

**INQUIRY INTO CURRENT AND FUTURE PROVISION OF
HEALTH SERVICES IN THE SOUTH-WEST SYDNEY
GROWTH REGION**

Organisation: South Western Sydney Primary Health Network (SWSPHN)
Date Received: 22 May 2020

22 May 2020

Hon Greg Donnelly MLC
Chairman, Portfolio Committee No. 2 - Health
Legislative Council, Parliament of New South Wales
Macquarie Street SYDNEY NSW 2000

Dear Mr Donnelly MLC,

South Western Sydney Primary Health Network (SWSPHN) welcomes the recent call by the Portfolio Committee No.2 – Health of the NSW Legislative Council for a second round of submissions to the *'Inquiry Into Health Services in the South-West Sydney Growth Region'*.

Our submission will focus in particular on the following objectives within the inquiry's Terms of Reference:

- a) An analysis of the planning systems and projections used by NSW Health in making provision for health services to meet the needs of population growth and new suburbs in the South-West Sydney Growth Region
- b) An analysis of capital and health services expenditure in the South-West Sydney Growth Region in comparison to population growth since 2011
- c) The need for and feasibility of a future hospital located in the South-West Sydney Growth Region to service the growing population as part of the Aerotropolis land use plan
- d) An investigation into the availability and shortfall of mental, community and allied health services in the South-West Sydney Growth Region
- g) An investigation into the health workforce planning needs of the South-West Sydney Growth Region to accommodate population growth to 2050
- i) A comparison of clinical outcomes for patients in the South-West Sydney Growth Region compared to other local health districts across metropolitan Sydney since 2011

We look forward to hearing the outcome of the committee's consultations and deliberations in due course.

Kind regards,

Keith McDonald PhD
CEO | SWSPHN

About the South Western Sydney Primary Health Network (SWSPHN)

The SWSPHN is one of 31 Primary Health Networks geographically distributed across Australia, commissioned by the Commonwealth Department of Health¹ to address the following key objectives:

- *Increasing the efficiency and effectiveness of medical services for patients, particularly those at risk of poor health outcomes; and*
- *Improving coordination of care to ensure patients receive the right care in the right place at the right time.*

The SWSPHN is a not-for-profit company limited by guarantee, with charitable status. It is not a direct service provider. Our strategic purpose is three-fold:

1. Capacity building primary care to improve the quality of service delivery, centring particularly on general practice
2. The commissioning of regional services according to prioritised health needs, focusing on improving access to care for vulnerable groups
3. The integration of care pathways for people at risk of poor health outcomes and for those with challenging and complex needs

Our service catchment is identical to that of the South Western Sydney Local Health District (SWSLHD), covering seven local government areas including: Bankstown (now part of Canterbury-Bankstown), Fairfield, Liverpool, Campbelltown, Camden, Wollondilly and Wingecarribee. Our catchment is comprised of 429 general practices with 1,047 general practitioners (GPs), 165 GP registrars and 391 practice nurses.

An analysis of the planning systems and projections used by NSW Health in making provision for health services to meet the needs of population growth and new suburbs in the South-West Sydney Growth Region

Consistent with the recommendations of the Productivity Commission (2017), the SWSLHD and SWSPHN recognise together that comprehensive response to the health care needs of this region requires joint planning built on formal agreements, multilevel partnerships and shared governance². To this end, the parties maintain a formal collaboration agreement, which is currently being refreshed.

Drawing on best practice in health system performance, the principles of the collaboration agreement centres on the Quadruple Aim i.e. enhancing patient experience, improving population health, reducing costs and optimising the work life of health care providers, including clinicians and their staff^{3 4}. Specifically, [Table 1](#) below outlines the key commitments within this collaboration agreement:

Table 1: Agreed milestones and KPI in the collaboration agreement between the SWSLHD and SWSPHN

Collaboration Milestones/KPI
<ul style="list-style-type: none"> • <i>A contemporary and forward-projecting joint needs analysis</i> • <i>Co-signatories in partnership agreements with mutually identified key stakeholders (e.g. Health Alliances)</i> • <i>A system wide integrated health care strategy with oversight of the planning, development, implementation and evaluation of activities (the South Western Sydney Integrated Care Collaboration - SWSICC)</i> • <i>Demonstrable improvements in both patient-reported measures and population health indicators arising from agreed initiatives</i> • <i>Inclusion of a designated role and responsibilities for each party within the health responses required by regional disaster management plans and protocols</i> • <i>A joint workforce development strategy for South Western Sydney</i> • <i>Demonstrable improvements in the value of health care in South Western Sydney, as agreed by SWSLHD and SWSPHN</i>

Some tangible examples of this work to date include:

- In 2018 together the organisations produced a joint population-based health needs analysis for shared planning and integrated program development⁵. The in-depth needs assessment not only describes a shared understanding of our communities' health today, but also projects likely parameters through to 2031. The intent is to map current and future service requirements, to inform how care pathways can be strengthened and to identify opportunities for local community empowerment.
- Similarly, both parties are finalising:
 - A Joint Regional Mental Health and Suicide Prevention Plan to 2025⁶; and
 - A South Western Sydney Diabetes Framework to 2026
- A comprehensive system of localised clinical pathways, using the online *HealthPathways™* platform (<https://sws.communityhealthpathways.org>)
- Formal partnerships with a range of key stakeholders, including local government, universities, research institutes and key agencies, such as:
 - Western Sydney City Deal Health Alliance⁷
(<https://www.infrastructure.gov.au/cities/city-deals/western-sydney/>)
 - Liverpool Health Education, Research & Innovation Precinct⁸
 - Campbelltown Health & Education Precinct

An analysis of capital and health services expenditure in the South-West Sydney Growth Region in comparison to population growth since 2011

There is clear evidence of capital expenditure commitments through the major works either planned or underway at Liverpool, Campbelltown, Bankstown and Bowral hospital campuses.

From a primary care perspective however, a glaring gap is with the lag in adoption of interoperable clinical information and technology (ICT) systems. This needs to build on

compatibility with both the My Health Record and the recent upgrade of the hospitals' Cerner-based electronic medical record system.

Despite ongoing commitment between the SWSLHD and SWSPHN to jointly pursue ICT interoperability, adoption and diffusion has been too slow, impeded by cost, regulatory and bureaucratic barriers at the level of eHealth NSW. The opportunity cost of the failure to exploit this regional commitment in the past three (3) years will be reflected in care delays, errors, waste and clinical variance because key data is not being shared in real time².

Recommendation:

- ***eHealth NSW should enable investment in interoperable information and communication technology to be fast-tracked in order to optimise clinical workflows and patient care pathways across sectors.***

The need for and feasibility of a future hospital located in the South-West Sydney Growth Region to service the growing population as part of the Aerotropolis land use plan

The population of South Western Sydney is expected to grow by a third between 2016 and 2031: from just under 1 million people to around 1.3 million. We expect growth to be highest in the Camden and Liverpool local government areas (LGAs) and in the older age groups⁵.

Noting that in a given year 11% of the NSW population account for all of the state's hospital admissions² and the average hospital length of stay for all causes is 3.5 days⁹, it follows this rate of growth will create demand for an extra 115,000 bed days per annum, within the next decade.

All else being equal, this will require an extra capacity of 316 inpatient beds on any given day by 2031. It is reasonable to expect the capital expansions of the Liverpool, Campbelltown, Bankstown and Bowral campuses will largely address much of this growth. Therefore, at face value, it would be rational to continue supporting the expansion of these existing campuses as required, rather than develop another greenfield site.

The real challenge however will be operational investment. There are two (2) fundamental and inter-related issues to be addressed:

- First, how to attract, train, retain and adequately resource the sufficient numbers and mix of required personnel to meet this growth?
- Second, how to devise systems and innovative models of care that will bend the supply curve necessary to meet need should the rapid population growth continue at its rate beyond 2031?

A positive return on investment is more likely to be achieved by focusing service developments on the small fraction of patients with chronic and complex conditions that consume a disproportionately large percentage of health care costs^{10 11 12}. For example, the Productivity Commission (2017) identifies that only 1% of people in NSW account for 46% of the total bed days².

In particular, the focus should be on the rates of potentially preventable hospitalisations^a (PPH), which we know in South Western Sydney are amongst the highest in NSW. This includes for chronic conditions such as congestive cardiac failure, diabetes complications, chronic kidney disease, asthma, hypertension and dental conditions; plus vaccine preventable conditions including pneumonia and influenza⁵.

With lower rates of private health insurance compared with the state average (particularly in Fairfield, Campbelltown, Canterbury-Bankstown and Liverpool)⁵, the burden of PPH will continue to be borne by the public system.

A relatively small percentage (5%) of all inpatients account for 62% of PPH². For many of these patients with complex needs, this is a result of experiencing a fragmented care pathway that is disrupted, wasteful and/or sub-optimal in its outcomes¹⁰.

Active care coordination to reduce PPH has to involve more than the current business-as-usual patient flows between acute and primary care providers, which currently rely on point-in-time transactions such as referral letters and discharge summaries². True integrated care requires ongoing cooperation throughout a care pathway and alignment of incentives between the providers involved.

However, currently there are no direct financial incentives between acute and primary care that motivate one part of the health system to be efficient in their activities where there is a direct impact on the other part of the system e.g. in directing patients to most the suitable and cost effective care in a timely manner².

On one hand, Activity-Based Funding (ABF) aims for technical efficiency within hospitals but does not address allocative efficiency across the broader health system. It does not necessarily incentivise the SWSLHD for example, to search, resource and coordinate models of care that reduce inpatient activity, such as primary care and preventive health initiatives².

On the other hand, the structure of the Medicare Benefits Schedule (MBS) fee-for-service billing that is predominant in the Australian general practice business model encourages short episodic consults delivered across many relatively small practices and clinics independent of each other. The model impedes coordinated care of an identified cohort of patients that present as complex or time demanding^{2 4 13 14}.

Yet GP competencies are best suited to establish and lead team-based care around a mutually endorsed care plan outside of a hospital setting. It is in NSW Health's interest to comprehensively engage general practice in a shared approach to the management of these at-risk patients².

To overcome the statutory limitations of s.19.2 (b) of the *Health Insurance Act 1973 (Cwth)*^b which constrains state investment in general practice, the SWSPHN is well positioned as a trusted intermediary with which to partner and pool funding. Structured as a meso-level organisation, the SWSPHN already has the systems to commission and support a collective of general practices in the region to deliver innovative care packages for the at-risk cohort of patients^{2 14 15 16}.

^a A PPH is an admission to hospital for a condition where the hospitalisation could potentially have been prevented through the provision of appropriate individualised preventative health interventions and early disease management, usually delivered in primary care and community-based care settings.

^b This prohibits government funds being directed to care that can otherwise be billed through the MBS, in the absence of a Ministerial exemption

For these reasons, the SWSLHD and SWSPHN are pursuing a joint venture to develop a 'medical neighbourhood' model of care which will address PPH for at-risk patients. A 'medical neighbourhood' represents a collective approach to the well-documented 'patient-centred medical home' (PCMH) model of care^c involving active coordination of care between the patient's nominated general practice, primary and community health services, plus hospital care. It encompasses a GP-led multidisciplinary care plan built on risk stratification, patient tracking, integrated information and communication technology (ICT), and systematic approaches to continuous quality improvement plus patient self-management strategies.

The goals of the South Western Sydney 'medical neighbourhood' are to improve patient safety, enhance the quality of evidence-based care, whilst reducing cost and unnecessary duplication of services¹⁷. Accepting that gains will not be immediate, this partnership between the SWSLHD and the SWSPHN nevertheless includes a performance contract that outlines minimal expected savings from reduced PPH over an agreed period.

Recommendations:

- ***Investment in existing hospital campuses is more feasible than developing another greenfield site.***
- ***Future investment from NSW Health instead should focus on operational parameters and innovative models of care to meet significant projected growth in service demand.***
- ***NSW Health should provide a long-term commitment to underwrite the SWSLHD's investment in achieving PPH reductions. This will require shared up-front investment in the following:***
 - ***Predictive risk modelling & risk stratification***
 - ***ICT interoperability (see above)***
 - ***Systems & tools that support data linkage & patient tracking across sectors***
 - ***Fund pooling Incentive payments and shared savings***

An investigation into the availability and shortfall of mental, community and allied health services in the South-West Sydney Growth Region

In a 12-month period over 9,000 presentations to emergency departments in the SWSLHD are mental health-related. Almost 11,000 local residents per annum are referred to private psychiatry services⁶.

We know that South Western Sydney has the highest proportion of adult residents in metropolitan Sydney reporting high or very high levels of psychological distress (19%) and this is higher than the NSW mean. The number of suicide deaths across the region in 2015 was the second highest reported in metropolitan Sydney after Western Sydney⁴.

As the population continues to grow, increased demand will be placed on general practice and traditional community mental health services to meet growing mental health needs. One-size-fits-all models of working, such as those supported by Medicare's 'Better Access' program, may impact service capacity and equitable and timely access to mental health services. There is a need to jointly commit to implementing an integrated stepped-care model for mental health

^c The PCMH is a transformative model for primary care with key features including strong focus on care that is person-centred, accessible, coordinated and continuous, comprehensive, and practices quality and safety^c.

services, in order to better ration available supply of mental health services. This model is most conducive to a patient-centred approach with tailored care responses according to need, rather than standardised allocation of treatments. Patients enter the stepped care continuum at an intensity of service matched to their need and step up or down as their needs change. Implementation of stepped care requires investment in new care pathways which support patient transition based on need.

Stepped care also requires investment in new workforces skilled in the delivery of low intensity supports such as peer-support and low intensity cognitive behavioural therapy (CBT) coaches, in addition to self-care programs, e-mental health tools, and 'no wrong door' approaches and provisional referral pathways.

Adopting a regional approach to stepped care is supported and supplemented by the development of a joint regional mental health plan⁶. While there is a requirement from the Commonwealth Department of Health for PHNs to partner with LHDs on the development of these regional plans, there is no such commitment at the NSW Health level on behalf of their LHDs.

In partnership with the SWSLHD, we are working to streamline pathways for people leaving hospital following a suicide attempt. This is supported through a shared suicide prevention and aftercare roundtable, and the commissioning of a *Community Based Suicide Prevention* program targeting aftercare, postvention, means restriction and community-based training.

In 2020-21, we anticipate jointly commissioning the *Way Back* program from Lifeline Macarthur, providing non-clinical care and practical support to individuals for up to three months following a suicide attempt. This initiative is an element of the soon to be signed bilateral agreement. 50% of funds for the initiative will be allocated by the NSW Health to PHNs, to then engage with LHDs to jointly commission the service.

Recommendations:

- ***At a Statewide level, there is a need for greater commitment from NSW Health to supporting the implementation of an integrated stepped-care model for mental health services across the region, underpinned by an agreed joint regional mental health plan.***
- ***The above should be accompanied by investment in integrated discharge processes which link more closely with community-based follow-up processes following suicide attempt.***

An investigation into the health workforce planning needs of the South-West Sydney Growth Region to accommodate population growth to 2050

General practice is well recognised in Australia as the cornerstone of primary care¹⁸. Evidence supports that health outcomes are best supported when patients maintain a long-term relationship with a GP¹⁹.

It is in NSW Health's interest to comprehensively engage general practice in a shared approach to the management of patients at-risk of potentially-preventable hospitalisation². However, it cannot work on the assumption that the current model of general practice will persist as we know it. Like other outer metropolitan areas, general practice delivery in South Western Sydney is at a critical tipping point.

As a rule of thumb, the Australian GP workforce ratio is approximately 1,000 patients per one (1) full-time equivalent GP²⁰. This means that for the growth of 300,000 residents within the next decade, a net increase of 300 GPs need to be recruited to maintain current levels of access.

Concurrently, the population growth across the outer-metropolitan 'Greater Western Sydney' ring (also including Western Sydney and the Nepean Blue-Mountains districts), is equal to or exceeds the 1.9% per annum growth of South Western Sydney. Stand-alone, these regions are likely to compete with each other for this new workforce. In turn, the Greater Western Sydney region can expect to compete with the equally expansive outer-metropolitan growth corridors of Melbourne and Brisbane.

This is at a time many Commonwealth GP workforce programs are deliberately shifting incentives away from metropolitan LGAs to target the current supply crisis in rural and remote regions. Without distinguishing disadvantaged 'outer-metropolitan' from 'inner-metropolitan' LGAs, this includes:

- Since July 2019, exclusions on recruitment of virtually any international medical graduates to metropolitan general practices, irrespective of evidence of a workforce shortage²¹.
- From January 2020, a 40% reduction in the MBS bulk-billing incentive loading per consult²².

Such shifts compound a 25% decline in GP Registrar placements in our region since 2016, despite record numbers of medical graduates from Australian universities over the same period. Noting as concerns the gradual decline in relative earnings from a four (4) year freeze on MBS rebates for GP consult items^d and risks to job security, graduates are increasingly shunning GP vocational training for other specialist college programs. With the average GP age in South Western Sydney now exceeding 54 years, this presents a tangible risk to succession in the medium term.

We know that 77% of practices in South Western Sydney currently bulk bill all consults, and a further 17% apply a mix of private^e and bulk billing. Normal market dynamics dictate that a combination of increasing demand and shrinking supply will inflate the price of any goods and services. Accepting that widespread socioeconomic disadvantage across South Western Sydney will constrain peoples' willingness to pay, one of two (2) scenarios are likely to materialise. Either:

- Market forces dominate, with a shift away from bulk billing towards more private billing practices. This will increase out-of-pocket expense and have a regressive impact on access to primary care for those who can least afford to pay. These patients will then delay seeking care and/or identify less costly (and perhaps less appropriate) alternatives, including local emergency departments; or
- Practices respect equity of access for disadvantaged communities and continue with predominantly bulk billing. As competition for the clinical workforce escalates over time these practices will be seen as less lucrative and therefore increasingly less competitive in the labour market. In the long run, this may trigger market failure.

^d Lifted in July 2019

^e Where there is an out-of-pocket expense created by a differential or 'gap' between the clinician's fee and the MBS rebate to the patient.

For these reasons, the SWSPHN is not confident that, if left solely to market dynamics, general practice supply will respond organically to the projected population growth in this region. This is a risk to the whole of the health system as it currently operates.

Whilst usual GP workforce recruitment and retention strategies remain necessary, alone they will be insufficient. There needs to be a whole of system commitment to the development of new models of care that optimise access according to need, bolster multi-disciplinary primary care whilst continuing to improve quality and safety.

Given the right levels of support to innovate, there is an appetite for change with current practices. A case in point is the rapid and widespread uptake by general practice since March this year with the release of the new telehealth MBS items in response to the current COVID-19 pandemic (See Table 2 below for a further description).

Table 2: New GP MBS items signalling possible reforms in the model of care

New GP MBS items
<ul style="list-style-type: none">• <i>Early evidence indicates telehealth now representing approximately 40% of GP consultations overall²³.</i>• <i>Although these ‘pop-up’ MBS items are scheduled to lapse again in September, the Commonwealth already recognises the ready adoption of this initiative and with it, the opportunity to drive more widespread reform in the longer term. (e.g. extending the initiative of voluntary enrolment to these items).^f</i>

This environment presents an ideal opportunity for NSW Health to seize the initiative and partner with PHNs to invest in the capacity of GP-led multidisciplinary primary care beyond the constraints of Medicare, in return for more comprehensive integrated care. Key enablers to consider may include:

- Investment in structures, systems and tools that enable continuity of care by actively linking general practice with SWSLHD’s primary and community care services
- Fast-tracking investment in interoperable ICT platforms
- Coordinated post-graduate clinical teaching and training programs that are vertically integrated (including re-introduction of PGPPP rotations)

Recommendation:

- ***NSW Health should seize the initiative and partner with PHNs to invest in the capacity of GP-led multidisciplinary primary care.***

^f Expanding on a precedent set with the introduction from the 1st July 2020 of new MBS items for practice voluntary enrolment of patients aged ≥70 years; and Aboriginal and Torres Strait Islander patients aged ≥50 years

A comparison of clinical outcomes for patients in the South-West Sydney Growth Region compared to other local health districts across metropolitan Sydney since 2011

A majority of the South Western Sydney population lives in local government areas with higher than average levels of disadvantage compared to NSW. In particular Fairfield⁹, Liverpool, Bankstown and Campbelltown LGAs are amongst the most disadvantaged LGAs in metropolitan Sydney.

It is well documented that people from poorer socioeconomic backgrounds tend to have higher levels of disease risk factors, lower use of preventative health services and worse health outcomes. Our joint needs analysis⁵ flags that many of these indicators are directly associated with barriers to access relative to need. For example:

- Cost pressures: People did not see or delayed a private professional appointment at least once when needed and 9% of people avoided or delayed filling a prescription
- Relatively poor public transport options, particularly the case in households of greater disadvantage, such as:
 - Many large public housing estates
 - Approximately 61,100 local residents describing themselves as having a profound disability and over 85,000 people describe themselves as carers of people with a disability
 - An estimated 5,700 people who are homeless or living in insecure housing
- Language and cultural barriers: Close to half of South Western Sydney's residents were born overseas. More than 90,000 people in South Western Sydney who speak a language other than English at home reported speaking English 'not well' or 'not at all'. This is also a significant barrier to equitable access.

Recommendation:

- ***NSW Health should recognise the challenges faced in South Western Sydney to achieve comparable health outcomes by investing in strategies that overcome the barriers to access associated with widespread social disadvantage.***

⁹ Fairfield LGA is the most disadvantaged in the Sydney metropolitan region and the fourth most disadvantaged in NSW.

Summary of recommendations

- 1. eHealth NSW should enable the investment in interoperable information and communication technology to be fast-tracked in order to optimise clinical workflows and patient care pathways across sectors**
- 2. Investment in existing hospital campuses is more feasible than developing another greenfield site.**
- 3. Future investment from NSW Health instead should focus on operational parameters and innovative models of care to meet significant projected growth in service demand.**
- 4. NSW Health should provide a long-term commitment to underwrite the SWSLHD's investment in achieving PPH reductions. This will require shared up-front investment in the following:**
 - **Predictive risk modelling & risk stratification**
 - **ICT interoperability (see above)**
 - **Systems & tools that support data linkage & patient tracking across sectors**
 - **Fund pooling Incentive payments and shared savings**
- 5. At a Statewide level, there is a need for greater commitment from NSW Health to supporting the implementation of an integrated stepped-care model for mental health services across the region, underpinned by an agreed joint regional mental health plan.**
- 6. The above should be accompanied by investment in integrated discharge processes which link more closely with community-based follow-up processes following suicide attempt.**
- 7. NSW Health should seize the initiative and partner with PHNs to invest in the capacity of GP-led multidisciplinary primary care.**
- 8. NSW Health should recognise the challenges faced in South Western Sydney to achieve comparable health outcomes by investing in strategies that overcome the barriers to access associated with widespread social disadvantage.**

¹ Department of Health 2016 Primary Health Networks Grant Programme Guidelines v.1.2

² Productivity Commission 2017 Integrated Care, Shifting the Dial: 5-year Productivity Review, Supporting Paper No. 5, Canberra.

³ Bodenheimer T and Sinsky C. 2014 "From Triple to Quadruple Aim: Care of the Patient Requires Care of the Provider" vol. 12: 573-6, Annals of Family Medicine

⁴ Bodenheimer T, Ghorob A, Willard-Grace R and Grumbach K. 2014 "The 10 Building Blocks of High-Performing Primary Care" vol.12: 166-171, Annals of Family Medicine

⁵ SWSLHD & SWSPHN 2018 "South Western Sydney: Our Health. An in-depth study of the health of the population now and into the future"
<https://www.swslhd.health.nsw.gov.au/pdfs/SWS%20Our%20Health%20in%20depth.pdf>

⁶ SWSLHD & SWSPHN 2020 South Western Sydney Regional Mental Health and Suicide Prevention Plan to 2025 (draft for consultation)

⁷ Western Sydney Health Alliance 2019 Memorandum of Understanding 1st October 2019

⁸ NSW Business Chamber 2019 Memorandum of Understanding for Liverpool Health Education Research & innovation Precinct 2019-2020

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- ⁹ Bureau of Health Information 2020 Healthcare Quarterly, Activity and performance, Emergency department, ambulance, admitted patients, seclusion and restraint, and elective surgery October to December 2019; BHI
- ¹⁰ McCarthy D, Ryan J, Klein S. 2015 *"Models of Care for High-Need, High-Cost Patients: An Evidence Synthesis"* Issue Brief vol.31, pub.1843, Commonwealth Fund
- ¹¹ Plant N.A, Kelly P.J, Leeder S.R, D'Souza M, Mallitt K-A, Usherwood T, Jan S, Boyages S.C, Essue B.M, McNab J, Gillespie J.A. 2015 *"Coordinated care versus standard care in hospital admissions of people with chronic illness: a randomised controlled trial"* Medical Journal of Australia 203 (1), pp.33-39
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- ¹⁷ Feuerstein J, Sheppard V, Cheifetz A, Ariyabuddhiphongs K. 2016 "How to Develop the Medical Neighbourhood" vol. 40: 196, Journal of Medical Systems
- ¹⁸ McKinsey & Company 2015 How can Australia improve its primary health care system to better deal with chronic disease? Background Paper
- ¹⁹ Baker I, Steventon A, Deeny S.R. 2017 *"Association between continuity of care in general practice and hospital admissions for ambulatory care sensitive conditions: cross sectional study of routinely collected, person level data"* British Medical Journal 356; j84
- ²⁰ Australian Institute of Health and Welfare 2016 Medical practitioners workforce 2015. Cat. no. WEB 140. Canberra: AIHW
- ²¹ Department of Health 2019 Health Workforce Distribution Priority Areas www.doctorconnect.gov.au
- ²² Department of Health 2019 Workforce Incentive Program Guidelines effective date: 1 January 2020
- ²³ Outcome Health 2020 COVID-19 and Australian General Practice: A preliminary analysis of changes due to telehealth use Insights Paper No.3, 5th May