ASMS RESEARCH BRIEF

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Does more access to primary care and a greater focus on preventing illness and promoting health reduce pressure on hospital services?

At a glance

The Government has signaled it wants more focus on primary care, preventing illness and promoting health to take pressure off hospital services.

However, evidence from New Zealand and overseas shows this approach elsewhere has not achieved what the Government hopes. Instead, acute hospital admissions have continued to increase well above population growth rates.

Good primary health care helps prevent illness and death but its effectiveness generally falls well short of expectations or potential for several reasons. These include lack of practitioners' time and confidence in the effectiveness of interventions (due in part to conflicting evidence and the non-generalisability of evidence), lack of confidence in providing the right advice, lack of patient compliance and perceived lack of motivation, practitioner attitudes, and financial disincentives.

Barriers to accessing primary health care services for many New Zealanders mean those who may be in most need of early health care intervention are not receiving it.

None of these are simple to fix. They require a political commitment to an inclusive, long-term strategy, with enough resources for systematic continuous improvement. Arguably, the most urgent need is to remove the barriers to access and to address primary care workforce shortages.

A well-functioning primary care service also depends on well-functioning, accessible hospitals.

To reduce pressure on hospitals, a 'systems approach' is needed. This requires strong integration between hospital, primary care and social services to provide care that is truly patient-centred.

The evidence shows integration of services succeeds when it is approached from the 'bottom up'. Distributed clinical leadership is critical, and requires adequate clinical staffing to allow time for leadership and to develop innovative practices.

Policies with the most potential to reduce the need for hospital care lie outside the health system. They concern tax and regulation to reduce smoking and consumption of alcohol and unhealthy foods, and a mandatory limit on salt in basic food items, as well as addressing the well-known determinants of ill health, such as poverty and poor housing. The evidence indicates efforts to improve the effectiveness of health services will struggle to make headway in reducing the need for acute hospital care without also addressing these broader issues.

By making it easier for people to get early treatment, medical conditions will be addressed before they worsen, avoiding expensive hospital stays and complex care. Investing in primary care reduces costs through the rest of the health system and keeps people healthier.

New Zealand Labour Party Health Policy: 2017 Election[1]

It is clear that there is no 'magic bullet' to managing demand for secondary care services: the perfect solution does not exist. To tackle demand management of primary care services, the focus cannot be on primary care alone: a whole-systems approach is needed because the introduction of interventions in primary care is often just the starting point of the referral process.

Referral interventions in from primary to specialist care: a systematic review of international evidence[2]

Introduction

The Government, through various public statements, has signaled it wants more focus on primary care, preventing illness and promoting health. Its draft terms of reference for its review of the health system suggested it would do this while 'maintaining' tertiary care services. There was no clear indication of what was intended for hospital services in general, though it did suggest "the review should consider the … distribution of resources to ensure it is better balanced towards primary prevention…"[3]

Following invited feedback on the draft, including from ASMS which questioned the apparent assumptions behind the proposed approaches, the final version of the terms of reference is less specific: "The Review will consider the overall function of the Health and Disability system to ensure the system is better balanced towards wellness, access, equity, and sustainability." It includes considering "the importance of primary healthcare as the foundation of a person-centred health and disability system" and the Government's 'fiscal strategy'. The words 'secondary', 'tertiary' and 'hospital' care are absent.

So while the terms of reference are broad, the emphasis on primary care remains, reinforced by Health Minister David Clark's statement that "Early intervention and prevention work can … take pressure off our hospitals and specialist services…", and reflecting the position of the Government's health policy.[a],[4] [5]

Additional operational spending to 2021/22, indicated in Vote Health 2018/19, will do little more than maintain current real funding levels per capita.[6] [7] Any real per capita funding increases in primary care are therefore likely to depend on 'rebalancing' funding from hospital services to primary care, assuming savings can be achieved from relieving pressure on the former.

This *Research Brief* examines the evidence on whether a shift in resources to support a greater focus on health promotion and illness prevention in primary care services will relieve pressure on hospital services.

[a] It is assumed Labour's pre-election policies stand as government policy aside from those covered in the Labour-New Zealand First Coalition Agreement and the confidence and supply agreement with the Greens.

Trends in the use of primary care services and hospital admissions

Illness prevention and health promotion have been policy priorities for many years. They were top priorities in the New Zealand Health Strategy, released in 2000, including 13 specific population health objectives.[8] The Primary Health Care Strategy, released the following year, reinforced the policy emphasis on health promotion and preventive care.[9] Additional funding was provided to reduce user charges for primary health care services and, more recently, further money was provided to implement a 'zero fees' policy for children, introduced for under-6s in 2008 and extended to children under 13 in 2015 (extended further in December 2018 to under-14s). These moves contributed to an overall increase in primary care consultation rates. An evaluation of the Primary Health Care Strategy found consultation rates had increased for most age groups between 2001/02 and 2007 (though the association between increased consultation rates and lower fees was inconsistent). Ministry of Health data show this trend has continued over recent years, with total consultations increasing by 17.8% between 2010/11 and 2016/17 (Table 1).[10] [11]

Despite this, and the policy intent of focusing more on prevention and promotion, acute inpatient hospital discharges have also increased over almost the same period. In the seven years from 2002/03 to 2009/10, acute medical and surgical case weighted discharges increased from 8.8 per 100 population to 9.9/100. Ministry of Health data, including maternity discharges as well as surgical and medical discharges, show that over the last seven years that trend has continued, with actual acute discharge increases (20%) being well over twice the population growth for that period (Table 2).[12]

Table 1: Primary health care consultations 2010/11 to 2016/17

Consultation Type	2010/11 (000)	2011/12 (000)	2012/13 (000)	2013/14 (000)	2014/15 (000)	2015/16 (000)	2016/17 (000)	Percent Increase
GP Consultation	11,969	12,269	12,239	12,532	12,731	13,190	13,410	12.0%
Nurse Consultation	2,221	2,337	2,492	2,648	2,927	3,251	3,307	48.9%
Total Consultation	**14,191**	**14,606**	**14,731**	**15,180**	**15,657**	**16,441**	**16,718**	**17.8%**
Population as at Dec 31	4,374	4,399	4,426	4,476	4,555	4,647	4,747	8.5%

Source: Ministry of Health (unpublished data). Totals may not add up due to rounding.

Table 2: Acute and non-acute DHB inpatient discharges (actual and case weighted) 2010/11 to 2016/17

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Percent increase
Acute (actual)	509,737	532,613	545,806	564,244	576,504	596,503	611,452	20.0%
Acute (cwd)	446,578	452,752	462,411	469,835	479,223	499,568	509,797	14.2%
Non-acute actual (actual)	336,864	328,612	332,291	335,550	343,080	351,617	354,677	5.3%
Non-acute (cwd)	321,142	336,519	342,371	347,395	352,589	352,722	359,616	12.0%
Population as at Dec 31	4,374	4,399	4,426	4,476	4,555	4,647	4,747	**8.5%**

Source: Ministry of Health Caseload Monitoring Reports (data extracted from Excel spreadsheets)

Notes:

Figures include inpatient, surgical, medical and maternity discharges.

Case weights measure the resources needed for the treatment given to each patient during a hospital stay. For example, a cataract operation will receive a case weight of approximately 0.5 whereas a hip replacement would receive 4 case weights. Case weight measurements are occasionally adjusted to reflect changing practices and technology. These are expected to have a marginal effect on overall trends.

The data in Table 2 suggests non-acute patients may have been squeezed out by a combination of budget constraints, the rise in acute cases and the increase in complexity of non-acute cases, with actual non-acute patient numbers increasing by just 5.3% over seven years but translated to 12% when adjusted for case weight. More information is needed to interpret these trends but the decreasing headcounts may indicate a shifting of unmet need from primary care to hospital care. As a World Health Organization report points out, "the expansion of primary health care services … ends up identifying previously unmet needs, improves access, and tends to expand service utilisation".[13] But if hospital service use is unable to expand owing to budget constraints, referrals to hospital specialists can face long delays or be bounced back to GPs if patients are not considered a priority.[14] [15]

Increases in emergency department (ED) presentations and the use of mental health and addiction services (MHA) are also far exceeding the population growth rate. Non-admitted ED cases increased by 14.4% between 2010/11 and 2016/17 (including Acute Assessment Unit cases). And the number of unique 'clients seen' by MHA service teams grew by 50% in the years 2008/09 to 2015/16.[16] [17]

Health improvement activities in primary care: the potential opportunities and the challenges

Primary health care has the potential to contribute to population health at the individual and population levels. Opportunities for prevention and early intervention arise in interactions with patients. Nearly 80% of the population visit a general practitioner (GP) at least once a year, and patients attending GPs frequently have one or more risk factors for chronic disease which are amenable to intervention. Further, GPs are perceived to be the most reliable formal source of health information and can identify patients who are at risk at an early stage [18] [19] [20] [21]

In addition, practice nurses (PNs) have taken an increasing role in general practice as well as in providing lifestyle counselling to certain patient groups such as people with diabetes. Health promotion activities and lifestyle advice given by GPs and PNs can contribute to a decrease in alcohol use, smoking cessation, increased physical activity and weight reduction.[22]

Recent New Zealand studies examining a team-based primary health care practice model ('Health Care Homes') suggest that while they do not appear to have had an impact on hospital admissions, at least in the short term, they can help to reduce the rate of ED presentations. They are not without challenges, however, reflected in one study recommendation that: "Any future planning for wider rollout of the [Health Care Homes] in New Zealand should recognise the inter-linked multiple changes needed, and factor into model planning the necessary time and effort required to build a sustainable model and effectively embed changes."[23] [24]

A frequently-referenced paper on the contribution of primary care to health systems reported that the international evidence (mostly from the United States) shows a strong primary health care system helps prevent illness and death and is associated with a more equitable distribution of health in populations. [25]

A review of evidence on the advantages and disadvantages of restructuring a health care system to focus more on primary care services similarly found the strength of a country's primary care system is associated with improved population health outcomes for all-cause mortality, all-cause premature mortality, and cause-specific premature mortality from major respiratory and cardiovascular diseases. Increased availability of primary health care is associated with higher patient satisfaction and reduced aggregate health care spending.[26]

But while strong primary care systems with good access to services were shown to contribute to good health outcomes, the review revealed a paucity of high quality studies comparing advantages and disadvantages of primary health care and specialist hospital care in Europe; comparative studies tended to be from the United States. The review noted that differences observed may be attributable to factors such as health system financing or physician behaviour rather than where and by whom the care is delivered. The review could find no studies that specifically addressed the advantages of health care systems with robust hospital services. Consequently, the review cautions:

> *Transferring evidence or care models from one setting to another without a clear understanding of the context and health system dynamics can produce unintended consequences. Caution should be exercised before embarking on reforms that favour primary care-based systems and where shifts across boundaries are concerned without clearly defining policy objectives and identifying the evidence base to support them.*[27]

A paper prepared for an inquiry into the quality of general practice in England found: "The significant gaps in the evidence base for primary prevention interventions in primary medical care affects what ill-health prevention general practice is able to carry out. In advocating a health-promoting general practice model, there is a need for better evidence to demonstrate health benefits for local communities …and also a need to identify potential practical and organisational difficulties." [28]

A study reviewing the evidence for managing referrals from GPs to hospital specialists found there is no 'magic bullet' to managing demand for secondary care services: "the perfect solution does not exist and issues such as the context of a particular specialty or the location of a service impacts on the generalisability of interventions". The study concluded that "the focus cannot be on primary care alone: a whole-systems approach is needed because the introduction of interventions in primary care is often just the starting point of the referral process". [29]

A comparison of the health system of the four countries of the United Kingdom (UK) found that amenable mortality rates (deaths which could have been prevented through better health care) more than halved between 1990 and 2010 across all countries. However, there was no apparent association with trends in the numbers of GPs per head of population over the same period. Between 1996 and 2011, England and Scotland saw similar increases in the number of 'whole time equivalent' GPs per head of population (Scotland's increases were slightly greater) but Scotland's amenable mortality rates for those aged under 75 were about 20% higher than England's.[30]

The evidence from New Zealand and overseas shows that in practice there are many shortcomings in health improvement activities in primary care. A Dutch study identified 41 barriers to implementing effective prevention and promotion measures in primary care, many of which are cited in other studies. Most cited barriers mentioned in the literature are lack of time, lack of confidence in providing advice and effectiveness of interventions, lack of reimbursements and lack of patient compliance or motivation. [31] [32] [33]

Lack of time

Multi-morbidity is one of the biggest challenges facing health systems internationally as multiple disease care, not single disease care, becomes the norm in an aging society. A qualitative study of multi-morbidity clinical decision-making in New Zealand primary care, involving interviews with GPs and practice nurses, found the complexity of patients' multiple conditions caused difficulty in managing care based on number of items on the patients' agenda to be addressed in the time available. "All [GP and nurse] participants reported that lack of time … was an issue in terms of not only addressing a multimorbid patient's health needs, but also in communicating, prioritising, agreeing plans and endeavouring to get the patient engaged in self-management."[34]

Similarly, a qualitative study involving interviews with New Zealand GPs about their use of 'Green Prescriptions' found "time constraints within the consultation was the only main theme that emerged regarding the barriers GPs perceived to Green Prescription use".[35]

The 'Green Prescription' programme, prescribed in primary care services to help manage weight-loss, diabetes and depression, has been shown to be effective in increasing physical activity and improving health. Despite the potential for physical activity counselling in general practice, population survey data show that 13% of New Zealand adults reported receiving physical activity advice from their GP in the previous 12 months, with 3% reported receiving a Green Prescription within the same time frame.

A literature review on individual-level interventions for weight loss and weight loss management in primary care settings, including consideration of any factors especially relevant in New Zealand, observed that: "Intensive strategies that entail multiple follow-up visits may make unrealistic demands on limited clinical time and may simply be impractical in typical New Zealand primary care settings… Primary care practitioners often face the need to deal with more acute issues and have less time to spend on delivery of lifestyle advice."[36]

Constraints on consultation time are commonly cited in the literature as a major barrier – and in some cases the main barrier – to prevention and health promotion activities in primary care. [37] [38] [39] [40] [41] An Australian study involving interviews with chronically ill patients and their (non-health professional) carers about their experiences with the health system reported a typical finding:

> *"One of the most common challenges experienced by participants related to insufficient GP and specialist consultation time. Consultations concentrated on the immediate problem, leaving little time to discuss warning signs of emerging problems associated with the chronic illness…"*[42]

As well as time pressures on consultations with patients, the increasing dependence on multidisciplinary teamwork and growing complexity of illness with an aging population also requires additional clinical time for collaboration between health professionals.[43]

The well-documented rapidly growing pressures on mental health care, for example, requires greater collaboration between GPs and psychiatrists, as commented in one report: "In some cases … very complex patients can require weekly case conferencing with both a psychiatrist and the treating GP to appropriately manage their care, and that this is very difficult within the current funding and caseload structure.[44]

Questions of evidence

The claims for illness prevention in primary care often do not align with the evidence, while the evidence is, at best, mixed, sometimes contradictory, sometimes controversial.

A case in point is the 'Health Check' programme in England. This is the National Health Service (NHS) flagship for illness prevention in primary care, made available from 2009 to all adults aged 40-74. It is an attempt to do what the New Zealand Government is aiming to do: relieve pressure off hospitals through early intervention - and it has been the subject of intense debate. [45]

Many of its elements (for example, smoking advice, blood pressure management, and statin prescribing) are trial-proven effective interventions. An evaluation of the first four years of the programme, funded by the Department of Health, estimated that 2,500 cases of heart attack or stroke were prevented through treatments following the check, as well as helping to diagnose commonly linked conditions, including type 2 diabetes, high blood pressure and chronic kidney disease.[46]

However, a systematic review of the evidence of the cost-effectiveness of population-wide cardiovascular disease risk assessment and management programmes found they "lack a robust, real world, evidence basis".[47] A subsequent modelling study found the Health Check programme is unlikely to be cost-effective or equitable, "even when modelled two decades into the future".[48]

A Cochrane meta-analysis shows that promoting health checks in unselected adult patients has limited impact on cardiovascular risk and no significant impact on cardiovascular mortality.[49]

Other studies have reported that 'health checks' have surprisingly little impact on the recognition of undiagnosed diabetes, hypertension, chronic heart disease, chronic kidney disease, or atrial fibrillation.[50] The evidence favours targeted stepped interventions, which avoid investing scarce resources in the 'worried well'.[51] And a Cochrane Review to assess the effects of strategies to tackle obesity highlights the paucity of information about how clinical practice or the organisation of care for people who are overweight or obese might be improved.[52]

The variable research findings are partly due to the fact that evidence from trials does not necessarily apply in real-world practice, because context is usually more important than content in determining the effectiveness of what is often a complex intervention. As one researcher on the effectiveness of interventions to prevent diabetes noted, "The effectiveness of interventions in the real world often falls a long way short of the maximum efficacy shown in trials." [53]

A further evaluation of the programme, this time of the first five years, again funded by the Department of Health and published in December 2016, estimated that Health Checks would have prevented between 4,600 to 8,400 heart attacks, strokes, or death from these causes nationwide – considerably higher than the earlier estimates.[54] But it came as Public Health England said earlier the same year that it would "review the emerging evidence of the programme" after another Department of Health-funded evaluation found it had fallen 'well short' of performance targets. It estimated that only one cardiovascular event was avoided each year for every 4,762 people who attended a health check.[55]

Conflicting study findings aside, while the programme has been under way, acute hospital admissions in England have continued to rise – by 25% in the last 10 years – and recent statistics show prolonged pressures on ED services are continuing to mount. ED attendances have increased by 25% in the last 10 years and the latest ED waiting times figures are the worst on record. [56] [57]

Similarly in Australia, between 2012/13 and 2016/17, while GP consultations have increased as a proportion of population, emergency admissions have also increased - by 5.2% per year on average in public hospitals and 3.8% in private hospitals - while the average annual population growth was 1.6% over the same period'.[58] [59]

Despite prevention being a 'high priority' for primary care, in 2016 less than 20% of people with high cholesterol who saw a GP reached recommended cholesterol levels; less than 30% with high blood pressure who saw a GP had it adequately controlled; less than half of people with diabetes seeing a GP had recommended levels of blood pressure, blood sugar and cholesterol. While over 60% of Australians are overweight or obese, only 3.4% of GP encounters involve nutrition or weight counseling. There is little data on mental health in primary care in Australia, but in a study of the treatment of common mental disorders in general practice conducted over a decade ago, less than a third of those with mental illness received some form of intervention. Even among those with severe conditions, only half were provided with specific psychological or pharmacological treatment.[60] [61]

Question of the right advice

The gaps and wide inconsistencies in research findings on the effectiveness of illness prevention and health promotion in primary care, and doubts as to the generalisability of many findings and guidelines, make it difficult for primary care practitioners to be confident about providing the best advice to individuals. In a number of surveys, GPs admit many of them lack the knowledge or skills needed to deliver effective health promotion and illness prevention.[62] [63] [64] [65] [66] [67]

According to the results of a survey by the European Network for Prevention and Health Promotion in Family Medicine and General Practice, GPs had a positive attitude to delivering disease prevention and health promotion services, but 56% reported it to be a challenge, mainly because of lack of skills and perceived ambiguity about their effectiveness.[68] **69**

Studies indicate many GPs are unconvinced their efforts to counsel patients on lifestyle issues are effective in changing behaviour. In a study of GPs who helped patients reduce alcohol consumption, 83% felt 'prepared' or 'very prepared' to provide advice but only 21% felt they were 'effective' or 'very effective' in helping patients reduce consumption.[70] A study on statin prescribing and lifestyle advice concluded: "Whilst approximately half of our cohort recalled receiving lifestyle advice associated with statin prescribing this did not translate into significant changes in diet or physical activity.[71]

Some GPs are also concerned that giving lifestyle advice may be detrimental to the GP-patient relationship.[72] [73] As one researcher puts it, "Public health is a sensitive subject. It's not easy to strike the right balance between 'protecting' people's sensibilities and telling them hard facts about their personal behaviours that are ultimately shortening their lives."[74]

Other practitioners are ambivalent about the place of health promotion, and question whether they should be vested with responsibilities for 'social engineering' that they regard as the responsibility of the government.[75] [76]

As an editorial in the *British Journal of General Practice* commented, when discussing shortcomings in the Health Checks programme: "GPs should be careful not to absolve the government of its public health obligations by substituting unproved preventive interventions aimed at the individual patient."[77]

Such views are underscored by many studies on the health impact of social and economic factors such as poverty, housing, education and the cultural and racial issues that have produced stark health inequality.

A major five-year study evaluating the cost-effectiveness of 150 preventive health interventions in Australia found the largest impact on population health through prevention can be achieved by a limited number of interventions, including taxation on tobacco, alcohol and unhealthy foods, and a mandatory limit on salt in basic food items (bread, cereals and margarine). [78]

Poverty and its flow-on effects can have a significant influence on the likelihood of potentially preventable child hospitalisation, with New Zealand children aged 0-4 years in deciles 9 and 10 being nearly two-and-a-half times more likely to end up in hospital than those in deciles 1 and 2.[79]

A recent study in England shows people with diabetes in the quintile group with the greatest deprivation are two-and-a-half times more likely to be admitted to hospital in an emergency than those with the least deprivation, in part because the prevalence of Type 2 diabetes is 50% higher in the former than in the latter.[80]

In New Zealand, a $65 million programme on rheumatic fever prevention made little impact on the rate of the disease among young New Zealanders. As former Health Minister Hon Annette King said at the time: "Acute rheumatic fever is largely a disease of poverty, overcrowding, and healthcare inequality. Preventing it requires more than throat swabbing and publicity campaigns."[81]

Patient compliance

Patients' non-adherence to lifestyle advice and treatment regimens, and practitioners' perceptions of non-adherence, have been identified in many studies as a barrier to illness prevention and health improvement.

A study on cardiovascular risk management found patients' adherence to lifestyle advice and medication varies between 20% and 90%, with most estimates converging around 50%.[82] Another study found 4 out of 10 patients are not taking statins regularly during the 12 months after an acute coronary event. [83]

In a study on obesity management, researchers noted that conversations about obesity remain a challenge to many GPs not just because of time management and fears of causing upset but also because they may trigger lengthy discussion of dietary details but without practitioner confidence that the conversation might alter patient behaviour.[84]

> *"With older obese patients it's really difficult. … They are locked into eating habits."*
>
> *"Patients have their own agenda. They come with their own list. They don't want the GP talking about subjects not relevant to the list."*
>
> New Zealand GP focus group study[85]

In a qualitative study with GPs, participants reported "a huge variation in the self-management in general as well as in medication management among different patient groups". This was seen as a particular problem for patients with multiple morbidities. [86]

The failure of many health education programmes to achieve their intended life-style-related behavioural-change outcomes is often directly related to the complexity of the task itself. Changing a client's health behaviour is notoriously difficult and requires concerted and systematic activities to ensure any measure of success.[87]

But the authors of another New Zealand study on GP opinions on weight management interventions observed, when discussing the reasons for the lack of success of weight management programmes: "Perhaps the most concerning among these is the passing of responsibility to the patient. The GPs in this study often commented that patients simply lacked the motivation, or the willpower to do something effective about their weight."[88]

A study on diabetes care noted that many health professionals still use older models of health education that simply provide information and expect patients to change as a result, with little acknowledgement of the challenge-ridden gulf between knowing and changing, and indeed between change and sustained change. "Patients live in realities that differ from what health professionals understand and expect of them, and which are constrained by influences beyond patients' control."[89]

A Dutch study on factors influencing health promotion activities in primary care found that most GPs participating in the study stated they were capable of fulfilling health promotion tasks but their attitudes about their perceived roles and responsibilities varied widely. To describe and visualise these differences, six different types of GPs were identified, ranging from the 'ignorer' (who saw their role in health promotion as limited and that the government should take more responsibilities) to the 'nurturer' (who saw their role as like that of a teacher, "to raise and educate their patients").

Sometimes a GP fitted into several roles, depending on the lifestyle factor she/he had to deal with. For example, a nurturer can become an ignorer when there is a patient with alcohol problems. "It may depend on the lifestyle topic, the problem, the patient and/or the situation in which role a GP fits."

Practice nurses (PNs) were also asked about their attitudes. "They were unanimous. PNs stated that patients are always responsible for their own lifestyle and they quit giving support if a patient does not want to change or does not appreciate it when his or her lifestyle is discussed.**"** [90]

Financial incentives/disincentives

Under the Primary Health Care Strategy the use of capitation (via Primary Health Organisations – PHOs) as the basis for allocation of government funding for primary health care was intended to among other things embed a population approach to local planning and a greater focus on illness prevention and health promotion.[91] [92] [93] However, an analysis of the implementation of the strategy observed:

> *There does not however appear to have been a forum (or thirst) for a national debate about how to strengthen and extend general practice within the framework of the Strategy, nor any attempt to analyse the incentives within the general practice system. Instead, government pressed on with roll-outs of funding intended to reduce co-payments in general practice and, via capitation funding, hoped there would be a shift towards a more multidisciplinary and preventative model of care delivery.*[94]

The analysis also noted a frequent criticism was that "the standard New Zealand experience of general practice (a 15-minute consultation with a GP) has not largely changed since 2001". This raised questions about the extent to which consultations were used in relation to preventive as well as reactive care and how far a capitation funding approach was being used to shift the paradigm of primary health care towards a more preventative and population focus.

Another analysis found: "Few practices said that the adoption of capitation funding, providing the possibility of greater flexibility in meeting patient needs, had altered their mode of operation."[95]

Probably the most important factors in this respect is the continuing existence of patient co-payments. As researchers warned in 1999:

> *'In theory, capitation reduces incentives to over-service that fee-for-service funding encourages, and encourages preventative health care and health promotion. The extent to which this outcome is financially encouraged depends on the level of patient co-payment. If providers derive significant income from co-payments, the benefit of capitation is lost. Co-payments should be as low as possible, and preferably zero.'*[96]

A report examining issues around primary care patient fees asserts that despite the contract between district health boards and PHOs for the allocation of capitation funding, it remains unclear as to whether funding is being passed to practices and practitioners in the form of capitation, and how far providers feel obliged to change their approach to care in line with what is intended by a capitation funding system. They argue that as well as contracts being incomplete, there is a lack of incentives that influence GPs' decisions.[97]

This incomplete process of contracting, together with the continuing existence of patient fees, has meant that there have been few levers available to PHOs, or the health system more generally, to incentivise or monitor change within primary care provision. As one study concluded:

> *As long as there continues to be a widespread fee-for-service culture in primary health care, it will be difficult to develop population approaches to the provision of health care.*[98]

Not least, the patient user charge and limited availability of primary care services for many people create significant access barriers. While measures to reduce fees under the strategy have reduced these barriers to some extent, mostly for children (in 2015/16 just 3% of children are reported to have not gone to a GP when they needed to due to cost), one in seven adults report not visiting a GP due to cost.

Reduced fees do not seem to have always been associated with increased rates of consultation, however.[99] A variety of explanations have been put forward to explain differences in access, including cost, location, transport, attitudes of doctors, acceptability of the service, and knowledge of the importance of care.[100] The New Zealand Health Survey shows 29% of adults reported one or more types of unmet need for primary health care in 2015/16, up from 27% in 2011/12. And 24% of children experienced one or more types of unmet need, up from 20% in 2011/12.

These increases were mainly driven by more adults and children not being able to get an appointment at their usual medical centre within 24 hours when they wanted to. [101]

> *A key is issue for the health system is the inability to control where doctors set up practice. There is significant variation across districts in the ratio between the number of GPs and the size of the population. It is unlikely that this will change unless appropriate incentives are found to draw GPs to under-served and rural areas.*[102]

Conclusion

Primary health care has the potential to contribute to population health at the individual and population levels. However, its effectiveness generally has fallen well short of potential due to a range of countering factors. Consequently, despite increased use of primary care and an emphasis on prevention and promotion policies, acute hospital admissions have continued to increase well above population growth rates.

None of the barriers to delivering effective primary care are simple to address. They require a political commitment to an inclusive, long-term strategy, with the necessary resources, including recognition that a well-functioning primary care service is dependent on well-functioning, accessible hospitals.

To reduce pressure on hospitals, a 'systems approach' is needed with strong *relational* integration between hospital services, primary care and social services, to provide a patient-centred continuum of care.

Discussion

Internationally, sitting behind much of the discussion about how to improve health systems is the question, sometimes explicit but more often not, of how to contain cost. Given that hospital services are the biggest cost item, the question inevitably becomes one of how to contain *hospital* costs. One obvious answer – to reduce the need for hospital services – usually leads to policies

aimed at strengthening primary care. In an environment of constrained government spending this often means shifting resources from hospitals to primary care. Calls for such a shift are common in health systems discussions.

Studies have shown that a 'strong' primary health care system has the potential to contribute to population health at the individual and population levels. It can help to prevent illness and death. Nevertheless, the evidence also shows clearly that attempts at prevention in primary care are having little impact on reducing pressure on hospital services.

So what is needed for a primary care system to be 'strong'? Or put another way: what is needed to address its weaknesses? And would it be enough to reduce pressure on hospitals?

Each of the common barriers discussed here is significant on its own. None are simple short-term fixes. Nor are they cheap. They require political commitment to a well-thought-through, properly resourced long-term strategy aimed at systematic continuous improvement. Arguably the most urgent issues to be addressed are the removal of the fee-for-service arrangements (to both remove the cost barriers for patients and to help realise the potential benefits of capitation funding), and primary care workforce shortages. On the latter point, an analysis of the Primary Health Care Strategy observed:

> *It was noted from all levels of the system that practice staff members were often overwhelmed by work demands and that this prevented them from adopting new programmes or improving existing processes.*[103]

If that were an important issue to address in the 2000s – the period analysed – it is likely to be even more so today, with primary care consultation rates continuing to increase faster than population growth.

But as well as removing the barriers to achieving effective primary care services discussed here, primary care's effectiveness depends on an equally strong and accessible hospital service.

To reduce pressures on hospitals, the evidence points to a 'systems approach' being required, recognising the need to view the health system as a 'whole' of inter-related and inter-dependent parts rather than as a group of separate entities. The quality of the interaction between these parts is a critical factor.[104] [105] [106]

A common theme identified as helping to contain increases in hospital admissions includes better integration between primary care and social services and between primary and hospital care, to facilitate the full continuum of care around the needs of the patient, including more effective hospital discharge programmes. Context is also important: interventions for certain groups of patients may not necessarily work for others. This is especially so for the growing number of dependent older people with multi-morbidity either being cared for at home or in aged care facilities.[107] [108]

Again, these are not simple fixes. As one commentator put it, there is an online graveyard of policies and programmes that, over the years, sought to bring about integrated health care.[109] But there is a growing understanding internationally of how to achieve successful integration with examples, including the 'Canterbury Initiative' at Canterbury DHB and Kaiser Permanente in the United States, that have brought about significant service improvements.

In Canterbury, incremental moves to better integrate hospital and community services have led to more services being provided in the community. Among a number of positive performance measures, Canterbury's acute medical admission rate, though slowly increasing as the population ages and more people are living with long-term conditions, was 26% lower than the national average in 2016/17, while the DHB's avoidable admission rate was 30% below the national rate.[110] [111] [112]

The changes in Canterbury have been the result of collaborative working, relying on system leadership, strong relationships and staff engagement across all services.

Notably, the process involves many different initiatives developed and implemented 'from within, by empowering clinicians and others who are prepared to take responsibility for changing the way things work, instead of seeking to drive change through external stimuli…' Clinical leadership is 'not focused on just a few heroic individuals in formal leadership roles,' but is shared and distributed as a collective responsibility.[113]

This is consistent with international case studies on integration of services, which suggest successful integration is possible only if it comes from the 'bottom up' through the development of specific micro-level interventions. Integration is relational rather than structural. It takes some years – in fact it is an ongoing process of continuous improvement – and requires upfront and ongoing investment.[114] [115]

Nor have moves to better integrate services in Canterbury involved the superficial notion of 'shifting resources from hospital to community'. The initiative has not led to a cut in beds or in resources being taken from hospitals in absolute terms.

Expectations that new models of health care on their own will enable disinvestment in acute hospitals is probably unrealistic. A more realistic goal would be to bend the demand curve, slowing – but not reversing – growth.[116]

Indeed, the evidence shows clearly that all the efforts to improve the effectiveness of the health system over the longer term will struggle to make much headway in reducing the need for acute hospital care without addressing the broader population health issues. Policies with the greatest impact on reducing the need for hospital services lie outside the health system. As discussed above, they relate to tax and regulation aimed at reducing smoking and consumption of alcohol and unhealthy foods, as well as addressing the well-recognised determinants of ill health such as poverty and poor housing.

Integrated care, distributed clinical leadership, workforce requirements, health funding needs and the determinants of ill health will be the subjects of future *Research Briefs*.

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