 2007–2010 MoH State-

ment,² which focuses on 'Improving health outcomes and reducing inequalities'. Those of us in practice for more than a decade or two will have already experienced an increasing workload in this area, adding to the unchanging baseline acute care.

The challenge for me over the years has been to easily and visibly track whether the team in which I work is actually providing optimum care to all the people for whom we are responsible. This creates a number of challenges for our primary care team:

- Are there people not enrolled in the health system in our coverage area that others expect us to be working with? If so, whose responsibility is it to identify them and what are the incentives that would support our team to respond?
- For those for whom we have accepted responsibility – our enrolled population, can we identify all those people with signifi-

cant risks of the key conditions involved? Can we demonstrate that we have screened everyone? Can we see this information frequently, easily and clearly?

- What are the cost-effective approaches that reach all the critical people? Are we resourced and can we afford to do this? Have others achieved it and how?
- If we are able to 'reach' all the people, including the 21% of people who do not attend general practice in any one year³ and are able to establish risk levels, are we now in a position to be sure that we know, or have access to, the latest best practice options? Is our knowledge up-to-date and is the knowledge base we use to keep up-to-date up-to-date in itself? Are current guidelines actually current? How do we know all of us in our team provide a consistent message to any individual or whanau group? Are our messages consistent with health messages they receive elsewhere in the sector? Are our systems robust and safe?
- Do we know how many people are not adhering to our advice? Can we modify this in any way? Can we see who they are in a form that fits in with our daily workflow? Who resources this information feedback loop?
- What responsibilities do we have to people that we have been working with whom we no longer see? Do we know who they are? Are there resources we can access to assist us to find them. Do we know if they are going somewhere else or have perhaps just given up?
- How do general practice teams or their PHOs work with planners, funders and purchasers to test and evaluate opportunities to solve the above challenges and manage their associated risks, whilst the planning and funding roles are to minimise risk to public funds, whereas testing opportunities inevitably involves risk?

Meeting and beating these challenges is a huge task for what is, in reality, a minority part of everyday pressure on a primary health care clinic, and requires a major initiative with scaleable approaches, which in essence means establishing sophisticated and robust systems.

How are we doing now?

Initial engagement

National enrolment data for 30 June 2007 show 3 963 092 people are enrolled in PHOs, of which 526 390 are registered as Maori and 264 780 as Pacific Peoples.⁴ The estimated resident NZ population for 30 June 2007, based on adjusted 2006 census data, is 4 288 000.⁵ By using the Maori and Pacific percentages of the total resident population from the 2006 census data⁵ (14.9% and 7.2% respectively) we can predict a current Maori resident population of 638 912 and Pacific of 398 736.

One should note that there are many difficulties in the interpretation of this data, some reasons being the level of accuracy of ethnicity recording at practice level, duplicate NHI numbers, people who live in one DHB district but enrol in a PHO in another DHB district, and movement of people between practices and thus PHOs.

This implies total enrolment rates in PHOs are 94%, including 84% of the Maori resident population and 87% for Pacific Peoples. The corollary is that we have not enrolled approximately 6% of the total population, 16% of Maori and 11% of Pacific People.

Even engaging people who are already enrolled in PHOs in formal programmes has proved difficult. For example, in July 2007 the overall enrolment in Care Plus in those PHOs who are delivering Care Plus services is still only 59.5% of the eligible group.⁶ This is mitigated slightly

by one of the Management Support Organisations (WIPA) demonstrating in this issue that the PHOs, which it supports, have managed to enrol disproportionately higher rates of Maori and Pacific peoples.

The Controller and Auditor General report on the *Get Checked* programme⁷ noted disappointment that in the small sample of DHBs they reviewed in December 2006, six and a half years into the programme, uptake rates varied from less than 60% to a maximum of 80%. In 2004, Doolan-Noble et al. showed that in NZ only 35% of eligible people were referred to cardiac rehabilitation programmes.⁸

It would appear that it has not proved easy to achieve high enrolment rates in structured care programmes.

Ongoing engagement

Data on ongoing engagement or adherence to programmes is not frequently collected and reported; consequently it is not possible to know if the cohort in a programme is constant. This makes it difficult to assess the impact of interventions on a stable group of individuals over time.

There is, however, some data available. Drop out rates in Care Plus were assessed in 2006 as being 'between

5% and 50%, typically 50% at the review stages'.⁹ The 2005 interim evaluation of the Counties Manukau Chronic Care Management programme, which is based on heavily subsidised quarterly reviews and plans,

showed that 21% of people who had been enrolled for more than a year in the CCM programme, had not attended in the previous six months.¹⁰ Doolan-Noble⁸ showed that only 25% of the 35% of eligible people referred to cardiac rehabilitation programmes completed them, giving a successful implementation rate of only 9% of the eligible people.

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Equally as alarming are the WHO data on medication adherence, which show that for those who stay in programmes, 50% of people on long-term medications discontinue them in a year.¹¹

Are we making a difference with those with whom we engage?

Unfortunately it is also difficult to make a difference once eligible people are engaged in structured care programmes. Dr Julian Tudor Hart described the 'law of halves' in the 1960s. His proposition was that only half the people with a condition are known (50% known), of these half are offered best practice treatment (25% treated) and of these only half reach goals (12.5% success). The MoH *Leading for Outcomes* website highlights this concept as an important challenge in the management of chronic conditions.¹²

Sinclair and Kerr have tested this 'law' in two practices in South Auckland and one in Hawke's Bay, with a combined population of 30 963.¹³ They systematically invited enrolled patients eligible for CVD screening, according to current NZ guidelines, and then also reviewed their management at the time of screening. In conjunction with enrolment rates, their results show:

- that because of PHO enrolment rates their statistics only relate to, at best, 90% of the estimated resident population in their area, and in the at risk groups only about 84–89%.
- they achieved a screening rate of approximately half (53.5%) of their eligible cohort. Of these people, who represent the eligible group, 39% had established cardiovascular disease, diabetes or a cardiovascular disease risk over the next five years (CVDR) of $\geq 15\%$.
- in only half of the people with established CVD (48%) or a CVDR of $\geq 15\%$ (54%) was there some management data on CVD to suggest that they were already identified in some way. Thus approxi-

mately only one quarter of this original at risk cohort had been previously identified.

- of this quarter who were already identified in some way, neither the people with established CVD, nor those with CVDR $\geq 15\%$ were achieving their desired goals. Although a commendable 65% to 79% of the former group were on aspirin and or statins and or bp lowering medication, less than half were achieving recommended levels of control for LDL (≤ 2.5) or systolic bp (≤ 130) at 45% and 38% respectively and only 9% met all clinical targets in the guidelines. Similarly of those with a CVDR of $\geq 15\%$, only 7% were reaching all their targets.

The data in this practice would suggest that of the 39% of their eligible population who had established CVD, a CVDR of $\geq 15\%$, or diabetes alone:

- 90% would have been offered screening (due to enrolment rates).
- half of this 90% would have actually been screened and identified, i.e. 45% of the total at risk population.
- 7%–9% of those people identified would have reached all their target management goals, i.e. 4% of the total at risk population achieved their ultimate goal.

This would suggest that in a population of 50 000 people with a similar demography to that in South Auckland and Hawke's Bay:

- 168 people with a CVDR of $\geq 15\%$ would be reaching all their management goals.
- A further 1694 would be under management but not reaching all their goals.
- A further 1862 would be enrolled but remain undiagnosed.
- A further 5000 would not be enrolled and we would have no data on them.

We clearly have yet to disprove the observed law of Dr Julian Tudor Hart. Our only saving grace is that we cannot usually see these figures. I would suggest that it is time we did.

Key challenges and potential responses

Our key challenges would appear to be:

- Finding and engaging with people at risk (PHO enrolment and screening rates of enrolled people).
- Enrolling people at risk in programmes of structured care (enrolment in Care Plus, *Get Checked* or other structured care programmes with detailed measures of health gain).
- Creating success in their whole package intermediate indicator packages, rather than individual indicators (this is referred to as 'fidelity' of programmes).
- Maintaining their engagement in these programmes over time (minimising fall out rates).

Potential responses

There is at last some excellent guidance on this in the NZ context. The National Health Committee has recently produced an excellent outline of what could and should be done in their publication *'Meeting the needs of people with chronic conditions'*.¹⁴ They highlight that general practice teams can no longer manage

this in isolation. This problem is the ultimate one requiring multi-disciplinary teamwork.

The paper from the West Coast PHO in this issue emphasises the need for a whole community approach to access the whole population, reducing everyone's risk and encouraging each person to enrol in the health system and the structured care packages we must jointly provide. As general prac-

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tice teams we are very dependant on the results of this wider team. Responsibility for building the community capacity lies within communities and with our aggregated health systems organisations in the form of PHOs, DHBs and the MoH. As practices we need to know where the linkages that we can work with are and how to quickly and easily contact them. Commercial information management organisations, e.g. Healthpoint and Webhealth, have fortunately already started to fill this vacuum.

In this issue, McKinlay and Pullon demonstrate the need for strong teams within practices and identify the core characteristics of successful ones. Practice teams are also quite complex and require the competencies of clinicians, both nurses and doctors, along with either analysts or administrators who can access the information from data analysed elsewhere, as well as high performing administrative management and frontline staff, especially receptionists.

Building safe, effective and efficient teams is not easy but there are several well-tested tools and processes to assist us. Practice accreditation programmes, such as Cornerstone, run by the RNZCGP,¹⁵ and Te Wana, run by Healthcare Aotearoa,¹⁶ are good examples of this. The evaluation of the first 40 Cornerstone practices demonstrated that its continuous quality improvement action learning cycle was creating a culture change towards improved communication and relationships,¹⁷ key requirements described by Pullon. Cornerstone was also responsible for significant improvements in best

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practice management processes, including the databases and information management processes required for chronic condition management.

There is discussion in the sector about simplifying funding streams in order to support the development of

more efficient and effective intervention programmes, aligning the programmes described above. This is for MoH, DHBs and PHOs to jointly negotiate, with the aim of simplifying and aligning invoicing, reporting, practice payments and the information we receive, which should enable us to plan our work on a daily basis. Aligned funds from *Get Checked*, PHO Management Programme, Care Plus, SIA, HP, and extra initiatives such as Cardiovascular Risk and management programmes would achieve much higher productivity if they were aligned in single processes. However, increased productivity will only follow action not discussion.

It is our responsibility, as general practice teams, to be clear to PMS and other practice-based software vendors exactly what information it is that we need our IS systems to provide us with in order for us to focus our work on the identified gaps. If we can identify this, but they cannot provide it, then the global initiatives in this field of work will cause existing international providers to fill the space. The quality and information project qi4gp (see <http://www.qi4gp.org.nz/>) is aimed at coordinating the expression of these needs from primary care teams and making them available to all vendors and related national projects including Key Directions.

There are many standards to be agreed to enable vendors to deliver on these emerging requirements. The Health Information Standards Action Committee, and its agency Key Directions are compiling a business case for IS infrastructure agreements and developments, which will hopefully recommend fast tracking standards for key projects such as e-referrals, e-discharge summaries, e-pharmacy datasets, and other datasets required to manage indicators for chronic conditions. General practice can

Summary

The complexity lies in understanding and responding to what makes people want to engage and stay engaged in programmes that provide long-term rather than short-term benefits, and evaluating the comparative benefits of the multitude of options available.

The simplicity, on the other side of this complexity, is to identify and implement the key cost-effective interventions to:

- find all the people
 - work with them all of the time
 - identify who is not reaching their full potential
 - identify and support these people to do more to modify their risk
- and
- measure and share success and failure in each objective to inform action learning to enable us all to do it better next year
 - align funding, reporting and information flows to incentivise and not inhibit this work.

In my view, focusing on these simple issues will bring us the greatest chance of victory.

also have input to this through the qi4gp project.

And, finally, we must share pictures of success or failure with each other to enable action learning to take us incrementally forward on the battlefield of chronic conditions.

Conclusions

Our current path as a health system is spectacularly unsuccessful at resolving the chronic condition challenge. Some very new paths are needed and this will need some controlled risk taking. In turn, this will mean finding simplicity on the other side of complexity in order to evaluate opportunities.

A complex variety of initiatives are described in the articles in this issue. Being able to locate these within simple frameworks will help

identify the ones that might have greatest impact. Action learning could help make them effective and evaluation will then be key to getting the best from them.

Building teams and processes within and beyond practices is critical. Practice development can be supported through the wider use of accreditation systems. Software vendors are key to the information needs of

these teams and, once specifications and standards are agreed, will need to be responsive to their supply, as international competitors are already delivering on many of these. National processes are now focusing on defining the building blocks of information environment and the delivery timelines are shortening.

The complexity is coming. Will simplicity arrive on the other side?

Competing interests

John Wellingham owns a share in his own general practice (Medical Centre @ Apollo) and works for Te Whanau O Waipereira Trust as a general practitioner and Clinical Director. He has worked for Counties Manukau DHB and at the time of writing worked for Waitemata DHB. He is chair of the RNZCGP Board of Quality and has consulted to Enigma NZ Ltd.

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Lowering homocysteine in patients with end-stage renal disease (ESRD) and advanced chronic kidney disease (ACKD)

'Patients with chronic kidney disease have a high risk for complications of atherosclerosis, including increased mortality. Although traditional risk factors such as hypertension are more prevalent in this population, there has been increasing emphasis on the role of nontraditional risk factors such as anemia, hyperparathyroidism, and hyperhomocysteinemia. The association of elevated homocysteine levels with risk of cardiovascular disease has drawn attention because of the nearly universal elevation of homocysteine in patients with chronic kidney disease to levels higher than that of any other patient population except those with homocystinuria, the epidemiologic correlation between homocysteine and cardiovascular risk in the chronic kidney disease population, and the finding that ingestion of folic acid plus pyridoxine and cyanocobalamin lowers homocysteine levels in these patients.'

The results of our trial, however, indicate that although administration of large daily doses of folic acid plus pyridoxine and cyanocobalamin to patients with ACKD or ESRD lowered plasma homocysteine levels, it did not improve survival during a median of 3.2 years of follow-up. Furthermore, there was no significant decrease in the incidence of cardiovascular events or, in hemodialysis patients, the rate of thrombosis of the vascular access, a common event requiring hospitalization in these patients.'

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