WAGPET

How we approached the black hole of prevocational GP training

- A collection of independent but related papers

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1. Overview: The Pluripotential Doctor and Rural Generalist and General Practice

Heifetz and Linsky[1] described how adaptive leaders need to 'reflect in action', moving seamlessly in each moment and each space between the balcony for strategic perspective, and the dance floor for the lived immediate experience. From the balcony the bruised toes might be missed, but the cacophony that led to them will be more obvious. Discovery driven planning adopts this grounded yet expansive, creative, continuous adaptive process of moving from the dance floor to the balcony over and over. It is how we approached the black hole[2] often spoken about between medical school and vocational training for a general practitioner (GP) or rural generalist (RG).

While much decades-long concern surrounds the attraction and retention of doctors to work where they are needed most, it is quite surprising that each time there is a glimmer of hope – for instance, GP training applications exceeding the government-set quota and distribution, or more GP registrars choosing an Aboriginal health service in which to train than available accredited posts – some consider that success as a fixed and final arrival point. Thinking linearly and causally, as well as a-contextually and a-temporally, they declare it was just one or other lever that was responsible for the success. In the former example the Prevocational General Practice Placement Program (PGPPP) they think the 3GA provider numbers did the job, and in the latter the Aboriginal Health Training (AHT) salary support scheme that supplements lost MBS billings in most Aboriginal Medical Services (AMS).

Further, they surmise in each case that the lever, having been the architect of the success, is no longer required. The program, the lessons learned, the relationship capital and the funding are gone. Success is now 'hard wired' into the vague 'whatever' that is left.

Of course, this argument is welcomed by those dealing with the gritty issues surrounding the provision of safe quality affordable and accessible primary care. Those with scrambled brains for so trying find solace and indeed short-term relief in not having to battle the complex and vexed variables of life-long fair remuneration, long-term job security, enhanced scope of practice and capability, retrieval and locum costs, primary care recognition and reputation, transparent credentialing, consistency in contextuality, intra-professional and city-based derision, or with providing the social and professional infrastructure needed to underpin community-based practice that underpin a GP RG shortage. The state governments turn their attention inwards to the hospital-based dance floor, and the federal government looks from a truly distant balcony towards national consistency, program consolidation, apparently to save cost.

All was well in the garden, it would appear. A simple planting of seed, a few green shoots, and the rest will take care of itself through all seasons.

When reality reappears – as inevitably it does when simple, neat, and mostly wrong thinking are set to drive complex, adaptive systems – the old familiar memes are rolled out, to reassure and to obfuscate. The solution is instead to admit we need to return to the balcony, armed with our experience on the dance floor. It is not like we lack the evidence and the intelligence to know how badly we are deluding ourselves when we look away.

While it is obvious the community – and especially those who need safe, quality, accessible, and affordable care the most – are the losers from our unwillingness to either grasp the nettle or to declare once and for all our hypocritical intentions – there are other less obvious but deeply impacted and

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[1] Heifetz R and Linsky M et al (2009) The Practice of Adaptive Leadership Mass: Harvard Business Review Press

[2] Neil Thiese (2023) Notes on Complexity NY: Spiegel and Grau discusses the controversy as to whether space is truly 'empty' and – referring to black holes and other phenomena – he concludes it is not. Most likely. Our efforts in various prevocational programs aimed to synchronise the noise that otherwise permeates the prevocational 'space' and recognised the space was not truly empty to begin with.

impactful losers. One of these groups is the pluripotential doctors, considering their career options as they must – these days – from the balcony and not the dance floor.

The career intentions project in WA demonstrated that there is a problem with the number of students entering medical schools with the intention of practising as a GP. It also showed the number who may have thought about becoming a GP, drops during medical school and during the prevocational years. So, our pluripotential doctor is already wary about their GP prospects, even though far more of them will eventually become a GP than ever thought they might.

When they come to choose – to the degree that this is possible – their training rotations as an intern, resident, and service registrar, they find their perceptions confirmed. Absent is the GP rotation or even a dedicated set of preparatory GP relevant rotations for them. Failing to declare an interest in a non-GP career, let alone an overt interest in a GP career, these pluripotential doctors could find themselves with four times as much 'leave relief' in their year.[3] [4]

That had been the situation since the effective demise of the PGPPP and the community residencies program (CRP) that leveraged both federal and state support for community-based rotations of up to a year in areas that needed doctors the most.

Dr John Keenan was appointed with firm director-general backing to reform medical workforce training and with his team, chose GP as the profession that most needed a thorough analysis, arguing that a failure in primary care was possibly the most serious workforce threat to the state health system, and one where the federal government could be called on to assist[5]. The work took several years, and their results were indeed disturbing, disturbing enough to see heads raised from the dance floor of day-to-day service delivery to the balcony. It was time to invest in a sustainable future.

Throughout our series of papers, each focusing on an aspect of how WA approached the black hole of prevocational GP training, we refer to a prevocational doctor likely to access these programs as a pluripotential doctor. Pluripotent cells are those that can self-renew and can divide into most or all cells in an organism. We thought about the term, 'totipotent' because a totipotent cell can divide until it creates an entire and complete organism. Pluripotential cells cannot do that on their own. They need help and that includes the right decision-making conditions.

Pluripotential doctors can explore many different options and have many choices as the decision points – the divides – loom often enough in these early, formative years. GP RG is one of those divides, and the 'conditions' to help in that decision point are equally critical yet largely missing in the medical career trajectory.

We also wondered how the training of GP RGs had got to this situation that the PGPPP was introduced to fix. No doubt our historical account will be incomplete, but some key flexions points are apparent. The RACGP had designed a 5-year training program, like other specialist programs. The first two basic years – usually PGY 1-2 – were hospital based with community-based rotations, and the subsequent advanced three years were community based with hospital rotations. The PGY1-2 years were under the auspices of the postgraduate councils across Australia, the 3-5 years under the RACGP state faculties. GP practices were college-accredited for all rotations across both basic and advanced training. From 1982 the RACGP effectively lost the funding for a 5-year program and thus

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[3] This anomaly was corrected in the GP Project pilot, and is specifically referenced in the Medical Workforce Unit (2023) General Practice Hospital Training Pathway: Framework for 2024 accessed at https://www.health.wa.gov.au/~/media/Corp/Documents/Health-for/Health-professionals/Workforce/GP-Pathway-Framework.pdf

[4] Government of Western Australia Department of Health (2019) The General Practice Workforce and Training Pilot: Proposal and Implementation Plan for 2022 accessed at https://www.health.wa.gov.au/~/media/Corp/Documents/Health-for/Health-professionals/Workforce/GP-pilot-framework.pdf

[5] Government of Western Australia Department of Health (2018) General Practice Workforce Supply and Training in Western Australia accessed at https://www.health.wa.gov.au/~/media/Corp/Documents/Health-for/Health-professionals/Workforce/GP-Workforce-Supply-and-Training.pdf

the overall governance of the first two years of the program and agreed to reduce the subsequent advanced training to just two years. It appears this was an acrimonious time for the RACGP and the department that funded the program.[6]

The schism between deliverers of GP RG training continued to grow from this time and are well articulated in the later ministerial review that led to the formation of the AGPT program and subsequently the PGPPP. That report noted (along with the continuing cacophony across the GP training continuum) that while 30-50% of medical graduates would gravitate to GP RG as a career, they would spend their first 2 years of medical practice almost entirely in the hospital setting and fail to develop the necessary knowledge and experience for such a career. The report observed:

> *There is a consequent gap in the education continuum at the intern and resident medical officer level, with little reference to health service in the community.*[7]

It is clear then, that the failure to deliver quality safe accessible affordable GP RG training in the prevocational era was – and is – a well-known, well-understood and well-acknowledged issue, and yet no one has fully understood or comprehensively articulated the fundamental failure in this space. (That failure is interesting in itself to a generalist, a naïve inquirer, to one outside the narrow perspective we most quickly and easily define in workforce and training.)

History would suggest we need to confront the Einstellung effect, the tendency of problem solvers to use only familiar methods even if better ones are available, because of the much greater depth of field, the greater system than is normally appreciated, the ambiguity and the uncertainty within it.[8] As if medical training and workforce were not complex enough, it seems that this transition zone in the medical career journey is truly chaotic[9], and the system truly complex.[10]

A different approach is needed therefore to both assess the purpose, value, and place of past and current effort to resolve the problem, as is characteristic of the generalist when working with non-linear situations. To do so in this account, we took the lens of interdependence, of systems thinking that requires us to design programs so that many of its elements will support and reinforce a key priority. Taking our deep purpose as safe, quality, affordable, accessible, community-centric health care through supporting and training prevocational doctors, we were also deeply cognisant of its innovative – or learning – nature. If we were not failing, we were not journeying into new territory.[11] We also recognised that the wasted resources and time created by the failure to learn from failure meant for us it was worth writing these requested extended papers from our recent meta-reports addressing *our* effort and outcomes in prevocational training and support.[12] [13] Unashamedly these are from our perspective to further debate. A chain of communication – rather than of command – is helpful when we appreciate that successful innovation is only possible as a result of insights from incremental losses along the way.

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[6] Hurley, T. and Cummins, C. (1983) Committee of Review of the Family Medicine Program Report presented to then Health Minister the Hon Peter Baume

[7] Phillip, B. (1998) General Practice Education: The Way Forward Final Report Ministerial Review of GP Training

[8] Epstein, D. (2019) Range: Why Generalists Triumph is a Specialised World NY: Riverhead Books

[9] Gleick, J. (2008) Chaos: Making a New Science NY: Open Road Integrated Media especially the discussion of systems behaviour and the boundaries

[10] Szilagy, M. (2017) Complexity: A Primer Pallas Press especially the characteristics of complex systems and how the participants within it interact with what effect

[11] Edmondson, A. (2023) Right Kind of Wrong: The Science of Failing Well NY: Atria Books

[12] WAGPET (2023) Being There 46-51 accessed at https://wagpet.com.au/media/f15h1rnn/wagpet-being-there_72dpi_spread.pdf

[13] Bell, J. and Atkinson, K. Stocktake: The Impact of the AGPT Program 2002-2020 Ch 5 accessed at https://wagpet.com.au/media/w4ghf25d/agpt-stocktake-papers-2001-2020.pdf

2. From the Balcony to the Dance Floor: Community Residencies in Western Australia: Discovery-driven planning to align funder, service, and learner needs contextually, temporally, and seamlessly

In the late nineties, WA was experiencing medical workforce shortages, especially in General Practice and especially in rural areas – a crisis for a state that has a third of the land mass and the second largest remote population in Australia.

Shortly thereafter, the federal government acted on medical school numbers and a predicted medical workforce and training 'tsunami' was to follow, and to 'fix' this shortage, the federal government demanded – and received – State agreement to train this increase in student numbers. Medical school intake increased in WA from 170 in 2008 to 340 in 2011. All would need an internship, prevocational and presumably vocational training upon graduation.

At the same time, tertiary hospital-based prevocational training was not meeting the needs for many doctors in terms of their future medical careers.[14]

From the students' point of view, many were looking enthusiastically for rural generalist and procedural training upon graduation.[15]

The system was waking up too, in terms of where these doctors would be needed, in terms of vocation and location. The call for providing safe quality care closer to home and more affordably by ensuring full scope of practice in the primary care setting was getting louder. The demand was for infrastructure, governance, and funding to support this shift from non-GP and tertiary level hospital-based care.[16] Reviews such as documented in the Reid report pointed to a recalibration in the kinds of doctors that the community needed now and into the future, and where they would be located.[17]

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[14] Thistlethwaite J, Shaw T, Kidd M, Leeder S, Burke C, Corcoran K. (2007) Attracting health professionals into primary care: strategies for recruitment Canberra: Australian Primary Health Care Institute accessed at www.anu.edu.au/aphcri/Domain/Workforce/Thistlethwaite__25_FINAL.pdf

[15] Tolhurst H, Stewart M. (2005) Becoming a GP: A qualitative study of the career interests of medical students Australian Family Physician 34(3) 204-6 2

[16] Pearce R, Laurence C, Black L, Stocks N. (2007) The challenges of teaching in a general practice setting MJA 187(2): 129-32

[17] A Healthy Future for Western Australians. Report of the Health Reform Committee (2004) accessed at https://ww2.health.wa.gov.au/~/media/Files/Corporate/Reports%20and%20publications/PDF/Report_of_the_Health_Reform_Committee.ashx

The Maintaining an Effective Procedural Workforce in Rural Western Australia (2006)[18] highlighted the need for improved interface between general practice and public health systems, the growing interest in mixing general practice with other medical training and thus the increasing need for procedural skills training in regional centres.

There was thus a new focus on ambulatory and primary care emerging at both State and Federal levels at a time of medical workforce expansion.

This provided an opportunity for agencies in WA, led by WAGPET, to develop the Community Residency Program (CRP) in 2005. CRP built on the nascent Rural and Remote Area Placement Program (RRAPP) that since 2002 had made significant progress toward providing opportunities for early postgraduate doctors to experience rural general practice in a supportive environment. Administered by Australian College of Rural and Remote Medicine (ACRRM), RRAPP provided up to 70 places nationally, but had just 2 places in WA, managed by the Postgraduate Medical Council (PMCWA).[19] In 2004 RRAPP was expanded to include the outer metropolitan area and the Royal Australian College of General Practitioners (RACGP) and became known as the Prevocational GP Placement Program (PGPPP). Meanwhile the Australian GP Training (AGPT) program that commenced the same year as RRAPP was gaining traction across the regional training providers and had clear alignment with a prevocational GP placement program. In 2009 the regional training providers were given full responsibility for delivering the PGPPP, alongside the AGPT program (before 2009, WAGPET had to get its posts, including those as part of the CRP, approved by a National Advisory Committee for the PGPPP).

The CRP aligned funding from PGPPP and from WA Health to deliver integrated general practice/peripheral or regional hospital rotations for prevocational doctors as a longitudinal training program. This models the work undertaken by GPs in regional and rural WA, where smaller regional hospitals are mainly staffed by GP proceduralists and rural GPs working in private practice and providing visiting medical officer (VMO) services to the local hospital in smaller country towns. WAGPET offered the PGPPP as a standalone, of course, for practices and prevocational doctors seeking that experience, but the real innovation came with realigning the PGPPP in line with pressures faced regionally across WA and aligning across jurisdictional and federal intentions.

For WA there had been issues with RRAPP and PGPPP because they consisted of one rotation full-time in general practice alone. The cost per week of training in short rather than longer rotations, the relative reduction in a useful contribution to both the doctor and the community, and the known increase in traction from longer placements all led CRP towards more 6 and 12-month, and fewer 3 month, options each integrated by place across 3-6 medical specialties needed in that community.

In addition to intensity versus length of placement, we knew not all rural and remote GP practices, including Aboriginal medical services, had the capacity to take the less experienced and capable prevocational doctor on a full-time basis. Part-time short-term rural training that involved relocation was especially unfeasible both logistically, and financially. Similarly, many rural and outer metropolitan services and hospitals that WA Health funded were keen on training but had capacity for only a part-time prevocational doctor. The same argument was equally compelling for them.

For both the primary care and hospital-based service deliverers in rural and outer metropolitan WA, it made sense to combine community-centric medical specialty training because in WA general practitioners and rural generalists commonly work across primary, community and secondary hospital sectors, and not only in a GP clinic. Prevocational doctors could arguably understand the role,

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[18] Snowball K (2007) Maintaining and Effective Procedural Workforce 2006 WAGPET commissioned report replicated in 2016 with full support from Rural Health West and WACHS

[19] Smith D. (2005) Barriers facing junior doctors in rural practice. Rural and Remote Health 5: 348. https://doi.org/10.22605/RRH348

context, complexity, scope of practice, and continuity of care through such cross-sector medical training if it could be so designed.

This capacity issue was an opportunity for prevocational training to be highly contextually responsive, with an agreed underpinning philosophy that the medical service model that best delivers high quality accessible services to rural Western Australians must be the driver for the subsequent training and recruitment of rural doctors.

The funding conversation was straightforward. WA Health committed to funding prevocational GP training undertaken in their peripheral and regional hospitals and related community services. WA Health set targets for WAGPET to meet and increased their commitment according to milestones met to ensure economies of scale and regional equity. There were to be 20 full-time Community Residency positions filled by 2008 and this increased by 25% more by 2012. By 2014, WA Health asking WAGPET to provide community residencies for up to 30% of all prevocational doctors working with WA Health.[20]

WAGPET provided its contribution financially through PGPPP funding, leveraged from the AGPT program IP, relationship capital and overheads to ensure value for effort and the maximum funding being expensed directly for the participants. Two WAGPET staff were employed across WAGPET and WA Health – one a clinical director, the other a program manager – and this proved predictably wise when inevitably a round of budget cuts shone a light on CRP but did not linger. Funding cuts are relatively easy for a bureaucracy when the program is insubstantial in the bigger scheme of things. Staff cuts are not so easy. Working for both organisations was quite discombobulating without agreed and consistent governance, and subsequently those on the dance floor were relieved when the balcony did not renew the contracts some years later.

The Community Residency Program began in 2006 with the establishment of four pilot sites (two in rural and two in outer metropolitan) for placements for PGY2 and PGY3 doctors, with the intention of providing flexible rotations through all medical specialties with a significant community component. These integrated hospital- and community-based experiences would enable doctors to follow patients between settings. The pluripotential prevocational clinical experience was embraced to manage an increasing number of medical students, offer a more tangible community-based medical experience, and meet the need for more community-based doctors who bridge the hospital-community divide while fully appreciating the patient journey across that divide.

There were several flashpoints needing to be considered in development of the program. These included the need for coordination between hospital and community locally, as well as coordination across the training experience, sometimes daily. The medical colleges would need to buy-in, and it was essential that standards of supervision and support be fully met, and the quality of education and experience maintained. Training or service components would need to be clearly defined and not assumed, helping to overcome any inertia or resistance of the resisting status quo, and leading to greater clarity in terms of quality of training posts and greater training capacity. All of this would require a collaborative inter-agency approach to governance of the programs and their design, implementation, and delivery.

Relationships bind people and organisations together around a common purpose, both locally and centrally. Gaining an appreciation of the unique and rapidly changeable needs and capacity of each community is a daunting task. This brought new opportunities to work together. For instance, WAGPET had MOUs with WACHS, the Rural Clinical School, Rural Health West, St John of God Hospital, Curtin Medical School, Joondalup Health Campus, and Armadale Health. Its business plan

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[20] Jefferies F. (2014) The History of the PGPPP in WA HealthFix Consulting and subsequent conversation with the WA Health acting director-general 2014 just prior to the announcement that PGPPP was to be defunded and access to 3GA Medicare provider numbers rescinded.

was based on relationship-based structuring and regionalised training model focused on community-centric governance.[21]

Community-centric governance was grounded the design and delivery of CRP, in translating the why into the how, in terms of direction and deep purpose, and necessarily started with understanding the needs of the community-represented by the prevocational doctor and their patient. All involved knew that the CRP design and delivery needed to be community-focused with the value proposition that communities get the clinical services they need, and the training doctors gain the skills and knowledge required to deliver the scope of practice required to address the health needs of the community.

A key part of the design of CRP was to be clear about where the community needs these doctors the most and not leave this to change or market forces. We needed to stay true to the deep purpose of supporting doctors to deliver safe quality affordable accessible care where it is needed the most, not just where they wanted to go, or where practices were able to take them. Relationship-focused structuring led to deeper understanding of the jobs needing to be done in these programs – for its customers, being the prevocational doctors and for communities. This meant listening deeply carefully and respectfully to all participants to understand 'the job needing to be done'.

Innovations often occur not because the interactions between stakeholders are seamless but because the activities at the seams are challenging, stimulating and catalytic. CRP was a way of combining training capacity in smaller towns and suburbs where a full-time offering was not available in one placement. To keep the prevocational doctor all services that together made up a full-time training position had to make it work. Funding provided to the practices and hospitals providing community residency rotations was dependent on the various employers collaborating. If one supervisor did not honour the arrangement, all would potentially lose a trainee doctor who had chosen to work in a challenging area. This meant that there were extremely few placement breakdowns. WAGPET fulfilled the role of managing the program and any placement issues just as it managed the AGPT program, achieving significant cost efficiencies and leveraging our considerable expertise developed over previous years.

Type of clinical experience	*Number of rotations*
Dedicated GP	67
GP/Emergency	111
GP/Obstetrics	52
GP/Paediatrics	85
Home hospital	20
Homeless and Youth Medicine	1
Palliative Care	65
Population Health	13
Rural acute medicine	116
GP/Surgery	26
Paediatrics	6
Total	562[22]

CRP was independently evaluated in 2011 when WACHS and the PMCWA questioned its cost to the State and its governance by a federally funded regional training provider[23]. Subsequently the decision was made to stay with the current model, but WAGPET needed to support more aspects of CRP delivery from PGPPP funding. In turn, a lower rate of subsidising the seconding primary employing hospital service was negotiated, based only on accruing employee entitlements whilst in PGPPP or CRP, and no other administration costs.

[21] Bell J and Atkinson K. (2021) Stocktake: The Impact of the AGPT 2002-2021: 64-73 accessed at https://wagpet.com.au/media/w4ghf25d/agpt-stocktake-papers-2001-2020.pdf

[22] Data extracted from RIDE 2015

[23] Harris F. (2011) Western Australia's Community Residency Program 2006-2010 available on request

The conversion rates into the AGPT program led WAGPET to funnel much of its marketing resources into the CRP. Up to 81% of doctors undertaking CRP or PGPPP as a standalone training program subsequently went into GP training compared with 30% nationally[24].

Year	*Number of PGPPP doctors*	*Number of PGPPP doctors who have entered AGPT as at 2014*	*Conversion from PGPPP to AGPT %*
2007	3	2	66.67%
2008	13	9	69.23%
2009	23	18	78.26%
2010	25	19	76.0%
2011	43	35	81.40%
2012	54	35	64.81%
2013	80	39	48.75%

A total of 5519.2 FTE weeks delivered by prevocational doctors on CRP or PGPPP in WA between 2007-2015. 54% of those weeks in regional, rural, and remote areas and the rest completed in an outer metropolitan area of need.

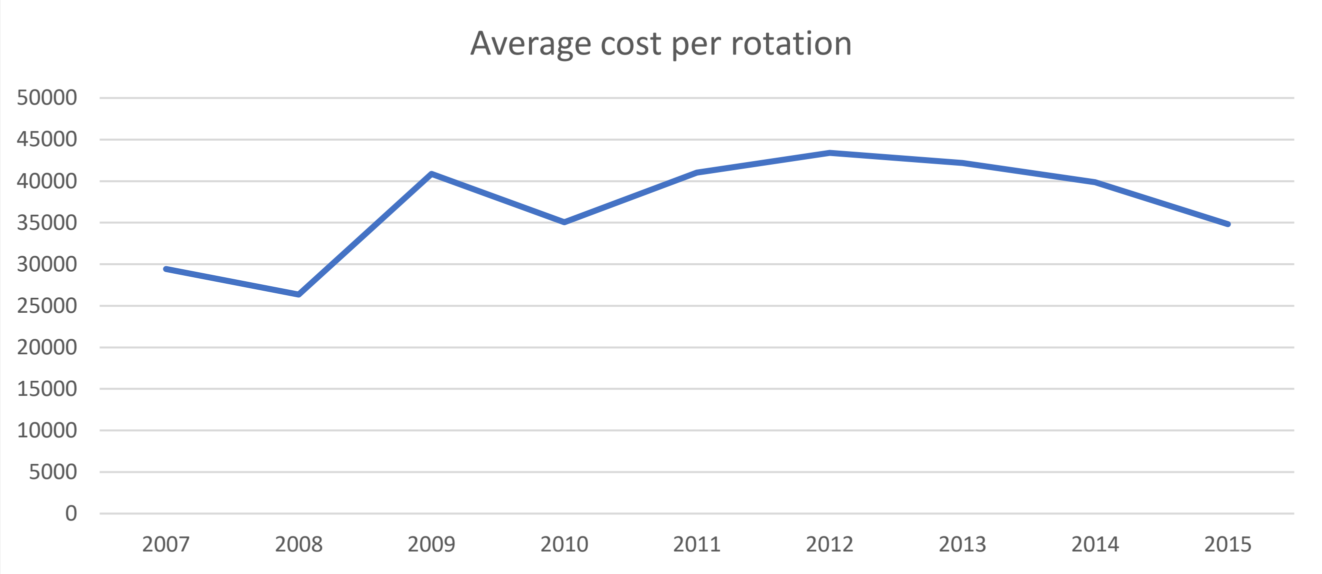
Sum of FTE Weeks	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*Total*
Goldfields/Esperance		21				21	56	41	79	218
Great Southern			20	30	61	62	75			248
Kimberley				26	27	64	284	366	364	1131
Midwest/Gascoyne		11		21	31	111	108	110.5		392.5
Peel				32						32
Pilbara		31			52	51	60	72	93	359
Southwest	21	51	42		26	75	61	68		344
Perth Outer Metro	21	242	218	240	409.2	393.5	469	453	349	2794.7
Total	**42**	**356**	**280**	**349**	**606.2**	**777.5**	**1113**	**1110.5**	**885**	**5519.2**

The average expenditure by RTPs per FTE placement week in the PGPPP fell as the program became more efficient, whereby more training was being delivered for each dollar spent.[25]

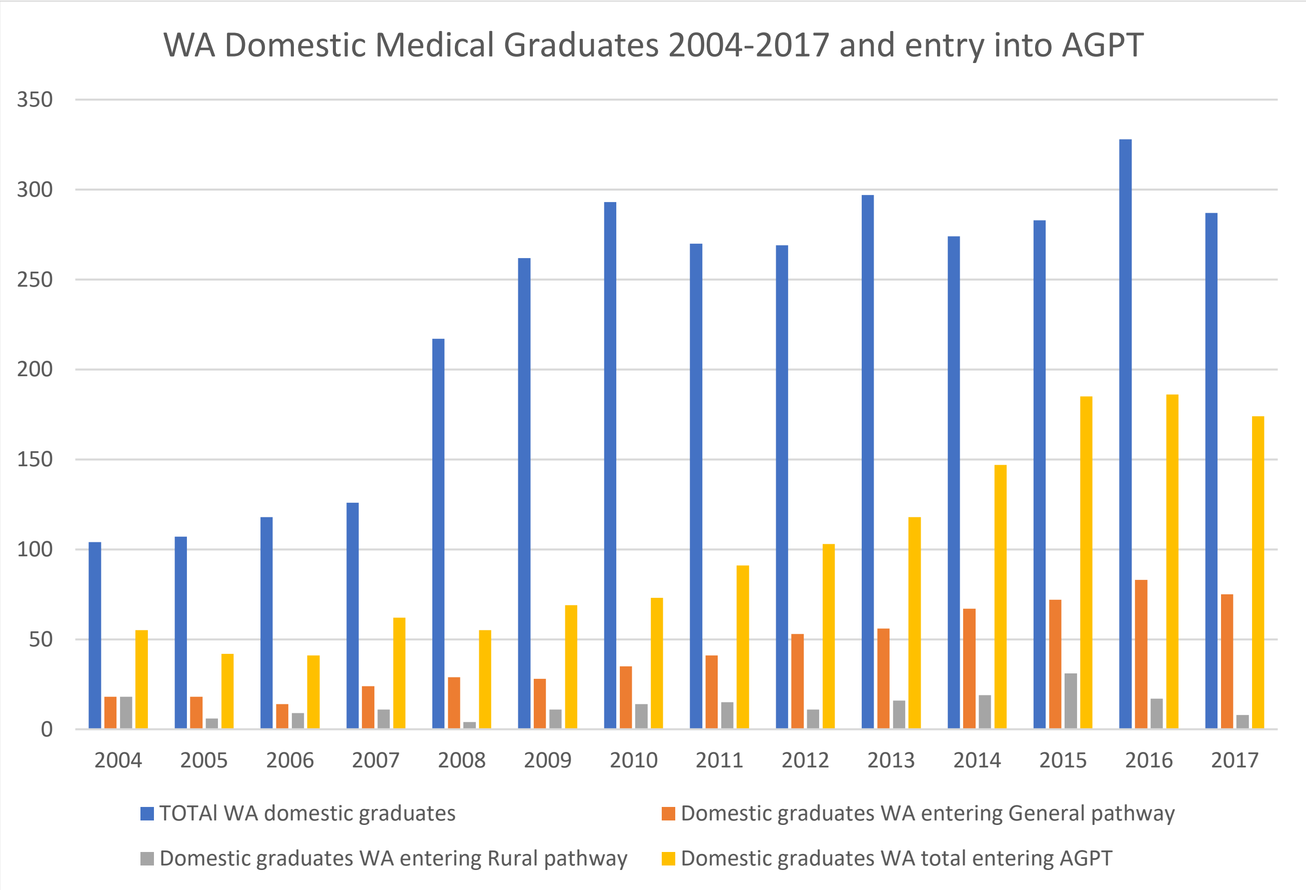
The cost per rotation decreased over time due to increased efficiencies in running the program.

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rotations delivered	4	31	23	35	61	80	115	116	92
FTE weeks delivered	42	356	259	349	606	778	1113	1111	885

[24] WAGPET (2014) Annual Report 2013-14
[25] Pearce R, Laurence C, Black L, Stocks N. (2007) The challenges of teaching in a general practice setting MJA 187(2): 129-32



Programs such as the CRP had a positive impact on promoting general practice through positive prevocational GP clinical experience and converting medical students to become GPs.



The program helped address the need to increase training capacity in WA for the increasing numbers of medical graduates coming through.

The playing field for GP prevocational training programs changed dramatically in 2014. While WA Health and WAGPET were expanding their integrated GP prevocational training, the Commonwealth moved onto a new reality field, with differing set of rules, ways of communicating with the audience and its own way of measuring support and success. The federal government saw the opportunity to invest more in vocational GP training, at the expense of prevocational GP training.

CRP rested on shared funding between the jurisdictional and federal health departments and became a pawn in a much bigger argument about cross-subsidisation. Like many integrated programs, it did not fare well in the political move from decentralisation (responsiveness, flexibility, timeliness, innovation but also inequity and duplication) to centralisation (coordination, streamlining, bureaucracy but also tardiness and irrelevancy).

WAGPET successfully lobbied the WA government to continue its support and funding for prevocational doctors could continue to get hands-on experience in a range of settings, including primary care and Aboriginal Health and in regional and remote areas.[26] For a brief period, it appeared WA Health had in turn successfully lobbied the federal government to continue the PGPPP 3GA MBS provider numbers, but that joy was short-lived. Only 3GA provider numbers from an unrelated rural locum program could be accessed, restricting further the geographical reach, excluding many excellent and deserving locations and services, and adding another interface of organisational bureaucracy.

Under a competitive tender, far from the era of reform and collaboration with which CRP began, WAGPET delivered the whole CRP in 2015 using only WA health funds and access to a limited number of RLRP 3GA provider numbers. The following year WA Health redesigned the program and governance entirely, and WAGPET was no longer involved.

We know nature abhors a vacuum. Whilst the Commonwealth State divide in the end proved too challenging for CRP and PGPPP, both victims of the move away from decentralisation to centralisation, locally collaborative partnerships saw the development of a range of integrated training programs such as the Western Australia Rural Generalist Program (WARG) and innovative approaches to training accreditation such as tripartite accreditation, minimising administrative burden on training practices and posts.

Nationally, different models and commentary proliferated on paper, from various sources, advocates, and agencies,[27] but the federal government remained unmoved until their More Doctors For Rural Practice Strategy 2018-19 was rolled out.[28] There was no immediate good news for those seeking a return of the PGPPP or a fully integrated and funded CRP.

Discovery driven planning means seeing problems in a new way, seeing them in a broader context and making connections between problems with similar structures and/or remote ideas. The CRP prevocational training model embedding the PGPPP in WA proved successful in meeting service needs with learners' needs in terms of integrated hospital/community/GP experience and in increasing training capacity in an innovative community-centric manner. The spotlight had been taken off organisations involved in training and places and placed on the common ground of the service and training context, thus enabling better relationships between otherwise potential competitors.

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[26] Jefferies J and Snowball K. (2015) The Evaluation of the Community Residencies Program HealthFix Consulting access at https://wagpet.com.au/media/as2lugzy/healthfix_evaluation_of_the_community_residency_program.pdf
[27] AMA Community Residency program for Junior Doctors access at https://ama.com.au/sites/default/files/documents/AMA_Community_Residency_Program_for_Junior_Medical_Officers.pdf
[28] Australian Government DOHAC The Stronger Rural Health Strategy access at https://www.health.gov.au/topics/rural-health-workforce/stronger-rural-health-strategy

3. From the dance floor to the balcony: Designing and delivering the GP Project for prevocational and GP vocational doctors

The effects on the ground of the demise of the community residencies program (CRP) and the prevocational GP placement program (PGPPP) that had underpinned it were not felt at first. WA continued to experience increasing applications to the AGPT program, and a form of the CRP had limped on in some quarters longer than elsewhere in Australia.

CRP had always an in-built lag effect, as prevocational doctors usually made their vocational choices 1-3 years following their CRP or PGPPP experience, and so the effect was not going to be immediate in any case. But the 81% conversion rate suggested more than the success of the CRP and PGPPP. It suggested there were a lot of prevocational doctors who were keen on a community-based vocation, and they were looking to 'try before you buy', to explore and upskill for GP before making that significant leap – professionally, socially, financially, experientially.

They were telling us they wanted a prevocational GP experience, and if that was not going to happen by location, it needed to happen by vocation.

Enter the GP Project. Could the existing State funded prevocational experience be reworked so that those considering or wanting or choosing a GP career could experience and upskill in areas relevant to GP before starting as a GP? The GP project was about rearranging the dancefloor and the dancers on it. This could only happen by returning to the balcony to understand the cacophony that was the prevocational training for those aspiring to be a GP.

That prevocational doctors might aspire to a GP career, that more might be enticed that way, was born of a deep and chronic anxiety concerning the current and more significantly, GP workforce in WA. If potentially preventable hospitalisations (PPH) are indeed a marker of primary care failure, the role of the GP workforce in size, place and scope of practice loomed high of the agenda. PPH are a cost not only to patients suffering them and their community, but to the State – rather than the Federal – health budget.

In 2017 the Western Australian Government released a report into State and Commonwealth funding for health care in WA, the Fair share for WA health care report.[29] It demonstrated a significant shortfall in per capita funding for WA though the PBS and MBS.

Further, medical workforce modelling predicted that estimated WA trained specialist supply will not meet demand in 18 specialties by 2025 with a projected shortfall of 9745 general practitioners.[30] There was a major problem looming in WA, with significantly fewer GPs per head of population than the national average and sparsely populated areas, costs of the WA public hospitals 20% higher than the national average and communities not able to access the health care services they needed.

It was not primarily about getting enough doctors to choose GP training and to choose to go rural. The number of GP registrars choosing to train and stay rural was making a positive contribution to the WA

[29] WA Health (2017) A fair share for WA health care accessed at www.health.wa.gov.au/Reports-and-publications/Fair-share-for-WA-health-care

[30] Medical Workforce Report 2015-16. Government of Western Australia Department of Health accessed at https://www.health.wa.gov.au/~/media/Files/Corporate/Reports-and-publications/Medical-Workforce/Medical-Workforce-Report-2015-16.pdf

rural workforce[31], aided by the range of bespoke supervisor and registrar training programs, processes and support packages for GP and RG registrars developed by WAGPET underpinned by robust evidence in terms of the key elements of attraction and retention of rural GPs. However even this would not be enough to meet the need of WA communities for a sustainable robust GP workforce.

It was about the 'preparedness' in terms of competence and capability of doctors to start working in the GP/community setting. Concerns were being raised by supervisors and practices about the quality of vocational GP trainees in terms of preparedness to commence working in general practice with only 19 of the 178 GP registrars GP term ready with recognition of prior learning college training requirements met. The generalist competencies that GP registrars were needing during prevocational hospital training was not as accessible and available as it needed to be. And as the medical colleges grappled with trying to pin down their pre-requisite training requirements based on placement rather than scope of practice, it was becoming harder and harder for prevocational doctors to know what skills would be needed to be ready for GP, let alone be able to access generalist hospital experience.

In 2018 a report into the General Practice workforce supply and training in Western Australia was released[1] highlighting a regionally maldistributed GP workforce and insufficient GP vocational trainee throughput to maintain current GP service provision, let alone that required to service future demand.[32] The evidence was confronting in terms of the severity of the problem and in response the WA Department of Health commenced implementation of the building blocks of a sustainable GP workforce training pathway.

The pilot pathway, called the GP Project commenced in 2020 under the governance of the General Practice Project Committee, a collaboration between the Department of Health, employment health services (public and private) and WAGPET. The pilot started small, dependent on willingness of the health services to not only share their training capacity with others but also have the willingness to change their way of thinking to accommodate GP registrars' training needs in preference to their non-GP specialist trainees. A new way of thinking about designing rosters was required , together with development of a GP-friendly rotational matrix. Not surprisingly , it was the smaller regional hospitals that were the initial adopters in the pilot-in the competitive hospital workplace and training space, smaller hospitals had more to lose when in competition with their larger tertiary specialised colleagues. If they were prepared to pivot into a new way of thinking, they were likely not only to attract more doctors interested in GP- a capable generalist workforce for their hospitals- but also to retain their skills for longer with a dedicated 1-2 year training pathway.

The GP Project was designed as a flexible hospital-based GP training pathway for doctors interested in a career in general practice and doctors enrolled in GP training, allowing them access to GP-suitable clinical experience. The aim of the pathway was to support GP registrars in their first year of their AGPT program and future GP registrars (prevocational doctors with GP intent) through enhanced preparation for entry to community-based GP training through equitable access to GP suitable clinical experiences and allocation to a GP suitable rotational matrix at each participating employing health services within WA Health. In addition, St John of God Midland Public Hospital and Joondalup Campus were the two private hospital sites to participate in the pilot. The team approached WAGPET to identify the priority GP-relevant rotations needed for prevocational doctors to prepare for rural general and generalist practice. The trade-off for a more capable GP registrar by the time they started community -based GP was the health services had GP registrars as service providers for an extra year, if not two.

Several challenges needed to be addressed in design of the pilot, particularly if it was to create a 'GP-friendly pathway' in the hospital. There is minimal visibility of GP and general practitioners in hospital

[31] In 2018 20% of all new arrivals to rural GP were from the AGPT program. In 2011 only 5.4% of new arrivals were GP registrars choosing to stay on once achieving GP fellowship. From Rural Health West Rural General Practice in Western Australia. Annual Workforce Update November 2018

[32] General practice workforce supply and training in Western Australia (2018). Government of Western Australia Department of Health. Accessed at: https://www.health.wa.gov.au/Reports-and-publications/General-practice-workforce-supply-and-training

settings, and this impacts on advocacy and support available for prevocational doctors interested in a career in general practice and for GP registrars, currently employed in the hospitals, needing to complete their GP training requirements. Despite being the largest number of vocational trainees in the hospital system, GP registrars often did not feel comfortable with declaring to their hospital employers, that they were enrolled or intended to enrol in GP training. In turn the health services were deciding on their rosters, on advice from the postgraduate medical council and specialist medical colleges, based on the required number of non-GP speciality training posts as first priority. Rather than consideration of the needs of each hospital and each specialist medical college, the focus needed to shift to WA communities needed now and in the future. This would mean shifting from competitive individualistic organisation-centric approach towards a more collaborative community centric way of thinking- a pivot that would not have occurred without direct involvement of OCMO to make the pilot happen.

The GP medical colleges do not have a presence in the hospital setting meaning that for doctors working in hospital settings advocacy and support rested with WAGPET, delivering such support without recognition, resourcing and/or college standards and policy direction. GP registrars are forced to self-negotiate access to specialty rotations, competing with trainees from other specialty training programs with a greater hospital presence- hardly a way to attract more doctors into a general practice career. In WA the RACGP long ago delegated the accrediting of year one GP training posts to the PMCWA, an organisation with minimal GP presence or experience. The GP Project would correct that obscurity in a bespoke GP ‘pathway’.

The primary employing health services needed to be fully engaged, if this Project was to work sustainably and comprehensively, to share their working knowledge of training posts and available capacity for GP suitable clinical experiences to build a GP suitable rotational matrix. Some individual health service providers did not have the capacity to provide all the necessary GP-relevant medical specialty rotations. Collaboration would be needed in a competitive hospital workforce marketplace, and non-participation could see a competent GP-bound workforce pivot to only those who provided this GP-relevant offering.

The GP Project would need approval from each of the GP medical colleges, and approval from the Commonwealth Department of Health to allow waiver of the restrictive cap on training time for GP registrars enrolled in the GP Project pathway for 2 years. And most importantly, the GP Project needed to meet the needs of the GP registrars and prevocational doctors interested in a GP career, the needs of their employers and the needs of WA communities for safe quality care through safe quality training.

Important lessons had been learned from implementation of the CRP integrated training model. The best governance model is community-centric governance. Program leaders need to be very clear at all times where the WA communities need medical graduates the most, done with the full and active involvement of community- *nothing about us without us.* The overarching governance needs to be flexible with interconnectedness between all governance levels. Avoidance of the Commonwealth-State divide was critical for sustainability. The strong relationships that had been established on a state and regional level by CRP program leaders including WAGPET would ensure local governance remained robust with communities continuing to be involved in decision making and delivery.

Knowing the job to be done means embracing the community and learner’s perspective equally so that service and learner’s needs can be met. The job to be done from the community’s perspective is that they will have access to the health care services and training models needed to support delivery services to meet their health needs, with areas of need prioritised. The job to be done from the training doctor’s perspective is that they will achieve fellowship and that during their training their needs will be met, personal and professional. For the GP Project to succeed it was important to have a deep understanding of the junior doctors’ needs and be able to balance this not only with the service needs of the health services but with the needs of WA communities.

GP Project pilot delivery needed to be 'learn by experience', learning from what can and does go wrong as well as right. The program had to be able to be progressively revised as more was learnt about what participants need for better impact on the ground. Legitimising GP as a training pathway in the hospital meant managing expectations of all, prevocational doctors be they in – or out – of a GP pathway[33], and hospital staff alike. For many of the prevocational doctors, this was the first time they had appreciated that their hospital clinical experience could more solidly, accountably, and transparently form an essential part of their GP training. Being in the GP Project meant being in GP training right from the start of their training and not just when they started working in the community. This gave them a new appreciation of their hospital clinical experience. They no longer needed to negotiate each hospital rotation they wanted for whatever trade-off was required. They were delivering a service, of course, but more deliberately acquiring hospital-based clinical experience they needed to be prepared to deliver safe quality clinical care in the community.

For instance, some highly specialised 'niche' hospital rotations – or leave relief – might meet GP fellowship training requirements but would not provide the generalist clinical experience registrars needed. Whilst the GP medical colleges might feel comfortable to accredit these posts as suitable pre-requisite hospital experience, the GP registrars themselves were saying loud and clear that this hospital experience in highly specialised rotations was not preparing them for the job they would need to do in general practice.

Conceptually and practically, it was important to be able to recognise and manage reinforcing and restraining dynamics in any apprentice-based training program – those between workforce and training, between organisations' agendas and organisational priorities, and between different vocational training programs.

Understanding each other's needs was critical and for the health services that meant being able to balance their individual workforce requirements matched to the training needs of their doctors. Having a better understanding of the GP training requirements and a GP-friendly rotational matrix meant the employing health services felt better prepared to be able to provide their GP registrars with the clinical experience they required in their hospital training.

Most of the doctors participating in the pilot felt it was valuable not to have the pressure of negotiating with their employing hospitals for the rotations they required. In turn, they felt better prepared to commence working in their GP terms, knowing that their hospital experience was integral to their training.

GP registrars became a visible training workforce in the hospitals, via their involvement in the GP Project and GP became visible as a legitimate medical specialty to train towards while in the hospital setting, giving the specialty more credence. Not only were the GP registrars' needs being listened to and addressed, but the hospitals were gaining a better understanding of how to balance their employment needs with their doctors' training needs. Ensuring the visibility of the GP friendly rotational matrix was critical because it gave the health services the knowledge that they needed to create GP-friendly rotations.

Ensuring the visibility of GP training in the hospitals was also critical for the junior doctors because it gave them greater understanding of what clinical experience they needed to obtain. When learning gaps were identified that meant they would not be ready to commence working in GP, these took preference over their 'job' preferences for suitable hospital rotations -sometimes creating disappointment at the start due to unmatched expectations on the part of the junior doctor, but

[33] There was initial concern that identifying prevocational rotations in key areas such as obstetrics, paediatrics, anaesthetics, psychiatry, palliative care, emergency medicine, general medicine, general surgery, and geriatrics would disadvantage vocational training for those specialising in these areas. The analysis of the 'dance floor' showed enough rotations could be prioritised for non-GP specialist training leaving sufficient for the GP Project requirements. There were many stakeholder meetings to discuss and reassure around this and other points supported by solid data across the system.

ultimately leading to better understanding of what it would take to provide safe quality care in the community.

Where it was not possible to have endorsement of community-centric governance from all parties, or recognition of the importance of the GP Project to the doctors involved as well as the whole State who would benefit in time, remaining community-focused in terms of deep purpose meant that tension could be utilised to look at different types of training models and how they are resourced, with consideration of the types of innovative hybrid models that could be used to ensure successful delivery of community-centric training without deviating from core purpose.

Participants in the GP Project included eligible newly selected GP registrars, current GP pilot registrars (returning for a second hospital training year) and prevocational doctors with GP intent who had been allocated to unfilled matrix positions by their employing health service. The GP Project was a win-win for all parties, if there was ongoing commitment to collaboration and working together for the common good of building a sustainable GP workforce to meet the needs of WA communities.

GP Project Entry Year	2020	2021	2022	2023
Enrolled in program	43	46	53	43

The GP training and workforce supply report mentioned earlier provided the modelling to identify networked training matrices to achieve GP training entry requirements. The education requirements were mapped out, working with WAGPET to integrate college fellowship standards, and known contextual needs in WA communities. The development of rotational matrices that mapped out the hospital clinical experience required for GP registrars to become GP-ready not only made it easier for hospitals to know what clinical experience their GP registrars needed but also demonstrated to junior doctors what skills they would need to be ready to start their community-based training.

Absent the CRP as its key marketing activity, WAGPET delved deeply and directly into all WA hospitals, and supported the GP Project fully. A part of its regional training hub model, WAGPET had already appointed hospital Program Training Advisors, whose role it was to engage with, promote and provide information on the GP training program to junior doctors and support doctors already enrolled in GP training in their hospital years.

A dedicated rural and dedicated metropolitan hospital PTA was employed by WAGPET to work closely with the GP Liaison Officer at each hospital and assist with recruitment of junior doctors into the rural pathway (WARG) and career navigation for medical students and junior doctors. The PTA also identifies if there is any capacity to look at accreditation of Advanced Rural Skills Training (ARST) and Advanced Specialised Training (AST) disciplines. The work these PTAs were doing in the hospitals proved invaluable in the delivery of the GP Project. The GP Project gained these PTAs greater entry into the hospital system from a medical workforce planning perspective, meaning that for the first time they were able to sit down with the medical workforce units to talk about the GP/RG training requirements and plan GP-friendly rotations together.

WAGPET provided access to all its educational resources, most particularly the education resources hubs and learning management system for GP Project participants.

The hospitals taking part in the GP Project were able to secure a stable, more directly supported and recognised prevocational and vocational doctor workforce, minimising the disruption caused by clashing of timings of the nationally determined AGPT program and RGTS selection and entry process with hospital employment calendars.

GP registrars were able to access GP suitable rotations that would meet their GP term fellowship requirements, and this together with access to mentoring and educational support from WAGPET meant that they felt more confident and competent to start their GP terms. Having the ability to complete a second year in the GP Project if they wished, provided increased security for GP registrars that they would feel better prepared to commence working in general practice and gave prevocational doctors interested in GP training a visible hospital GP training pathway, knowing that any learning gaps would be able to be addressed before they were 'promoted' to GP registrar in a quite different setting.

Having the GP Project and dedicated hospital PTAs meant that for 2022 selections, WAGPET was able to fill above the quota for both general and rural pathway GP registrars, filling 12% more training places on the general pathway and 6% more on the rural pathway. WAGPET successfully applied to take all these additional doctors on to the AGPT program, for no additional funding.

The report into GP medical workforce supply and training had shown there was sufficient training capacity within the system if there was a dedicated focus on the development of GP suitable rotational matrices. Pilots such as the GP Project needed to be prepared for setbacks and at time failures in order to learn from when things go wrong. And changing longstanding behaviours and ways of doing things is hard work, particularly when learning new dance moves and learning to dance in sync. The strong relationships built over time during the delivery of the CRP and WA Rural Generalist Program (WARG, which had evolved from the WA Rural Pathway established in 2008) as well as the various collaborative activities designed to attract medical students and prevocational doctor to GP and rural training, meant that sharing of knowledge and ideas led to innovative ways of tackling issues, and setbacks and clashes between different organisational policies and processes could be identified and resolved earlier, minimising disruption to the project and to participants on the ground. This would be essential for bridging the divide between GP and hospital, for better integration in terms of both training and workforce.

Programs such as the Community Residencies, the GP Project, WARG and the AGPT in WA have been successful when they have been community-focused in deep purpose and community-centric in governance. These projects and programs have been integrated in nature, all questions being asked coming back to the deep purpose of supporting doctors to deliver safe quality accessible affordable care where it is needed the most through safe quality accessible affordable accredited training and education. It is what holds the effort together in the absence of formal governance structures and where relationship capital based on common agreed purpose is critical.

Since WAGPET ceased training doctors through the AGPT program, the GP Project has become the GP Hospital Training Pathway. The participating hospitals now include WACHS, tertiary hospitals of North, South and East Metropolitan Health Services, Perth Children's Hospital, and various private hospitals. The two GP medical colleges are responsible for identifying the hospital rotations deemed relevant for the initial years of GP training and undertaking the training needs assessments of prevocational doctors enrolled in the pathway. The opportunity to complete a second year on the pathway is provided on a case-by-case basis by RACGP or ACRRM.

An integrated education and training system is no longer possible and having integrated supporting systems for data sharing and integration of training systems system-wide proved a bridge too far for the GP Project. There is much to learn as the pathway expands and it is hoped that old ways of competition rather than collaboration do not get in the way of progress.

We trust that the ongoing journey of programs, such as this one, continues to be a knowledge translation journey, taking implicit and tacit knowledge and translating this into understanding and sustained knowledge use, with personable relationships and respectful partnerships with community at its core. From the dance floor to balcony back and forth, ceaselessly, infinitely.[34]

[34] Carse, J. (1986) Finite and Infinite Games NY: The Free Press Macmillan

WAGPET

4. From the Balcony to the Dance Floor and Back Again: Navigating the interdependence that impacts prevocational training in delivering of health outcomes

Interdependence and the PGPPP, Community Residencies and the GP Project

There is a wealth of evidence for the importance of primary care to a well-functioning health system. Seminal work by Barbara Starfield and her colleagues demonstrated that primary care is associated with a more equitable distribution of health in populations and helps prevent illness and death, regardless of whether the care is characterised by supply of primary care physicians, a relationship with a source of primary care or the receipt of important features of primary care. Starfield emphasised the importance of primary care not in terms of the nature of the practitioner, but in terms of the primary care services being delivered- as first contact for patients when a problem develops as well as accessibility for those who needed it the most.[35]

More than two decades on, we are still trying to deliver a health system that meets the needs of our communities[36] and coming up short - seemingly a paradox given that we have a well-established general practice system in Australia with GP recognised as a medical specialty and its own dedicated Commonwealth funded postgraduate training programs. And at the same time our current and future medical graduates are calling for more opportunities to live and work in rural and regional communities[37] and increased access to quality general practice experience[38].

We have seen how the federal government ‘imposed’ the PGPPP, given what they had seen from the ‘balcony’. It was based on a previous ‘dance’ but nationally designed and implemented, and those on the dance floor in turn had to adapt their prevocational training steps. So, in WA we redesigned the offering towards the more relevant, practical, and effective Community Residencies Program (CRP).

We, too, had seen on the dance floor there were not enough GPs in WA, but even more troubling, there was no rhythm, no music, no real pathway for prevocational doctors in the hospital-based state health services that might lead them in time to becoming a safe, quality GP with a community-centric scope of practice.

The GP Project took a different approach, starting with the ‘dance floor’ and analysing each of the very steps of the prevocational training ‘dance’, culminating in the matrix of all available prevocational rotations, and only then then took the ‘score’ to the balcony for their perspective and support – the GP colleges, the AGPT program funders and the non-GP stakeholders.

Clearly, delivering something so new and needed was not about the balcony or the dance floor per se, but the dynamic between them, unceasingly spiralling, adapting, informing, changing – based on a common question rather than an immutable conclusion, mutual respect rather than blind obedience, leadership strength more than conferred power, humility more than arrogance, and curiosity rather than defensiveness. Overlook either or overstay a welcome at either the balcony or the dance floor at great peril, as the complex system will continue to evolve and adapt (not always well) in response to a multitude of factors, for many of whom we see only through their effects on other elements – the dancers, the musicians, and those watching on from the audience (the community) or the balcony.

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[35] Starfield B., Shi L., Mackinko J. (2005) Contribution of primary care to health systems and health Milbank Q. 83(3): 457-502

[36] Australian Government Department of Health (2021) National Medical Workforce Strategy 2021-2031: Investing in our medical workforce to meet Australia’s health needs

[37] AMSA (2019) Media Release - Australia’s future doctors push for rural training pathway

[38] AMSA Report Medical Student Interest in General Practice - Reversing the Trend: Government, Universities and General Practice Colleges. 16 November 2022. Accessed at: https://www.amsa.org.au/Web/Advocacy/Media-Releases/AMSA_releases_recommendations_to_address_general_practice_shortages.aspx

This interdependence[39] – more so than dependence or independence – underpinned our involvement in the prevocational space, like all our business when training and supporting doctors to work where they were needed most so they could deliver safe, quality, accessible, affordable care to their community in context. Interdependence posits that all existence is contingent, and not inherent. A phenomenon only exists in relationship, is dependent on other contingently existing things. There are no bounded, independent, inherent, phenomena we can observe, either, because we are also contingent.

What Starfield and her colleagues were describing is a health system that is interdependent in nature. What was happening in WA was not unique as a problem, happening in one state only. The very nature of the health system was also in trouble. What happens when the interconnectedness and interrelationships within the system are disregarded and disrupted – just as across the balcony and the dance floor – changes the very nature of the system itself. Arguably, the problem of the 'black hole' of GP prevocational training was an effect due to the dynamics in the system, entropy and carelessness keeping it that warmly comfortable, low energy demanding, balanced state.

Whatever the GP prevocational training initiative, these interdependent elements in relationship with each other would have to be addressed if a new pattern of interdependence was to be sustained.

The Organisational Perspective on Pluripotential and Differentiating Prevocational Doctors

The length of time it takes to train a doctor means short-term changes to training levels are not an effective or suitable response to short-term imbalances between supply and demand. Since 2005 we have seen an 8.9% growth each year in junior doctors[40] with limited capacity to train this ever-growing cohort. We knew that there was a problem looming in 2014, when Health Workforce Australia was predicting a shortage of 1000 advanced training positions by 2030[41] and by 2019 the growth in interns (126%) was outstripping the growth in advanced trainees (9.5%) to such an extent that it was evident that there would not be enough training positions or indeed post-fellowship jobs for these graduates going forward.

By 2017 prevocational doctors made up nearly one third of the national medical workforce (29.9%). The iceberg was in sight but how was the 'Titanic' that is the medical specialty training system responding? The training accreditation system is a system of many moving parts, not well interconnected in nature despite its interdependence. The number of training places are determined by the number of accredited hospital training posts that become vacant. The responsibility for funding of training positions rests with jurisdictions for non-GP training, and with the federal government for general practice. Medical colleges have the responsibility for accrediting specialty training positions, postgraduate medical councils for accrediting intern training positions and monitoring the education and training of junior doctors. And health services needed an ever-increasing medical workforce to meet the demand for increased specialised in the major hospitals. Even if the iceberg problem was now visible, everyone was seeing the problem through their own individual lens.

What was not being asked is what do our pluripotential doctors need – what was the job to be done, for them, the community, and the health service in which they work and train? Prevocational doctors are pluripotential doctors, many options before them, and not always do they – or should they – accept the mould of medical specialty training which is designed to encourage early streaming from PGY2 onwards in a competitive fashion. This has led to postgraduate training pipelines, exclusive in design, to attract those doctors who have decided on their medical specialty choice at an early stage

[39] Sharma, K. (2015) Interdependence: Biology and Beyond NY: Fordham University Press
[40] Scott A. The future of the medical workforce (2019). Melbourne Institute: Applied Economic & Social Research, University of Melbourne
[41] Australia's Future Health Workforce – Doctors August 2014. Accessed at: https://www.health.gov.au/resources/publications/doctors-australias-future-health-workforce-report?language=en

and for the medical colleges these pipelines are a means of member recruitment and specialty status. In this way, the system has been self-replicating – based on the metropolitan tertiary hospital view of services to be delivered and how patients should pivot, whatever their other life needs.

The federal government moved to at least have some of these non-GP specialist programs deliver better where their doctors were needed most, and by 2017 the focus was on expanding vocational training places, particularly rural and remote through the Specialist Training Program (for the vocational non-GP specialist registrar) and increased vocational GP training places (AGPT for the vocational GP registrar). However, opportunities for prevocational doctors to experience GP were slim, following the cessation of PGPPP in 2014.

The AGPT program might have attracting enough applicants, massively helped by the PGPPP as least in WA, but not enough of sufficient capability, not enough willing to go where they were most needed. This latter distributional requirement as a condition of acceptance into vocational training was not applied to non-GP vocational training. New restrictions for IMGs to be on a training program came into force, further distorting the distribution of safe, quality, affordable, accessible care. The CoVid restrictions were icing on the cake, and meanwhile, no one quite knew – or was fessing up – where the three times as many medical students, interns and prevocational doctors were. The hospital-based health system absorbed all and asked for more.

Despite best intentions, and some less so, medical training and workforce had become a fragmented tug-of-war, and the forces of interdependence were forming a system of health care only indirectly related to community health care need or necessary outcomes.

The Prevocational Doctor Perspective on Career Design and Navigation

We have learned a lot from implementing integrated prevocational training models towards meeting the needs of pluripotential doctors. The passage, for most, through medical education and training may seem an ordered progression – thanks to interdependence, the system will continue to adapt and function despite and perhaps because of significant disruption – but also in a relatively distorted, disorderly way, less related to optimal functioning and more dependent on underlying forces less amenable to change even over decades, if not centuries.

For many doctors, their career journey takes a circuitous way, influenced by growing and changing interests and needs as they learn from the environment that becomes familiar and manageable, if not ideal for them. For instance, there is a large cadre of junior doctors PGY3+ who are not in recognised training positions, providing valuable service in hospitals across Australia as career medical officers – or hospital non-specialist doctors – practising in a variety of medical specialties and perhaps avoiding both the cacophony and the restrictions of vocational GP training.[42] This group of doctors had 'chosen' to remain pluripotential – capable of undertaking a multiplicity of registrar level roles in the hospital setting, with a broad range of experience and skills not restricted to just one accredited specialty training. They do not fit the mould for vocational training, undertaking as they do the same work as medical specialty registrars but outside a training program framework. Eventually though they may 'differentiate' from their pluripotential status, firstly into a general medical or general surgical specialty, and then further into a sub-specialty of either.

At this point their pluripotential nature is all but lost. It is very hard to back track.

Doctors working as career medical officers PGY3+ often do enrol in GP RG training only to defer and then perhaps withdraw, disenchanted with the college-set training requirements that sometimes require them to go back into the hospital system for their first GP RG year. In turn they also lose their leave entitlements and undertake significant pay cuts on exiting from the hospital into general practice. Single employment models may address some of the issues in terms of industrial

[42] Ward, J. and Davenport, T. (2021) Medical Career Choices access at https://wagpet.com.au/media/jetbzs5o/medical-career-choices.pdf

arrangements but will not address the restrictive college training requirements or ease the passage between hospital-based care to general practice for these doctors especially.

There is, therefore, a group of 'prevocational' doctors we can think of quite accurately as a 'lost tribe'. They are extremely diverse in character, experience, and intentions, and are both AMGs and IMGs. They have mostly commenced non-GP RG specialty training, formally or informally, but then realise that it is not the career for them – by their choice or that of the non-GP RG specialty college who does not take them on. Curiously, they are not often a group of interest from those on the balcony for whom they seem largely invisible. On the dance floor, however, they keep the rhythm, the beat, the functioning of the whole as other doctors and health staff come and go, and mostly no one wants to see them leave. Recognised as critical to their service needs by the employing hospital, they are usually treated well, with preferential rotations in their area of interest.

The AIHW primarily groups career medical officers within the category "Hospital non-specialist workforce". This includes doctors in training (interns and resident medical officers) and career medical officers (CMOs), hospital medical officers and other salaried hospital doctors (OSHPs) who are not specialists nor in recognised training programs to become specialists. We need to start listening to their needs and the jobs needing to be done from their perspective, so that we can meet our communities' health needs.

These PGY3+ doctors are not eligible for programs such as CRP or the GP Project and yet are most in need of that generalist experience to become GP ready. How to 'regrow' or 'recover' their pluripotential nature respectfully, empathically, without great disruption for them or the system they work within is a challenge for GP RG and workforce leaders across Australia.[43]

We need to include all 'prevocational' doctors now, in our planning and offering, however many years these doctors may have served the hospital-based system. This means taking an individualised 'career navigation' viewpoint to understand the job that needs to be done, for whom and by whom, to have more of them consider delivering safe quality care where they are needed most through being trained and supported by that community. Prevocational training pipelines to date – from either the balcony or the dance floor – have not been designed with all prevocational doctors in mind, and our more experienced PGY3+ doctors are not able to access these programs, because of their seniority in terms of clinical experience.

If we are serious in our intention to recruit as many doctors into general practice as we can, these doctors should be a major focus of attention for the GP medical colleges, and if we are serious about the importance of generalism and general practice, then those who embrace for longer periods their pluripotential nature are possibly those we need even more so to be promoting as the ideal baseline for a career in general practice.

[43] Returning cells to a pluripotential state once differentiated remains a quest for biology, raising some key forces at play e.g. see Buckberry, S. et al Transient naïve reprogramming corrects hiPS cells functionally and epigenetically Nature (2023) https://www.nature.com/articles/s41586-023-06424-7

Training Programs and Pipelines

A lot of interest and attention is generated about training pipelines, as a means of recruiting doctors into preferred specialist medical programs, such as general practice, and a way of addressing workforce shortage areas[44] [45] [46] [47] [48].

We now have over 30 regional training hubs, a component of the Integrated Rural Training Pipeline for Medicine (IRTP) and established with funding from the Rural Junior Doctor Training Innovations Fund (RJDTIF), rural coordination units established with funding from the Stronger Rural Health Strategy, university rural health units and rural clinical schools all feeding into the intended outcomes of integrated training pipelines for rural GP RG practice. And there are two medical colleges delivering education and training for the specialty of GP and RG, each seeking to differentiate from the other in terms of fellowship pathways and programs and training requirements but not in terms of intended scope of practice and service delivery. The problem remains that interdependence tells us that systems are not bound by linearity and rarely move in one direction only (except towards entropy, which these interventions sought to revert by an injection of new energy in the most efficient and effective way).

We understand a pipeline approach appears to some to be better than nothing, better than an otherwise seemingly bleak and empty space. Workarounds offer a temporary sense of relief that something is happening, but little sense of their necessary effectiveness or continuity. Few ask what led to and is now keeping the system that way.

We would argue from our experience that workarounds – like pipelines – are mostly unsustained through being insufficiently supported by other elements in the 'system'. We would argue that with a systems approach is needed to ensure all the relevant elements – apparently or inapparently disconnected but in fact deeply embedded elements – must align to work with – rather than is often the case against – each other. These elements include all who seek a safe, quality, accessible and affordable healthcare service. They include patients, advocates, service deliverers, leaders, funders, accreditors, and all the different health care bodies that underpin that system.

Vocation or Location: Delivering Safe Quality Care Where it is Needed Most

Perhaps we have steered off course and away from the work of Barbara Starfield, focusing too much on the specialist nature of practitioner and not the services needing to be delivered. And in turn we have failed to meet the needs of our future medical practitioners, who want to remain generalist in their skills and stay pluripotential in their nature for longer, working in hospital settings in a diverse range of clinical rotations for longer before they decide on a GP career. We know that doctors enrolling in GP training are often older and the reasons for enrolment delay are multifactorial[49], including limited exposure to GP role models and GPs at work may mean they are less likely to be sure about their career choice than other registrars. GP registrars are generally older on admission to medical school as well as into GP training and more often have dependents. It is not that they don't

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[44] Murray RB, Craig H. A sufficient pipeline of doctors for rural communities is vital for Australia's overall medical workforce. Med J Aust 2023; 219(3): S5-S7

[45] Australian Government Department of Health (2023) Specialist Training Program and Integrated Rural Training Pipeline accessed at: https://www.health.gov.au/our-work/specialist-training-program

[46] Payne H. Call a plumber, we're fixing the training pipeline. Medical Republic 5 Augustt 2022. Accessed at: https://www.medicalrepublic.com.au/call-a-plumber-were-fixing-the-training-pipeline/74406

[47] RACGP profession-led community-based training operating model. Accessed at : https://www.racgp.org.au/FSDEDEV/media/documents/Education/RACGP-profession-led-community-based-training.pdf

[48] Medical Deans ANZ (2023) The Doctors Our Communities Need: Building and Sustaining the GP Workforce in Australia and New Zealand accessed at https://medicaldeans.org.au/md/2023/MDANZ-General-Practice-Paper-Sep-2023-pdf

[49] Davenport T, et al. (2020). Medical career choices: Decision points, career intentions and training characteristics. Perth WA, WA General Practice Education and Training (publication available from author on request)

find the work of being a GP rewarding, it is more about navigating that step from the 'known' of team-based hospital work to the 'unknown' of community-based general practice.

The Systems Level Perspective: How Individual v Purposeful Actions Impact the Outcome

It is easy to forget the underlying force of interdependence – that the results of a system are less shaped by its individual parts than by how the parts relate to one another. Looking for relationships between elements in a system allows us to anticipate and prevent all kinds of failures and breakdowns and allows us to learn from the failures that will – and do – occur, especially with innovation.

Whatever else is mooted, the true cause of system failure is that individual 'dancers' try to optimise their own part of the system – or dance – and do not return or listen to those on the balcony often enough – and do not consider how their actions will impact others before deciding or acting.

'Supply chains' are particularly vulnerable to system failures. Various policies and practices are designed by experts in one part of a complex system or in the supply chain, reflecting the logic that makes sense to them. Meanwhile unintended consequences are experienced in another part of the system, thanks to interdependence. Finding a common and compelling deep purpose for the endeavour, and understanding the whole of the system in play, are critical, with two questions being asked continually:

1. Who and what else will be affected by this decision or action?
2. What additional consequences might this decision or action cause in the future?

Avoiding quick fixes and workarounds in these situations is essential. Redrawing the boundaries of a decision or action helps to reinforce a key priority – say quality, safety, affordability, accessibility of community-based care – so that all or most elements reinforce each other towards that end.[50]

Underlying Principles of the Community Residencies Program and the GP Project

Our deep purpose, to which all individual decisions and actions needed to meet, was to understand fully what it meant to be community-centric, to use discovery driven planning and foster curiosity rather than blame, to look backwards to see how each initiative must operate given requirements and success and return on investment and to uncover courageously where many of the dangerous assumptions resided, especially those hidden in operational delivery. These are the intentions of a well-developed innovation.

Resolving the training for the pluripotential doctor who is concurrently delivering services for their patients (community- or hospital-based), we believe goes back to basics of what is the job needing to be done. This requires addressing the perspective of patients and their communities as well as that of those wanting to be generalist in nature, pluripotential in terms of capability and not defined by medical specialty alone.

A deliberate focus on a functional perspective that is community-centric embraces the complex adaptive nature of training while enshrining the delivery of safe quality care and safe quality training. It is applicable at a patient and community level, at an individual doctor in training level, at a training facility level, at an organisational level, at a college and regulatory authority level and across the training and workforce system.

[50] Edmonson, A. (2023) Right Kind of Wrong: The Science of Failing Well NY: Atria Books ch 8

The Community Residencies Program with its embedded PGPPP and the GP Project are examples of such integrated medical training pathways, based on enabling local regions to identify areas of confluence, divergence, collaboration, and individuality, so service needs are met alongside learner's needs. Medical training programs like the CRP and GP Project were tailored for scope of practice, for instance, to do both the doctor and the community justice.

For each of the programs we describe there are five key elements that we believe translated into understanding of what worked well as well as where, when, and why the intended outcome of integrated training systemwide ultimately remained out of reach. These are:

1. The core principle of community-based community-centric governance – known as nothing about us without us.[51]

2. The 'jobs to be done' customer-centric approach to innovation' – knowing what is the real, rather than assumed, need our service or product is meeting.[52]

3. The importance of meaning in healthcare for patients and doctors because healthcare is not all about money but much more, about interrelationships and meaning that leads us to GP as a patient, as a doctor.[53]

4. The fundamental drive of interdependence and communication that underpins success or otherwise in healthcare/training/workforce innovations – every element is profoundly changed by their inter-relationships, not just the sum of elements and their interactions.[54]

In the cycle from decentralisation to centralisation, a common theme is that integration typically fails where it involves excessive centralisation (loss of engagement as contextual needs or lost) or excessive decentralisation (loss of consistency and value for money). This concern limited the success and lifespan of programs such as PGPPP and in turn CRP, even when the balance was present on the dance floor. Both programs crossed organisational and political boundaries, as well as professional and geographical ones. To manage this complexity, there remained always a concerted effort to remain focused on the context in which training is to be provided. This required recognition of common ground as the areas of confluence, divergence, as well as the areas where cooperation and collaboration are required.

Perhaps to explain the demise of PGPPP and thus the CRP, the balcony and the dance floor had stopped communicating effectively on their shared problem, stopped learning from each other as the dance went on, stopped sharing their intentions and perspective. Hopefully there is a lesson learned in that, if so, for the still extant and booming GP Project.

The Future for Community based, Minimally Disruptive, Health Care Through Training and Supporting Prevocational Doctors

As we get closer to our projections in terms of workforce modelling of 2025 and 2030, we still have a medical training and workforce system not well aligned, with major workforce shortages in many areas and imbalances in service delivery. For general practice to work optimally it requires effective integration between primary and secondary care. Without such interconnection, the system works less efficiently and effectively and tension within the system creates a new equilibrium but with

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[51] Bell, J. and Atkinson, K. Stocktake: The Impact of the AGPT Program 2001-2020 accessed at https://wagpet.com.au/media/w4ghf25d/agpt-stocktake-papers-2001-2020.pdf

[52] Christensen, C. et al (2016) Competing Against Luck NY: Harper Collins but any of his books including The Innovator's Prescription concerning the health care system or The Innovator's Dilemma or The Innovator's Solution

[53] Heath, I. Montori V. et al (2023) Responding to the crisis of care BMJ 380: 464

[54] Thiese, N. (2023) Notes on Complexity: A Scientific Theory of Connection, Consciousness and Being Ch 8 NY: Speigel and Grau

unintended and unforeseen consequences. The new equilibrium may look unchanged on the surface but as the tensions become entrenched, an unhealthy and less stable balance results. The less stable balance over time has led to a healthcare system that is in critical condition[55].

Transferring responsibility for delivery of GP RG training to the GP colleges was heralded as 'transformative' in terms of improved outcomes and encouraging more medical students to become GPs[56]. But we remain in serious trouble. The GO8 recommendations include the need for a secure supply of domestically trained medical practitioners, with the requirement of at least 1000 additional domestic graduates per year[57]. A recent minister-led health workforce roundtable concluded WA alone would need an additional 1000 doctors, or 25% more than now, to work in the hospital-based system within ten years, without even thinking about the needs for community-based GP RG practitioners.[58] AMA research confirms the national picture and predicts even greater shortfalls.[59]

But the AMA also warns, 'more medical students' does not necessarily mean that medical graduates will work in the locations and specialties where they are needed. The AMA calls for more prevocational training opportunities in general practice, expansion of the Specialist Training Program and more end-to-end rural medical training programs.[60] More and more doctors are being heralded as needed, but what are the jobs they will do to meet community need, and will they receive the training they require to be capable of undertaking those jobs?

Going Forward: New Dance Steps and Perhaps New Music

But what does this all mean for our more pluripotential doctors, including our career medical officers? They have been excluded from prevocational training pipelines into GP and remain the 'square peg in a round hole' in terms of restrictive specialist training requirements. The job needing to be done from their perspective is yet to be heard. And what does this mean for our communities, particularly our rural and remote communities, at higher risk of chronic disease but with less access to primary healthcare services and increased costs of health care, particularly when needing to travel long distances for hospital care. When we ignore the importance of scope of practice matched to community health needs, our communities suffer as can be seen, looking at the geographical variation in primary healthcare service utilisation and potentially preventable hospitalisations.[61] [62]

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[55] Tekhno Med. Our healthcare system is currently in a state of disaster. Published May 6, 2023. Update May 23, 2023. Accessed at : https://tekhnomed.org/our-healthcare-system-in-currently-in-a-state-of-disaster/

[56] Price K. (2021) Bringing training back to the RACGP will be transformative. NewsGP April accessed at https://www1.racgp.org.au/newsgp/gp-opinion/bringing-training-back-to-the-racgp-will-be-transf

[57] GO8 (2022) Essential decisions for national success. Securing the future of Australia's medical workforce. Group of Eight Australia April 2022 accessed at : https://go8.edu.au/wp-content/uploads/2022/05/Essential-decisions-for-national-sucess_Securing-the-Future-of-Australias-Medical-Workforce.pdf

[58] WA Government (2023) Health Workforce Summit https://www.wa.gov.au/government/media-statements/Cook-Labor-Government/Summit-to-drive-solutions-to-bolster-WA%27s-healthcare-workforce-20230807#:~:text=Today%20the%20Health%20Minister%20held,WA's%20health%20system%20by%202033.

[59] AMA (2022) GP Workforce: Why the neglect Must End accessed at https://www.ama.com.au/articles/general-practitioner-workforce-why-neglect-must-end

[60] AMA (2022) More medical students not the answer to workforce shortages. AMA News 12 May 2022. accessed at https://www.ama.com.au/ama-rounds/13-may-2022/articles/more-medical-students-not-answer-workforce-shortages

[61] Bell, J. Atkinson, K. and Ward, J. Responding to the Strengthening Medicare Taskforce accessed at https://wagpet.com.au/media/ej2hsgf0/public-summary-national-pphr-v2.pdf

[62] Kuwanda, L. Bell, J. and Ward, J. Latest evidence for primary capacity shows WA is in dire straits Medicus Oct Nov 202 18-23 accessed at https://linkprotect.cudasvc.com/url?a=https%3a%2f%2fwww.amawa.com.au%2fmedicus%2fnovember2022%2f%23page%3d31&c=E,1,W7is50jiIsBitf44QO3eedhcPevrOIrk-B8i2aBU2GlUkWqBx63mbCpGrSXzdXRPklPMJndFlhW5AE14T4c08Dp1pZnqJ65CX2DOz44dvqDkiDYpvHVM8qPDFA,,&typo=1

More demand for specialist training places and increasing complexity in the nature and types of jobs required of the medical workforce in hospital and community care has led to expansion in career medical officers in the hospital setting and locum workforce in both hospital setting and community-based specialist practice, including general practice. The fastest growing category of the rural workforce in terms of rural general practice in WA, is GPs who fly-in/fly-out or drive in/drive-out to their rural practices from the Perth metropolitan area or interstate with a 10.4% growth from 2021-22 2 and 2022 also saw the greatest number of GPs retiring in rural WA since 2014[63].

We need to stop viewing the health system as just independent objects or elements of the interacting. This is a view of independence and has been traditionally how governments, colleges and other agencies have conceptualised training and workforce programs and specialist pathways, modelling, and workforce design. What we have described and believe is important in consideration of the healthcare system is the importance of interdependence and shifting from viewing the different parts of the health systems not in interaction but as mutually constituted.

We need to consider the jobs that our medical practitioners will need to be capable of doing, especially for rural and remote communities. There are a range of jobs a medical practitioner may undertake for a rural or remote community, the nature of the job related to the clinical presentation complexity. The type of medical practitioner may vary but the jobs remain the same. However how the job is undertaken differs depending on the practitioner, with variations in terms of quality of care provided and cost, including resource utilisation.

Programs such as the CRP and the GP Project have shown that there is capacity within our training and workforce system for GP training to co-exist harmoniously alongside non-GP specialist training in the hospital and community/GP setting. We just need to stop limiting access to these opportunities to only our least experienced prevocational doctors, recognising that there is large cadre of doctors who have remained pluripotential in their work, but who might otherwise become excellent specialist GP RGs.

But that is not the case and is not likely to change until we start listening to the needs of our new customers and aim to match their needs with our communities' needs in a community-centric manner.

To begin this realignment, for instance, the definition of a doctor in training could move away from whether they are enrolled in a college fellowship pathway (GP specialist/RG/non-GP specialist) or not, their postgraduate year (intern vs RMO vs registrar), or their type of employment (hospital vs GP). Credentialing and accrediting for capability – both nationally and contextually – are more relevant for the community than awards proffered long ago by discrete and distinct entities seated on the balcony.

With this new vision, we can look to design training program that will acknowledge their pluripotential capability and provide them with the foundations from which they can go on to practice in any healthcare setting, working seamlessly between primary care, community-based settings, and hospital settings.

We have discussed the design and delivery of two integrated prevocational training programs and pathways in WA – the CRP that embedded the PGPPP and the GP Project, focusing on their implementation phases and how WA stakeholders, included WAGPET, worked in partnership within the map of the training and workforce world, utilising the principles of community-centric governance and a "jobs to be done" approach to intention and discovery driven planning. However, this was not to be an instruction manual, and we do not have a crystal ball to see the future, which in any case will always be one of probabilities. We have tried guard ourselves very carefully from trying to expound or to demonstrate, those two illusions.[64]

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[63] Rural Health West (2022) Rural General Practice in Western Australia. Annual Workforce Update November 2022, published July 2023 accessed at: https://ruralhealthwest.com.au/wp-content/uploads/2023/07/Annual-Workforce-Update-November-30-2022_FINAL_06072023.pdf

[64] Lusseyran, Jaques (1963) And There Was Light Calif: Little, Brown and Company

But what we have seen so far is that the problems we are facing in terms of shrinking of our generalist medical workforce and the diminishing interest in general practice as a career[65] cannot be addressed by short term quick fix solutions or throwing money at the problem in the hope it will go away.

It is up to the reader to make the final decision on how they want to utilise, if at all, the information we present. We hope that reading this may lead to some insight into the journey of discovery that each of these programs went on to seek out some different but equally effective ways of meeting the requirements of prevocational doctors as well as meeting the needs of WA communities and how involvement in designing and delivering these programs in turn changed us in a positive manner – becoming more cautious, humble, determined and thoughtful updaters, well-aware of the importance of self-critique and systems thinking.

It is good to know as we each endeavour to deliver safe, quality, accessible, affordable care through supporting and training doctors that every effort contributes to whatever comes next. Elite 'failure practitioners' around the world and through history – athletes, inventors, entrepreneurs, scientists – have taught us all about a unique combination of curiosity, rationality, honesty, determination, and passion that failing well requires. We have been privileged to number ourselves among them.

[65] Playford D, May J, Ngo H, Puddey I. Decline in new medical graduates registered as general practitioners. Med J Aust 2020; 212 (9): 421-422