



WITNESS STATEMENT OF PROFESSOR GRAHAM NICHOLAS MEADOWS

I, Professor Graham Nicholas Meadows MD FRANZCP MPhil MRCPsych MRCP(UK) MB ChB Professor of Psychiatry, Monash University School of Clinical Sciences at Monash Health of 246 Clayton Road, Clayton, in the State of Victoria, say as follows:

- 1 I make this statement in my personal capacity.
- 2 I make this statement on the basis of my own knowledge, save where otherwise stated. Where I make statements based on information provided by others, I believe such information to be true.

BACKGROUND

- 3 I have the following qualifications:
 - (a) Doctor of Medicine (MD) from the University of Melbourne;
 - (b) Fellow of the Royal Australian and New Zealand College of Psychiatrists (FRANZCP);
 - (c) Masters of Philosophy (MPhil) from the Institute of Psychiatry at the University of London;
 - (d) Member of the Royal College of Psychiatrists (MRCPsych) in the United Kingdom;
 - (e) Member of the Royal College of Physicians (MRCP(UK)) in the United Kingdom; and
 - (f) Bachelor of Medicine and Bachelor of Surgery (MB, ChB) from the University of Leicester in the United Kingdom.
- 4 After medical training in the UK, I commenced my postgraduate experience in General Practice, Epidemiology, Public Health and Internal Medicine including gaining Membership of the Royal College of Physicians. I then qualified and practiced in Psychiatry at leading institutions in the UK and Australia
- 5 From 1993 onwards, I established a prominent position in Australia in fields of primary care psychiatry and applied epidemiology, including working as Clinical Lead of the NorthWest Area Mental Health Service, contributing to the development of models of general practice liaison, multidisciplinary training, and individual and population needs

assessment. The development of the Perceived Need for Care Questionnaire (**PNCQ**) was the subject of my doctoral research thesis.

- 6 Since 2003, I have been the Foundation Director of Southern Synergy, the Monash Health Adult Psychiatry Research, Training and Evaluation Centre. Southern Synergy is a Joint Research Centre between the Monash University Faculty of Medicine, Nursing and Health Sciences and Monash Health, who provide substantial funding including for my salary. I focus on innovation in mental health care in Australia, with particular expertise in areas such as GP shared care, resource distribution, applications of mindfulness in clinical mental health practice, and recovery-oriented practice.
- 7 In November 2018, I moved from full time University employment to being primarily salaried half-time through Monash Health — although my role remains primarily a research and strategic one. My Monash University appointment is now an Adjunct one. I also have an Honorary Professorial Fellow appointment with the University of Melbourne School of Global and Population Health. In this role I carry out some lecturing duties and have over time had several active collaborative research relationships with other members of the Centre for Mental Health in that School.
- 8 I am a member of a number of committees or other groups at State and Federal level. I am a member of the General Practice Mental Health Standards Collaboration as representative of the Royal Australian and New Zealand College of Psychiatrists. I am also an invited member on the reference group for the forthcoming National Study of Mental Health and Wellbeing. I was on the similar group for the 2007 National Survey of Mental Health and Wellbeing and also advised on aspects of instrumentation for the 1997 survey. In Victoria currently, I am a member of the Department of Health and Human Services (**DHHS**) Clinical and Operational Reference Group in relation to clinical funding reform and of the DHHS Progress Measures Working Group in relation to the mental health performance and accountability framework.
- 9 Attached to this statement and marked '**GNM-1**' is a copy of my curriculum vitae.

SERVICE DEMAND AND PLANNING

Key characteristics of populations with high prevalence of mental illness and the influence of socioeconomic factors

- 10 In considering this issue it may be useful firstly to present a working definition of socioeconomic disadvantage, which can be seen as having a range of contributing factors. Here in Australia, the Australian Bureau of Statistics (**ABS**) calculates the Index

of Relative Socio-economic Disadvantage (**IRSD**)¹ to classify areas based on an overall concept of socioeconomic disadvantage considered in terms of 'people's access to material and social resources, and their ability to participate in society'.² The list of inclusions in this calculation may be helpful in clarifying what commonly goes into this concept. The IRSD includes contributions from the following variables:

- (a) people with stated household equivalised income between \$1 and \$25,999 per year;
- (b) families with children under 15 years of age who live with jobless parents;
- (c) occupied private dwellings with no internet connection;
- (d) people aged 15 years and over whose highest level of education is Year 11 or lower;
- (e) people (in the labour force) who are unemployed;
- (f) employed people classified as Labourers;
- (g) occupied private dwellings paying rent less than \$215 per week (excluding \$0 per week);
- (h) one parent families with dependent offspring only;
- (i) people under the age of 70 who have a long-term health condition or disability and need assistance with core activities;
- (j) people aged 15 years and over who are separated or divorced;
- (k) employed people classified as Machinery Operators and Drivers;
- (l) employed people classified as low skill Community and Personal Service workers;
- (m) occupied private dwellings with no cars;
- (n) occupied private dwellings requiring one or more extra bedrooms;
- (o) people aged 15 years and over who have no educational attainment; and
- (p) people who do not speak English well.

¹ Australian Bureau of Statistics. IRSD Canberra, ACT2016
<https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2033.0.55.001~2016~Main%20Features~IRSD~19>.

² Australian Bureau of Statistics. Advantage & Disadvantage: the concepts Canberra, ACT2016. Available from: <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2033.0.55.001~2016~Main%20Features~Advantage%20&%20Disadvantage:%20The%20Concepts~9>.

- 11 Research based on Australian populations – and as summarised in a 2018 paper by Professor Anthony Jorm³ has shown that psychological distress is associated with:
- (a) unemployment;⁴
 - (b) low income;^{4,5}
 - (c) low social capital;⁶
 - (d) low social connectedness and social support;^{7,8}
 - (e) workplace characteristics;⁹
 - (f) poor quality diet;^{10,11}
 - (g) limitations on physical functioning;^{7,12} and
 - (h) physical diseases.¹²
- 12 Professor Jorm comments — and I would agree — that there may be limits on the effectiveness of change through treatment where these factors are present and ongoing. Addressing these risk factors may require a greater emphasis on prevention¹³ and on social factors that lie outside the domain of mental health services.¹⁴ Social policy

³ Jorm AF. Australia's 'Better Access' scheme: Has it had an impact on population mental health? *Australian & New Zealand Journal of Psychiatry*. 2018;52(11):1057-62.

⁴ Reavley NJ, Jorm AF, Cvetkovski S, Mackinnon AJ. National Depression and Anxiety Indices for Australia. *Australian and New Zealand Journal of Psychiatry*. 2011;45(9):780-7.

⁵ Enticott JC, Lin E, Shawyer F, Russell G, Inder B, Patten S, et al. Prevalence of psychological distress: How do Australia and Canada compare? *Australian and New Zealand Journal of Psychiatry*. 2018;52(3):227-38.

⁶ Phongsavan P, Chey T, Bauman A, Brooks R, Silove D. Social capital, socio-economic status and psychological distress among Australian adults. *Social Science & Medicine*. 2006;63(10):2546-61.

⁷ Atkins J, Naismith SL, Luscombe GM, Hickie IB. Psychological distress and quality of life in older persons: relative contributions of fixed and modifiable risk factors. *BMC Psychiatry*. 2013;13;

⁸ Levula A, Harre M, Wilson A. The Association Between Social Network Factors with Depression and Anxiety at Different Life Stages. *Community Ment Hlt J*. 2018;54(6):842-54.

⁹ Considine R, Tynan R, James C, Wiggers J, Lewin T, Inder K, et al. The Contribution of Individual, Social and Work Characteristics to Employee Mental Health in a Coal Mining Industry Population. *Plos One*. 2017;12(1).

¹⁰ Hodge A, Almeida OP, English DR, Giles GG, Flicker L. Patterns of dietary intake and psychological distress in older Australians: benefits not just from a Mediterranean diet. 2013;25(3):456-66;

¹¹ Nguyen B, Ding D, Mhrshahi S. Fruit and vegetable consumption and psychological distress: cross-sectional and longitudinal analyses based on a large Australian sample (vol 7, e014201, 2017). *BMJ Open*. 2017;7(4).

¹² Byles JE, Robinson I, Banks E, Gibson R, Leigh L, Rodgers B, et al. Psychological distress and comorbid physical conditions: disease or disability? *Depression and Anxiety*. 2014;31(6):524-32.

¹³ Jorm AF. Why hasn't the mental health of Australians improved? The need for a national prevention strategy. *Australian & New Zealand Journal of Psychiatry*. 2014;48(9):795-801;

¹⁴ Mulder R, Rucklidge J, Wilkinson S. Why has increased provision of psychiatric treatment not reduced the prevalence of mental disorder? *Australian & New Zealand Journal of Psychiatry*. 2017;51(12):1176-7.

changes targeting such issues typically fall outside what is framed as health policy although the WHO has argued that attention to them is critical to improving population mental health.¹⁵

- 13 I am aware of research by Richard Wilkinson and Kate Pickett which has identified a range of social and health problems with social gradients, including mental illness, as more frequent in societies where there is a large difference in income and wealth levels between the rich and poor.¹⁶ The greater the inequality, the worse seem the problems. Combining internationally reasonably comparable data, this research demonstrates that the highest rates of mental illness are in the USA, the most unequal of the rich developed countries, then considering the Anglophone countries, followed by Australia and the UK, then, with lower inequality and lower rates of mental illness, New Zealand and Canada.
- 14 In another book published in 2018, Wilkinson and Pickett described the psychological effects of inequality.¹⁷ They suggested that people who live in more unequal societies have higher psychological distress which results in higher rates of depression, anxiety and suicide. People respond differently to this distress. For instance, they may become depressed or anxious or develop self enhancement and narcissistic behaviour. Rates of psychotic disorder and narcissistic behaviour rates also seem to be elevated in more unequal societies. Inequality affects not just health and mental health, but also the quality of social relations and behavioural outcomes. In more unequal countries, diminished levels of trust and increasing rates of isolation and loneliness prevail, taking their toll on emotional and mental well-being.
- 15 The ABS specifically recommends use of the IRSD where the user wishes to direct resources to more disadvantaged areas. So the IRSD captures a wide range of factors that may influence mental health and wellbeing — as well as incidence, period prevalence and course of mental illness — through material and social deprivation. This includes factors such as:
 - (a) lack of access to transport and to common sources of information;
 - (b) household environments that are likely to be stressful including through overcrowding;
 - (c) lower educational levels; occupations where social status may be relatively low; unemployment and financial stress;

¹⁵ World Health Organization and Calouste Gulbenkian Foundation. Social Determinants of Mental Health. Geneva: World Health Organization,; 2014. p. 54.

¹⁶ Wilkinson R, Pickett K. The Spirit Level: Why Greater Equality Makes Societies Stronger. London: Bloomsbury Publishing; 2010. 400 p.

¹⁷ Wilkinson R, Pickett K. The Inner Level: How More Equal Societies Reduce Stress, Restore Sanity and Improve Everyone's Well-being. London: Penguin Books Limited; 2018.

- (d) relationship breakdown which may go with stress and isolation;
 - (e) generally poor health; and
 - (f) factors that may operate intergenerationally and on families as well as on individuals.
- 16 Given that for many people who develop long-term mental health problems, financial resources may be limited, educational achievement may be compromised and unemployment is common, the IRSD can also pick up areas into which people in these circumstances may drift, seeking viable lifestyle solutions.
- 17 Within Australian society, specific groups, including Indigenous peoples, refugees, homeless people and the LGBTIQ+ community, experience elevated rates of mental illness and have specific considerations in service delivery.¹⁸ It is important to plan for a response to the needs for mental health care of these communities. Some – though by no means all — of the increased rates of problems in those communities arise through factors on the list of components of the IRSD. In my view, the composite nature of the concept of socioeconomic disadvantage means that the way it captures many influences on mental health and illness makes it critically important in considering community needs. If we consider it as a tool for area planning, it captures effects that influence, very significantly, the mental health of very large parts of Australian society.
- 18 A commonly used measure in Australian mental health care and included in wide-scale studies and national health surveys is the Kessler Psychological Distress Scale (**K10**).¹⁹ Generally, about 3-4% of the population will have a very-high K10 score,²⁰ which is about the population rate of more serious mental illnesses. The best information available on psychological distress is from studies which use that tool. Those studies have found that high unemployment, low income, physical illness and physical limitations are associated

¹⁸ Commonwealth of Australia as represented by the Department of Health. 2017, The Fifth National Mental Health and Suicide Prevention Plan.

<http://www.coaghealthcouncil.gov.au/Portals/0/Fifth%20National%20Mental%20Health%20and%20Suicide%20Prevention%20Plan.pdf>

¹⁹ Kessler RC, Andrews G, Colpe LJ, Hiripi E, Mroczek DK, Normand SL, et al. Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological medicine*. 2002;32(6):959-76.

²⁰ Enticott JC, Meadows GN, Shawyer F, Inder B, Patten S. Mental disorders and distress: Associations with demographics, remoteness and socioeconomic deprivation of area of residence across Australia. *Australian and New Zealand Journal of Psychiatry*. 2016;50(12):1169-79.

with higher scores and greater distress.²¹ K10 score bands have a strong association with mental disorders²² and associated functional impairment.

- 19 In 2016, Joanne Enticott, Frances Shawyer, Brett Inder, Scott Patten and I investigated the prevalence of psychological distress and disorder across Australia using the IRSD as applied to measure socioeconomic disadvantage in Australia. Our study examined associations between individual K10 scores and the IRSD or area of residence of individuals from two major national surveys which included the K10.²³ The largest and most representative of these surveys was the 2011/2012 National Health Survey. As shown in Table 1 below which is reproduced from our 2016 paper²⁴), 5.8% of people in the most disadvantaged socioeconomic quintile by area were classified by the K10 as having very-high levels of psychological distress, as compared with 1.7% of people in the least disadvantaged socioeconomic quintile. The difference found in the last National Survey of Mental Health and Wellbeing (2007) was even larger, more than four-fold (see Table 1 below). This examination of the IRSD indicates a very large difference in the rate of psychological distress and disorder (more than threetimes higher) in the most disadvantaged compared to the least disadvantaged areas.

²¹ Meadows, G., Cichello, A., Isaacs, A. N. & Shawyer, F., When it's easier to get meds than therapy: how poverty makes it hard to escape mental illness. The Conversation, 2019. 3 Jul 2019. <https://theconversation.com/when-its-easier-to-get-meds-than-therapy-how-poverty-makes-it-hard-to-escape-mental-illness-114505>.

²² Slade T, Grove R, Burgess P. Kessler Psychological Distress Scale: Normative Data from the 2007 Australian National Survey of Mental Health and Wellbeing. Australian & New Zealand Journal of Psychiatry. 2011;45(4):308-16.

²³ Enticott JC, Meadows GN, Shawyer F, Inder B, Patten S. Mental disorders and distress: Associations with demographics, remoteness and socioeconomic deprivation of area of residence across Australia. Australian and New Zealand Journal of Psychiatry. 2016;50(12):1169-79.

²⁴ Here adapted from the Author's accepted manuscript so not requiring publisher's permission, <https://au.sagepub.com/en-gb/oc/journal-author-archiving-policies-and-re-use>

Table 1 Prevalence of psychological distress and disorder across Australia.

Kessler 10 (K10) scores from two national surveys: National Health Survey (NHS) and National Survey of Mental Health and Wellbeing (NSMHW). Disorders calculated from the NSMHW. The K10 <i>very-high</i> distress category represents a score of 30 or higher. Combined <i>high/very-high</i> distress category represents a score of 22 or higher. Regions examined were: section-of-state and area quintiles ranked by Index of Relative Socio-Economic Disadvantage (IRSD); †2006 IRSD and %2011 IRSD.									
Number of 18-64 year olds	2011/12 NHS † 12,332				2007 NSMHW % 6,558				
Australian Population male female	K10 Very-high		K10 High/Very-high		K10 Very-high		K10 High/Very-high		Mental disorder (anxiety, affective and substance use disorders) ##% (95% CI*)
	##% (95% CI*)		###% (95% CI*)		##% (95% CI*)		###% (95% CI*)		
	3.6	(3.2, 4.0)	11.1	(10.5, 11.8)	2.7	(2.2, 3.3)	10.0	(9.3, 11.2)	22.2 (20.9, 23.5)
	3.0	(2.4, 3.5)	9.2	(8.2, 10.1)	2.2	(1.6, 3.1)	8.0	(6.8, 9.5)	19.4 (17.1, 22.0)
	4.2	(3.6, 4.8)	13.1	(12.0, 14.2)	4.2	(3.6, 4.8)	12.0	(10.9, 14.0)	24.9 (23.3, 26.5)
Section-of-state:									
Major urban	3.5	(2.9, 4.0)	11.0	(10.2, 11.9)	2.9	(2.2, 3.8)	10.0	(9.0, 11.8)	22.5 (21.0, 24.2)
Other urban	4.1	(3.1, 5.1)	11.7	(10.1, 13.3)	2.4	(1.6, 3.5)	11.0	(8.5, 13.2)	21.6 (18.5, 25.0)
Other	3.8	(2.4, 5.1)	11.1	(9.0, 13.1)	2.2	(1.2, 4.0)	8.8	(6.8, 11.3)	20.9 (17.9, 24.3)
P for trend	0.421		0.724		0.335		0.467		0.362
Index of Relative Socio-Economic Disadvantage (IRSD)									
(poor) 1	5.8	(4.4, 7.1)	16.1	(13.7, 18.5)	4.1	(3.0, 5.7)	17.0	(13.2, 20.8)	24.4 (21.0, 28.2)
quintile: 2	4.1	(3.1, 5.0)	13.3	(11.7, 14.8)	4.2	(2.7, 6.6)	12.0	(9.1, 14.5)	23.6 (20.9, 26.6)
3	3.7	(2.8, 4.7)	12.0	(10.5, 13.4)	2.6	(1.5, 4.3)	11.0	(8.4, 13.1)	24.0 (20.4, 28.1)
4	3.1	(2.1, 4.0)	8.4	(7.1, 9.7)	2.4	(1.6, 3.6)	7.1	(5.7, 8.9)	23.1 (20.3, 26.3)
** (rich) 5	1.7	(1.1, 2.4)**	6.9	(5.5, 8.3)**	1.0	(0.5, 1.9)**	7.3	(6.0, 9.0)**	16.9 (13.9, 20.4)**
P for trend	<0.001		<0.001		<0.001		<0.001		0.004
*Confidence Intervals are based on replication-based standard error estimation. ABS weighting was used to produce population estimates. ** K10 results and disorder percentages had significant differences between IRSD quintile 5 and quintiles 3, 2 & 1 (p<0.05), indicating less distress and disorder in IRSD quintile 5 (richest areas of Australia).									

- 20 In another paper, included with this statement as Attachment GNM-2, we examined the impact this finding has on the proportion of all people with mental health problems who live in different areas.²⁵ Table 2 below is reproduced from that paper. From this table we also can see that, of around 14.5 million Australian aged 16-64, around 2.8 million live in the most disadvantaged fifth of areas classified by the IRSD. The least disadvantaged fifth is slightly more populous at 2.9 million, but only a third as many people with indicators of significant mental health problems live in those less disadvantaged areas (about 49,000 people, compared with about 159,000 people in the most disadvantaged areas).
- 21 On this basis, I consider measurement of socioeconomic disadvantage as measured by the IRSD areas as the most important single aspect to consider in area-based planning for mental health services.

Table 2²⁶ Estimated population by socioeconomic disadvantage quintiles with very-high Kessler 10 scores.

IRSD ^a quintiles: least (1) to greatest (5) disadvantage	Population (2016) Age: 16-64 years ^b	Estimated population % of very-high K10 ^c	Estimated number of people with very-high K10 ^d	% of all Australians with very-high K10 ^e
Capital cities				
1	2,617,180	1.6	41,875	8
2	2,383,572	3.1	73,891	14
3	1,902,530	3.9	74,199	14
4	1,549,484	4.5	69,727	13
5	1,467,165	5.4	79,227	15
Other areas				
1	297,417	2.5	7435	1
2	607,052	2.9	17,605	3
3	1,007,006	3.5	35,245	7
4	1,323,931	3.6	47,662	9
5	1,302,272	6.1	79,439	15
Total	14,457,609		526,303	100

^aIndex of Relative Socioeconomic Disadvantage.

^bAustralian Bureau of Statistics, 2016 Census of Population and Housing. TableBuilder data available at: www.abs.gov.au/websitedbs/censushome.nsf/home/tablebuilder.

^cScores on the Kessler 10 questionnaire above 30, based on 2011 data (Isaacs et al., 2018).

^dValues calculated by multiplying column 2 with column 3.

^ePercentages calculated by dividing column 3 by total population provided at bottom of column 2.

²⁵ Meadows GN, Prodan A, Patten S, Shawyer F, Francis S, Enticott J, et al. Resolving the paradox of increased mental health expenditure and stable prevalence. *Australian & New Zealand Journal of Psychiatry*. 2019;53(9):844-50.

²⁶ Table 2 is reproduced under creative commons licensing with full detail of acknowledgement given in Appendix GNM-2

Utilisation of mental health services in Australia

- 22 In 2015, Joanne Enticott, Brett Inder, Grant Russell, Roger Gurr and I published a study examining the influence of socioeconomic disadvantage on service utilisation.²⁷ The study, making use of classification of areas by the IRSD as introduced earlier, found that:
- (a) people resident in areas of greater disadvantage are **less** likely to use mental health services than people in areas where disadvantage is lower; and
 - (b) people in non-major urban (i.e. regional and rural) areas are **less** likely to use mental health services than people in major urban areas.
- 23 In 2018, a group of us brought some of this work together, with some other published material, in a publication in *The Conversation*.²⁸ We firstly pointed out that despite greatly increased expenditure on mental health care over 20 years (Figure 1 below, blue line) there seems to be no positive benefit on the rate of people with mental ill-health (Figure 1 below, red line). That is, a substantial increase in per capita spending on mental health, actually a doubling over time in constant dollar terms, has not decreased the prevalence of severe psychological distress and disorder in Australia.

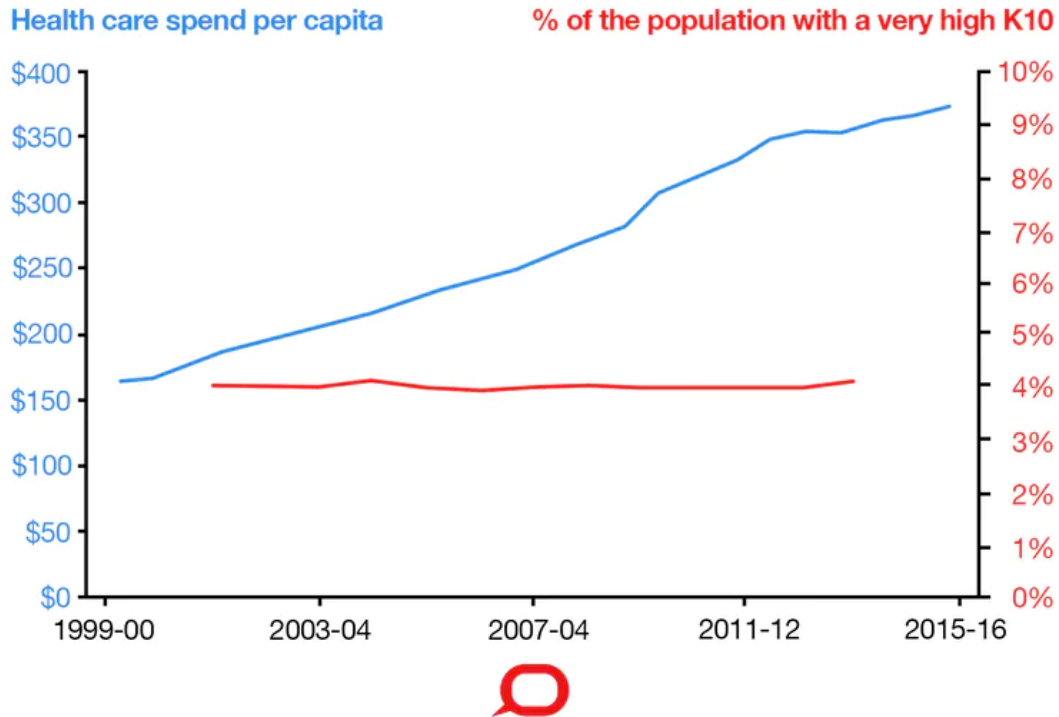
²⁷ Meadows G, Enticott J, Inder B, Russell G, Gurr R. Better access to mental health care and the failure of the Medicare principle of universality. *Medical Journal of Australia*. 2015;202(4):190-5.

²⁸ Meadows G, Enticott J, Rosenberg S. Three charts on: why rates of mental illness aren't going down despite higher spending 2018. Available from: <https://theconversation.com/three-charts-on-why-rates-of-mental-illness-arent-going-down-despite-higher-spending-97534>.

Figure 1²⁹

Spending is up but mental illness isn't going down

Annual mental health expenditure per capita versus % of population with a very high Kessler10 (K10) mental health score



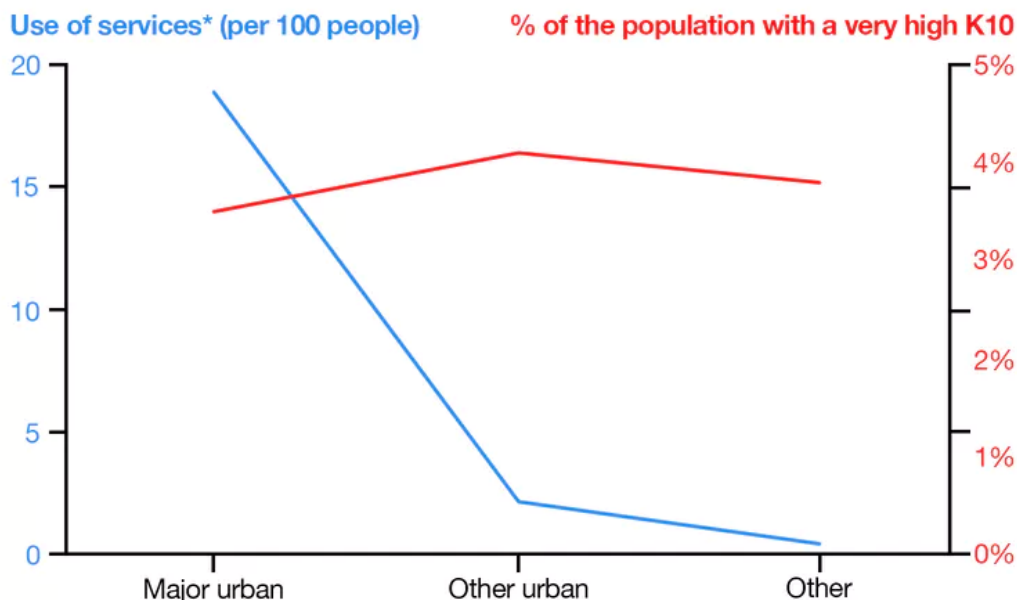
- 24 The paper then presented two more graphs which each depicted use of mental health services by reference to the most frequently billed clinical psychology item as rebated through the Medicare Benefits Scheme (**MBS**) (blue lines) Figure 2 (reproduced below) compared use of mental health services with K10 scores by area, showing how people in major urban areas are far more likely to use mental health services than those people in other areas, where the whole overall prevalence is relatively stable.

²⁹ Meadows G, Enticott J, Rosenberg S. Three charts on: why rates of mental illness aren't going down despite higher spending 2018 available at <https://theconversation.com/three-charts-on-why-rates-of-mental-illness-arent-going-down-despite-higher-spending-97534>. Figure reproduced from The Conversation, CC BY-ND

Services aren't always getting to the right people

Figure 2³⁰

Mental health service use vs % of population with a very high K10 score, by area



*A service unit is at least 50 minutes of mental health treatment

25 The final graph of the three (reproduced as Figure 3below) brings together key findings from two of our publications³¹ and in doing so shows the use of mental health services with K10 scores by the measure of the IRSD scale of socioeconomic disadvantage. In summary, this graph shows that people in areas of greater socioeconomic disadvantage are far more likely to experience severe psychological distress and disorder (red line) than people in less disadvantaged areas (as per paragraph 19), but they are much less likely to use these mental health services (blue line); these mental health services have greater activity rates in less disadvantaged areas where rates of mental health problems are much lower.

26 Given that the rates of mental illness are three times greater in more disadvantaged areas than in less disadvantaged ones, while activity rates are three times lower, overall there may be as much as a ninefold disparity in access considered as proportional to rates of mental illness. As a model for delivering mental health services in a way proportional to community distress, the MBS can, in my view, only be considered an abject failure.

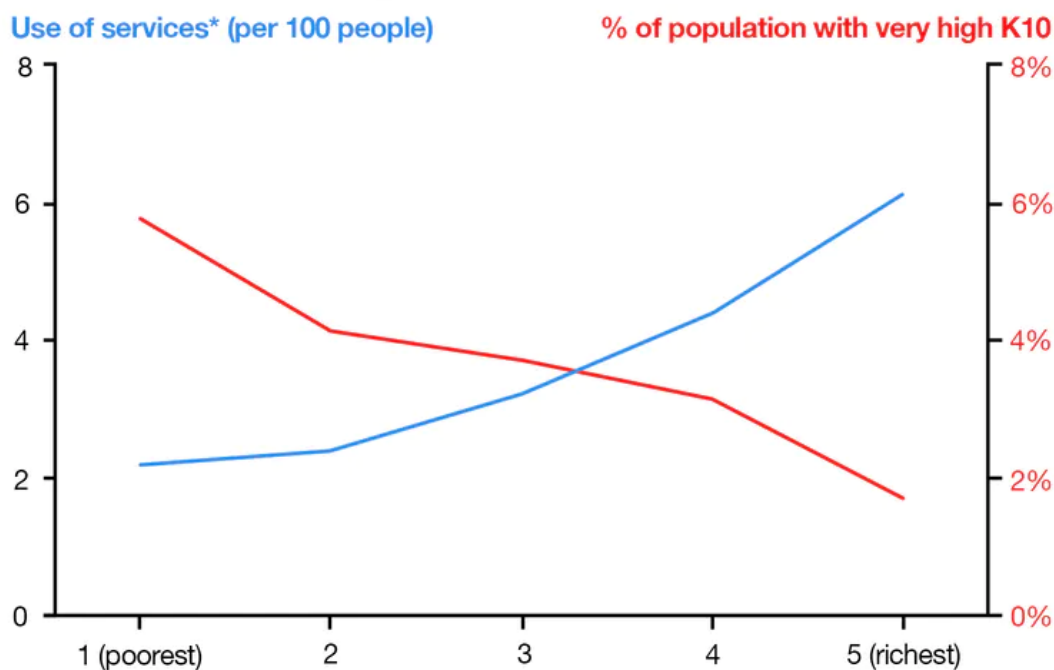
³⁰ Ibid. Figure reproduced from The Conversation, CC BY-ND

³¹ Meadows G, Enticott J, Inder B, Russell G, Gurr R. Better access to mental health care and the failure of the Medicare principle of universality. Medical Journal of Australia. 2015;202(4):190-5; Enticott JC, Meadows GN, Shawyer F, Inder B, Patten S. Mental disorders and distress: Associations with demographics, remoteness and socioeconomic deprivation of area of residence across Australia. Australian and New Zealand Journal of Psychiatry. 2016;50(12):1169-79.

Figure 3³²

Mental health service use and disadvantage

Mental health service use vs % of population with a very high K10 score, by area of socioeconomic disadvantage (IRSD scale)



*A service unit is at least 50 minutes of mental health treatment



27 In 2019, Ante Prodan, Scott Patten, Frances Shawyer, Sarah Elizabeth Francis, Joanne Enticott, Sebastian Rosenberg, Jo-An Atkinson, Ellie Fossey, Ritsuko Kakuma and I wrote on the subject of the paradox of the stable prevalence of mental illness despite increased mental health expenditure (discussed above at paragraph 23).³³ Our investigation of this subject proposed that where people are treated only with antidepressant medication and if this consequently reduced spontaneous self-help activity, the benefits of the antidepressant medication may be more than offset by the reductions in beneficial effects as a consequence of reduced self-help activity. So, although advantaged areas with more comprehensive service delivery may experience lower prevalence of severe mental illness than it would be without services in less well-served areas, the prevalence may be higher than it would otherwise be. The paradox

³² Meadows G, Enticott J, Rosenberg S. Three charts on: why rates of mental illness aren't going down despite higher spending 2018 available at <https://theconversation.com/three-charts-on-why-rates-of-mental-illness-arent-going-down-despite-higher-spending-97534>.

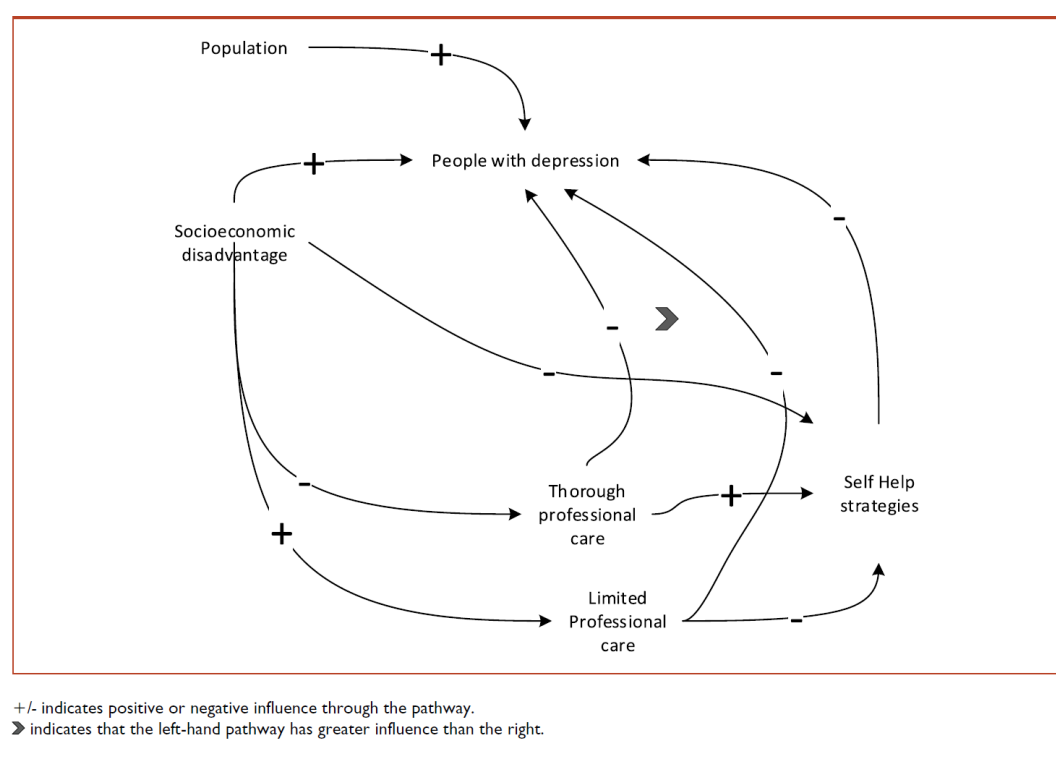
Figure reproduced from The Conversation, CC BY-ND

³³ Meadows GN, Prodan A, Patten S, Shawyer F, Francis S, Enticott J, et al. Resolving the paradox of increased mental health expenditure and stable prevalence. Australian & New Zealand Journal of Psychiatry. 2019;53(9):844-50.

then becomes potentially explicable as these two effects may balance out overall, leading to the finding of no observable change in the prevalence of mental illness despite the increase in spending on mental health service. Attached to this statement and marked 'GNM-2' is a copy of this paper.

- 28 The causal loop diagram (reproduced as Figure 4 below) sets out the proposed relationship between socioeconomic disadvantage, access to professional care and self-help strategies and the rates of depression. In short, the viewpoint in the paper, in alignment with contemporary ideas of recovery, is that it is critically important for population mental health that treatment interventions should encourage, not replace or subvert autonomy, independence and active coping.

Figure 4³⁴ *Simplified causal loop of the hypothetical nexus*



- 29 This paper sets out hypotheses for investigation to lend support to the ideas expressed. My colleague Joanne Enticott has been carrying forward some work using the last (2007) National Survey of Mental Health and Wellbeing on self-help strategies, with results (unpublished at this point) as set out in Table 3; these are in alignment with the predictions of the model suggested in the paper.

³⁴ Figure 4 is reproduced under creative commons licensing with full detail of acknowledgement given in Appendix GNM-2

Table 3. Self-management strategies used to cope with mental health problems in past 12 months

	Area quintiles: Index of Relative Disadvantage					
	Total	Most disadvantaged			Least disadvantaged	
		5	4	3	2	1
Increased exercise:	37%	28.5%	29.9%	39.3%	42.1%	46.8%
Did more of the things enjoy:	37%	30.0%	37.2%	41.5%	38.2%	38.5%
Sought support from friend/family:	47%	40.0%	43.8%	46.7%	50.7%	53.2%

Age streams of mental health care

- 30 The benefits of providing any specialised aged-based streaming must be balanced against costs that may arise from fragmentation of the system. Issues that may arise with specialised aged-based streaming include: confusing differences in referral pathways; transitions as points of service weakness; and additional service infrastructures.
- 31 Age-based streaming of mental health services can be appropriate where there is a substantial and material difference in the services required for the phase of life. For example:
- (a) *Children:* the treatment of children requires an understanding of stages of development of the child and the family, and an ability to contextualise particular presentations accordingly, such that the focus of attention may be different from later life. Family interviewing is also a specialist skill. In addition, disruptive behaviour or social disorders (externalising disorders) have special aspects in childhood, while internalising and somatisation manifestations (internalising disorders) also need special clinical skills.
 - (b) *Elderly:* cognitive problems and frailty can present particular concerns which would require specialist services, such as dementia-specific services.
 - (c) *Youth and adult life:* Within the stage of life of youth to adulthood arise the questions of further divisions, many argue that the way that youth (however this may be defined) experience different legal and developmental stages makes a compelling case for material and substantial difference in the mental health service needs of this age group. There is a need to consider developmental considerations at any point in life. However, I consider the case for specialist youth services as discrete from later adult life, while in certain situations advantageous, may overall be somewhat less compelling.

- 32 Rigid aged-based streaming may discriminate against women. For example, many studies have found that women more often experience later onset psychotic illness than men.³⁵ Accordingly, rigid application of an age-criterion for first episode psychosis programs could result in a gender-differential in access through the life course to this more intensive specialist provision. It may be more appropriate, and this is not uncommonly done, to focus mental health streams on the development of symptoms rather than age. For example, people who are experiencing, or have recently experienced, acute psychosis for the first time may require intensive and interventional treatment whereas chronic psychosis may require different, long-term treatment.
- 33 But any increase in the number of programs operating across the life course comes with a financial and opportunity cost. Each such program needs its own administrative structure and leadership. In addition, age or course-of-illness partitioning of care results in handovers between teams of workers which are a source of discontinuities, as well as disruptions of long-term relationships with professionals and services that may be beneficial. Loss to follow up and consequential deterioration is an appreciable risk. For age ranges – as with all areas where sometimes care requires specialist input and support – there are the options of: tertiary liaison and support models; tertiary and quaternary consultation and care provision; and provision of separate service structures.
- 34 A service structure established in a time of funding expansion may function effectively in that context, but may become dysfunctional and ineffective if funding subsequently contracts. Governments of different persuasions come and go and – metaphorically speaking – services need to survive and perform both through years of relative financial feast and famine. There is therefore a need to balance the benefits of services targeted at a youth age-range against the costs and potential efficiency-losses arising from the resultant further fragmentation of services.

Service delivery models

Models for expanding community based mental health services and improving accessibility for consumers

(a) The role of general practice and necessary supports including consultation-liaison psychiatry

- 35 An aspect of the challenge of expanding mental health services accessibility which I feel well qualified to comment on is the role of primary care.

³⁵ Kirkbride, JB, Errazuriz, A, Croudace, TJ, Morgan, C, Jackson, D, Boydell, J, et al. (2012). Incidence of schizophrenia and other psychoses in England, 1950-2009: A systematic review and meta-analyses. PLoS ONE, 7, <https://doi.org/10.1371/journal.pone.0031660>

- 36 The role of general practice in supporting people with mental illness is extensive but not necessarily well-recognised or respected. There are many general practitioners who are capable of doing very good work in the mental health sphere. There is an interrelationship between the extent to which GPs have training and support and the extent to which they have contact with specialist healthcare providers, co-located or otherwise³⁶. More could be done to strengthen and co-locate primary mental health care with specialists and take advantage of the high accessibility and low stigma of general practice.
- 37 With some professional background in general practice and having been working in general practice liaison settings before I moved to Australia permanently in 1993, for nearly 10 years I worked on the Consultation-Liaison in Primary-Care Psychiatry (**CLIPP**) program.³⁷ CLIPP involved regular visits and consultations by psychiatrists to general practices, and, synergistically with that, the transfer of clients from Area Mental Health Service case management into general practice shared care. CLIPP began in NW Melbourne, then expanded into multiple sites in Victoria, then other sites interstate including a major multi-site government funded project in Queensland, along with uptake in parts of the US and Canada. We demonstrated that in mature implementation of the CLIPP program, up to 20% of the clients of the Area Mental Health Service in which the project was based might be suitable for long-term management in general practice shared care, with costs of the CLIPP program being about 2.5% of the service budget.
- 38 CLIPP was comprised of three main components:
- (a) a consultation, liaison, and education service provided by psychiatric consultants at participating general practices;
 - (b) the transfer of selected patients from community mental health services into general practitioner based collaborative care; and
 - (c) a clinical case register and reminder system managed by the specialist services used to actively promote follow up for transferred clients.³⁸

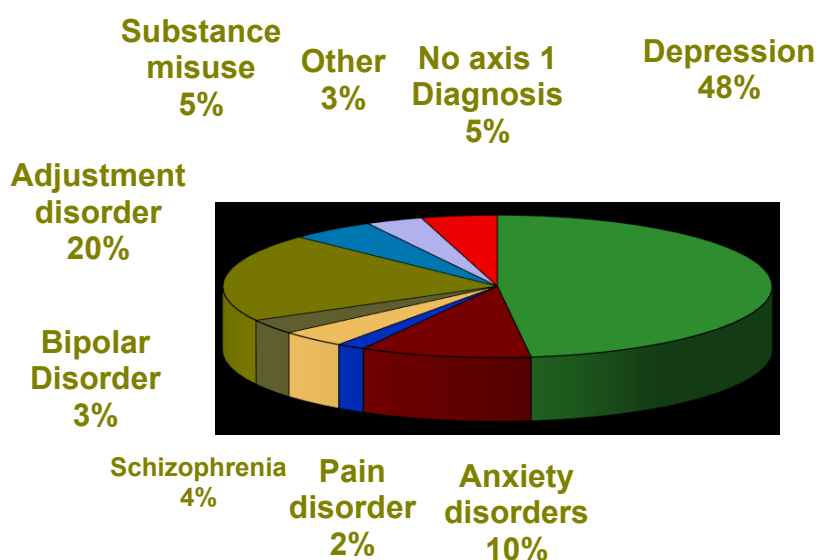
³⁶ Kates, N, Arroll, B, Currie, E, Hanlon, C, Gask, L, Klasen, H, et al. (2018). Improving collaboration between primary care and mental health services. The World Journal of Biological Psychiatry, <https://doi.org/10.1080/15622975.2018.1471218>

³⁷ Meadows GN, Harvey CA, Joubert L, Barton D, Bedi G. The Consultation-Liaison in Primary-Care Psychiatry (CLIPP) Program: A structured approach to long-term collaboration in mental health care. Psychiatric Services. 2007;58(8):1036-8.

³⁸ Meadows GN, Harvey CA, Joubert L, Barton D, Bedi G. The Consultation-Liaison in Primary-Care Psychiatry (CLIPP) Program: A structured approach to long-term collaboration in mental health care. Psychiatric Services. 2007;58(8):1036-8.

- 39 A number of sources provide accounts of experience with the CLIPP program³⁹ and a manual for the program is available on request to me. One paper that includes a concise description of the program is attached to this statement and marked '**GNM -3**'.
- 40 For individuals, the CLIPP model enabled flexible matching of the patient and the model of care. For the health care system, it allowed improved collaboration between services in response to the clinical workload arising from the local population.
- 41 In the provision of consultation to general practices on their patients, the CLIPP program provided for support for one spectrum of mental health problems (here considered in terms of Axis 1 of the DSM IV system — see Figure 5⁴⁰), while the diagnostic profile of those transferred into GP shared care from the Area Mental Health Service (see Figure 6⁴¹) was very different.

Figure 5 Consultation-Liaison Service diagnoses of referrals

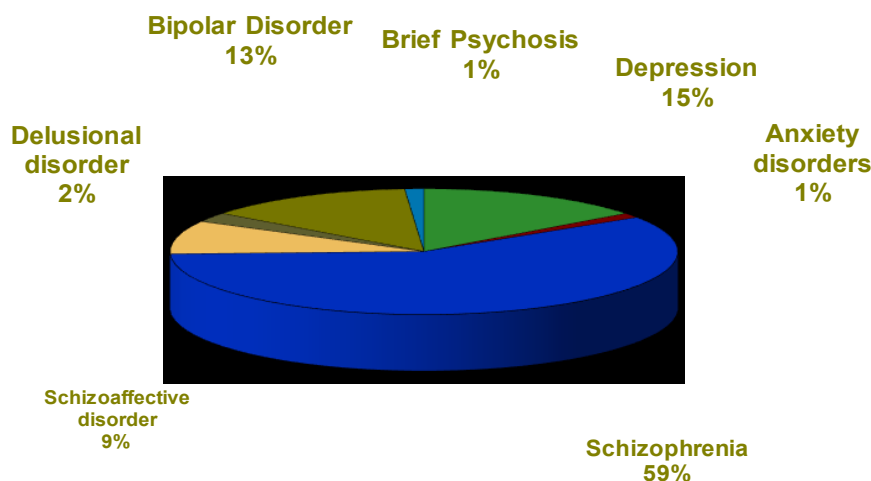


³⁹ Meadows GN, Harvey CA, Joubert L, Barton D, Bedi G. The Consultation-Liaison in Primary-Care Psychiatry (CLIPP) Program: A structured approach to long-term collaboration in mental health care. *Psychiatric Services*. 2007;58(8):1036-8; Meadows G. Establishing a collaborative service model for primary mental health care *Medical Journal of Australia*. 1998;168(4):162-5; Meadows GN. Overcoming barriers to reintegration of patients with schizophrenia: developing a best-practice model for discharge from specialist care. *Medical Journal of Australia*. 2003;178(9):Suppl 5:S53-S6.

⁴⁰ Prepared by myself from internal program reporting

⁴¹ Prepared by myself from internal program reporting

Figure 6 Transfers into Shared Care - Diagnoses of referrals



- 42 A strong feature of the CLIPP model was the nursing role. A senior and experienced practitioner, who in my view would typically and, perhaps most effectively, be a nurse, played a critical role. High quality GP referral and facilitation of transfer of long-term area mental health services clients into GP care is something that requires development of skills that in my view and experience are unusual among community mental health practitioners. It also presents a time-management problem since the clients best suited for transfer will presently be making little demand on resources — but doing a good job by this referral process takes a good deal of time. It worked well in CLIPP to designate this referral management role as a specialist role within the Area Mental Health Service.
- 43 In the annual Mental Health Services Achievement Awards of Australia and New Zealand, the CLIPP program received two awards, Partnership Silver in 1996 and Shared Care Programs Gold in 2002. Over time however, many of the programs set up in this framework, and some with similar features such as the Primary Mental Health Teams, have come to be eroded and often eventually effectively disestablished. I would suggest a significant contributory cause to this was that the programs have not been well protected by clear commissioning cycle arrangements (see paragraph 54 to 60 below) including identifiable budget lines and KPIs actively but supportively applied. In that context, a strength of the CLIPP model, namely its overall low cost, has often become a weakness. In times of relative budgetary famine, CLIPP presents an easy target for funding cuts or closure (see paragraph 33 above). If a systemic view is not taken of its function, it can be argued not to represent 'core business'. These programs have complex system

properties including emergence and self-organisation (see paragraphs 0 and 60 below) and they rely considerably on relationships and good will, and on trusting GPs. The work of several years in establishing and refinement of such programs can be undone in very short order by unsympathetic, risk-averse and cost-reduction management orientation.

- 44 The CLIPP model I believe could usefully be revisited as an approach to improving collaboration between local health networks (**LHNs**) and primary health networks (**PHNs**) in the interest of better community and population health care. While it may have applicability in many service settings I believe it may be especially well suited to outer-suburbs and regional areas. In these areas, car-travel times and costs to mental health service facilities may be lengthy and public transport inadequate. The features of the CLIPP approach, including co-location with primary care as an approach to making services more geographically accessible and less stigmatising, may therefore be particularly helpful in these areas.

(b) Telehealth

- 45 Telehealth has gained unexpected prominence in the context of the unfolding effects of the COVID-19 pandemic in Australia. That said, telehealth has been recommended as having an important role to play in mental health services development for some time. Included in this, Anthony Cichello, Anton Isaacs, Frances Shawyer and I pointed out last year in a paper in *The Conversation* that telehealth could have an important role in addressing some of the inequities in service delivery noted in paragraphs 10 to 25 above.⁴²
- 46 Telehealth may be important for expanding community-based mental health services and making them more accessible. I am among those supporting the proposition that increased access to telehealth should be continued beyond the time of the COVID-19 pandemic. For many clients of public mental health services, telehealth may prove a more acceptable and effective delivery model; it saves travel time and cost, and is delivered in a less threatening environment, the individual's own home.
- 47 But existing payment structures under the MBS and inequalities in access to IT resources threaten the possible advantages of telehealth in terms of equity. One of the components of the IRSD as listed earlier (see paragraph 10) is 'occupied private dwellings with no internet connection'; poorer households even with internet connections may have fewer and less sophisticated devices through which telehealth can be delivered. The areas experiencing lower service volumes with face-to face delivery are therefore also at risk of

⁴² Meadows, G., Cichello, A., Isaacs, A. N. & Shawyer, F., When it's easier to get meds than therapy: how poverty makes it hard to escape mental illness. *The Conversation*, 2019. 3 Jul 2019. <https://theconversation.com/when-its-easier-to-get-meds-than-therapy-how-poverty-makes-it-hard-to-escape-mental-illness-114505>.

poor penetration of telehealth. I note that the current MBS model for telehealth permits co-payments, meaning that those people under financial stress already will be further disadvantaged in accessing this service (because they may be required to make a co-payment).

48 I expect that the new MBS telehealth items will not prove to have much better properties in equity terms than those described earlier (see paragraphs 22 to 28). In fact, they may possibly even prove to be worse. It is possible that telehealth needs to be available with increased rebates and with limitations on co-payments, perhaps with mandatory bulk-billing for Health Care Card holders. Otherwise, the possibility is there that the digital services will experience the same disproportionate access as the current system. However there then would be a risk that this disincentivises telehealth against face-to-face provision — this is part of a larger challenge for Australian healthcare — see paragraphs 71 to 75.

49 In a paper submitted for publication and included as an attachment (attachment marked '**GNM-4**') a number of us have proposed an approach to evaluating the MBS mental health telehealth initiative based on local government area (**LGA**)-specific usage rates.⁴³ In short, if equitable service delivery is valued, then measures need to be taken such that telehealth services reach *all* cross-sections of society without disadvantages introduced by financial, structural or logistical barriers.

(c) *Other comments on improving mental health service delivery*

Encouraging Recovery-Oriented Practice

50 Already in this statement I have begun to address the ways in which treatment that undermines personal capacity and autonomy through restrictive medical model approaches may be harmful. We can also trace a strand of thinking internationally with similar underlying constructs in the dialogue around Recovery-Oriented Practice. Initially grounded in consumer-led reactions to interventions that were seen as inadequately sensitive to what was important to them, Recovery-Oriented Practice has also come to be taken on board by practitioners and service planners. Recently, the public mental health community internationally has been grappling with the paradox that was the focus of our 2019 paper (which I introduced at paragraph 27 above).⁴⁴ We are far from the only

⁴³ Meadows G, Shawyer F, Dawadi S, Inder B, Enticott J. Socio-economic disadvantage and resource distribution for mental health care; a model proposal and example application for Victoria, Australia. *Australasian Psychiatry* pre-print.

⁴⁴ Meadows GN, Prodan A, Patten S, Shawyer F, Francis S, Enticott J, et al. Resolving the paradox of increased mental health expenditure and stable prevalence. *Australian & New Zealand Journal of Psychiatry*. 2019;53(9):844-50.

ones grappling with this. A recent paper in the leading journal *World Psychiatry*, led by Dutch psychiatrist Jim van Os, offers important insights, including the following (p88):⁴⁵

- (a) 'The mental health service of the 21st century may be best conceived of as a small-scale healing community fostering connectedness and strengthening resilience in learning to live with mental vulnerability, complemented by a limited number of regional facilities.'
- (b) 'Peer support, organised at the level of a recovery college, may form the backbone of the community. Treatments should be aimed at trans-syndromal symptom reduction, tailored to serve the process of existential recovery and social participation and applied by professionals who have been trained to collaborate, embrace idiography and maximise effects mediated by therapeutic relationship and the healing effects of ritualised care interactions.'
- (c) 'Finally, integration with a public mental health system of e-communities providing information, peer and citizen support and a range of user-rated self-management tools may help bridge the gap between the high prevalence of common mental disorder and the relatively low capacity of any mental health service.'

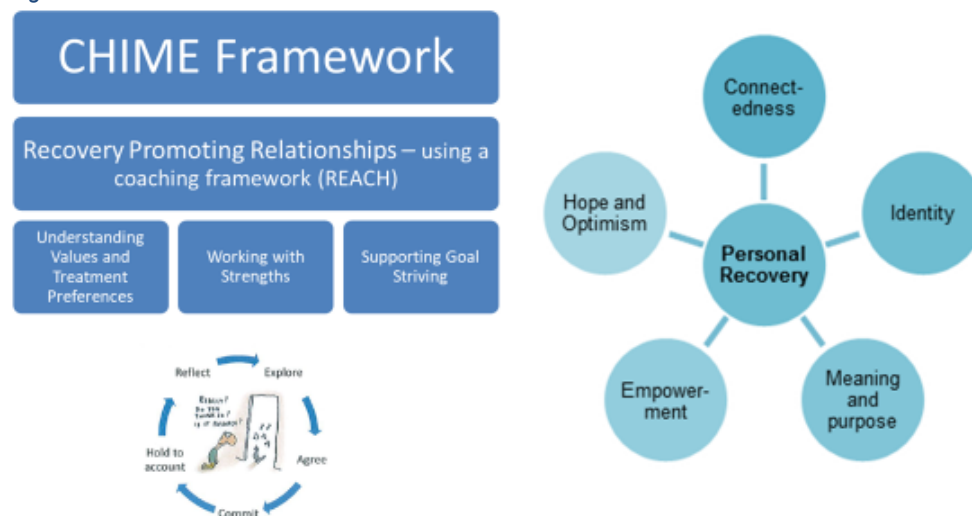
51 I was the Principal Investigator on the Principles Unite Local Services Assisting Recovery (**PULSAR**) project which trained health-care workers to deliver Recovery-Oriented care using materials that were adapted to local settings. The funding of \$2.3 million for this project came from a specific research initiative from the Victorian Government (to which I will return later in paragraphs 88 to 89). Two manuals for the project intervention (in primary and secondary care) are available online⁴⁶ and an outline of the PULSAR project intervention as a graphic is given below (Figure 7⁴⁷):

⁴⁵ van Os J, Guloksuz S, Vijn TW, Hafkenscheid A, Delespaul P. The evidence-based group-level symptom-reduction model as the organizing principle for mental health care: time for change? *World Psychiatry*. 2019;18(1):88-96.

⁴⁶ PULSAR Manual Recovery-promoting relationships and working practices for specialist and community mental health services (or Secondary Care staff) Melbourne: Monash University, PULSAR Project; 2016 Available from: https://www.monash.edu/_data/assets/pdf_file/0017/1452410/PULSAR-Secondary_Care_Manual-FINAL.pdf; PULSAR Manual Recovery-promoting relationships and working practices for Primary Care Melbourne: Monash University, PULSAR Project; 2016 Available from: https://www.monash.edu/_data/assets/pdf_file/0003/1797204/Pulsar-Manual_v3.pdf.

⁴⁷ Prepared by myself with incidental use of a detail from a Michael Leunig Cartoon, <https://www.leunig.com.au/works/recent-cartoons/517-life-coach-shrike-thrush> credited as 'Image courtesy of Michael Leunig' in alignment with his website FAQs

Figure 7 Essence of PULSAR



- 52 Last year my colleagues and I published in *The Lancet Psychiatry* the results from this four-year investigation into whether a structured training program delivered to mental health services practitioners in Recovery-Oriented Practice could make a difference to consumer-side outcomes expressed as progression towards recovery goals.⁴⁸ The results were positive and this was the first ever study internationally to demonstrate that a program could achieve this.
- 53 The intervention used in the PULSAR study (REFOCUS-PULSAR) was an Australian adaptation of the REFOCUS intervention initially developed⁴⁹ and trialled⁵⁰ in the UK. The PULSAR work had a number of points of departure however from the REFOCUS work, including study design aspects and delivery of training. Critically, I believe the participation of people with lived experience in delivery was important to the success of the PULSAR study in demonstrating positive impacts where the REFOCUS study did not. The PULSAR program and the research⁵¹ that led to its being published in the journal

⁴⁸ Slade M, Bird V, Farkas M, Grey B, Larsen J, Leamy M, et al. Development of the REFOCUS intervention to increase mentalhealth team support for personal recovery. *The British Journal of Psychiatry*. 2015;207(6):544-50.

⁴⁹ Slade M, Bird V, Farkas M, Grey B, Larsen J, Leamy M, et al. Development of the REFOCUS intervention to increase mentalhealth team support for personal recovery. *The British Journal of Psychiatry*. 2015;207(6):544-50.

⁵⁰ Slade M, Bird V, Clarke E, Le Boutillier C, McCrone P, Macpherson R, et al. Supporting recovery in patients with psychosis through care by community-based adult mental health teams (REFOCUS): a multisite, cluster, randomised, controlled trial. *The Lancet Psychiatry*. 2015;2(6):503-14.

⁵¹ Enticott JC, Shawyer F, Brophy L, Russell G, Fossey E, Inder B, et al. The PULSAR primary care protocol: a stepped-wedge cluster randomized controlled trial to test a training intervention for general practitioners in recovery-oriented practice to optimize personal recovery in adult patients. *BMC Psychiatry*. 2016;16.

ranked fourth in the world in psychiatry⁵² are worth some focus and potentially encouragement, including through commissioning of further training. Attached to this statement and marked 'GNM-5' is a copy of the primary results paper while the manuals are available online.⁵³

Commissioning

Effective commissioning approaches

- 54 Commissioning is often described as a cycle with successive revolutions of the cycle beginning with a community needs assessment. There is a need for readily available indices of community needs for mental health care, and I discuss this subject below at paragraphs 58, 64 to 66.
- 55 A major challenge presented for commissioning is that, if we consider broadly governmental healthcare provision, Australia has an internationally unusual hybrid healthcare system. To provide a brief working summary of this, the Commonwealth Government through multiple programs — but with dominant expenditures through the MBS and Prescribing Benefit Schedule (**PBS**) — provides rebates that can be claimed by eligible people to cover or contribute to fees charged. However, in the case of the services rebated under the MBS, charging of uncapped out of pocket co-payments are allowed. The states and territories have their parallel lead roles in public health and as system managers for public hospital services. Out of pocket healthcare expenditure in Australia is above average for the OECD including, for instance, being appreciably greater than in Canada, Germany, the UK, Netherlands, Ireland or New Zealand⁵⁴.
- 56 The Fifth National Mental Health Plan includes proposed mechanisms for bringing purchasing together between services or different levels of government. A limitation with this mechanism is that the major expenditures through the MBS and PBS cannot reasonably be described as *commissioning* within the above framework (see paragraph 54). I have already addressed the manifest failure of this funding approach in providing equitable services. However, commissioning could still be done much better. The Joint Regional Planning Guide (**JRPG**) provides sound steps and proposed timelines for this.⁵⁵ While COVID-19 has interfered with many aspects of strategic planning, I have concerns

⁵² Slade M, Bird V, Farkas M, Grey B, Larsen J, Leamy M, et al. Development of the REFOCUS intervention to increase mental health team support for personal recovery. *The British Journal of Psychiatry*. 2015;207(6):544-50.

⁵³ Footnoted from Section 51 .

⁵⁴ OECD Data Health Spending. <https://data.oecd.org/healthres/health-spending.htm> accessed 23/06/2020

⁵⁵ Integrated Regional Planning Working Group. Joint Regional Planning for Integrated Mental Health and Suicide Prevention Services: A Guide for Local Health Networks (LHNs) and Primary Health Networks (PHNs), Department of Health, Australian Government; 2018.

that even before these recent events, across Victoria it was common that the timelines set for collaboration between the PHNs and LHNs in that framework were slipping.

- 57 An important change that could be encouraged through commissioning strategies would be to require all services to audit progress against the timelines of the JRPG and, where there is slippage, to identify strategies to correct this. The challenges presented by COVID-19 only make this more important.

Commissioning, community needs assessments and catchment areas

- 58 An important step in the commissioning cycle is community needs assessment. Here an impediment to effective action in Victoria's mental health services is the configuration of catchment areas. At present the catchments are not aligned with areas on which the ABS provides current census information, being based on an outdated area classification. Childhood, youth, adult and elderly catchments are inconsistently aligned. Beyond the needs assessment aspect, and further round the commissioning cycle, if catchment areas are aligned with LGA boundaries and those of PHNs for instance, there are greater opportunities for collaborative actions across the spaces of influence of social determinants (see paragraphs 10 to 22). I would advocate strongly that Victorian mental health services catchment areas should be thoroughly reviewed and revised to provide better alignment with internal service structures, ABS information sources and the range of other community services stakeholders. I do not doubt the considerable challenge of this and it will require an agreed model for assessment of needs of areas if the responsibilities for specific areas are to be transferred. I address this below at paragraphs 64 to 69.

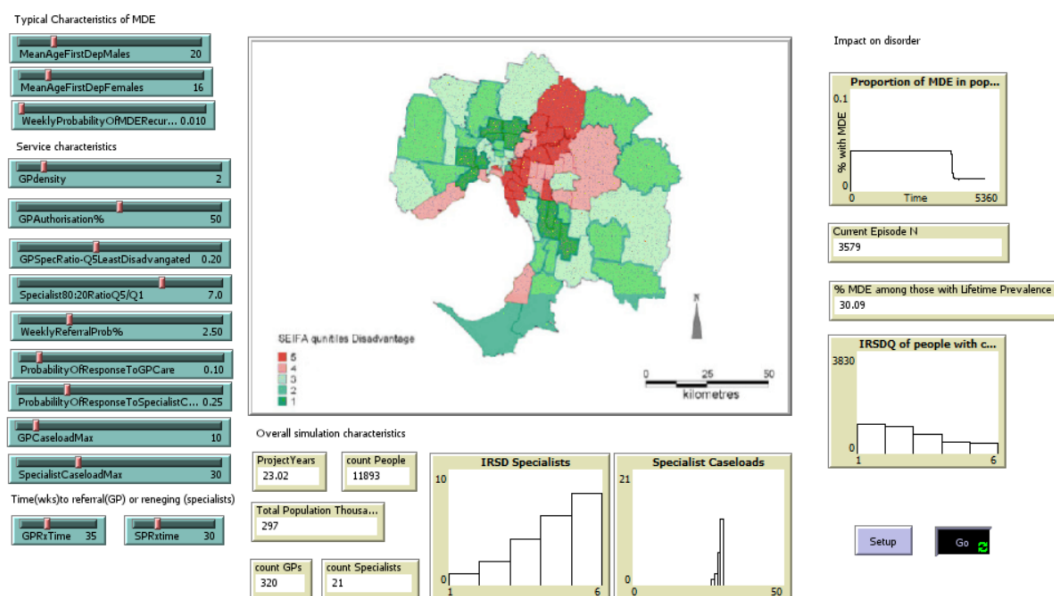
The possible benefits of simulation modelling for commissioning

- 59 Commissioning is complex and mental health services can be seen as having properties of Complex Adaptive Systems. Such systems are often open but also embedded, with fuzzy boundaries and nested components. Their behavioural properties include emergence, feedback, adaption and self-organisation, sensitivity to initial conditions and historicism.⁵⁶ Major strides have been made in recent times in modelling healthcare taking into account such features. The particularly relevant modelling approaches include system dynamics (**SD**), agent-based modelling (**ABM**) and hybrid models. As a way to gain better understanding of such processes, I have focused on personally developing some modelling skills and Figure 8 is a screenshot of the interface for an ABM I have developed seeking to address some of the IRSD-related inequities, here considering

⁵⁶ Long, K.M., McDermott, F. & Meadows, G.N. Being pragmatic about healthcare complexity: our experiences applying complexity theory and pragmatism to health services research. BMC Med 16, 94 (2018). <https://doi.org/10.1186/s12916-018-1087-6>

metropolitan Melbourne. I have worked with modellers for a good many years but have found that investing myself in developing some skills working with the software has enhanced these collaborations. I have had the privilege of mentorship and support from staff at the Sax Institute in Sydney — there is a leading group there nationally — we have done some publications together⁵⁷ and have other projects in train.

Figure 8 interface for an Agent-Based-Model of IRSD disparities



- 60 The commissioning cycle could be better informed by development of simulation models of mental health care for the serviced populations. COVID-19 has brought epidemiological and simulation modelling into at times front page news, including recent discussions of suicide projections. Simulation models have great potential and the technology around them is advancing rapidly. DHHS as a commissioner may find itself at a disadvantage if lobbying parties have better and more convincing simulation models than does DHHS. The models in development and application involve determination of choices between modelling approaches, parameterisation, calibration, sensitivity analyses and estimates of dispersion of findings from multiple model runs. They are not oracles; they are forecasts, and the outputs may be very greatly dependent on choices made in their construction. DHHS would be well advised to invest in some simulation modelling of the services that it commissions, both so as to inform that commissioning and also to be able to assess its position when lobbyists or specific model advocates use simulation models to make a particular case.

⁵⁷ Meadows GN, Prodan A, Patten S, Shawyer F, Francis S, Enticott J, et al. Resolving the paradox of increased mental health expenditure and stable prevalence. Australian & New Zealand Journal of Psychiatry. 2019;53(9):844-50; Atkinson J-A, Page A, Heffernan M, McDonnell G, Prodan A, Campos B, et al. The impact of strengthening mental health services to prevent suicidal behaviour. Australian & New Zealand Journal of Psychiatry. 2019;53(7):642-50.

61 Effective commissioning also involves evaluation and support for innovation. This is an area where I believe academic centres such as the one I lead at Monash Health (the Southern Synergy Centre) can have an important role. The Centre was established with clear purposes in mind as a translational research node, rather than leaving the scope of interest to be determined by whomever might be appointed on simply academic metrics. The position description of the role I was appointed into made this very clear. The group of us in the Centre are co-located closely with the leadership of Monash Mental Health, with presence of the Centre head on the senior leadership team of the Mental Health Program. The bidirectional flow of ideas facilitated by this collaborative relationship can be illustrated by a range of projects and by the following 15 publications.⁵⁸ Incorporation

⁵⁸ Meadows G, Brophy L, Shawyer F, Enticott JC, Fossey E, Thornton CD, et al. REFOCUS-PULSAR recovery-oriented practice training in specialist mental health care: a stepped-wedge cluster randomised controlled trial. *The Lancet Psychiatry*. 2019;6(2):103-14; Enticott JC, Shawyer F, Brophy L, Russell G, Fossey E, Inder B, et al. The PULSAR primary care protocol: a stepped-wedge cluster randomized controlled trial to test a training intervention for general practitioners in recovery-oriented practice to optimize personal recovery in adult patients. *BMC Psychiatry*. 2016;16; Long KM, McDermott F, Meadows GN. Factors affecting the implementation of simulation modelling in healthcare: A longitudinal case study evaluation. *Journal of the Operational Research Society*. 2019;1-13; Hickey T, Pen Name E, Nelson B, Meadows G. Mindfulness and compassion for youth with psychotic symptoms: A description of a group program and a consumer's experience. *Psychological, Social and Integrative Approaches*. 2019; Edan V, Brophy L, Weller PJ, Fossey E, Meadows G. The experience of the use of Community Treatment Orders following recovery-oriented practice training. *International Journal of Law and Psychiatry*. 2019;64:178-83; Long KM, McDermott F, Meadows GN. Being pragmatic about health care complexity: our experiences applying complexity theory and pragmatism to health services research. *BMC Medicine*. 2018;16(94):On-line 1 – 9; Shawyer F, Enticott JC, Block AA, Cheng IH, Meadows GN. The mental health status of refugees and asylum seekers attending a refugee health clinic including comparisons with a matched sample of Australian-born residents. *BMC Psychiatry*. 2017;17(1):76; Hickey T, Nelson B, Meadows G. Application of a mindfulness and compassion-based approach to the at-risk mental state. *Australian Psychological Society*. 2017;21(2):104-15; Shawyer F, Enticott JC, Ozmen M, Inder B, Meadows GN. Mindfulness-based cognitive therapy for recurrent major depression: A 'best buy' for health care? *Australian and New Zealand Journal of Psychiatry*. 2016;50:1001-13; Enticott JC, Cheng I-H, Russell G, Szwarc J, Braitberg G, Peek A, et al. Emergency department mental health presentations by people born in refugee source countries: an epidemiological logistic regression study in a Medicare Local region in Australia. *Australian Journal of Primary Health*. 2015;21(3):286-92; Shawyer F, Enticott JC, Doherty AR, Block AA, Cheng I-H, Wahidi S, et al. A cross-sectional survey of the mental health needs of refugees and asylum seekers attending a refugee health clinic: A study protocol for using research to inform local service delivery. *BMC Psychiatry*. 2014;14(1):2-11; Meadows GN, Shawyer F, Enticott JC, Graham AL, Judd F, Martin PR, et al. Mindfulness-based cognitive therapy for recurrent depression: A translational research study with 2-year follow-up. *The Australian and New Zealand journal of psychiatry*. 2014;48(8):743-55; Brooker JE, Webber L, Julian J, Shawyer F, Graham AL, Chan J, et al. Mindfulness-based Training Shows Promise in Assisting Staff to Reduce Their Use of Restrictive Interventions in Residential Services. *Mindfulness*. 2014;5(5):598-603; Shawyer F, Meadows GN, Judd F, Martin PR, Segal Z, Piterman L. The DARE study of relapse prevention in depression: design for a phase 1/2 translational randomised controlled trial involving mindfulness-based cognitive therapy and supported self monitoring. *BMC Psychiatry*. 2012;12(3):1-10; Murphy BP, Simms C, Dowling R-M, Graham A, Doherty A, Meadows GN. The development of the Recovery and Prevention of Psychosis Service in Melbourne, Australia. *Early Intervention in Psychiatry*. 2009;3(2):151-6.

of an academic element to service delivery within parameters such as those set for Southern Synergy can make an important contribution to the commissioning cycle.

- 62 Commissioning should, I believe, also include clear and effectively communicated specification of clinical academic units. This is not a novel suggestion, indeed it was a key recommendation of the Henderson review of Victoria's academic positions in 2004.⁵⁹ Several attempts have been initiated over the years since then to achieve this, but from my perspective none has satisfactorily concluded. The task, well outlined by Scott Henderson all those years ago, would include determining priorities for DHHS funded research positions and ensuring that a commissioning cycle is applied to this important DHHS funding stream. To give a local example, despite having been an active research centre since 2003, leading over a dozen major grants and with well over 100 publications, the Southern Synergy Centre — based on communications from DHHS through time — has no proportionate or identified funding line from DHHS. I believe that DHHS should conclude the process of clarifying and updating its funding of academic positions, taking a proactive approach and adopting a commissioning cycle.

Funding arrangements

- 63 Firstly, more funding is needed. A message has been sent to Victorian communities in recent times about mental illness by the progressive decline in relative funding levels compared to other states and territories. That Victoria now consistently sits at the bottom of the funding ladder is a tragedy for people needing care, and the resulting work strains exact a heavy toll on staff. In many areas the existing service structures are good ones, but chronically low resourcing has impoverished them. Under the present administration the funding situation has started to improve, but there is a long way to go. A substantial injection of funds into the system, including to its core elements, will send a message to the public that adequate response to mental illness is properly socially valued.
- 64 As funding is restored towards bringing Victoria back into a leading, rather than trailing position in relation to mental health care funding, there is an opportunity to attend to issues of equity in distribution, something much easier to do in the context of funding expansion than at other times. There is a strong argument for using IRSD (as introduced earlier) in a funding model and process of guiding the distribution of resources to catchment areas. In the 1990s, there was a major injection of funding into community services as funding moved from the commitment to institutions. During that period, Victoria adopted a funding formula which distributed resources to area mental health networks based on the IRSD and characteristics such as demographic variability of areas,

⁵⁹ Henderson S. Review of clinical academic positions in Victoria's public mental health services. 2004.

people from non-English speaking background, homelessness and rurality. In the 1990s, the introduction of a components-based area model for mental health services was in my view critically dependent on this element of the commissioning approach.⁶⁰

65 Considering the contemporary situation, to quote from this submitted paper:⁶¹

The National Mental Health Services Planning Framework (NMHSPF) is widely used in planning in Australia and 'allows users to estimate need and expected demand for mental health care and the level and mix of mental health services required for a given population'. However, the NMHSPF and its associated Planning Support Tool are limited in that they provide outputs for regions in a way that 'only adjusts for the size and age distribution of the selected population. Currently, the NMHSPF does not take into account variations from the national average likely to arise from factors such as rurality, socio-demographic variability across regions, and clustering of higher needs groups within particular regions, such as people with severe and complex mental illness in boarding houses'. Consideration of how such variations may be compensated for is therefore important in supporting use of the NMHSPF.

Applying a correction to the estimation of population need based on the IRSD may be a potentially critically important addition to the National Mental Health Services Planning Framework (**NMHSPF**).

66 Along with my co-authors, a group of us recently submitted a paper to the journal *Australasian Psychiatry* in which we develop this idea.⁶² It presents a worked example of how research findings from Australian surveys can be used in an evidence-based approach to commissioning. In application to current issues in the State of Victoria, the conclusion reached in the paper is that the recommendation in the Royal Commission's interim report to distribute beds to the Melbourne Health Alliance and to Barwon Health received support from the modelling as a first step in progressing towards a more just distribution of beds in Victoria. It was not necessarily the only decision that would have been supportable on these grounds, but according to the modelling there is a case that it was a reasonable determination. Attached to this statement and marked '**GNM-4**' is a copy of this paper.

67 At an almost opposite extreme in terms of consideration of funding models, earlier in this statement, I examined the outcomes of the MBS fee-for service and uncapped co-

⁶⁰ Meadows G, Singh B. 'Victoria on the Move': Mental Health Services in a Decade of Transition 1992-2002. *Australasian Psychiatry*. 2003;11(1):62-7.

⁶¹ Meadows G, Shawyer F, Dawadi S, Inder B, Enticott J. Socio-economic disadvantage and resource distribution for mental health care; a model proposal and example application for Victoria, Australia. *Australasian Psychiatry* pre-print.

⁶² Ibid.

payment funding model in terms of tests of social justice. The x shaped graph in Figure 3 above indicates just how abysmal the performance of this funding model is if examined in terms of distributional justice (see paragraph 25, Figure 3). Regrettably much Commonwealth funding is committed to this model and it is in many ways popular with major professional bodies.

- 68 Somewhere between these two extremes lies work on Activity-Based-Funding (**ABF**). Mental health care has proved a difficult area in which to validate and implement ABF approaches. Having some familiarity with the work underway in DHHS at present (see paragraph 68), I have some optimism that, following a period of shadowing and any necessary refinement, rewarding services based on characteristics of clients treated may be closer to feasibility. It will then be necessary in my view to link outputs of a resource distribution formula⁶³ with expected ABF activity in order to make a comprehensive approach to estimating needs for public sector funding a critical element of the commissioning cycle.
- 69 The optimal approach to funding arrangements for public mental health services includes development and application of a resource allocation formula. As a critical enabler for this, retaining catchment areas is very important because geographic service delivery works to enable estimation of needs of areas and direction of funds to where those needs are proportionally greater. Alternatively, and as conspicuously seen with MBS activity, we see a system that privileges people who have the means to fund substantial gaps, the personal time flexibility and the transport to seek services from providers of choice in different geographic regions.

Commissioning approaches and the 'missing middle'

- 70 The challenges of the 'missing middle' in the mental health system could be addressed with better collaboration across commissioning boundaries as set out in the JRPG (see paragraphs 56 and 57), with better attention to collaboration with primary care (see paragraphs 35 to 44) and with realisation of the potential of telehealth (see paragraphs 45 to 48). I have concerns that proliferation of more and more service models in this space will increase confusion and have significant diseconomies. I have discussed some of the risks with an increase in the number of programs working in response to population needs in relation to age-specific services (see paragraphs 30 to 34) and similar concerns would apply here.

⁶³ Meadows G, Shawyer F, Dawadi S, Inder B, Enticott J. Socio-economic disadvantage and resource distribution for mental health care; a model proposal and example application for Victoria, Australia. Australasian Psychiatry pre-print.

Addressing maldistribution of funding for mental health, including MBS funding, to ensure adequate funding directed to geographical areas or cohorts of greatest need

- 71 MBS funding for mental health care preferentially flows to more advantaged areas, while need is greatest in most disadvantaged areas, making for a 'failure of universality' (see paragraphs 22 to 28).⁶⁴ Noting that Australia has higher out of pocket healthcare costs than average internationally, cost is likely an important determinant of this situation. If this were the only issue, then hypothetically a combination of increased taxation, increased rebates, mandatory bulk-billing and restriction of provider numbers to areas of need could solve the problem. These measures however are likely to remain hypothetical since federal governments of any credible persuasion are unlikely to take such measures which would likely face fierce opposition from professional bodies, among other stakeholders.
- 72 An underlying issue related to maldistribution of funding for mental health is that some providers and professional bodies argue that the Australian Constitution constrains some possible moves towards greater distributional justice based on the Constitutional prohibition introduced in 1946 on medical civil conscription (S51:xxiii). The argument is, in essence, that it would be unconstitutional to tell medical practitioners that they need to work in a particular geographic area because doing so would be tantamount to medical civil conscription. This introduces another hypothetical possibility and I am unaware that any government has sought to directly take on this interpretation of this section of the Constitution in the courts.
- 73 Cost will not be the only barrier to ensuring adequate service delivery for people in more disadvantaged geographical areas or other groups identified as of greater need. There will also be 'logistical problems like transportation and child care, perceived stigma and mistrust in the mental health care system, and cultural differences in help-seeking'.⁶⁵ Psychotherapies may also need adaptation from their commonly applied forms if uptake is to be increased in more disadvantaged areas — it has been argued that 'many unexamined assumptions about psychotherapy, including the help-seeking process, the development of the working alliance, and conceptions of positive outcomes, have been rooted in the predominant, middle-class worldview'.⁶⁶ There is a fairly extensive literature on this subject from the UK, Europe and the US, but little from Australia. There would be benefit to a thrust of research in this country to investigate how psychotherapies of different kinds can be made fully accessible across the range of socioeconomic advantage and disadvantage. Making services more accessible through increasing co-

⁶⁴ Meadows G, Enticott J, Inder B, Russell G, Gurr R. Better access to mental health care and the failure of the Medicare principle of universality. *Medical Journal of Australia*. 2015;202(4):190-5.

⁶⁵ Kim S, Cardemil E. Effective psychotherapy with low-income clients: The importance of attending to social class. *Journal of Contemporary Psychotherapy: On the Cutting Edge of Modern Developments in Psychotherapy*. 2012;42(1):27-35.

⁶⁶ Ibid.

location with primary care and perhaps drawing on the processes of joint planning (see paragraphs 56 and 57) would also have something to offer here.

- 74 Given that the propositions of paragraphs 71 and 72 are likely to remain hypothetical and there would seem no real prospect of changing this section of Constitution, what might be done? One option may be that the mental health funding that flows through the PHNs may be targeted to more disadvantaged areas, but this is a smaller funding pool than that flowing through the MBS so it may not provide sufficient correction. One set of proposals that had potential to improve this situation was the thinking around 'Medicare Select'.⁶⁷ Opening up the insurance market as suggested with Medicare Select might allow insurance schemes to enter into a newly competitive space with products that featured lower out of pocket costs (see paragraph 55) and more consistent accessibility. Pooled funding arrangements and capitation funding approaches might also hold promise, but these are reforms that would likely need to span the whole of health care and require active cooperation of the Commonwealth and all States and Territories.
- 75 There may be, then, little prospect of improving this 'failure of universality' without major health system reform. Perhaps there may be cause for optimism that the newly introduced national cabinet may prove a better vehicle for bringing about such change than COAG could. I believe it is important that the Australian public is well informed on these issues and in my case that is why I have been doing some writing for The Conversation⁶⁸ in recent years as this seems a publication vehicle that can bridge the academic and public spheres.
- 76 I comment on funding of services commissioned by the Victorian Government at some length above at paragraphs 10 to 23, 58 and 64 to 69.

Workforce

Effect of increasing mental health service provision on the composition, roles and capabilities of the workforce

- 77 The mental health workforce has been diversifying across sectors including through the provision elements under governance through the National Disability Insurance Scheme (NDIS) and services provided through the PHNs. Some of these positions are employed

⁶⁷ Boxall A-m. What is Medicare Select? Canberra: Parliament of Australia; 2009 [Available from: https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BN/0910/MedicareSelect#_Toc237858230].

⁶⁸ Meadows, G., Cichello, A., Isaacs, A. N. & Shawyer, F., When it's easier to get meds than therapy: how poverty makes it hard to escape mental illness. The Conversation, 2019. 3 Jul 2019; <https://theconversation.com/when-its-easier-to-get-meds-than-therapy-how-poverty-makes-it-hard-to-escape-mental-illness-114505>. Meadows G, Enticott J, Rosenberg S. Three charts on: why rates of mental illness aren't going down despite higher spending 2018 [Available from: <https://theconversation.com/three-charts-on-why-rates-of-mental-illness-arent-going-down-despite-higher-spending-97534>].

at disturbingly low salaries for what is being expected of them. The State should do what it can to ensure or advocate that working conditions are reasonable considering the difficult work involved across sectors in this field. I believe we also need to look at training and service delivery models that can span sectors and have materials developed for multiple skill levels (for an example see the discussion of PULSAR at paragraphs 51 to 53, 83 and 84). Joint commissioning is also important to ensure a strong and supported mental health workforce (see paragraphs 56 to 58).

- 78 It is also important to consider the lived experience workforce— both the peer support workforce and broader lived experience workforce. For instance, the PULSAR project mentioned earlier (see paragraphs 51 to 53) would, I believe, not have had its success if there had not been input from experienced consumer representatives and advocacy staff, in both consultation and co-delivery roles. Future desirable developments in Recovery-Oriented Practice and other fields, with increased emphasis on co-design, require input from a lived experiences workforce with necessary pedagogical understandings, confidence and status to be effective in such working relationships. I would advocate that one strategy among others for advancing the position of the lived experience workforce is through commissioning academic appointments in this field (see paragraphs 85 to 89).
- 79 Cross-cultural work is a challenge and can be assisted in having in the workforce staff from diverse backgrounds. While interpreters are critical for much work with people from Cultural and Linguistically (**CALD**) backgrounds, there is another dimension brought in by workers from within these communities as practitioners. Similarly, this is also the case for Indigenous and LGBTIQ+ people. As highlighted elsewhere though (see paragraph 73), there are also issues of disparate cultures in Australia, including communication and intervention difficulties if practitioners lack comprehension of the kind of lives that their clients live, how they communicate and relate. How clients communicate and relate may be influenced by experience of socioeconomic disadvantage — such experiences may for clients typically be greater than for the average members of the mental health workforce. There is therefore an argument for including, in development of a diverse workforce, a balance of people from CALD and LGBTIQ+ backgrounds, Indigenous people and those from a diversity of socioeconomic backgrounds.
- 80 The Centre for Mental Health Learning (**CMHL**) as currently under development may have a valuable contribution to make to Victorian mental health care (see for instance paragraphs 83 and 84 below). Until recently I was involved, on basis of prior activity with one of the Workforce Development Clusters, in the large groups that met to discuss how the CMHL could best go forward. I believe it is important that psychiatrists and academics and the expertise they bring are involved in the groups advising the CMHL — I suggest the Terms of Reference of these groups should ensure that this is the case.

Ensuring a sufficient supply of qualified professionals in key disciplines

a) Public mental health services

- 81 Increasing the number of qualified professionals working in public mental health services requires adequate working conditions, sufficient training, job satisfaction and scope to develop specialist skills, with the endpoint of offering consumers a better range of high quality and effective services. At the moment, the transdisciplinary role of case management means that workers' individual roles are not adequately recognised or developed. I would advocate that recruitment and retention may well be improved if people in mental health services roles were given greater scope for specialist practice.

b) Preparing practice-ready graduates and the challenges faced by training providers

- 82 I would like to say a specific word here about an aspect of postgraduate psychiatry training, the Scholarly Project. Psychiatrists are in a good position by overall educational level, and the status that comes with their medical specialist qualifications, to take effective leadership and advocacy roles in services and in society. It is important that in these roles they are capable of leading quality assurance and potentially research projects. In the current Competency Based Fellowship Program, trainees are required to conduct a scholarly project which can be a systematic review or some form of research. The Southern Synergy academic centre, closely connected with training in Monash Health, provides support to these projects. Ensuring that each of these registrars (up to 70 in Monash Health) is adequately supported in this part of their training requires the skills of an experienced academic and works best if this is connected with other researchers. Since training is distributed across much of the State, this need is ubiquitous across all commissioning arrangements.

Linkages between mental health services and other services

Supporting professionals in other sectors who interact and care for people with poor mental health

- 83 Earlier in this statement I have described the PULSAR project (see paragraphs 51 to 53, attachment marked '**GNM-5**'). This project took a thematically and practically coherent approach to a training program for Recovery-Oriented Practice and applied it with clear success across public mental health services and the Mental Health Community Support Sector. We presently are submitting findings from the primary care arm of this project and these give some cause for optimism. The PULSAR project is an example of a program spanning multiple sectors in a way that sought to enable consistency of working practices and cultural consistency across these. As noted above, this program was funded (\$2.3 million) by the Victorian Government through the Mental Illness Research Fund

(MIRF) program and demonstrated positive results as set out in the attached paper ('GNM-5') from one of the highest standing international journals. However, there is unfortunately no clear process whereby the findings from the MIRF projects, which represented a substantial investment, are linked with encouragement for adoption of these projects in everyday practice. If, as I would encourage, the Victorian Government returns to a role as a research grant funder, then there usefully could be consideration of actively engaging the CMHL in the task of dissemination and translation into everyday practice of findings from such projects.

- 84 Ideally, there ought to be grant funding for innovations in cross-sectoral training initiatives with sound evaluation and then funding for commissioning their delivery as training initiatives across the State. This dissemination task could be an important function of the CMHL.

Research, evaluation and innovation

Fundamental guiding principles for investment in mental health research in Victoria

- 85 Victorian mental health services, in order to progress and better meet the needs of Victorians with mental health problems, need local translational research activity aligned with strategic goals and aspirations for mental health care in the State. In turn, I believe the Victorian Government, through active commissioning of research activities should ensure that in the balance of academic activities they support, this vital strand of research is adequately supported. I discuss the importance of funding for innovation further at paragraphs 61 and 84 above. I would propose active consideration of a tiered approach to funding that provides support for activities across what the US National Institutes of health refers to as the Translational Science Spectrum⁶⁹. Including public health, basic research, pre-clinical research, clinical research and clinical implementation, this is typically presented as a network with multiple connections between the elements.

Mechanisms and approaches to help strengthen the role of mental health research and evaluation in policy and service reform

- 86 There is a need for DHHS to actively commission academic positions and centres in a systematic way that aligns the resource flows with translational research needs of Victorian mental health services. I would suggest that this needs to include positions across interdisciplinary and lived experience workforces. Presently I would suggest the investment is too heavily weighted towards psychiatric positions — there could usefully be more DHHS funded positions in other disciplines as well as in the lived experience workforce (see paragraph 78). This commissioning should also seek to ensure

⁶⁹ National Centre for Advancing Translational Sciences 'Translational Science Spectrum. <https://ncats.nih.gov/translation/spectrum> accessed 24/06/2020

accountability for keeping funded positions filled. That in turn needs a systematic collaborative assessment of existing and possible future academic investments. Synergies should be explored with consideration of the benefits of funding university or faculty centres rather than relatively isolated positions, and leveraging DHHS funding to secure that DHHS funds are matched or at least complemented by inputs from universities. All of this aligns with an active commissioning model as introduced earlier (see paragraphs 61 and 62).

- 87 The Victorian Collaborative Centre for Mental Health and Wellbeing (**VCMHW**) is envisioned as located with one set of services. There will be a challenge in ensuring that the VCMHW can achieve gains in understanding and practice and then successfully disseminate these across the State. It will also be a challenge to ensure that the VCMHW can usefully be informed by innovations that may occur outside the services it is directly attached to. I suggest that there will remain a need for other mental health research activity centres and groups to continue to exist and to be supported, including across the two recognised Advanced Health Research and Translation Centres. It will be desirable that there be fostering of effective networks and research communities across the State. There may usefully be consideration of synergies with the proposed National Health and Medical Research Council (**NHMRC**) Special Initiative in Mental Health 2020, advertised in March 2020 and due to close in July 2020.⁷⁰ This Special Initiative is envisioned as a coordinating institution supporting a virtual network with flagship programs.
- 88 The Victorian Government used to fund research through the Victorian Centre for Excellence in Depressive Disorders (**VCOE**) and then the MIRF. However, presently there is no targeted funding pool for mental health services and applied research in Victoria. There should be research funding from the State, and I suggest it should be targeted to the translational research needs of Victoria's services. The PULSAR project which I led is surely a good example of this (see paragraphs 50 to 53). But it needed a specific funding program (the MIRF) for that project to happen — it is most unlikely that the future projects that Victoria needs in this area will be funded by the NHMRC, and at present rather doubtful that the Commonwealth Medical Research Futures Fund (**MRFF**) will pick up this slack. We need funding to provide for seeding, development and conduct of major projects and to nurture the next generations of translational researchers who can lead and deliver the projects necessary to inform development of practice and service structures in mental health care.
- 89 So far, the MRFF has not been bringing enough money into the kinds of aligned later stage translational research that Victorian mental health services need. MRFF grant

⁷⁰ GrantConnect. NHMRC Special Initiative in Mental Health 2020 Canberra: Australian Government; 2020 Available from: <https://www.grants.gov.au/?event=public.GO.show&GOUUID=67DFB5F2-DC02-E253-9FB0EE0EF5B714DF&keyword=GO3821>.

rounds have often arisen without much notice, with tight delivery timelines, and often the funds in specific rounds are relatively small. It is not clear that the targets for the MRFF will ever adequately align with those of Victoria's mental health services. Accordingly, the State needs to inject some funds into the kind of research it needs done. Competitive grant funding is a powerful tool to this end. The State Government needs to engage again with commissioning mental health research through targeted grant rounds that specify how the funded research is be aligned with goals for Victorian mental health services.

sign here



print
name

Graham Nicholas Meadows

date

26 June 2020



Royal Commission into
Victoria's Mental Health System

ATTACHMENT GNM-1

This is the attachment marked '**GNM-1**' referred to in the witness statement of Graham Nicholas Meadows dated 26 June 2020.

Curriculum Vitae

Graham Meadows



Current at June 2020

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Full name

Graham Nicholas Meadows

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Phone landline	+61 (0) 3 9902 9696
Phone mobile	+61 (0) 438 034 844

Citizenship

Australian and UK national

Country of permanent residence

Australia

Appointments in 2020

- Adjunct Professor Psychiatry, Department of Psychiatry, Monash University School of Clinical Sciences at Monash Health - from Mid-November 2018 to November 2023
- Honorary Professorial Fellow, University of Melbourne School of Population Health. February 2018-February 2023
- Director, Southern Synergy, the Monash Mental Health Centre for Research, Training and Evaluation
- Consultant Psychiatrist, Monash Health
- Independent consultant from November 2018

Academic and professional qualifications

Type (Reverse Chronological listing)	Qualification	Organisation and country	Date received
Doctorate by Research	MD Doctor of Medicine	University of Melbourne, AUSTRALIA	11/2005
Fellowship (Health Professional)	FRANZCP Fellow of the Royal Australian and New Zealand College of Psychiatrists. PSYCHIATRY	Royal Australian and New Zealand College of Psychiatrists AUSTRALIA	10/1995
Masters by Research	MPhil Masters of Philosophy, Psychiatry	University of London, Institute of Psychiatry UNITED KINGDOM	06/1995
Membership (Health Professional)	MRCPsych Member of the Royal College of Psychiatrists PSYCHIATRY	Royal College of Psychiatrists UNITED KINGDOM	06/1988
Membership (Health Professional)	MRCP(UK) Member of the Royal College of Physicians INTERNAL MEDICINE	Royal College of Physicians UNITED KINGDOM	04/1985
Primary medical and surgical degrees	MB,ChB Bachelor of Medicine, Bachelor of Surgery	University of Leicester, UNITED KINGDOM	06/1980

Profile

Graham Meadows holds professorial appointments at Monash University and The University of Melbourne. Since 2003, he has been Foundation Director of Southern Synergy, the Monash Health Adult Psychiatry Research, Training and Evaluation Centre, a Joint Research Centre between the Monash University Faculty of Medicine, Nursing and Health Sciences and Monash Health. Professor Meadows is a prominent figure in innovation in mental health care in Australia, with national and international profiles in areas such as GP shared care, resource distribution, applications of mindfulness in clinical mental health practice, and recovery-oriented practice. His research, clinical leadership, policy advisory and training activities have reflected continuing commitment to a value base including equity, empowerment, efficiency and sound use of evidence at all levels of healthcare delivery and planning. A particular strength developed through his career would lie in development of sustainable organisational structures that enable productive cross-sectoral collaborations.

After medical training in the UK, Graham Meadows gained postgraduate experience there in General Practice, Epidemiology, Public Health and Internal Medicine including gaining Membership of the Royal College of Physicians. He then qualified and practiced in Psychiatry at leading institutions in the UK and Australia. From 1993 onwards, Graham established a prominent position in Australia in fields of primary care psychiatry and applied epidemiology, including working as Clinical Lead of the NorthWest Area Mental Health Service, contributing to development of models of GP liaison, multidisciplinary training, individual and population needs assessment where the development of the Perceived Need for Care Questionnaire (PNCQ) was the subject of his Doctoral research thesis.

Prof Meadows has over 150 publications (h-index 31, 21 since 2015). This work has spanned topic areas including: epidemiology of eating disorders; assessment of psychiatric disorders in people with intellectual disability; the role of the police in mental health care; ethical and evidence-based approaches to mental health care resource distribution; collaborative shared care models, population and individual needs assessment; smoking cessation and mental health problems; health services epidemiology; mindfulness based psychological approaches in depression; depression and headache; health economics, educational evaluations, simulation modelling, evaluation methodology and recovery-oriented practice. He has led editorial teams on an innovative major textbook for multidisciplinary mental health care 'Mental Health in Australia, Collaborative Community Practice', with three editions published by Oxford University Press in 2002, 2007 and 2012 and a fourth edition due in late 2020. He has established and/or developed multidisciplinary postgraduate courses in mental health and has been an invited expert speaker at international conferences on topics including translational research in mindfulness and GP Shared-Care. In 2013 he was Convener for the first Australian Mindfulness Science and Practice conference; he is organising committee co-chair of the planned International Conference on Mindfulness Asia-Pacific 2022, to be held in Melbourne.

He is a member of the International Federation for Psychiatric Epidemiology, the Asia-Pacific Mindfulness Network, the International Access MBCT Register, and of the World Psychiatric Association Section of Epidemiology and Public Health. His recent publons-documented reviewing activity is on the 96th percentile, 80% in journals impact factor 5 or above. He is on the Editorial Boards of the International Journal of Mental Health Systems and Mindfulness. He has been an investigator on 35 grants, for over \$10 Million, leading 24 of these for over \$6.3 million, including being principal investigator on two investigator-initiated multi-site clinical trials; results from the latest of these published in February 2019 in The Lancet Psychiatry.

Previous appointments

Prior Posts in Psychiatry

	Position (Reverse Chronological listing)	Organisation	Specialty	Start Date	End Date
Academic Positions in Melbourne	Professor of Adult Psychiatry	Monash University (Funded by Monash Health)	Adult Psychiatry	11/2003	11/2018
	Associate Professor	University of Melbourne (Funded by Melbourne Health)	Adult Psychiatry	01/2003	10/2003
	Senior Lecturer	University of Melbourne (Funded by Melbourne Health)	Adult Psychiatry	07/0993	12/2002
Higher Training at the Bethlem and Maudsley Hospitals	Senior Registrar	Bethlem and Maudsley Joint Hospitals	Community Psychiatry	02/1992	01/1993
	Consultant (Sessional)	Bethlem and Maudsley Joint Hospitals	General Psychiatry	06/1991	01/1993
	Senior Registrar	Kings College Hospital	Acute Psychiatry	02/1991	01/1992
	Senior Registrar	Bethlem and Maudsley Joint Hospitals	Drug Dependency	04/1990	01/1991
Training Positions in Adelaide	Senior Registrar	Hillcrest Hospital	Forensic Psychiatry	08/1989	01/1990
	Senior Registrar	Hillcrest Hospital	Emergency Psychiatry	08/1988	07/1989
General Psychiatry Training – Bethlem and Maudsley Joint Hospitals rotation	Research Fellow	Institute of Psychiatry	Genetics and Learning Disability	08/1987	02/1988
	Registrar	Bethlem and Maudsley Joint Hospitals	Emergency Psychiatry, , behavioural psychotherapy, Conjoint psychotherapy, sexual dysfunction	02/1987	07/1987
	Registrar	Bethlem and Maudsley Joint Hospitals	Rehabilitation Psychiatry	08/1986	01/1987
	Registrar	Bethlem and Maudsley Joint Hospitals	Eating Disorders	02/1986	07/1986
	Registrar	Bethlem and Maudsley Joint Hospitals	General psychiatry	08/1985	01/1986

Medical Positions prior to taking up psychiatry training

	Position (Reverse Chronological listing)	Organisation	Specialty	Start Date	End Date
Training positions in General Medicine	Registrar	Middlesex Hospital	Rheumatology	08/1984	07/1985
	Registrar	Bridgend Hospital	General Medicine/ Gastroenterology	08/1983	07/1984
Community Medicine, Epidemiology and General Practice Rotation	Senior House Officer	Leicester Royal Infirmary	General Medicine/ Diabetes	02/1983	07/1983
	Senior House Officer	Leicester General Hospital	General Psychiatry	08/1982	01/1983
	Senior House Officer	Leicestershire Area Health Authority	Public Health	02/1982	07/1982
	Senior House Officer	Leicester Royal Infirmary	Accident and Emergency	08/1981	01/1982
House Officer (Intern) positions	House Officer	Leicester Groby Road Hospital	General Medicine	05/1981	07/1981
	House Officer	Leicester Groby Road Hospital	Cardiology	02/1981	04/1981
	House Officer	Leicester Royal Infirmary	General Surgery	11/1980	01/1981
	House Officer	Leicester Royal Infirmary	Orthopaedics	08/1980	10/1980

Details of research grant record

Current Grants

Title of Proposal Better Mental Health Treatment Plans Project		
Funding Source General Practice Mental Health Standards Collaboration	Program name Contract research	
Principal Applicant/Project Leader Graham Meadows	My role Primary Chief Investigator	
Total Amount Awarded: \$ 38,537	Support period from: 2020	Support period to: 2020

Title of Proposal Place-based suicide trials evaluation (establishment phase)		
Funding Source Victorian State Government through the Sax Institute	Program name Contract research – initially year one, extension approved to year 2	
Principal Applicant/Project Leader Graham Meadows	My role Lead year 1, Joint Chief Investigator year 2	
Total Amount Awarded: \$ 252,605	Support period from: 2018	Support period to: 2020

Title of Proposal Improving outcomes for people with depression in community settings: A cluster RCT		
Funding Source NHMRC	Program name Project grant	
Principal Applicant/Project Leader Mariko Carey	My role CIE	
Total Amount Awarded: \$803,554.00	Support period from: 2017	Support period to: 2020

Title of Proposal Building the evidence base for prevention and recovery care services		
Funding Source NHMRC	Program name Partnership grant	
Principal Applicant/Project Leader Jane Pirkis	My role CIG	
Total Amount Awarded: \$747,148	Support period from: 2013	Support period to: 2020

Title of Proposal The OPTIMISE project: Collaborative improvement of primary health care delivery to the Australian refugee community		
Funding Source NHMRC	Program name Partnership grant	
Principal Applicant/Project Leader Grant Russell	My role CIH	
Total Amount Awarded: \$1,053,913.87	Support period from: 2013	Support period to: 2020

Previous grants

Title of Proposal Working together with shared values towards recovery-oriented practice - Principles Unite Local Services Assisting Recovery - the PULSAR project.		
Funding Source Victorian State Government	Program name Mental Illness Research Fund	
Principal Applicant/Project Leader Graham Meadows	My role Chief and lead investigator 0.1 FTE	
Total Amount Awarded: \$2,564,547 inc GST	Support period from: 2013	Support period to: 2017

Title of Proposal Improving management decisions in mental health care through applications of advanced simulation modelling.		
Funding Source Australian government and the healthcare sector	Program name ARC linkage	
Principal Applicant/Project Leader Graham Meadows	My role Chief investigator A 0.1 FTE	
Total Amount Awarded: \$184,000 from the ARC, with other contributions from partners including \$115,000 cash from Southern Health and a total budget of \$700,000	Support period from: 2011	Support period to: 2014

Title of Proposal Epidemiology of mental health problems and needs for care among refugee clinical populations in SE Melbourne.		
Funding Source Southern/Monash Health	Program name Invited Proposal	
Principal Applicant/Project Leader Graham Meadows	My role Chief investigator A 0.1 FTE	
Total Amount Awarded: \$150,000	Support period from: 2012	Support period to: 2013

Title of Proposal Geographic Resource Distribution for Mental Health Services in Southern Metropolitan Melbourne		
Funding Source Victorian Department of Health.	Program name Invited Tender	
Principal Applicant/Project Leader Graham Meadows	My role Chief investigator A 0.1 FTE	
Total Amount Awarded: \$20,000	Support period from: 2012	Support period to: 2012

Title of Proposal Modelling mental health care services: Providing evidence to support management decision making Regarding service configuration.		
Funding Source Monash University	Program name Faculty of Medicine, Nursing & Health Sciences Strategic Grant Scheme	
Principal Applicant/Project Leader Graham Meadows	My role Chief investigator A 0.1 FTE	
Total Amount Awarded: \$48,500	Support period from: 2010	Support period to: 2012

Title of Proposal Labour Market Costs of Mental Illness in Australia		
Funding Source Beyondblue	Invited Tender following submission to the Victorian Centre for Excellence in Depression and Related Disorders	
Principal Applicant/Project Leader Graham Meadows	My role Chief investigator A 0.1 FTE	
Total Amount Awarded: \$49,000	Support period from: 2010	Support period to: 2012

Title of Proposal Better Mental Health Treatment Plans – Reviewing current literature and practice and developing guidelines.			
Funding Source Commonwealth Department of Health and Aging (DoHA) through the Royal Australian College of General Practitioners		Invited Tender following direct submission to DoHA	
Principal Applicant/Project Leader Graham Meadows		My role Chief investigator A 0.1 FTE	
Total Amount awarded: \$137,000	Support period from: 2011		Support period to: 2011

Title of Proposal 2007 National Survey of Mental Health and Wellbeing Research:			
Funding Source Victorian State Government Department of Health		Invited Tender	
Principal Applicant/Project Leader Graham Meadows		My role Chief investigator A 0.1 FTE	
Total Amount Awarded: \$99,000	Support period from: 2010		Support period to: 2012

Title of Proposal Cognitive behaviour therapy for co-morbid chronic headache and depression			
Funding Source beyondblue the national depression initiative		Program Name Victorian Centre of Excellence in Depression and related Disorders	
Principal Applicant/Project Leader Paul Martin		My role Chief investigator B 0.05 FTE	
Total Amount Awarded: \$200,000	Support period from: 2008		Support period to: 2009

Title of Proposal Effectiveness of Mindfulness Based Cognitive Therapy for Preventing Depressive Relapse in Subjects at Very High Risk – The DARE project (Depression Awareness, Recovery Effectiveness).			
Funding Source Commonwealth government		Program Name National Health and Medical Research Council	
Principal Applicant/Project Leader Graham Meadows		My role Chief investigator A 0.1 FTE	
Total Amount Awarded: \$610,000	Support period from: 2007		Support period to: 2010

Title of Proposal Development of a minimum data set for Victorian Youth and Early Intervention Services		
Funding Source Victorian State Government Department of Health		Program Name Invited Tender
Principal Applicant/Project Leader Graham Meadows		My role Chief investigator A 0.1 FTE
Total Amount Awarded: \$50,000	Support period from: 2005	Support period to: 2006

Title of Proposal A randomised Controlled trial of mindfulness-based Cognitive therapy and adherence therapy for the prevention of relapse and recurrence – Stage 1.		
Funding Source Commonwealth and State governments		Program Name Victorian Centre of excellence in depression and related disorders
Principal Applicant/Project Leader Graham Meadows		My role Chief investigator A 0.1 FTE
Total Amount Awarded: \$100,000	Support period from: 2003	Support period to: 2004

Title of Proposal Primary Care Partnership mental health care training (the MAP program – Mental Health Aptitudes into Practices)		
Funding Source Commonwealth and State governments, program		Program Name Beyondblue – invited tender
Principal Applicant/Project Leader Graham Meadows		My role Director of program, leadership of internal evaluation component, Evaluation component 0.15 FTE
Total Amount Awarded: \$1,610,700	Support period from: 2002	Support period to: 2005

Title of Proposal A Model for Rural Mental Health Services: the Evaluation of Structures and Processes for Effective Client, Carer and Community Outcomes		
Funding Source Commonwealth Department of Health and Aging		Program Name Australian Research Council Linkage
Principal Applicant/Project Leader Professor Alun Jackson		My role Co-investigator with Jackson A, Barton D, Joubert L. 0.05 FTE
Total Amount Awarded: ARC \$66,074 (total funding from all partners \$130,892)	Support period from: 2002	Support period to: 2004

Title of Proposal Western Area Suicide Prevention Strategies (WASPS)			
Funding Source Commonwealth Department of Health and Aging		Program Name National Suicide Prevention Strategy.	
Principal Applicant/Project Leader John Balla		My role Co-investigator with Balla J, Barton D, Joubert L.	
Total Amount Awarded: \$280,000	Support period from: 2002		Support period to: 2004

Title of Proposal The PEP collaboration			
Funding Source Commonwealth and State governments		Program Name Victorian Centre of excellence in depression and related disorders	
Principal Applicant/Project Leader Grant Blashki		My role Investigator 0.05 FTE	
Total Amount Awarded: \$460,000	Support period from: 2004		Support period to: 2005

Title of Proposal Depression and related disorders – findings from the National survey of Mental health and Wellbeing			
Funding Source Beyondblue - the National Depression initiative		Program Name Beyondblue general small grants	
Principal Applicant/Project Leader Graham Meadows			
Total Amount Awarded: \$20,000	Support period from: 2002		Support Period To 2003

Title of Proposal Development of a multimodal screening instrument for use in primary care			
Funding Source Commonwealth and Victorian State governments,		Program Name Beyondblue general small grants	
Principal Applicant/Project Leader Graham Meadows			
Total Amount Awarded: \$40,000	Support period from: 2002		Support period to: 2003

Title of Proposal A Scoping study into research priorities and service initiatives relating to co-morbidities between depression and other National Health Priority areas		
Funding Source Commonwealth Department of Health and Aging	Program Name Select Tender	
Principal Applicant/Project Leader A/Prof David Clarke	My role: Conceptual contributions and analyses from epidemiological data sets	
Total Amount Awarded: \$100,000	Support period from: Feb 2003	Support period to: June 2003

Title of Proposal Development of open source syntax and supporting documentation for the National Survey Data set		
Funding Source Commonwealth and Victorian State governments	Program Name Beyondblue general small grants	
Principal Applicant/Project Leader Graham Meadows		
Total Amount Awarded: \$44,000	Support period from: 2002	Support period to: 2003

Title of Proposal Development of Program Logic Models for Victorian Primary Mental health Teams		
Funding Source Commonwealth and Victorian State governments	Program Name Beyondblue general small grants	
Principal Applicant/Project Leader Graham Meadows		
Total Amount Awarded: \$47,000	Support period from: 2002	Support period to: 2003

Title of Proposal GP Shared Care in Serious Mental Illness, Carer burden and Psychiatric Morbidity		
Funding Source Commonwealth Department of Health and Aging	Program Name General Practice Evaluation Program	
Principal Applicant/Project Leader Graham Meadows		
Total Amount Awarded: \$93,000	Support period from: 1999	Support period to: 2001

Title of Proposal Australian general practice and the meeting of need for mental health care		
Funding Source Commonwealth Department of Health and Aging	Program Name General Practice Evaluation Program (GPEP).	
Principal Applicant/Project Leader Graham Meadows		
Total Amount Awarded: \$96, 082	Support period from: 1998	Support period to: 2000

Title of Proposal Mental Health Care in General Practice, Is shared care quality care?		
Funding Source Commonwealth Department of Health and Aging	Program Name General Practice Evaluation Program	
Principal Applicant/Project Leader Graham Meadows		
Total Amount Awarded: \$153, 000	Support period from: 1997	Support period to: 2000

Title of Proposal Perceived Needs for Care Questionnaire Development		
Funding Source Commonwealth Government	Program Name National Survey Development Funds	
Principal Applicant/Project Leader Graham Meadows		
Total Amount Awarded: \$10,000	Support period from: 1996	Support period to: 1997

Title of Proposal Graduate Diploma in Mental Health Sciences (Community Mental Health)		
Funding Source Human Services Victoria	Program Name Open Tender process	
Principal Applicant/Project Leader Professor Bruce Singh, Professor Bruce Tonge	My role Designated Course Coordinator	
Total Amount Awarded: \$390, 000	Support period from: 1997	Support period to: 2000

Title of Proposal Smoking Cessation in Serious Mental Illness		
Funding Source Department of Human Services, Victoria jointly with SANE Australia	Invited Tender	
Principal Applicant/Project Leader Graham Meadows	My role Chief Investigator	
Total Amount Awarded: \$60,300	Support period from: 1999	Support period to: 2000

Title of Proposal 'CLIPP' Procedures manual development		
Funding Source Human Services, Victoria	Invited submission	
Principal Applicant/Project Leader Graham Meadows		
Total Amount Awarded: \$22,500	Support period from: 1998	Support period to: 1999

Title of Proposal General Practitioners Perception of Treatment of Psychotic Disorders		
Funding Source Commonwealth Department of Health and Aging	Program Name General Practice Evaluation Program	
Principal Applicant/Project Leader A/ Professor Pat McGorry	My role Co-investigator	
Total Amount Awarded: \$8, 000	Support period from: 1996	Support period to: 1997

Title of Proposal NorthWest Mental Health Shared Care Development		
Funding Source Commonwealth Department of Health and Aging	Program Name Mental Health Initiative Funding (first National Mental health Plan)	
Principal Applicant/Project Leader Graham Meadows/Philip Hegerty		
Total Amount Awarded: \$97,000	Support period from: 1995	Support period to: 1996

Publications

All publications reverse chronological listing

1. Happell, B., Roper, C., Meadows, G., Byrne, L., Roennfeldt, H., Mercuri, A., Grey, F., Collister, L., Scholz, B., Renouf, N., Smith, F., & Brophy, L. (In press). Working Collaboratively. In G. Meadows, S. Rosenstein, F. McDermott, E. Fossey, & J. Farhall (Eds.), *Mental Health in Australia* (4th ed.). Oxford University Press.
2. Ilango, A., Clarke, D. M., Smith, G., & Meadows, G. (In press). Disorders of bodily distress or bodily experience, Factitious disorders and Psychological or behavioural factors affecting disorders or disease. In G. Meadows, S. Rosenstein, F. McDermott, E. Fossey, & J. Farhall (Eds.), *Mental Health in Australia* (4th ed.). Oxford University Press.
3. Isaacs, A., Meadows, G., & Rosenberg, S. (In press). Advancing Knowledge in Mental Health Care. In G. Meadows, S. Rosenstein, F. McDermott, E. Fossey, & J. Farhall (Eds.), *Mental Health in Australia* (4th ed.). Oxford University Press.
4. Isaacs, A., Meadows, G., & Rosenberg, S. (In press). Critical environmental and social determinants of mental health problems and their care. In G. Meadows, S. Rosenstein, F. McDermott, E. Fossey, & J. Farhall (Eds.), *Mental Health in Australia* (4th ed.). Oxford University Press.
5. Keks, N., Hope, J., & Meadows, G. (In press). Psychopharmacology. In G. Meadows, S. Rosenstein, F. McDermott, E. Fossey, & J. Farhall (Eds.), *Mental Health in Australia* (4th ed.). Oxford University Press.
6. Meadows, G., Aadam, B., Buchanan-Hagen, S., Cugnetto, M., Daya, I., Farhall, J., Fernbacher, S., Fossey, E., Johnson, C., King, R., Mahboub, L., Minas, H., Petrakis, M., Roper, C., Sareen, N., Scanlan, J., & Wand, T. (In press). Assessment in mental health. In G. Meadows, S. Rosenstein, F. McDermott, E. Fossey, & J. Farhall (Eds.), *Mental Health in Australia* (4th ed.). Oxford University Press.
7. Meadows, G., Enticott, J., Harvey, C., Morgan, V., & Shawyer, F. (In press). Information on Australian Mental Health and its Mental Health Care System. In G. Meadows, S. Rosenstein, F. McDermott, E. Fossey, & J. Farhall (Eds.), *Mental Health in Australia* (4th ed.). Oxford University Press.
8. Meadows, G., McDermott, F., Rosenberg, S., Epstein, M., Pinches, A., Boulet, J., Harms, J., Baldwin, R., & Hastie, C. (In press). Mental Health Care as a complex developing system. In G. Meadows, S. Rosenstein, F. McDermott, E. Fossey, & J. Farhall (Eds.), *Mental Health in Australia* (4th ed.). Oxford University Press.
9. Meadows, G., & Rosenberg, S. (In press). Delivery of Mental Health Care. In G. Meadows, S. Rosenstein, F. McDermott, E. Fossey, & J. Farhall (Eds.), *Mental Health in Australia* (4th ed.). Oxford University Press.
10. Rosenberg, S., Gerrand, V., Meadows, G., & Singh, B. (In press). Mental Health Services across Australia. In G. Meadows, S. Rosenstein, F. McDermott, E. Fossey, & J. Farhall (Eds.), *Mental Health in Australia* (4th ed.). Oxford University Press.

11. Sutherland, G., Harvey, C., Tibble, H., Spittal, M., Farhall, J., Fletcher, J., Meadows, G., Newton, J. R., Vine, R., & Brophy, L. (in press). Similarities and Differences in People Accessing Prevention and Recovery Care Services and Inpatient Units in Victoria, Australia. *BMC Health Services Research*.
12. Keks, N., Hope, J., Schwartz, D., McLennan, H., Copolov, D. & Meadows, G. Comparative Tolerability of Dopamine D2/3 Receptor Partial Agonists for Schizophrenia. *CNS Drugs*.2020: 34, 5, p. 473-507
13. Carey, M., Sanson-Fisher, R., Zwar, N., Mazza, D., Meadows, G., Piterman, L., . . . Kelly, B. (2020). Improving depression outcomes among Australian primary care patients: protocol for a cluster randomised controlled trial. *BMJ Open*, 10(2). doi:10.1136/bmjopen-2019-032057
14. Shawyer, F., Cayoun, B., Enticott, J. & Meadows, G., Study protocol for a randomized control trial to investigate the effectiveness of an 8-week mindfulness-integrated cognitive behavior therapy (MiCBT) transdiagnostic group intervention for primary care patients: *BMC Psychiatry*, 2020: 20;7, 1-13
15. Meadows, G. N., Prodan, A., Patten, S., Shawyer, F., Francis, S., Enticott, J., . . . Kakuma, R.. Resolving the paradox of increased mental health expenditure and stable prevalence. *Australian & New Zealand Journal of Psychiatry*, 2019: 53(9), 844-850.
16. Kates, N., Arroll, B., Currie, E., Hanlon, C., Gask, L., Klasen, H., . . . Williams, M. (2019). Improving collaboration between primary care and mental health services. *World J Biol Psychiatry*, 20(10), 748-765.
17. Cooper, S., Enticott, J. C., Shawyer, F., & Meadows, G. . Determinants of Mental Illness Among Humanitarian Migrants: Longitudinal Analysis of Findings From the First Three Waves of a Large Cohort Study. *Frontiers in Psychiatry*, 2019: 10(545).
18. Edan, V., Brophy, L., Weller, P. J., Fossey, E., & Meadows, G. . The experience of the use of Community Treatment Orders following recovery-oriented practice training. *International Journal of Law and Psychiatry*, 2019: 64, 178-183.
19. Hickey, T., Buck, K., Lao, S.-A., Nelson, B., & Meadows, G. The use of formal criteria to assess psychological models of hallucinations: a systematic review. *Psychosis*, 2019: 11, 238-247.
20. Hickey, T., Pen Name, E., Nelson, B., & Meadows, G. . Mindfulness and compassion for youth with psychotic symptoms: A description of a group program and a consumer's experience. *Psychosis* 2019: 11, 342-349.
21. Long, K. M., McDermott, F., & Meadows, G. N.. Factors affecting the implementation of simulation modelling in healthcare: A longitudinal case study evaluation. *Journal of the Operational Research Society*, 2019: 1-13.
22. Meadows, G., Cichello, A., Isaacs, A. N., & Shawyer, F. . When it's easier to get meds than therapy: how poverty makes it hard to escape mental illness. 2019: Retrieved from <http://theconversation.com/when-its-easier-to-get-meds-than-therapy-how-poverty-makes-it-hard-to-escape-mental-illness-114505>
23. Graham, A. L., Brooker, J., Hasking, P., Clarke, D. & Meadows, G., Receipt and

- Perceived Helpfulness of Mental Illness Information: Findings from the Australian National Survey of Mental Health and Wellbeing. *Health Communication*. 2019: 34; 39-45
24. Meadows G, Brophy L, Shawyer F, Enticott JC, Fossey E, Thornton CD, Weller P, Wilson-Evered, E, Edan V, Slade M, Refocus-pulsar recovery-oriented practice training in specialist mental health care: A stepped-wedge cluster randomised controlled trial. *The Lancet Psychiatry*. 2019;6:103-114
 25. Isaacs A, Enticott J, Meadows G, Inder B. Lower Income Levels in Australia Are Strongly Associated with Elevated Psychological Distress: Implications for Healthcare and Other Policy Areas. *Frontiers in Psychiatry* 2018;9:536.
 26. Atkinson J-A, Page A, Heffernan M, McDonnell G, Prodan A, Campos B, Meadows G, Hickie I. The impact of strengthening mental health services to prevent suicidal behaviour. *ANZJP*. 2018:1-9.
 27. Enticott JC, Lin E, Shawyer F, Russell G, Inder B, Patten S, Meadows G. Prevalence of psychological distress: How do Australia and Canada compare? *Australian and New Zealand Journal of Psychiatry*. 2018;52(3):227-38.
 28. Long KM, McDermott F, Meadows GN. Being pragmatic about health care complexity: our experiences applying complexity theory and pragmatism to health services research. *BMC Medicine*. 2018;16(94):On-line 1 - 9.
 29. Meadows G, Enticott J, Rosenberg S. Three charts on: why rates of mental illness aren't going down despite higher spending. *The Conversation*. 2018 [Available from: <https://theconversation.com/three-charts-on-why-rates-of-mental-illness-arent-going-down-despite-higher-spending-97534>].
 30. Bobevski I, Rosen A, Meadows G. Mental health service use and need for care of Australians without diagnoses of mental disorders: findings from a large epidemiological survey. *Epidemiology and Psychiatric Sciences*. 2017;26(6):596-606.
 31. Enticott JC, Shawyer F, Vasi S, Buck K, Cheng I-H, Russell G, Kakuma R, Minas H, Meadows G. A systematic review of studies with a representative sample of refugees and asylum seekers living in the community for participation in mental health research. *BMC Medical Research Methodology*. 2017;17(37):16.
 32. Graham A, Hasking P, Brooker J, Clarke D, Meadows G. Mental health service use among those with depression: an exploration using Andersen's Behavioral Model of Health Service Use. *Journal of Affective Disorders*. 2017;208:170-6.
 33. Graham AL, Brooker J, Hasking P, Clarke D, Meadows G. Receipt and Perceived Helpfulness of Mental Illness Information: Findings from the Australian National Survey of Mental Health and Wellbeing. *Health Communication*. 2017:1-7.
 34. Hickey T, Nelson B, Meadows G. Application of a mindfulness and compassion-based approach to the at-risk mental state. *Australian Psychological Society*. 2017;21(2):104-15.
 35. Long KM, Meadows GN. Simulation modelling in mental health: A systematic review.

- Journal of Simulation. 2017;12(1):76-85.
36. Meadows G. Shared decision making: a consideration of historical and political contexts. *World Psychiatry*. 2017;16(2):154-5.
 37. Meadows G. An urgent need to grant inhuman rights, to what? *New Scientist*. 2017 25 February 2017.
 38. Meadows G, Enticott J, Castle D. Psychiatry in General Practice. In: Bloch S, Green SA, Janca A, Mitchell PB, Robertson M, editors. *Foundations of Clinical Psychiatry* 4th Edition. 4th ed: Melbourne University Press; 2017. p. 474-89.
 39. Meadows G, Shawyer F. Mindfulness-based cognitive therapy delays depressive relapse across demographic subgroups. *Evidence Based Mental Health*. 2017;20(1).
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 41. Shawyer F, Enticott JC, Brophy L, Bruxner A, Fossey E, Inder B, Julian J, Kakuma R, Weller P, Wilson-Evered E, Edan V, Slade M, Meadows GN. The PULSAR Specialist Care protocol: a stepped-wedge cluster randomized control trial of a training intervention for community mental health teams in recovery-oriented practice. *BMC Psychiatry*. 2017;17(1):172.
 42. Bobevski I, Clarke DM, Meadows G. Health Anxiety and Its Relationship to Disability and Service Use: Findings From a Large Epidemiological Survey. *Psychosomatic Medicine*. 2016;78(1):13-25.
 43. Enticott JC, Meadows GN, Shawyer F, Inder B, Patten S. Mental disorders and distress: Associations with demographics, remoteness and socioeconomic deprivation of area of residence across Australia. Blackwell Publishing, Oxford England. 2016;50(12):1169-79.
 44. Enticott JC, Shawyer F, Brophy L, Russell G, Fossey E, Inder B, Mazza D, Vasi S, Weller PJ, Wilson-Evered E, Edan V, Meadows G. The PULSAR primary care protocol: a stepped-wedge cluster randomized controlled trial to test a training intervention for general practitioners in recovery-oriented practice to optimize personal recovery in adult patients. *BMC Psychiatry*. 2016;16.
 45. Kearns NP, Shawyer F, Brooker JE, Graham AL, Enticott JC, Martin PR, Meadows GN. Does rumination mediate the relationship between mindfulness and depressive relapse? *The British Psychological Society*. 2016;89:33-49.
 46. Lao S-A, Kissane D, Meadows G. Cognitive effects of MBSR/MBCT: A systematic review of neuropsychological outcomes. *Consciousness and Cognition*. 2016;45:109-23.
 47. Meadows G, Shawyer F. Mindfulness- and Meditation-Based Healthcare Approach Implications for Prevention, Detection, and Treatment in Cardiology. In: Alvarenga ME, Byrne D, editors. *Handbook of Psychocardiology* 2016. p. 1023-41.
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49. Edan V, Meadows G, Brophy L, Weller P, Thornton C. PULSAR research: making mental health services more recovery-orientated. *Psychiatric Disability Services of Victoria (VICSERV) New Paradigm*. 2015;2015(Summer):46-9.
 50. Enticott JC, Cheng I-H, Russell G, Szwarc J, Braitberg G, Peek A, Meadows G. Emergency department mental health presentations by people born in refugee source countries: an epidemiological logistic regression study in a Medicare Local region in Australia. *Australian Journal of Primary Health*. 2015;21(3):286-92.
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 59. Prowse P-TD, Meadows GN, Enticott JC. An Exploratory Study into the Effectiveness of Fidelity Scales in the Delivery of Mindfulness-Based Cognitive Therapy. *Mindfulness*. 2015;6(6):1401-10.
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Further information

For further information please refer to my google scholar profile

https://scholar.google.com/citations?hl=en&user=CWuTUvEAAAAJ&view_op=list_works&sortby=pubdate



**Royal Commission into
Victoria's Mental Health System**



ATTACHMENT GNM-2

This is the attachment marked '**GNM-2**' referred to in the witness statement of Graham Nicholas Meadows dated 26 June 2020.

Acknowledgement

Authors Meadows, G. N., Prodan, A., Patten, S., Shawyer, F., Francis, S., Enticott, J., Rosenberg, S., Atkinson, J., Fossey, E., Kakuma, R.,

Article Title Resolving the paradox of increased mental health expenditure and stable prevalence.

Journal Australian & New Zealand Journal of Psychiatry

DOI <https://doi.org/10.1177/0004867419857821>

Volume 53

Issue 9

Page numbers 844–850

Date of publication June 25, 2019

Publisher SAGE journals

A link to the original article as published on SAGE Journals

<https://journals.sagepub.com/doi/10.1177/0004867419857821>

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Resolving the paradox of increased mental health expenditure and stable prevalence

Australian & New Zealand Journal of Psychiatry
2019, Vol. 53(9) 844–850
DOI: 10.1177/0004867419857821

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Abstract

A doubling of Australian expenditure on mental health services over two decades, inflation-adjusted, has reduced prevalence of neither psychological distress nor mental disorders. Low rates of help-seeking, and inadequate and inequitable delivery of effective care may explain this partially, but not fully. Focusing on depressive disorders, drawing initially on ideas from the work of philosopher and socio-cultural critic Ivan Illich, we use evidence-based medicine statistics and simulation modelling approaches to develop testable hypotheses as to how iatrogenic influences on the course of depression may help explain this seeming paradox. Combined psychological treatment and antidepressant medication may be available, and beneficial, for depressed people in socioeconomically advantaged areas. But more Australians with depression live in disadvantaged areas where antidepressant medication provision without formal psychotherapy is more typical; there also are urban/non-urban disparities. Depressed people often engage in self-help strategies consistent with psychological treatments, probably often with some benefit to these people. We propose then, if people are encouraged to rely heavily on antidepressant medication only, and if they consequently reduce spontaneous self-help activity, that the benefits of the antidepressant medication may be more than offset by reductions in beneficial effects as a consequence of reduced self-help activity. While in advantaged areas, more comprehensive service delivery may result in observed prevalence lower than it would be without services, in less well-served areas, observed prevalence may be higher than it would otherwise be. Overall, then, we see no change. If the hypotheses receive support from the proposed research, then implications for service prioritisation and delivery could include a case for wider application of recovery-oriented practice. Critically, it would strengthen the case for action to correct inequities in the delivery of psychological treatments for depression.

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in Australia so that combined psychological therapy and antidepressant medication, accessible and administered within an empowering framework, should be a nationally implemented standard.

Keywords

Mental health services, epidemiology, side effects (treatment), health behaviour, iatrogenesis

Introduction

The paradox: an outline

Australian mental health care expenditure per-person has increased in real terms through two decades by nearly 100%, and by 30% in the last decade (Meadows et al., 2018). The National Mental Health Strategy and the National Action Plan for Mental Health have guided large-scale mental health care investments, including the Better Access to Mental Health Care ('Better Access') programme, greatly increasing psychological services delivery (Jorm, 2018). But, Australian community health survey findings suggest no change from 2001 to 2014 in prevalence of the higher scores on the Kessler 10 instrument commonly associated with clinically significant mental health problems (Meadows et al., 2018). The two specific mental health surveys conducted in Australia in 1997 and 2007 also did not show decreasing prevalence (Jorm et al., 2017) while population health impact of 'Better Access' has yet to be detected (Jorm, 2018).

So, as others have highlighted in this journal, we have a seeming paradox to resolve (Mulder et al., 2017): why has more expenditure and more treatment not led to an identifiable decrease in prevalence? This is unlikely to have any one explanation. Contributory causes may include increasing inequality driving an underlying prevalence increase (Wilkinson and Pickett, 2018), possibly exacerbated by social, demographic, cultural and environmental changes in the cities (O'Hanlon, 2018), where most Australians live. These might have important implication for policy,

widely framed. Considering health-care more narrowly, perhaps the threshold for a population-level effect has not been reached yet (Meadows et al., 2018), but in which case, we might ask when might that threshold be crossed, and could anything be done to bring that time forward?

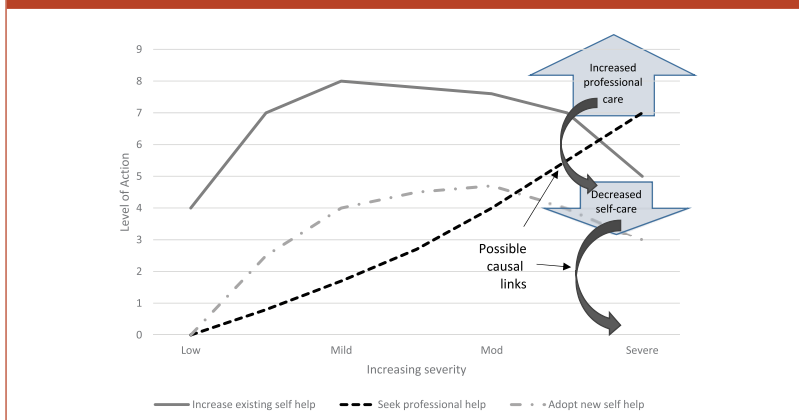
This paper will focus on healthcare planning, delivery and education, where there have been proposals for major services redesign and reorientation (Van Os et al., 2019) and the suggestion that 'We need to, at the least, consider whether our current mental health systems might be causing unintentional harm in some areas. It is possible that in order to achieve better outcomes, we need to do less, not more' (Mulder et al., 2017). We suggest a possible contributing mechanism that might indeed be causing unintentional harm, or iatrogenesis, and so contributing to this worrying situation. As a theoretical contribution in a scientific journal, the paper includes testable hypotheses. If supported from currently available or newly collected evidence, these might indicate in some cases doing less while suggesting that some of the doing might be better done differently or more comprehensively. Focusing on depressive disorders as a high-prevalence group of problems with a good treatment evidence base, and of indisputable importance for mental health policy, enables us to draw on diagnostic-specific sources of evidence. However, the findings may have broader implications diagnostically. Although the argument will be developed for Australia as a high-income country, there may be implications for other national contexts.

The active coping strategies of the population

People may employ various self-help strategies in response to depression, some of which might also be advised in psychological or psychosocial treatments, such as 'Doing more things you enjoy', 'Exercise', 'Being with pets' or 'Meditation'. A cross-sectional community study found that with increasing depression severity, self-help strategies were reported less commonly (Jorm et al., 2004). The explanation suggested for this was 'overlapping waves of action' (Figure 1 – arrows have been added and are discussed later). That is, self-help strategies were employed as initial responses. If disorder severity increased, faith in self-help was reduced; these strategies might then be abandoned in favour of professional help-seeking. This then was seen as explaining why, among those with more severe disorders, self-help strategies were less frequently reported when rates of professional help were higher.

Iatrogenesis considered

During the mid-1970s, the Austrian social theorist Ivan Illich (Hartch, 2015), influential then in social work, education and sociology, provided a critical perspective on directions being taken by modern medicine. Proposing that medicalisation of life problems had extended beyond the bounds of conditions where there was convincing evidence that medicine could help, and that in various ways the medical establishment was a source of disability as much or more than of therapeutic benefit, Illich

Figure 1. Overlapping waves of action in help-seeking for medical care.

Source: Adapted from Jorm et al. (2004) (Figure 2; p. 298).

(1976) expanded the concept of iatrogenesis or physician-caused illness beyond prior usage, suggesting a threefold nature for iatrogenesis: clinical, social and cultural – of which our summary follows.

Clinical iatrogenesis is a regularly used concept. Here, we may consider medication side effects, whether the nausea and sexual dysfunction commonly associated with serotonin-specific reuptake inhibitors or the weight gain and metabolic disturbance associated with antipsychotics which may also be used in treatment of depression.

Social iatrogenesis may occur where there is a clear expectation that people with some aspects of experience that become labelled as a mental disorder will seek help and primarily address those experiences through interactions with professional healthcare and the following of given advice. Specifically, this becomes iatrogenic if the following of this advice results in the reliance on an intervention that may on occasions be less effective than options for action otherwise in the repertoire of the individual or their community resources.

Cultural iatrogenesis can be identified if we see cultural norms shifting such that certain kinds of human experience that might be classed as

normal aspects of the human condition lose that validated status. Here, we may consider the present-day functioning of social media with its encouragement to present a positive, buoyant picture of the self and where sharing normal human weaknesses and troubles may lead to ostracism and ridicule as forms of bullying.

Effectiveness of key interventions for depression

Recent meta-analysis work examined depression-remission associated with antidepressant medications (ADM) compared to placebos (Cipriani et al., 2018). The odds ratio (OR) reported for widely currently used ADMs was around 1.7. The implied number needed to treat (NNT), not provided in the article, can be estimated. Given the typical response rate in antidepressant studies through time of 30–40% (Furukawa et al., 2016), such an OR can be achieved with an NNT of 8; working: ADM response typically 47.7% vs 35.0% with placebo; $OR = (47.7/52.3)/(35.0/65.0) = 1.7$; absolute risk reduction (ARR) = $47.7 - 35.0 = 12.7\%$; and $NNT = 1/ARR = 8$. So typically, in a group of eight people given placebo or ADM for 8 weeks, in the placebo group, three will recover; while in the ADM group, four will

recover. This difference might increase with more severe depression but decrease if diagnosis and treatment in primary mental health care were less well controlled than in analysed studies. NNT for typical psychological treatments of depression has been estimated as around 4 (Cuijpers et al., 2016).

Resolving the paradox: some contributions

Other ways of framing some of our proposals include drawing on concepts from health psychology, the social sciences or writings that might be termed antipsychiatry. In this paper, we concentrate on Illich's formulation of social iatrogenesis while signposting possible influences of clinical and cultural iatrogenesis. We suggest this organising framework is one that lends itself to informing an epidemiological and clinical research programme.

We propose that when people with depression engage with health-care delivered within a biopsychosocial rather than either a biopsychosocial or recovery paradigm, they may transfer expectation of agency for recovery from themselves to the treating practitioner and prescribed treatments. They may then reduce their application of self-help strategies which may have considerable effectiveness for some people. So, the reduction in self-help disadvantages recovery. If the healthcare provided is of high potency for symptom reduction and functional restoration, this may not compromise clinical outcomes. But, if that care is of marginal or even no individual benefit, delivered in ways that discourage a sense of personal efficacy, or if benefit is outweighed by effects of clinical iatrogenesis – then, the overall intervention effect, in a variable number of cases, may be negative. In the case of ADM monotherapy, negative effects would follow if more benefit was lost from self-help actions suspended than

Table 1. Estimated population by socioeconomic disadvantage quintiles with very-high Kessler 10 scores.

IRSD ^a quintiles: least (1) to greatest (5) disadvantage	Population (2016) Age: 16–64 years ^b	Estimated population % of very-high K10 ^c	Estimated number of people with very-high K10 ^d	% of all Australians with very-high K10 ^e
Capital cities				
1	2,617,180	1.6	41,875	8
2	2,383,572	3.1	73,891	14
3	1,902,530	3.9	74,199	14
4	1,549,484	4.5	69,727	13
5	1,467,165	5.4	79,227	15
Other areas				
1	297,417	2.5	7435	1
2	607,052	2.9	17,605	3
3	1,007,006	3.5	35,245	7
4	1,323,931	3.6	47,662	9
5	1,302,272	6.1	79,439	15
Total	14,457,609		526,303	100

^aIndex of Relative Socioeconomic Disadvantage.

^bAustralian Bureau of Statistics, 2016 Census of Population and Housing, TableBuilder data available at: www.abs.gov.au/websitedbs/censushome.nsf/home/tablebuilder.

^cScores on the Kessler 10 questionnaire above 30, based on 2011 data (Isaacs et al., 2018).

^dValues calculated by multiplying column 2 with column 3.

^ePercentages calculated by dividing column 3 by total population provided at bottom of column 2.

the ADM effect ($NNT \approx 8$, see above). Smaller NNTs imply greater effect, so self-help actions suspended would need to have an NNT less than 8. In the case of combined ADM ($NNT \approx 8$) and psychotherapy ($NNT \approx 4$), the benefit lost from suspended self-help actions would need to be considerably larger for negative effects to follow.

While accessible and respected Internet sources sometimes emphasise active personal and social coping strategies, there are prominent examples where a strong message is conveyed that professional help-seeking is central to recovery, for example, 'The important thing is finding the right treatment and the right health professional for your needs' (Beyondblue: the national depression initiative, 2018; *italics added*). Undoubtedly, there are people for whom early access to professional care will make a real difference to outcome, but, if that access is achieved at the cost of autonomy and empowerment with promotion of passivity in treatment,

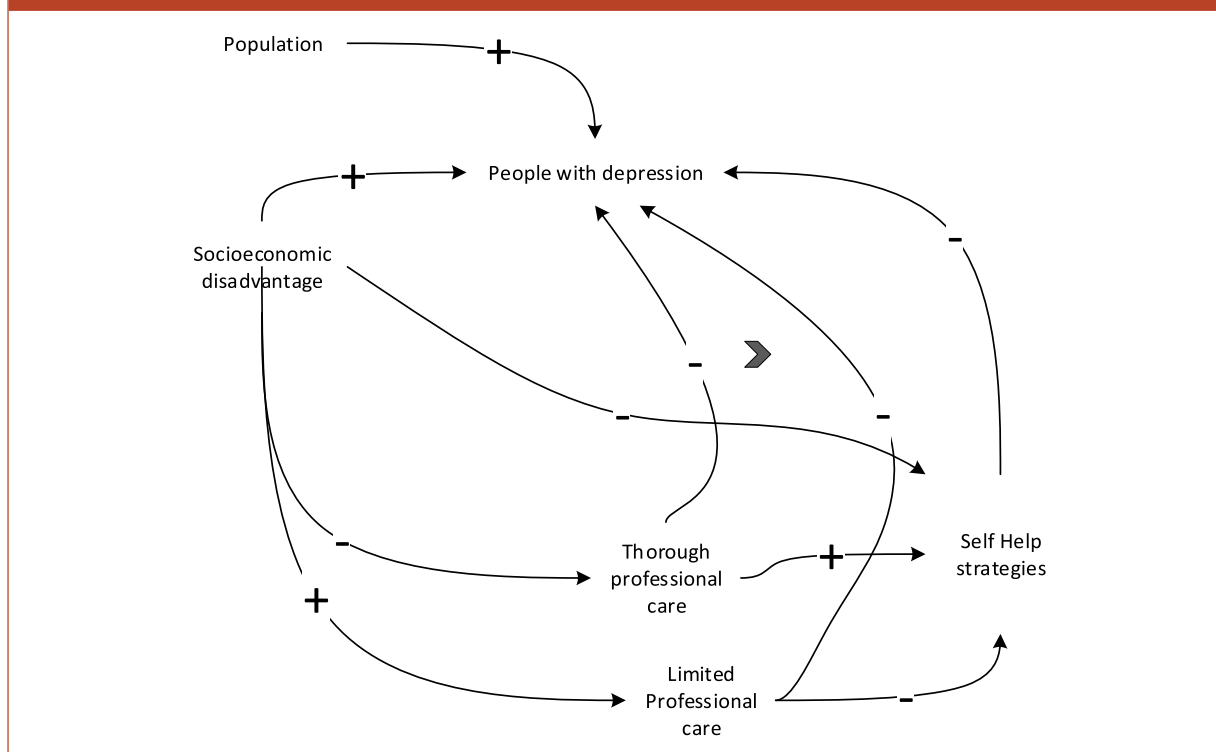
then results may be mixed. Stage-specific interventions may help determine who may benefit most from which kind of message, but without that, we suggest there is potential for harm.

To illustrate the proposition, we return to Figure 1 and the arrows added to this adaptation of the original figure. For some people who show the combination of professional care seeking, lower self-help and increased symptoms, it becomes possible that their symptom status may be directly or indirectly consequential on their seeking professional help, rather than this help-seeking being a consequence of the greater symptoms. The greater symptom severity can be a consequence of forms of iatrogenesis, rather than – or as well as – a determinant of greater intensity of service contact, and a positive feedback loop might operate here.

In many socioeconomically disadvantaged, regional or remote areas, depressed people are more likely to get general practitioner (GP) care

than specialist, interdisciplinary or multidisciplinary care. Busy GPs in such areas, even if skilled and committed, may not themselves be able to add substantial psychological treatment to ADM prescription while psychology referral may not be available (Meadows et al., 2018). Pharmaceutical marketing to GPs and medicalised public information both will influence the patient–doctor interaction. So, combined modality treatment – featuring diagnostic caution then desirably nuanced endorsement of ADM effects, while respecting and encouraging self-help – may be less common in such areas. Instead, more simply medicalised, potentially iatrogenic, treatment may dominate.

Table 1 presents area-specific disadvantage quintile rates for elevated psychological-distress and population sizes, estimating where people with very-high K10 scores live. Thirty percent of those with very-high K10 live in areas of greatest disadvantage by quintile, while 9% come from the least disadvantaged quintile. Possibly then,

Figure 2. Simplified causal loop diagram of the hypothetical nexus.

+/- indicates positive or negative influence through the pathway.

➤ indicates that the left-hand pathway has greater influence than the right.

more people with depression receive limited, potentially iatrogenic care than more thorough, comprehensive care relatively lacking these risks. People in more socioeconomically deprived areas may have lower coping resources by virtue of educational, status or social capital variables, also greater income stress and other social determinants of depression. These may indicate more need for interdisciplinary or multidisciplinary care rather than less. These differential impacts in different geographical areas, while objectionable on social-justice grounds, might present quasi-experimental opportunities for collecting evidence bearing on these propositions.

This framework for considering pathogenic influences would lead us to seek practice-models that acknowledge risks of harm from therapeutic interventions; support attention to consumer-defined goals;

avoid unhelpful biomedical labelling of normal life experiences; support social, educational and vocational participation; and encourage people to apply themselves energetically to self-help and other active strategies in their pathway through experiences of mental health problems. Our interventions should encourage, not replace or subvert, autonomy, independence and active coping. In primary care, this could be congruent with principles of patient-centred-care; taking here more of a specialist-care perspective, there is a connection with the constructs of personal recovery and recovery-oriented practice (ROP), for instance, as developed and implemented in Australian specialist mental health care (Meadows et al., 2019). ROP has emphasis on consumer-defined goals, on a coaching style of relationship between providers of care and recipients, and with domains of concern

including fostering empowerment and a strong sense of identity.

Presenting a research programme

We have summarised elements of the thinking developed in this paper in a causal loop diagram, with some explaining notes for this format (Figure 2). While qualitative studies might usefully contribute to a research programme around these ideas, here, we concentrate on how we might formulate and test specific hypotheses for quantitative investigation.

Self-help may share features with effective therapies and be experienced as helpful (Houle et al., 2013; Jorm et al., 2004; Morgan et al., 2012). This suggests benefit (and possible advantages to promoting helpful strategies), but future studies could seek strategy-specific effect estimates.

Simulation modelling approaches such as agent-based modelling (ABM) and system dynamics (SD) may be useful here. In Australia, we have little in the way of longitudinal data sets, but we have extensive and detailed national survey data with cross-sectional coverage. Simulation models could provide dynamic representations of the population, bringing together best available evidence and data with proposed causal models including operation of feedback loops. Systematic literature reviews and/or Delphi studies could be useful approaches to inform initial parameter setting. If simulation models generated values similar to the sequence of events that has unfolded in recent years, then this would provide, at low cost, some support to the hypotheses, while possibility also assisting in elaboration of detail of how the influences might operate separately and together. An example hypothesis might be that an ABM designed using available information on depression incidence and available models of care, also incorporating social iatrogenesis elements as described, would be found accurately to simulate existing socioeconomic disparities in prevalence.

The original cross-sectional data set on self-help (Jorm et al., 2004) could be re-examined, for instance, to investigate a hypothesis that data from individuals living in areas with greater socioeconomic disadvantage show a pattern of more severe disorder associated with lower active self-help and more limited service use compared with findings from more advantaged areas. But, the mechanisms proposed here rely on causal connections that may better show themselves with longitudinal data. A self-help survey (Jorm et al., 2004) could be repeated and its content extended within a longitudinal design. Examination of associations with disparities in psychological treatment delivery might allow testing of the hypothesis that combined psychological and ADM treatment is

typically associated with less reduction in self-help than is ADM treatment alone. It may also, perhaps, confirm expectations from efficacy studies of better outcomes from combined treatment. Useful data collection might also be integrated into national health surveillance surveys or into any further National Survey of Mental Health and Wellbeing. Again, inclusion of a longitudinal design would represent a great advantage for examining the influences suggested here while dynamic simulation models can both inform and be informed by such data.

The hypothesis that among people with depression those who are more activated and empowered consumers have better outcomes could be investigated in clinical observational studies although there would be considerable design challenges in terms of bias and confounding. Arguably, most powerful would be intervention studies that introduced ROP or associated interventions and delivered combined treatment in an ROP framework in areas that have historically been deprived of it with exploration of effects on outcome. Here, hypotheses might include that ROP in primary care for people with depression will yield some increase where ADM only was provided, but have greater benefits in conjunction with combined ADM and psychotherapeutic treatment.

Implications

Accumulation of evidence for iatrogenic influences suggested here would indicate the need for greater cross-government action on equitable services delivery. Inequitable service delivery may not only mean some areas benefit less but also that imbalanced service delivery in poorer-served areas might do population mental health more harm than good. More people with depression live in disadvantaged areas than advantaged ones, many also in regional and remote areas, so

we may see no overall change from increased investment. Increasing funding to existing models of care may be doomed to failure as a population health strategy if health gains in areas where care is more often comprehensive are more than offset by losses in other areas where it is not. Increased funding certainly is needed, but it should encourage the best service models and reach areas of greater need. Correcting service inequities that are under governmental control can be very challenging (Meadows et al., 2018); for instance, for the Australian Government, directing where national insurance funded health-services are delivered faces regulatory, procedural and arguably constitutional points of resistance (through Article 51:xxiiiA and its prohibition of medical 'civil conscription'). A powerful argument such as this may be needed to prompt such politically difficult action.

ROP is well established in specialist mental health care and Australian evidence supports effectiveness of ROP promotion through training interventions (Meadows et al., 2019). The arguments set out in the paper suggest that there is importance to the task of advancing its implementation in primary mental health care (Enticott et al., 2016). We note here though that providing depressed people in socioeconomically advantaged areas with combined ADM and psychotherapy while providing ADM monotherapy in an ROP framework to those in regional, remote or disadvantaged areas would be perpetuating an unjust situation. Rather, we should work towards ensuring that accessible delivery of combined psychosocial interventions and ADM, administered within an empowering framework and adapted as necessary to community needs, is a nationally implemented standard rather than a notional entitlement accessed only by a relatively privileged and better located minority of people with depression. Both pharmacological and psychosocial interventions are

also recommended in low- and middle-income countries, but resource and workforce constraints often limit activity in the latter; drugs are simpler and quicker to deliver (Patel et al., 2018). Mechanisms proposed here might suggest that the sequencing of these two interventions, and the expectations conveyed about ADMs, could be important in maximising health gain from limited investment. Where data are available, simulations could begin the exploration of iatrogenicity in this context with field studies to follow.

Conclusion

Proposing some ideas that might go towards explaining the seeming paradox of why increased expenditure and treatment activity have not identifiably decreased prevalence, we have suggested research strategies around some described hypotheses. If these propositions gain support, indicated actions, although variable between areas, would include some targeted changes to existing service distribution and delivery models. Increased funding might then be invested with greater confidence of improving population mental health.

Acknowledgements

Professor Anthony Jorm and Associate Professor Morton Rawlin each provided helpful comments on the concepts presented in this paper and on earlier manuscript drafts.

Declaration of Conflicting Interests


The author(s) declared no potential conflicts of interest with respect to the

research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

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**Royal Commission into
Victoria's Mental Health System**

ATTACHMENT GNM-3

This is the attachment marked '**GNM-3**' referred to in the witness statement of Graham Nicholas Meadows dated 26 June 2020.

Meadows GN, Harvey CA, Joubert L, Barton D, Bedi G. The Consultation-Liaison in Primary-Care Psychiatry (CLIPP) Program: A structured approach to long-term collaboration in mental health care. *Psychiatric Services*. 2007;58(8):1036-8.

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The Consultation-Liaison in Primary-Care Psychiatry Program: A Structured Approach to Long-Term Collaboration

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This column presents the Consultation-Liaison in Primary-Care Psychiatry model, which was developed in Australia. This model is a structured approach to collaborative care of people with mental illnesses between primary care services and specialist mental health services. The first component of the model is a consultation, liaison, and education service provided by psychiatric consultants at participating general practices. The second component involves transferring selected patients from community mental health services into general practitioner-based collaborative care. In the final component a clinical case-register and reminder system managed by the specialist services is used to actively promote follow-up for transferred clients. The column also offers some evidentiary support for this care model that suggests a best-practices model

for maintaining adequacy of care for patients. (*Psychiatric Services* 58:1036–1038, 2007)

Internationally, the ascendance of community care has increased general practitioner involvement in caring for people with serious and chronic mental illnesses (1,2). In Australia about 75% of general practitioners care for patients with schizophrenia (3), a situation that might provide opportunities for health promotion and the treatment or care of physical illnesses common among these patients (4). More generally, care provided by general practitioners may be more accessible (5) and lack stigma associated with specialist services (1). Also, treatment by local general practitioners may encourage the community reintegration of people with long-term mental illnesses.

However, general practitioners have limited capacity for assertive follow-up (5) and often lack confidence in managing psychotic disorders (3). Poor relationships between specialists and general practitioners and limited support from specialist services to general practitioners are barriers to the successful treatment of serious mental illnesses in primary care (3). Although involvement in the management of chronic mental illness by general practitioners has benefits, proper treatment requires well-identified pathways to specialist support. Empirical evidence to guide best practices in the collaborative management of chronic psychiatric illness in primary care settings is limited (5).

CLIPP: an Australian shared care model

Australian mental health care has three major sectors with different constraints. State-funded community mental health services receive block funding for salaried staff, and this funding level is the primary constraint to their clinical capacity. A private primary care and outpatient specialist sector, heavily financially supported by fee-for-service rebates from the federal government, is constrained by available workforce and permitted rebates. Finally a non-governmental insurance sector is constrained by number of insured participants and different allowable benefits. Developed in Melbourne within this context, the Consultation-Liaison in Primary-Care Psychiatry (CLIPP) model (5,6) draws on liaison (2) and consultation-liaison (7) approaches to primary care psychiatry, but the synthesis is novel, as are other aspects of the model. Protocols are available at www.health.vic.gov.au/mentalhealth/publications/clipp.

Consultation-liaison

The first component of CLIPP is a consultation, liaison, and education service. Consultation-liaison attachments to participating general practice groups (three to ten general practitioners per group) involve a half-day psychiatrist visit every two weeks. Psychiatrists provide support by assessing patients referred by general practitioners and see two to three referred patients per consultation session. This process allows general practitioners to

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Table 1

Clinical and functional status of 62 patients enrolled in the Consultation-Liaison in Primary-Care Psychiatry program for 24 months

Measure	Scores						Difference				
	Baseline		12 months		24 months		Overall			Between baseline and 12 months (p)	Between 12 and 24 months (p)
	M	SD	M	SD	M	SD	F	df	p		
LSP ^a	133.4	18.0	129.8	16.0	129.3	16.8	3.1	2, 90	.05	<.05	>.05
RFS ^b	15.0	4.9	13.7	4.7	13.5	3.8	39.3	2, 92	<.005	<.05	>.05
HoNOS ^c	5.1	3.0	8.4	4.5	8.1	4.5	21.2	2, 96	<.001	<.001	>.05
SF-36 ^d											
Mental component	50.1	11.3	46.6	12.1	45.7	13.4	4.6	2, 84	<.05	<.05	>.05
Physical component	55.0	10.5	55.2	12.2	54.0	13.5	1.3	2, 84	>.05	>.05	>.05

^a Life Skills Profile. Possible scores range from 39 to 156, with higher scores indicating more positive status.

^b Role Functioning Scale. Possible scores range from 4 to 28, with higher scores indicating more positive status.

^c Health of the Nation Outcome Scales. Possible scores range from 0 to 48, with higher scores indicating greater symptom level.

^d Short-Form Health Survey. Possible scores range from 0 to 100, with higher scores indicating more positive status.

provide management supported by a specialist consultation, with specialist support provided again if necessary.

Medicare Benefit Schedule reimbursements are entitlements for all Australian citizens or permanent residents and are assigned by the patient to the treating private practitioner. Co-payment is at the discretion of the practitioner and often is waived in cases of hardship. Progressive changes in the Medicare Benefit Schedule have encouraged the kind of collaborative work described here. Following recent changes in the Medicare Benefit Schedule, general practitioners can claim Medicare Benefit Schedule treatment-planning and case-conferencing items. The Medicare Benefit Schedule also now pays psychiatrists for shared-care treatment planning in private practice. Since November 2006 there is a recommended fee of AU \$400 (U.S. \$326) for an assessment and treatment plan provided to the general practitioner, with 85% of this paid for by Medicare. Psychiatrists in CLIPP schemes have typically been salaried by the state community mental health center, but these recent Medicare changes may facilitate more such work in the private sector.

Structured CLIPP documentation assists quality control of the consultancy process. A reminder system requests information on clinical course from the general practitioner three months after these consultations; adverse outcomes are flagged for review by the psychiatrist (6).

Transfer into shared care

The second component of CLIPP involves the transfer of selected patients from state-funded community mental health services into collaborative care with the private sector. A designated nurse associated with community mental health services actively identifies cases suitable for transfer, then engages with case managers and psychiatrists to support prospective candidates for transfer. These candidates are typically people with a degree of insight and social support and whose disorder is clinically stable. Without a shared-care arrangement their care might involve discharge to a general practitioner without specialist support, with attendant risks of loss to follow-up and progressive clinical deterioration. Alternatively, continuing attendance at community mental health services may carry some institutional stigma, and the individuals consume resources from a capacity-constrained system that otherwise could be available to respond to the needs of new consumers more in need of specialist care. For many patients the prospect of transfer into the CLIPP program has proved to be an attractive one.

At a case conference in the primary care clinic, transfer of care is supported by a detailed management plan prepared by mental health service staff, including the CLIPP nurse, and designed with the needs of the general practitioner in mind; the general practitioner then takes over direct clinical management. Reviews by the

visiting psychiatrist (6), taking an average of one hour per year after the general practitioner assumes responsibility for patient care, are scheduled in the same half-day visits that provide for the consultation-liaison service.

Management plans are based on a relapse signature–relapse drill structure. Described as “a set of general and idiosyncratic symptoms, occurring in a specific order, over a particular time period, that serve as early warning signs of impending . . . relapse” (8), the relapse signature as set out in the management plan is used by the participating general practitioners to structure patient reviews. If indications of relapse are present, the relapse drill provides a concrete action plan for preventive intervention (5,8).

Maintaining continuity

Effective retention in general practitioner–based collaborative care of good quality is the goal of the final component of CLIPP in which the specialist mental health service retains a supervisory stance. An administrative staff member maintains office systems by using standard software that provides regular clinician reminders and recall systems that can be tailored to an extent for particular patients. Generally, attendance is monitored every three months. Regular phone calls to assess patient satisfaction are made once every three months at the start but then are reduced in frequency once the transfer arrangement appears stable. Psychiatrist reviews are prompted

every six to 12 months. If emergent problems indicate an outreach approach beyond the general practitioner's capability, then the CLIPP nurse can attend for awhile. In these situations there needs to be close communication with the psychiatrist and general practitioner and ready return back into community mental health services care if prolonged or intensive community treatment is needed.

Is collaborative care quality care?

Sixty-two patients with a range of major psychiatric disorders, most commonly schizophrenia, transferred over a period of two years from specialist outpatient management into CLIPP care were, for two years after transfer, observed in a study approved by the local Research and Ethics Committee. They were observed for two years after transfer. Outcome measures used were the Health of the Nation Outcome Scales (HoNOS) (9), the Life Skills Profile (LSP) (10), the Role Functioning Scale (RFS) (11), and the Short-Form Health Survey (SF-36) (12). All patients transferred within the program judged able to provide informed consent were invited to participate (N=86), and 62 (76%) of these participated.

Data were gathered before the transfer and at 12 and 24 months post-transfer (plus or minus one to two months). The data analyzed combined routinely collected clinical data with data collected by the research team. Informed consent was obtained for use of data. Repeated-measures analyses of variance were employed to assess for differences in outcome measures between time points. Where overall differences were identified, post hoc tests of contrasts were undertaken between scores at inception and 12 months and between scores at 12 months and 24 months.

Table 1 summarizes these analyses. Between transfer into shared care and 12-month follow-up, there was some decline in group clinical status as measured by decreased mean scores on the RFS, LSP, and SF-36 mental component, with some increase in total HoNOS symptom scores. The changes were generally modest in scale. For instance, although the LSP has a suggested threshold for clinically

significant score change of 18, the mean change measured here was below 4. Between 12 and 24 months, there were no appreciable differences in scores on any measures. LSP scores throughout the 24 months remained above the level typically indicating need for more intensive support (13).

At transfer to CLIPP this sample had high general functioning scores compared with those of in a similar patient group (13). Clinical stability was one of the requirements for selection for transfer, and the model aims to transfer patients when they are at their clinical "personal best." Although the results indicate some reduction in clinical status and function over the first 12 months in CLIPP, such changes appear to be modest. They might reflect selection bias for transfer at a relatively clinical high point, although adjustment to new care arrangements that are less intensive than those provided by community mental health services may also contribute to the observed changes. These data suggest that any actual deterioration was not progressive beyond the first year, with clinical status and functioning remaining stable between 12 and 24 months after transfer.

Conclusions

Health care system variability is such that this model will not generalize to all settings, but where implemented, the CLIPP model sets up a two-way street between primary and specialist service sectors. For individuals this allows flexible matching of the patient and the model of care. For the health care system this allows the service sectors to better collaborate in sharing the clinical workload arising from the local population. Observational findings, although not yet confirmed by more robust research designs, suggest that there is not a substantial or continuing clinical or functional deterioration after transfer from specialist management to collaborative care managed by general practitioners under CLIPP processes. The model provides an accessible template for collaboration and management processes that may enhance the capacity of the primary care sector to manage people with serious mental illnesses in the community.

Acknowledgments and disclosures

The development of this clinical program was supported by the Department of Human Services, Victoria, Australia, with specific clinical services providing funding, including Melbourne Health and Werribee Mercy hospitals. Evaluative activities were supported by the Commonwealth Government of Australia General Practice Evaluation Program through grant 518.

The authors report no competing interests.

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**Royal Commission into
Victoria's Mental Health System**



ATTACHMENT GNM-4

This is the attachment marked '**GNM-4**' referred to in the witness statement of Graham Nicholas Meadows dated 26 June 2020.

Acknowledgement

Authors Meadows, Graham; Shawyer, Frances; Dawadi, Shrinkhala; Inder, Brett; Enticott, Joanne

Article Title Socio-economic disadvantage and resource distribution for mental health care; a model proposal and example application for Victoria, Australia

Source Advance Social Sciences and Humanities Repository

DOI <https://doi.org/10.31124/advance.12463316.v2>

Page numbers 1-10

Date of publication 16.06.2020

Publisher: SageSubmissions. Preprint

A link to the original article as published on SAGE Journals:

<https://advance.sagepub.com/articles/Socio-economic-disadvantage-and-resource-distribution-for-mental-health-care-a-model-proposal-and-example-application-for-Victoria-Australia/12463316>

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Socio-economic disadvantage and resource distribution for mental health care; a model proposal and example application for Victoria, Australia

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Word counts

Abstract 200 words

Full article 1998 words

Abstract

Objective

A spreadsheet-based model for supporting equitable mental health resource distribution in Australia was developed, based on Australian Health Survey psychological distress findings associated with area socioeconomic disadvantage (SED). An illustrative application is presented.

Method

Stratum-specific psychological-distress rates for area SED quintiles are applied to local government areas, catchment areas and local health networks (LHNs). A case study applies the model to Victoria, including examining recommendations in the Royal Commission into Victoria's Mental Health Services 2019 interim report for increases to bed stock in two LHNs.

Results

Need-adjusted demand estimates considered as a ratio of raw population proportions for catchments range in Victoria between 0.59 and 1.60. Applying the formula to the Royal Commission recommendations suggests the proposed distribution of beds is a reasonable correction for these two LHNs and indicates next expansion priorities for more equitable distribution to other LHNs.

Conclusions

The spreadsheet, adaptable for other States and Territories, could complement National Mental Health Services Planning Framework outputs and assist in evaluation, for instance determining potential supply shortages in the tele-mental-health response to Covid-19. We outline research directions including consideration of the moral bases of value judgements, and identification of other variables including their use in parameterisation and calibration.

Key Words:

Mental Health Services, Distributive Justice, Health Disparities, Socioeconomic Status,

Introduction

Social and environmental determinants of mental health problems along with influences of inequity are important mental health policy and planning considerations (1). Many area features influencing population mental health problems feature as weighted variables in the Australian Bureau of Statistics (ABS) Index of Relative Socio-economic Disadvantage (IRSD) and the ABS recommends the IRSD (2) when the user ‘wants to ensure an allocation of funds goes to disadvantaged areas’. The IRSD as calculated in the mid-1990s was an important element of a resource distribution formula (RDF) supporting major reconfigurations then in Victoria, including as adapted for different planning levels (3, 4). ABS survey confidentialised unit record files (CURFs) commonly include the IRSD. Australian Health Surveys (AHS) also include the Kessler 10 (K-10) scale which measures psychological distress. Higher, particularly very-high K-10 (VHK-10) scores, are consistently associated with greatly increased likelihoods of significant mental disorders (5). Published work already presents information on area-based associations of IRSD characteristics of area and rates of psychological disorders or psychological distress (6) as well as on the most heavily weighted IRSD component variable, income (7). The mental health specific national surveys (1997, 2007), were about half the scale of the AHS, with lower response rates. So we propose that the AHS VHK-10 rates for Australian areas characterised by IRSD represent the best available information to parameterise a demand-estimation instrument. VHK-10 scores have been found to be three times more frequent in most disadvantaged IRSD quintiles than in the least disadvantaged areas (6).

The National Mental Health Services Planning Framework (NHMSPF) is widely used in planning in Australia and ‘allows users to estimate need and expected demand for mental health care and the level and mix of mental health services required for a given population’ (8, p3). However, the NMHSPF and its associated Planning Support Tool are limited in that they provide outputs for regions in a way that ‘only adjusts for the size and age distribution of the selected population. Currently, the NMHSPF does not take into account variations from the national average likely to arise from factors such as rurality, socio-demographic variability across regions, and clustering of higher needs groups within particular regions, such as people with severe and complex mental illness in boarding houses’ (8, p24). Consideration of how such variations may be compensated for is therefore important in supporting use of the NMHSPF. Grounding in an economic paradigm, here we use ‘demand’ rather than ‘need’ to describe model outputs.

The Royal Commission into Victoria’s Mental Health Services (RCVMHS) made some early recommendations in an interim report in November 2019 (9), with final report delivery scheduled for late 2020. Prominent among the interim report recommendations was a proposed increase of 135 public sector beds in two local health networks (LHNs), the Melbourne Health Alliance and Barwon Health. It may be important to consider if following this recommendation will increase or decrease alignment of beds in Victoria with estimated service demand taking into account socio-economic disadvantage (SED) and this presents an opportunity for a case study in application of an IRSD-based catchment area weighting. For the sake of transparency, we draw where possible on publicly-available information and peer-reviewed literature for estimation of key parameters.

Aims

1. To propose and describe an IRSD-based model to assist resource distribution formulae for adult mental health resources.
2. To use this approach to assess implications of interim recommendations of the RCVMHS.

Methods

A proposed model (aim 1)

Latest ABS census data (2016) provided the population of each local government area (LGA) within Victoria, and associated IRSD quintile scores. Applying quintile-specific AHS VHK-10 published findings (6), we estimated the number of individuals with VHK-10 scores in each LGA then, based on advice from DHHS Victoria regarding catchment configurations, aggregated this population onto Victoria's 21 adult mental health service delivery catchments. Catchment populations then were aggregated on to Victoria's 16 local hospital networks (LHNs). To determine proportional estimation of IRSD-adjusted need, we divided the estimated number of people with VHK-10 scores in the relevant area by the total estimated number of people with VHK-10 scores in Victoria. Details of this working with further details on sources are in a supplementary-materials spreadsheet, which could be adapted for other State, Territory or regional applications.

Implications of model outputs with consideration of bed provision (aim 2)

IRSD-adjusted estimated State-proportional service demands were compared with information from the RCVMHS report regarding existing bed supply. Then an assessment was made as to how the additional 135 public sector beds proposed by the RCVMHS in their interim report would influence equity in service provision as estimated by the model. Beds are often provided in ward units of 25; as Barwon Health has a much smaller population than the Melbourne Health Alliance, we assumed the beds would be distributed 25 to Barwon Health and 110 to the Melbourne Health Alliance.

Results

Figure 1 displays outputs of the model at catchment area level as a bar-chart and includes the associated data table. Areas are ordered here from the point of view of size of needs-adjustment compared to population proportions, which varies from 0.59 (Outer East) to 1.60 (Mid-West). Figure 2, another bar chart, presents in sequence for LHNs, all as percentages of the State total: population, current bed numbers (9), IRSD adjusted estimated need, and beds following RCVMHS recommendations as set out earlier. We can see from Figure 2 that the additional LHN beds proposed by the RCVMHS – based on this model – brings the bed-state somewhat better into alignment with the IRSD needs-estimated service demand for these areas; the formula suggests next targets for bed expansion based on percentage discrepancy of >2%. These would be: metropolitan, Monash Health; and non-metropolitan, Latrobe Regional Health. More detail and the spreadsheet working are available in supplemental materials which also include a table comparing the overall weightings from this approach with that in the Victorian 1996 RDF (10).

Discussion

Key points

The target group for specialist mental health services is often stated as around 3% of the population and this is concordant with overall population prevalence of VHK-10 scores at 3.6% (6). While many factors influence levels of psychological distress, the composite construct of SED includes many powerful influences on these rates (11) and so has a strong claim to be included in bed distribution (9) as well as other resource considerations.

Advancing the research agenda

While the IRSD as a composite index includes many important influences on mental health care need and demand, we may consider other input contributions that might enhance predictive value. By the time the 1990s Victorian RDF (3, 10) was developed, construction of these formulae was already a mature field so there may be worthwhile guidance from this to possible considerations. Table 1 presents some comparisons between the two approaches while a supplementary table compares overall weightings between the 1996 formula and that proposed here. Conspicuously, two inner-urban areas weighted highly in 1996 rank lower in this formula. Many changes in Australian cities since 1996 (12) will bear, for instance, on location of boarding houses that will have contributed to population demographics weighting in 1996, and on homelessness (Table 1); further integration of urban planning information, other survey findings and of NMHSPF demographic adjustments could refine understanding of this difference.

There are very significant problems with inequity in distribution of mental health care as funded through Medicare (13, 14). Covid-19 response has sought to increase access through video-conferencing but since the MBS items have come to allow co-payment they may not improve equity. The LGA-specific estimators of relative need and demand from this model could guide assessment of equity for these innovations.

Further research and debate should include consideration in peer reviewed literature of the moral bases of value judgements involved, of other candidate variables, and of how variables and data sources might be used in model parameterisation and calibration.

Limitations

We drew here where possible on peer reviewed sources – with the advantage that the work used has been through critical review but the disadvantage that some data sources are not the most recent available. In relation to aim 2 any possible inaccuracies in the RCMHS interim report will not be corrected here; overall resource distribution may be different from bed locations. The model is essentially a deterministic one; recent advances in simulation modelling approaches could enable incorporation of effects of feedback loops and other features of complex systems.

Conclusion

This work can help inform distributional justice in planning, including in application of the NMHSPF. As an example, considering new bed allocations recommended by the RCMHS, the work provides some support that these are a justifiable local proportional increase. Following this reasonable first step, the model identifies next priorities among Victorian LHNs for equitable expansion.

Declaring of Conflicting Interests

The lead author is employed by Monash Health.

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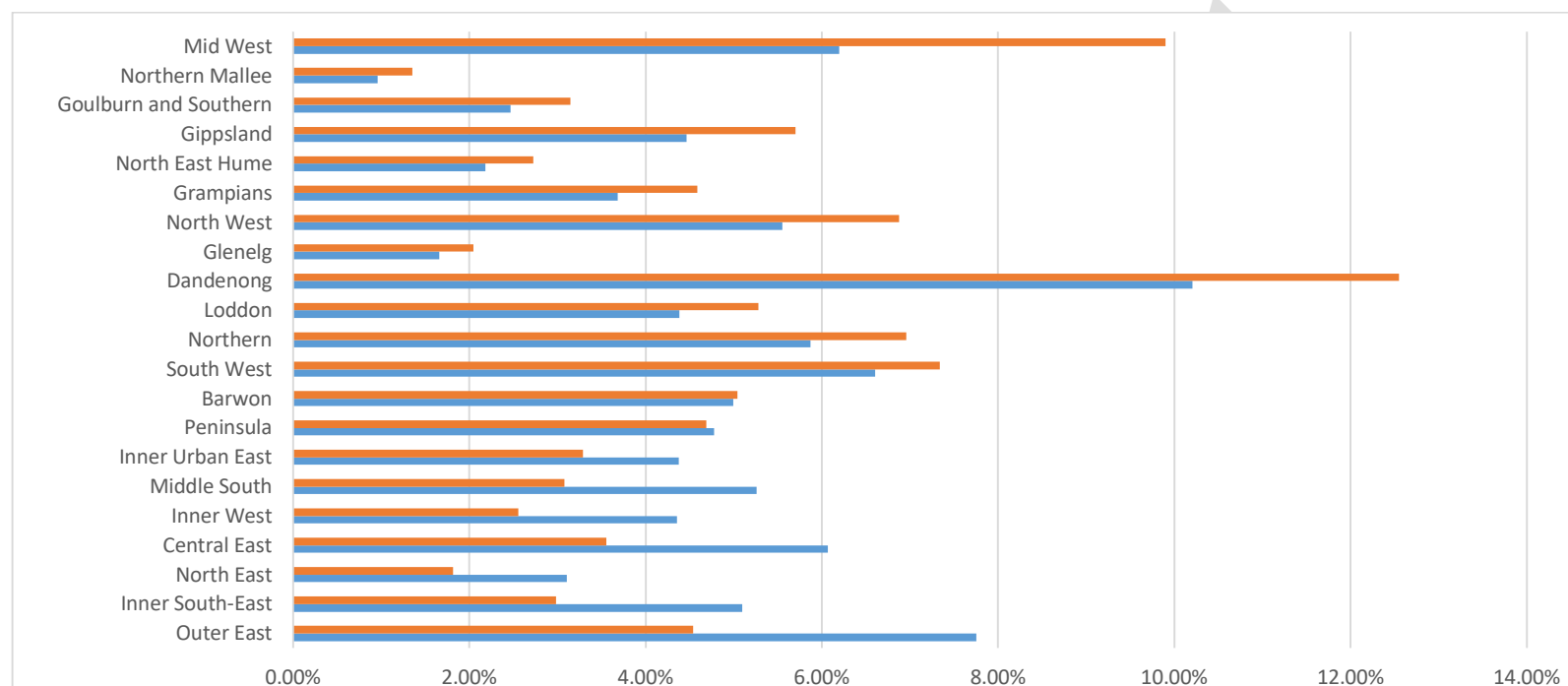
Tables

Table 1 A consideration of the 1996 Victorian RDF and the current model

Variable in the Victorian 1996 RDF	Consideration in regards to the current proposed model	Possible implications for research
Socioeconomic disadvantage (SD)	The updated IRSD is at the core of the current model	Updating information from later AHS findings and from future mental health surveys – if sample sizes permit the calculations could be made with deciles rather than quintiles.
Population demographics	Not featured in the current model, and this is a major contributor to differences between the 1996 formula and so potentially with current funding levels. But consideration of this is in the NMHSPF.	A useful next step could be to overlay these proposed adjustments for variability on the area-specific outputs of the NMHSPF planning support tool. Australian cities have seen major demographic changes since 1996 including potentially effects on urban-drift and how this should influence weighting needs research.
Indigenous peoples	Not in the current model. Indigenous people are an important priority group for health care (including mental health) – this may need separate treatment.	A topic for investigation is the extent to which increased morbidity in Indigenous people is accountable for through intermediate variables that feature in the IRSD including income, unemployment, overcrowding and educational attainment. Some adjustment above this will probably be indicated.
People from Non - English Speaking Backgrounds	The IRSD includes a variable capturing the percentage of people who do not speak English well.	Consideration of additional surveys may be useful – for instance regarding refugees.
Private sector activity correction	Not in current model. Private-sector varies with SD (although this is better measured with another index (13)).	The cited study relied on data released under a Freedom of information request – a more open policy on Medicare data would assist public transparency and accountability.
Homelessness	This is not captured in the IRSD and is an increasing issue in Australia. A further correction for this seems, <i>a-priori</i> , justifiable.	Further research into this population and its needs would assist parameter setting. With urban demographic changes this influence may have changed since 1996
Rurality	This is a significant influence on costs of service delivery and could usefully be incorporated into further models.	This bears on an interface with activity-based funding considerations and possible adjustments for travel time and other challenges of service delivery to more dispersed populations.

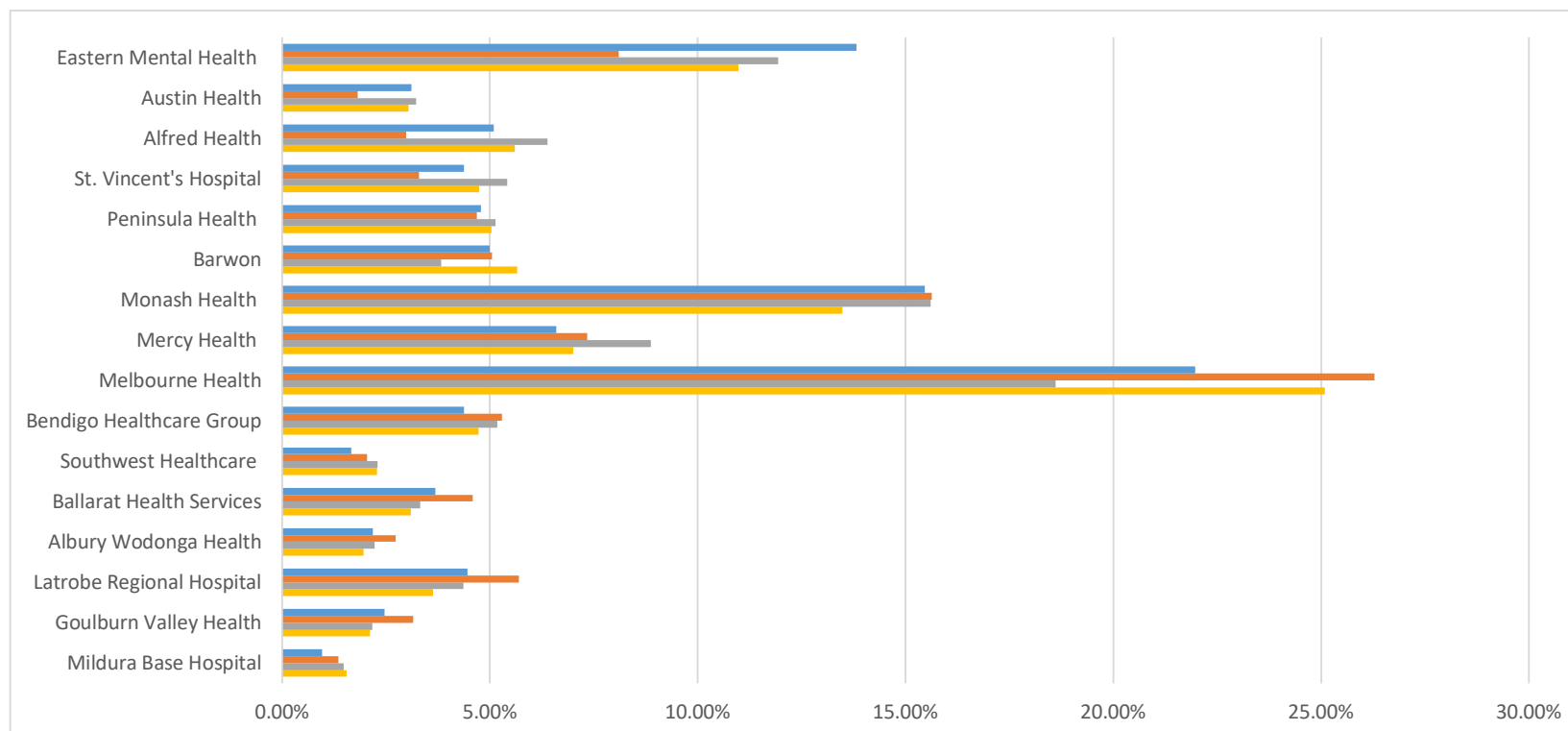
Figures

Figure 1: Resource Distribution to Victorian mental health catchments (adult); population and needs-estimation percentages of the State ranked by relative formula weighting.



	Mid West	Northern Mallee	Goulburn and Southern	Gippsland	North East Hume	Grampians	North West	Glenelg	Dandenong	Loddon	Northern
Catchment % of State Pop. (2016)	6.20%	0.96%	2.47%	4.47%	2.18%	3.68%	5.55%	1.66%	10.20%	4.38%	5.87%
Catchment % Very High K10	9.90%	1.35%	3.15%	5.70%	2.73%	4.58%	6.87%	2.05%	12.55%	5.28%	6.96%
	South West	Barwon	Peninsula	Inner Urban East	Inner South-East	North East	Central East	Inner West	Middle South	Outer East	
Catchment % of State Pop. (2016)	6.60%	5.00%	4.78%	4.38%	5.10%	3.10%	6.07%	4.36%	5.26%	7.76%	
Catchment % Very High K10	7.34%	5.04%	4.69%	3.29%	2.98%	1.82%	3.55%	2.55%	3.08%	4.54%	

Figure 2: Comparison of formula outputs with population, existing and proposed bed distribution for Local Health Networks; data ranked by relative formula weighing



	Mildura Base Hospital	Goulburn Valley Health	Latrobe Regional Hospital	Albury Wodonga Health	Ballarat Health Services	Southwest Healthcare	Bendigo Healthcare Group	Melbourne Health
LHN % of State Pop. (2016)	0.96%	2.47%	4.47%	2.18%	3.68%	1.66%	4.38%	21.97%
LHN % Very High K10	1.35%	3.15%	5.70%	2.73%	4.58%	2.05%	5.28%	26.29%
Current Bed Distribution	1.47%	2.17%	4.36%	2.23%	3.32%	2.29%	5.18%	18.61%
RCVMHS Proposed Bed Distribution	1.55%	2.11%	3.64%	1.96%	3.09%	2.28%	4.73%	25.09%
	Mercy Health	Monash Health	Barwon	Peninsula Health	St. Vincent's Hospital	Alfred Health	Austin Health	Eastern Mental Health
LHN % of State Pop. (2016)	6.60%	15.47%	5.00%	4.78%	4.38%	5.10%	3.10%	13.82%
LHN % Very High K10	7.34%	15.63%	5.04%	4.69%	3.29%	2.98%	1.82%	8.09%
Current Bed Distribution	8.87%	15.60%	3.83%	5.13%	5.41%	6.38%	3.22%	11.93%
RCVMHS Proposed Bed Distribution	7.01%	13.48%	5.66%	5.03%	4.74%	5.60%	3.05%	10.98%

Supplementary table

Table 2 Comparison of 1996 and 2020 proposed weightings

IRSD weighted 2020			Combination weighted 1996		
Mental Health Catchment (adults)	Relative weight		Mental Health Catchment (adults)	Relative weight	
Outer East	0.59		North East	0.64	
Inner West	0.59		Outer East	0.70	
Inner South-East	0.59		Central East	0.71	
North East	0.59		Dandenong	0.85	
Central East	0.59		Mid West	0.93	
Middle South	0.59		Peninsula	0.97	
Inner Urban East	0.74		Southwestern	0.98	
Peninsula	1.01		Goulburn	0.99	
Barwon	1.01		Barwon	0.99	
South West	1.11		Middle South	1.00	
Northern	1.18		Loddon	1.03	
Loddon	1.21		Gippsland	1.04	
North West	1.22		Grampians	1.04	
Glenelg	1.23		North Eastern	1.05	
North East Hume	1.24		Southern	1.06	
Dandenong	1.24		South West	1.20	
Grampians	1.25		North West	1.20	
Gippsland	1.28		Northern	1.20	
Goulburn and Southern	1.29		Northern Mallee	1.21	
Northern Mallee	1.41		Waratah	1.41	
Mid West	1.61		Inner Urban East	1.43	
			Inner South East	1.69	
Note there have been some realignments and renaming of catchments since 1996					



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ATTACHMENT GNM-5

This is the attachment marked '**GNM-5**' referred to in the witness statement of Graham Nicholas Meadows dated 26 June 2020.

Meadows G, Brophy L, Shawyer F, Enticott JC, Fossey E, Thornton CD, et al. REFOCUS-PULSAR recovery-oriented practice training in specialist mental health care: a stepped-wedge cluster randomised controlled trial. *The Lancet Psychiatry*. 2019;6(2):103-14

"Reprinted from *The Lancet Psychiatry*, 6(2), Meadows G, Brophy L, Shawyer F, Enticott JC, Fossey E, Thornton CD, REFOCUS-PULSAR recovery-oriented practice training in specialist mental health care: a stepped-wedge cluster randomised controlled trial with permission from Elsevier.



REFOCUS-PULSAR recovery-oriented practice training in specialist mental health care: a stepped-wedge cluster randomised controlled trial

Graham Meadows, Lisa Brophy, Frances Shawyer, Joanne C Enticott, Ellie Fossey, Christine D Thornton, Penelope J Weller, Elisabeth Wilson-Evered, Vrinda Edan, Mike Slade

Summary

Background Recovery-oriented practice promotes the strengths and recovery potential of individuals. We aimed to establish whether individuals who access mental health services where staff have received the REFOCUS-PULSAR intervention, an adaptation of the UK's REFOCUS recovery-oriented staff intervention for use in Australia, show increased recovery compared with people using non-intervention services.

Methods We did a pragmatic, two-step, stepped-wedge, randomised controlled trial at 18 sites grouped into 14 clusters across public mental health services and mental health community support services in Victoria, Australia. Eligible staff were working part-time or full-time in a direct service role at one of the 18 sites and had consumers being recruited for this study. Eligible consumers were receiving care from a participating cluster, with contact in the 3 months before data collection; aged 18–75 years; and not imprisoned. Clusters were randomly assigned with a web-based randomisation tool to receive the REFOCUS-PULSAR intervention in either the first year (step one) or second year (step two). Consumers, but not staff, were masked to treatment assignment. The primary outcome was the Questionnaire about the Process of Recovery (QPR), for which cross-sectional data were collected across three timepoints (baseline [T0], year 1 [T1], and year 2 [T2]). The primary analysis was done by intention to treat. This trial is registered with ANZCTR, number ACTRN12614000957695.

Findings 190 staff (111 from public mental health services and 79 from mental health community support services) received the REFOCUS-PULSAR recovery-oriented training intervention. Between Sept 18, 2014, and May 19, 2017, 942 consumers were recruited across the three timepoints (T0: n=301; T1: n=334; T2: n=307). The mean QPR score was 53·6 (SD 16·3) in the control group and 54·4 (16·2) in the intervention group (adjusted difference 3·7, 95% CI 0·5–6·8; p=0·023). The Cohen's d value for the intervention effect was small (d=0·23).

Interpretation The REFOCUS-PULSAR intervention had a small but significant effect on the QPRs of individuals using community mental health services and might be effective in promotion of recovery-oriented practice across sectors.

Funding Victorian Government Mental Illness Research Fund.

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Introduction

The construct of recovery, which is commonly used in mental health care, has roots in consumer perspectives¹ and can be distinguished from other conceptualisations by its reference to personal rather than clinical recovery.² Recovery-oriented practice involves clinical and other staff facilitating a change process through which individuals who have been diagnosed with a mental illness are supported to live a self-directed life and to strive to reach their full potential.³ Promoting recovery within mental health services is well established in mental health policy internationally.^{4,5} However, the practice lags behind policy: service-level intervention is required to effectively implement practices through which mental health professionals can use their skills, values, attitudes, and behaviours to support individuals in their personal recovery.⁶

The past decade has seen the development of several recovery-oriented training programmes, such as REFOCUS⁶ and THRIVE⁷ in the UK, the Collaborative Recovery Model^{8,9} in Australia, and person-centred recovery planning¹⁰ in the USA. They typically emphasise the use of coaching and person-centred, strengths-focused, collaborative processes to support consumers in their recovery. A useful reference framework for the research on training interventions is Kirkpatrick's four levels for evaluation of training programmes: reaction (level 1), learning (level 2), behaviour (level 3), and results (level 4).¹¹ Evidence is strongest for levels 1 and 2, with few programmes having evidence at either levels 3 or 4. Generally, level 4 evidence has not come from randomised controlled trials (RCTs), so there is a need for stronger evidence at this level. Evidence of the effectiveness of these interventions to promote recovery-oriented practice

Lancet Psychiatry 2019;
6: 103–14

Published Online
January 8, 2019
[http://dx.doi.org/10.1016/S2215-0366\(18\)30429-2](http://dx.doi.org/10.1016/S2215-0366(18)30429-2)

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Research in context

Evidence before this study

We searched PsycINFO, MEDLINE, and the Cumulative Index to Nursing and Allied Health Literature for articles published in English between Jan 1, 2007, and July 31, 2017, using the search terms [Mental Health/ OR "mental health" OR Mental Health Services/ OR "mental health service*"] AND [Recovery/ OR recover*]. Further relevant articles were identified from the reference lists of key papers and author and citation searches in Google Scholar. We selected articles if they were set in community mental health services and included data related to staff views, staff-related outcomes, or consumer-related outcomes in the context of staff training in recovery-oriented practice or implementation of recovery-oriented practice to promote and support personal recovery. We identified 16 relevant studies, of which most assessed staff-related outcomes after recovery-oriented training programmes. Although REFOCUS is the only intervention to have been evaluated in a randomised controlled trial, these studies generally suggest that recovery-oriented training improves staff knowledge, attitudes towards recovery, and self-efficacy in

working with consumers using a recovery-oriented approach, with a recurrent theme that the organisational culture of the service setting and the provision of follow-up coaching might be important determinants of implementation success. Apart from the REFOCUS trial published in 2015, no trial has reported whether outcomes of consumers were improved by these interventions.

Added value of this study

The REFOCUS-PULSAR staff training intervention, adapted for Australian service settings from the REFOCUS package and based on the connectedness, hope, identity, meaning, and empowerment conceptual framework of personal recovery, brought about modest improvements in consumer-rated recovery for people using the involved services.

Implications of all the available evidence

Training health-care workers to deliver recovery-oriented care using the REFOCUS materials developed over time and adapted to local settings can positively affect the process of personal recovery for consumers.

is required across settings so that these interventions might be used with some confidence by services.

REFOCUS is a staff training intervention that was developed and trialled in the UK between April, 2011, and May, 2012.^{2,6,12} Its development was informed by the theory of planned behaviour,¹³ and its aim was to change both what practitioners do with consumers of mental health services and how they do it.¹⁴ REFOCUS came to include, as elements of a team-based training intervention for community mental health teams in England, three working practices: understanding values and treatment practices, working to strengths, and supporting goal striving. Thus, the REFOCUS intervention was designed to promote recovery through changes in the skills, knowledge, behaviour, and values of staff and their relationships with consumers.^{2,12}

In a large-scale, cluster RCT,¹² outcomes of usual care plus REFOCUS were compared with those of usual care only in 27 community mental health teams delivering services to adults with psychotic disorders. In primary analyses, personal recovery assessed with the consumer-rated Questionnaire about the Process of Recovery (QPR)¹⁵ did not differ between intervention and control groups. Secondary analyses suggested that higher team participation was associated with higher staff-reported, recovery-promoting behaviour and improved ratings on the QPR. Several possible reasons exist for the negative primary analyses.⁶ First, the REFOCUS recruitment protocol and criteria meant that, on average, participants had been using mental health services for more than 15 years. Such individuals might have entrenched ways of relating to services and problems that take longer than 1 year to change. Second, participant attrition, which was

higher than anticipated in the study (26% vs 7%), reduced the study's power to detect a difference in the primary endpoint. To address these issues, future studies might include adaptive design principles,^{16,17} use a more homogeneous team type (ie, function and staff composition), or stratify by team characteristics. Furthermore, transition to recovery-oriented practice might require organisation-wide rather than team-level strategies.

The Principles Unite Local Services Assisting Recovery (PULSAR) project was based in Victoria, Australia. The REFOCUS team advised on project development, enabling PULSAR—4 years behind REFOCUS in development and implementation—to benefit from lessons learned during REFOCUS. Changes to the REFOCUS intervention included adjustments to learning materials to enhance relevance to the local setting and to incorporate developments made during implementation of the programme after the REFOCUS manual¹⁸ had been finalised for study use. We refer to the intervention described in this study as REFOCUS-PULSAR (shortened to PULSAR in the protocol and when implemented locally¹⁹) because, although it was developed for the PULSAR study,¹⁹ it drew heavily on REFOCUS materials.

We did a stepped-wedge cluster RCT wherein all study sites received the intervention but the time of intervention receipt was allocated randomly.¹⁹ Given that people who might benefit most from recovery-oriented practice, in relation to personal recovery, might also experience clinical recovery and so be discharged earlier from treating services, sampling of people who have been using mental health services for a long time might bias against positive

For more on PULSAR see
www.pulsarrecovery.org.au

findings. Hence, we recruited independently at three timepoints (baseline [T0], year 1 [T1], and year 2 [T2]), while maintaining tight control over the consistency of recruitment processes to minimise sampling bias as a source of systematic error. This approach promised greater possibility for progressive refinement of the training intervention through experience.

The aim of this study was to investigate the effectiveness of the REFOCUS-PULSAR intervention for improving the experience of personal recovery, as reported by consumers, using repeated cross-sectional samples. The term consumer is used throughout this Article because it is the most widely accepted term used in Australia to describe people who experience mental distress and use public mental health services. The primary hypothesis was that consumers in clusters that had received the REFOCUS-PULSAR intervention would experience significantly greater personal recovery than would consumers accessing other mental health services that, at relevant timepoints within the trial, had not received the intervention. We also investigated change in clinical recovery and participants' experience of the services.

Methods

Study setting

Participating services were providers of mental health care to people living in the catchment area of a large public mental health service in Victoria, Australia. The area ranges from a relatively affluent coastal city to the most socioeconomically disadvantaged and culturally diverse area in metropolitan Melbourne and includes a semi-rural growth corridor. In Victoria, state-run, area-based, block-funded public mental health services, typically accessed by people with severe mental illnesses, include clinical services that consist of a range of teams and service types, such as inpatient units, community-based residential rehabilitation, continuing care, and community treatment teams. Acute or longer-term residential care is typically provided in units of around 25 beds. Caseloads in community services might vary from around ten in mobile support and treatment services to 25–35 in many community clinics, while the typical length of care with a team might vary between a few days with crisis assessment and treatment teams to several years with mobile support and treatment services and community care units. Mental health care funded by the Victorian Government also includes substantial investment in the mental health community support services sector, which is run by non-government organisations and provides residential and outreach psychosocial support.

Within this setting, the temporal context for the work through 2014–16 included events worthy of some comment (details of these are provided in the appendix). The state-funded organisations that operated in the catchment area were the major public mental health service and two organisations from the mental health

community support services sector. Public mental health and mental health community support service partners identified and approached specialist care sites or teams within these organisations; all agreed to participate.

Study design and participants

We collected data from consumers in three streams. Stream one was a cross-sectional, complete stepped-wedge cluster RCT from which we collected data on demographics and QPR. Stream two was a cross-sectional, incomplete stepped-wedge cluster RCT that involved face-to-face interviews with a subset of participants in stream one before and after staff from their service received the intervention. Stream three, a longitudinal, incomplete stepped-wedge cluster RCT involving consumers from stream two with diagnosed psychotic disorders, did not achieve adequate recruitment targets and is not reported here.

Staff were eligible to receive the PULSAR training intervention if they were working part-time or full-time in a direct service role and had an active caseload with consumers being recruited for this study. Staff employed on casual contracts (ie, those without regular and systematic hours of work) or those also working in a non-intervention site at the time of training were ineligible.¹⁹

Consumers were eligible for stream one if they were receiving care from a participating cluster, with contact in the 3 months before data collection; aged 18–75 years; able to provide informed consent; proficient in English; and not imprisoned. Administration and clinical staff at participating organisations screened consumers for eligibility using detailed instructions provided by the research team. Eligible consumers were then invited by mail or directly onsite to participate in the study and to indicate consent by return of a completed survey and their contact details. A AUD\$10 shopping voucher was sent to all participants who returned surveys and provided their contact details. Other recruitment strategies to encourage response were used according to the needs of individual sites. Care was taken to ensure, as far as reasonably possible, that recruitment strategies and time spent recruiting were consistent across timepoints at participating clusters.¹⁹

Consumers were eligible for stream two if they provided contact details and consent to be contacted for a face-to-face interview, and were receiving care at a site that was in the pre-phase or post-phase of the intervention. Participants in this stream were recruited by phone, email, or letter.

This study was approved by Human Research Ethics Committees of Monash Health (approval number 14102B) and Monash University (approval number CF14/1600–2014000773).

Randomisation and masking

We grouped care delivery teams at 18 sites into 14 clusters to enable adequate recruitment in the context of some

See Online for appendix

smaller teams. Teams were classified into seven strata on the basis of similarities in their functions and characteristics. Within public mental health services, these strata were crisis assessment and treatment teams (consisting of three teams, including two smaller teams that were grouped into one cluster); two mobile support and treatment services each grouped with a community care unit (two clusters), which were four smaller teams with a shared focus on long-term intensive work with people with more complex needs; and four teams providing continuing mental health care services in the community (grouped into two strata and four clusters). The remaining strata included services delivered by two participating mental health community support services: four prevention and recovery services (grouped into two strata and four clusters), which deliver short-term, subacute, residential recovery-oriented care; and community outreach services (three teams, including two from one organisation that were grouped into one cluster).

We randomly assigned clusters to receive the intervention in either the first year (step one) or the second year (step two) using stratified randomisation to ensure that cluster types were well balanced across groups. Sequence generation was done with Research Randomizer, with seven randomisation keys corresponding to the seven strata and allocation of clusters within strata to step one or step two. Randomisation was done offsite by an independent researcher during the third quarter of 2014.

Given that the intervention involves training, specialist mental health care staff became aware of their group allocation as the study progressed. Consumers, however, were not informed about whether staff at their service had received the training, and efforts were made to maintain masking of research assistants who did onsite recruitment and stream two interviews. Further information about strata and randomisation is in the protocol.¹⁹

Procedures

The REFOCUS intervention is described in a freely available manual.¹⁸ The REFOCUS-PULSAR intervention comprises a manual²⁰ that was adapted from REFOCUS, a structured training intervention to support use of the REFOCUS-PULSAR manual, and follow-up sessions termed PULSAR active learning sessions.

REFOCUS-PULSAR was developed following Medical Research Council guidelines for complex interventions²¹ and the plan-do-study-act model as a method for controlling and improving process,¹⁷ and was guided by discussions with the REFOCUS research team and a lived experience advisory panel and by information from qualitative analysis of group sessions with staff from participating organisations. The content of the REFOCUS manual was largely retained in the REFOCUS-PULSAR manual,²⁰ with some amendments to contextualise it for the PULSAR study setting, including legal and policy

contexts. Additions, which comprised less than 25% of the manual, included material related to relapse signatures and relapse drills, and material on the connectedness, hope, identity, meaning, and empowerment (CHIME) conceptual framework for recovery-oriented practice,¹² which was developed during the course of the REFOCUS study.

The REFOCUS-PULSAR training programme was supported by slide presentations, a manual, session plans, and videos. In a change from the REFOCUS intervention, training was co-facilitated throughout by professional staff and trainers with lived experience of mental health problems, including the project's consumer researcher. This strategy, on the basis of local consultations through project leadership structures, as described in the protocol,¹⁹ was expected to enhance the recovery orientation of the training. Carer input featured in certain sessions. Quality assurance is described in the appendix.

The step-one intervention for clinical services was designed as a 2-day session, with the community services training planned as a separate 2-day session during the same week. In addition to having two project-employed consumer academics, trainers were employed from clinical services for clinical sessions and from the community sector for community sessions. This strategy enabled the inclusion of specialist skills and experience in training delivery.¹⁹ Step-two training was modified according to analyses of participant and trainer feedback from step one. Details of changes to step-two training can be found in the appendix. PULSAR active learning sessions, offered monthly as 1 h sessions to staff and managers of involved teams to support practice-based implementation of recovery-oriented practice, were facilitated by PULSAR investigators and local trainers.

Standard treatment was governed by national standards,²² adherence to which is maintained by regular accreditation. Consumers often have their locus of care change in response to their changing needs, moving between more intensive community teams (eg, crisis assessment and treatment teams or mobile support and treatment services) and residential options (eg, prevention and recovery care services) or less intensive community options. Case management in community clinics co-ordinates transitions through these levels of care and seeks to ensure that needs for medication, monitoring, support, and psychosocial interventions are met. Teams typically have multidisciplinary representation from mental health care disciplines, with nursing as the largest single workforce component.

Baseline (T0) data collection occurred in the year before and 3 months after delivery of the step-one intervention. The first 3 months after intervention delivery was deemed suitable for baseline data collection on the basis of Kirkpatrick's training evaluation model,¹¹ which considers that the embedding of practice change requires at least 9 months: 3 months for consolidation and

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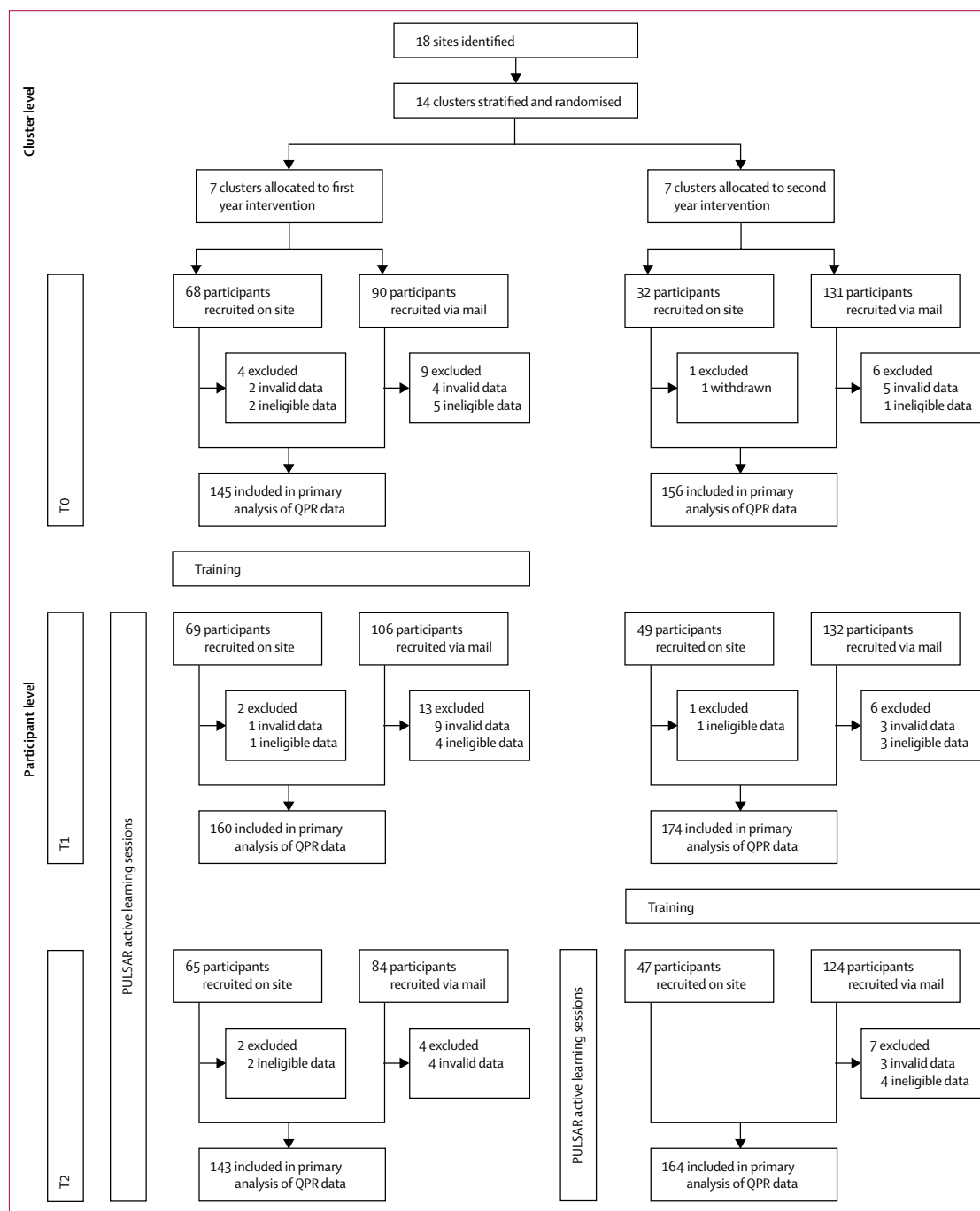
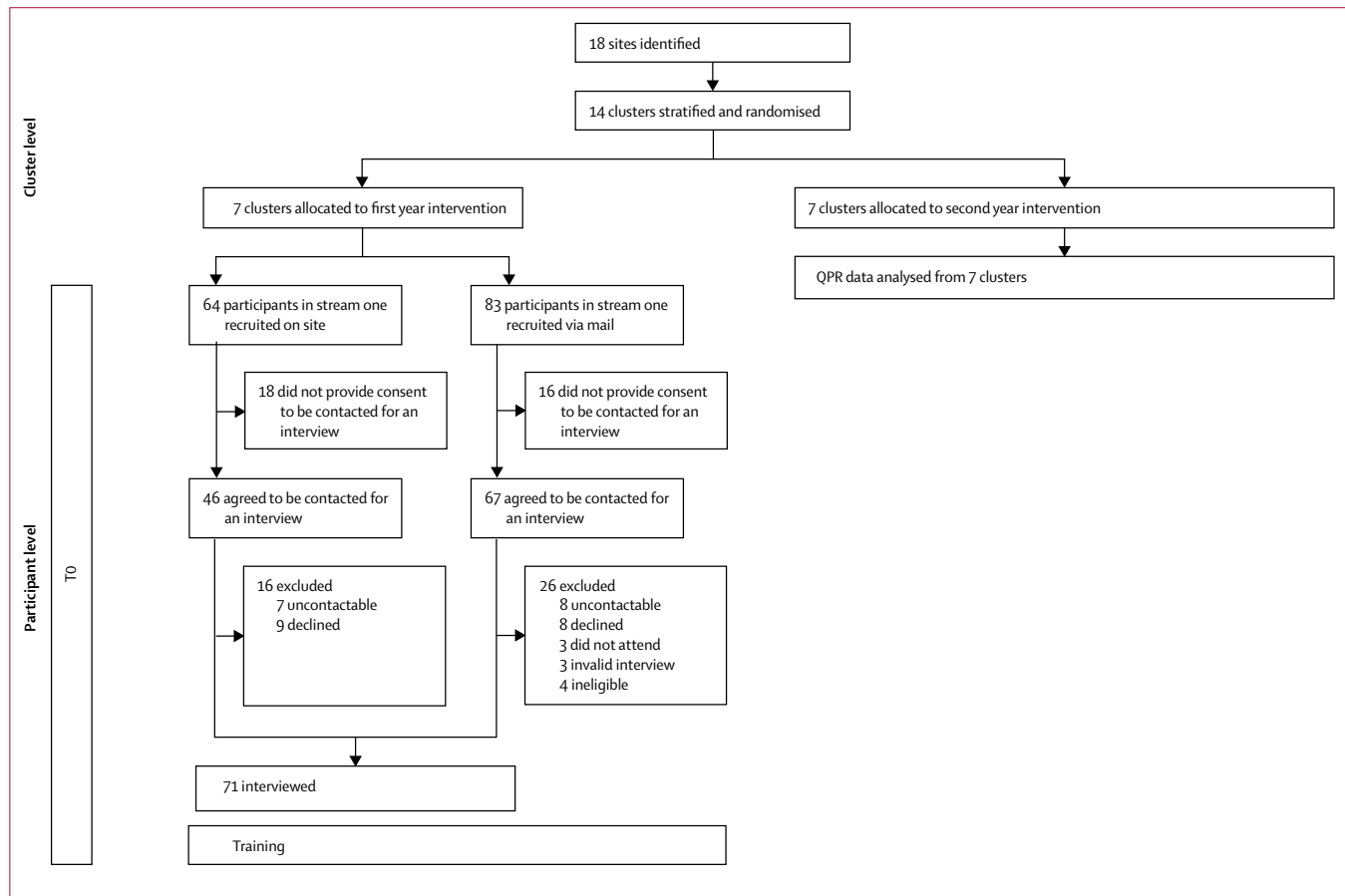


Figure 1: Trial profile for stream one

Invalid data refers to data-based issues in the form of missing data or invalid responses. Ineligible data refers to participant-based issues—that is, the person providing the data did not meet the eligibility criteria for the study. T0=baseline. T1=year 1. T2=year 2. QPR=Questionnaire about the Process of Recovery.

6 months for implementation. During the next 2 years (T1 and T2 periods), data were collected at a minimum of 9 months after delivery of the intervention to allow embedding of intervention principles and practices.¹⁹

Staff finishing REFOCUS-PULSAR training were asked to complete a training evaluation (level 1 evidence²⁰), in which they rated satisfaction from 1 “extremely dissatisfied” to 10 “extremely satisfied”. Team managers



(Figure 2 continues on next page)

or administrators were asked to record staff movements (staff leaving or joining their team) every 3 months.¹⁹ The proportion of the team who attended at least one training session, by headcount, was calculated for time of training. Sector staff turnover was calculated as the number of staff who left, joined, or moved teams in the organisation over the following year, divided by the staff headcount at the end of the core training period.

Outcomes

Outcomes were divided into measures of clinical and personal recovery and measures of consumers' experience of health care. The primary outcome was the QPR, which is a 22-item, consumer-rated questionnaire used to assess personal recovery; each item is rated on a 5-point Likert scale that ranges from 0 (disagree strongly) to 4 (agree strongly), with higher scores indicating increased recovery.^{15,19}

Secondary outcomes, assessed in stream-two participants, were the importance of services in recovery questionnaire (INSPIRE),²³ which has support (20 items) and relationship with worker (7 items) subscales, and the

Warwick-Edinburgh Mental Well-Being Scale, which assesses emotional and functional wellbeing and has 14 Likert-scaled items, with higher scores indicating greater mental wellbeing.¹⁹ The subscale scores for INSPIRE were obtained by converting mean ratings on a 5-point Likert scale to percentages.²³

Other secondary outcomes assessed in stream-two participants were the Perceived Need for Care Questionnaire,²⁴ which assesses perceptions of mental health care and classifies perceived needs of consumers as unmet, partially met, or met; the Client Satisfaction Questionnaire,²⁵ which assesses consumers' satisfaction with services; the Mind Australia Satisfaction Survey,²⁶ which rates consumers' satisfaction with services, their involvement in service delivery, and individual service-use outcomes; the Coercion Ladder, a visual analogue scale that measures consumers' perception of coercion in mental health service interactions;²⁷ the Global Assessment of Functioning Scale,²⁸ which is a researcher-rated (0–100) measure of an individual's social, occupational, and psychological functioning; the Social and Occupational Functioning Assessment Scale,²⁸ which

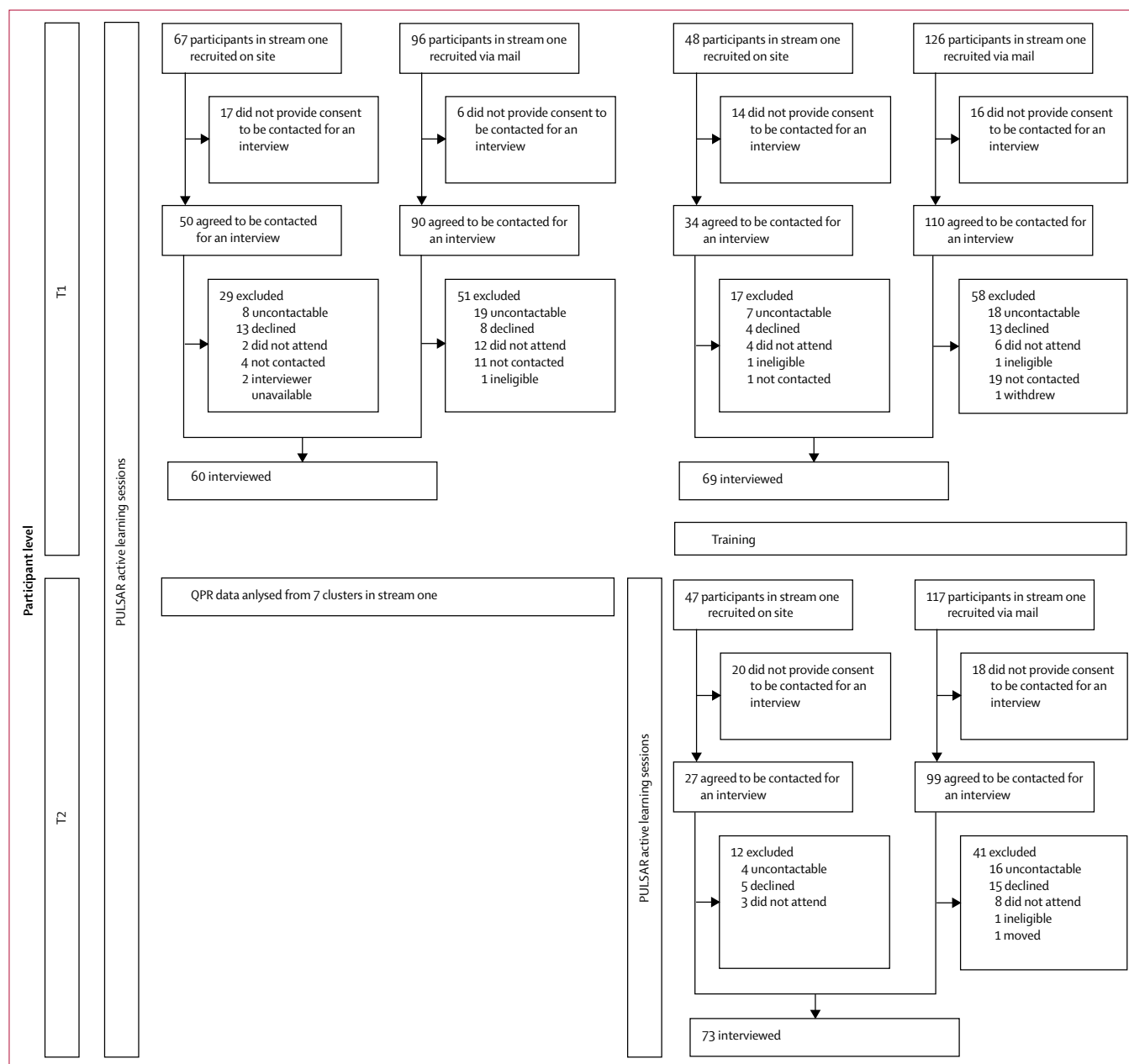


Figure 2: Trial profile for stream two

T0=baseline. T1=year 1. T2=year 2. QPR=Questionnaire about the Process of Recovery.

is a researcher-rated (0–100) measure of function, independent of psychological condition severity; and days out of role, which measures the effect of mental health problems on usual daily activities over the past 30 days. Health economic analyses, including those based on work time lost, will be the subject of a future publication.

Anticipated possible study-related adverse events included risk of participant distress during an interview, issues related to disclosure of potential self-harm or harm

to others, and risk of harm to staff. A risk prevention and management protocol was approved by the governing human research ethics committee. Participants were provided with written contact details of the manager of the governing human research ethics committee to whom they could make complaints. We did not systematically collect other adverse event information from consumers. Further information about adverse events and complaints procedures is in the appendix.

Statistical analysis

Sample size calculations were based on 14 clusters, an intra-cluster correlation coefficient of 0.05, a significance level of 0.05, a power of 80%, and published SDs.^{19,29} Stream one and stream two were powered to detect medium effects (Cohen's $d=0.5$) in the primary outcome. Stream one required 756 consumers (252 in each wave, 18 per cluster per wave) to detect a change in the mean QPR score of 6.34. Stream two required 252 consumers (63 at T0, 126 at T1, and 63 at T2; nine per relevant cluster per step) to detect a change in the mean QPR score of 7.68. For stream-two secondary outcomes, expected detection thresholds were mean changes in the Warwick-Edinburgh Mental Well-Being Scale of 4.8 and in INSPIRE of 7.72 (also medium effects).

The primary analysis was done by intention to treat. We analysed all outcomes using multilevel regression models (linear or Poisson regression, as appropriate), with timepoint and intervention status as fixed effects and clusters as a random effect. Timepoint was included as a categorical variable. Covariates, selected on the basis of statistical and clinical considerations (appendix), were age group, gender, sector (public mental health service or mental health community support service), and step group (step one or two; for stream-one models only). Age group and gender were included as covariates because they commonly affect clinical outcomes. Sector was included as a covariate because we deemed it to be the most important stratification variable; the other seven strata were not included because their inclusion would have produced an overfitted model. Step group was not included in stream-two models; collinearity of step group with intervention status was an intrinsic feature of the stepped-wedge cluster RCT design of stream two.

We planned to include consumers as a random effect in the model to account for repeated measures, but 90% of the data in streams one and two came from singletons (ie, individuals contributing data only once to the study; stream one: $n=854$; stream two: $n=254$). Given that studies have found low levels of bias for models with up to 70% singletons and 50–500 clustering units,³⁰ we did not include consumers as a random effect in the model. Model development is described in greater detail in the appendix.

Intervention effects were estimated from the models (appendix) using methods described by Hussey and Hughes.³¹ Additionally, we used models with interaction terms between timepoint and intervention status to assess trends across the sectors (public mental health services and mental health community support services).³² The statistician was not masked to treatment allocation during the analyses. All statistical analyses were done with Stata, version 11 or 15.

This trial is registered with ANZCTR, number ACTRN12614000957695.

Role of the funding source

The funder had no role in study design, data collection, data analysis, data interpretation, or writing of the manuscript. The corresponding author had full access to all the data in the study and had final responsibility for the decision to submit for publication.

Results

84 staff from the three services attended step-one REFOCUS-PULSAR workshops in the first quarter of 2015, which were delivered over 22 days by five professionals and two consumers. Step-two training was delivered from June to October, 2016, to 106 staff over 21 days by six professionals and two consumers. In total, 190 team staff (111 from public mental health services and 79 from mental health community support services) received training (with 23 team staff from step one participating in step two training). Thus, 167 (63%) of 266 staff employed at the time of training attended at least one training session in their allocated step, including 92 (51%) of 182 staff within public mental health services and 75 (89%) of 84 staff in mental health community support services. Staff turnover was 68% (124 of 182) for the major public mental health service and 50% (42 of 84) for mental health community support services. Team-specific findings with associated outcomes will be reported in future publications.

The proportion of responding staff who rated training satisfaction as greater than 5 improved from year 1 (44% [17 of 39]) to year 2 (68% [23 of 34]; odds ratio 2.71, 95% CI 1.04–7.05; $p=0.04$). Staff who received training included representatives of multiple disciplines, but the team-based training approach generally did not succeed in engaging senior medical staff; it became apparent through the project that they would be more likely to attend service-wide, profession-specific training, which would not be readily compatible with the cluster RCT model. Medical-specific training in two 1.5-h sessions was attended by 11 registrars but no consultants.

For two public mental health service teams, no PULSAR active learning sessions occurred for logistical and engagement reasons. For all public mental health service teams in which PULSAR active learning sessions occurred (seven team settings, including some that were combined), the mean total number of sessions was 8.1 (SD 4.7). For 22% of these sessions, team sessions could not be arranged and so meetings were with individual clinicians. In mental health community support service settings, PULSAR active learning sessions were integrated into monthly staff support sessions, and the aspects of these sessions that were specific to PULSAR active learning could not be quantified.

Between Sept 18, 2014, and May 19, 2017, 942 consumers (575 of public mental health services and 367 of mental health community support services) were recruited across three timepoints (figure 1; appendix), of whom 273 were recruited for stream-two interviews at timepoints related to

intervention delivery (140 at baseline and 133 at follow-up; figure 2). Overall, recruitment targets were surpassed and most clusters had the planned sample size ($n=18$ per cluster) at each timepoint (appendix). As expected, overall recruitment from mailouts was low (8% [622 of 7686]; appendix) but yielded 622 (66%) of 942 valid QPRs. Overall, the onsite recruitment rate was 46% (320 of 702; appendix), yielding 34% (320 of 942) of all QPRs. Proportions of QPRs derived from onsite recruitment were 32% (95 of 301) at T0, 34% at T1 (115 of 334), and 36% at T2 (110 of 307). The characteristics of consumers were well balanced across timepoints (table 1; appendix). The majority of consumers were aged 30–49 years, were born in Australia, and spoke English as their main language (table 1).

The mean QPR score for stream one was 53.6 (SD 16.3) in the control group and 54.4 (16.2) in the intervention group (adjusted difference 3.7, 95% CI 0.5–6.8; table 2). The Cohen's d value for the intervention effect was small ($d=0.23$). In the model that included interaction terms between timepoint and intervention status, the mean difference between treatment and control groups at year 1 was 3.7 (95% CI 0.6–6.8; appendix). QPR scores improved from before to after intervention delivery for consumers of public mental health services in the step-two group (mean difference 4.9; Z score=3.0; $p=0.003$; $d=0.30$) and for consumers of mental health community support services in the step-one group (1.1; Z score=2.7; $p=0.006$; $d=0.07$; figure 3).

There were ten stream-two measures, considering the INSPIRE and days out of role as single measures (table 2) and including the Perceived Need for Care Questionnaire (appendix). None of the outcomes were significantly different between the intervention and control groups (table 2; appendix), although central estimates suggested an effect favouring the intervention in nine of the ten outcomes (appendix). If the intervention had no effect, the binomial probability that an effect favouring the intervention would occur by chance in nine of ten results is 0.01.

During the course of the project, four complaints were reported to the governing human research ethics committee, which led to changes in procedures under their direction as appropriate. No complaints were received that related to the REFOCUS-PULSAR intervention. Additionally, one participant expressed suicidal ideation, which was followed up as per our ethics protocol to ensure the individual's safety.

Discussion

We found that the REFOCUS-PULSAR staff training intervention had a small but significant effect on the QPR scores of consumers in stream one. Small effects in pragmatic trials are expected, and the significant finding is encouraging.³³ A significant interaction effect for service sector suggests that changes in sectors should be considered separately: in public mental health services, QPR scores did not change significantly from T0 to T1 for the step-one group, when change

	T0 (n=301)	T1 (n=334)	T2 (n=307)	Total (n=942)
Gender				
Female	174 (58%)	192 (57%)	178 (58%)	544 (58%)
Male	125 (42%)	139 (42%)	126 (41%)	390 (41%)
Not listed	2 (1%)	3 (1%)	3 (1%)	8 (1%)
Age group				
17–30 years	73 (24%)	77 (23%)	79 (26%)	229 (24%)
30–49 years	151 (50%)	170 (51%)	151 (49%)	472 (50%)
≥50 years	72 (24%)	84 (25%)	74 (24%)	230 (24%)
Not listed	5 (2%)	3 (1%)	3 (1%)	11 (1%)
Step*				
One	145 (48%)	160 (48%)	140 (46%)	445 (47%)
Two	156 (52%)	174 (52%)	167 (54%)	497 (53%)
Intervention status				
Not yet received intervention	301 (100%)	174 (52%)	0	475 (50%)
Received intervention	0	160 (48%)	307 (100%)	467 (50%)
Country of birth				
Australia	217 (72%)	244 (73%)	229 (75%)	690 (73%)
Other	83 (28%)	87 (26%)	73 (24%)	243 (26%)
Not listed	1 (<1%)	3 (1%)	5 (2%)	9 (1%)
Year of arrival in Australia if born overseas				
After 2000	17/83 (20%)	23/87 (26%)	19/73 (26%)	59/243 (24%)
1980–2000	40/83 (48%)	39/87 (45%)	27/73 (37%)	106/243 (44%)
Before 1980	18/83 (22%)	17/87 (20%)	17/73 (23%)	52/243 (21%)
Not listed	8/83 (10%)	8/87 (9%)	10/73 (14%)	26/243 (11%)
Main language				
English	265 (88%)	286 (86%)	269 (88%)	820 (87%)
Other	23 (8%)	26 (8%)	23 (7%)	72 (8%)
English and other	8 (3%)	17 (5%)	7 (2%)	32 (3%)
Not listed	5 (2%)	5 (1%)	8 (3%)	18 (2%)
Ethnicity (self-identified)				
Non-indigenous Australian	121 (40%)	177 (53%)	162 (53%)	460 (49%)
Indigenous Australian	27 (9%)	20 (6%)	33 (11%)	80 (8%)
Other†	120 (40%)	126 (38%)	97 (32%)	343 (36%)
Not listed	33 (11%)	11 (3%)	15 (5%)	59 (6%)
Duration of mental health service use				
Mean duration (years)	4.0 (6.2)	4.5 (6.7)	4.0 (6.9)	4.2 (6.6)
Consumers with <1 year at site	129 (43%)	125 (37%)	135 (44%)	389 (41%)
Mean duration for consumers with <1 year at site (months)	3.3 (3.2)	3.2 (2.9)	3.2 (3.0)	3.2 (3.0)

Data are n (%), n/N (%), or mean (SD). Where cell sizes are less than 5 at any timepoint for a given characteristic, data were pooled to ensure confidentiality. T0=baseline. T1=year 1. T2=year 2. *Refers to timing of intervention allocation. †Included English, Irish, Welsh, or Scottish (n=96); Italian (n=40); Greek (n=35); New Zealander or Maori (n=33); other (n=163); and 56 additional ethnic groups.

Table 1: Characteristics of consumers in stream one

might have been expected because of staff training between these timepoints, whereas they changed significantly for the step-two group during their intervention period (T1–T2). By contrast, in mental health community support services, there was a small but significant change in the QPR scores of step-one clusters during their intervention period (T0–T1), whereas those of step-two clusters did not significantly change from T1 to T2.

	Control (n=475)	Intervention (n=467)	Adjusted difference*†
Primary outcome			
QPR in stream one	53.6 (16.3); 475	54.4 (16.2); 467	3.7 (0.5 to 6.8); 0.023
Secondary outcomes			
QPR in stream two	53.1 (14.8); 138	54.0 (14.5); 131	2.5 (−3.1 to 8.2); 0.38
WEMWBS	41.4 (11.2); 139	42.2 (11.1); 133	2.4 (−2.7 to 7.4); 0.35
INSPIRE support	62.4 (22.3); 128	62.2 (23.1); 123	2.0 (−6.7 to 10.8); 0.65
INSPIRE relationship with worker	72.0 (22.3); 134	75.5 (20.1); 129	3.3 (−3.4 to 10.0); 0.34
GAF	48.5 (14.7); 140	51.4 (13.3); 133	0.9 (−6.2 to 8.0); 0.80
SOFA	49.8 (15.5); 134	52.9 (14.3); 132	0.6 (−5.3 to 6.5); 0.85
CSQ	23.3 (5.3); 139	24.5 (5.5); 130	1.2 (−1.0 to 3.4); 0.28
MASS	8.0 (1.8); 140	8.2 (1.8); 132	0.0 (−0.6 to 0.7); 0.94
Coercion Ladder, community services	2.0 (1.5); 139	2.0 (1.5); 139	0.2 (−1.1 to 0.7); 0.67
Days out of role (full)‡	6.5 (0.0 to 15.0); 138	6.0 (0.0 to 15.0); 133	−1.4 (−5.3 to 2.6); 0.50
Days out of role (partial)§	6.0 (0.0 to 15.0); 133	10.0 (2.0 to 15.0); 129	0.1 (−4.6 to 4.8); 0.96

Data are mean (SD); number of participants, or median (IQR); number of participants, unless otherwise stated. QPR=Questionnaire about the Process of Recovery. WEMWBS=Warwick-Edinburgh Mental Well-Being Scale. INSPIRE=importance of services in recovery questionnaire. GAF=Global Assessment of Functioning Scale. SOFA=Social and Occupational Functioning Assessment Scale. CSQ=Client Satisfaction Questionnaire. MASS=Mind Australia Satisfaction Survey. *Data are difference (95% CI); p value. †Adjusted for gender, age, timepoint, and sector as fixed effects and cluster as a random effect; step group was included as an additional fixed effect in stream-one models only. ‡Number of days in which the participant was totally unable to carry out their usual activities because of mental health problems. §Number of days in which the participant was able to carry out their usual activities but had to cut down on what they did because of mental health problems.

Table 2: Summary of outcomes in streams one and two

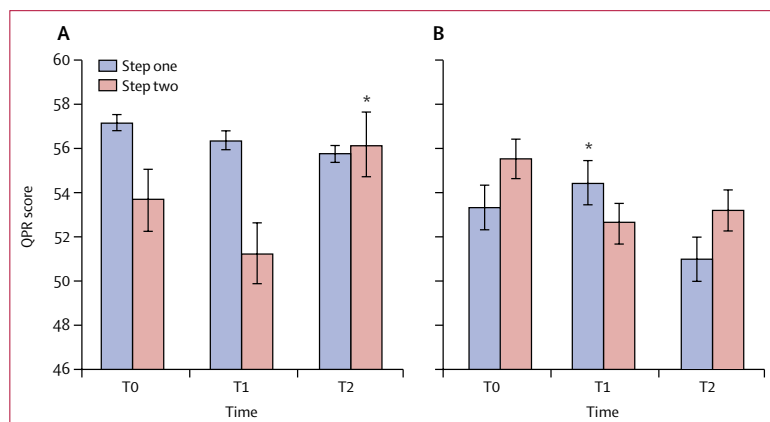


Figure 3: Adjusted mean QPR scores by sector over time

Adjusted means and SDs are shown; means were adjusted for age, gender, and step group. The step-one group received the intervention in year 1 and the step-two group in year 2. (A) Public mental health services. (B) Mental health community support services. QPR=Questionnaire about the Process of Recovery. T0=baseline. T1=year 1. T2=year 2. * $p < 0.01$ vs previous timepoint in the same group.

The 3.7-point improvement in QPR score in stream-one consumers after receipt of the intervention represents a 5.7% change in the full-scale score. Standardised effect sizes are easily distorted by factors unrelated to effect size,³⁴ and are not straightforward to interpret because of expected variance differences in the mixed model components.³⁵ Nevertheless, Cohen's d calculations suggested a small positive effect on the primary endpoint ($d=0.23$). Furthermore, based on QPR

questionnaire content, changes of 1–2 points might be clinically meaningful. For instance, a 2-point change is achieved if the item “I feel part of society rather than isolated” goes from neutral to strongly agree. The training team, working in a plan-do-study-act approach, modified the training delivered in step two following analysis of feedback from staff participants.

Although speculative, mechanisms that might have led to the intervention having a greater effect on the primary outcome in step-two than in step-one clusters in the public mental health service sector include increased attention on the relationship between the two types of trainers (one a consumer and the other a clinician; appendix), which had the intended effect of providing a better model of behaviour for staff to follow (through clearer demonstration of respect for a lived-experience perspective) and more advanced communication skills, and the introduction of dedicated content on coaching. Earlier availability of the manual might have improved uptake of principles by some staff, and the team might have gained experience with the delivery of both the core training and the PULSAR active learning sessions over time. Findings for mental health community support services might have been affected by pressures building in that sector during the course of the study, which might have particularly affected step-two findings. Within this setting, the temporal context for the work through 2014–16 included events worthy of some comment. As well as the general problem of under resourcing, there was also a major reform of the mental health community support service during the course of the study, resulting in considerable staff turnover, adjustment, and a long transition period (further details are provided in the appendix).

While stream-two findings across ten measures were of small and non-significant effects, findings for nine of the ten measures favoured the intervention. This finding is unlikely to be a chance occurrence and suggests possible beneficial effects.

The findings of this study regarding the improvement in personal recovery as assessed by QPR are more positive than those of the REFOCUS study,¹² which might be due to differences in the PULSAR and REFOCUS recovery-oriented practice staff training interventions. The literature on stepped-wedge study designs advanced in the period between design of REFOCUS and design of PULSAR, and the adaptive nature of PULSAR allowed for refinements of the training intervention after evaluation of feedback from step one. If this study had a similar parallel-group RCT design to that of REFOCUS, then without the inclusion of the step-two findings, PULSAR would not have yielded the positive findings reported here. The involvement of facilitators with lived experience of mental health issues and recovery is central to challenging conventional practices and in making progress towards an effective recovery-oriented mental health workforce.⁷ Having people with lived experience

as co-trainers might be the reason for the significant findings in this study, particularly in step-two, public mental health service clusters, in which the relationship between co-trainers had been the most developed.

This study has several limitations. First, we used the 22-item QPR scale, which is thought to be less psychometrically robust than the 15-item scale, although this has not been independently validated, other than within the 22-item questionnaire.³⁶ Given that we collected data for the 22-item version and powered the study on the basis of its reported psychometric properties, we used the 22-item score. In this study, Cronbach's alpha was 0.95 for both versions. Second, the accuracy of estimates of change from pre-intervention to post-intervention might have been affected by multiple challenges facing the services at the time (see appendix for details). In both sectors, the trend from T0 to T1 in the step-two group, which had not received the intervention at this time, was of declining QPR scores, suggesting that external challenges were acting across the services to drive QPR scores down, particularly for users of mental health community support services. This downward trend in QPR scores might have led to underestimation of the effect of the REFOCUS-PULSAR intervention. Third, REFOCUS-PULSAR training reached only half of public mental health services staff in intervention sites and few medical staff, which might have reduced the effect of the intervention. Better results might be expected from implementation of the intervention outside the constraints of a team-randomised cluster RCT due to greater engagement of medical staff, whether in team-based or profession-specific training. Fourth, the REFOCUS intervention recommends some changes to record (ie, files or forms) structure, with more emphasis placed on prompting and recording recovery-oriented practice. However, this restructuring was not possible in our study because it would have required changes to some form structures that have organisation-wide regulation. Since completion of this study, the CHIME framework¹⁴ has been integrated into the record suite of public mental health services as part of an organisation-wide revision. Finally, our recruitment strategy, including repeated sampling and direct consumer approaches, was chosen to avoid sampling at clinician's discretion, which might have led to selection bias; to enhance consumer autonomy in participation;³⁷ and to avoid selection bias towards individuals with longer-term illness, which was identified as a problem in REFOCUS. However, despite making considerable efforts to ensure consistency of recruitment strategies over time within clusters, we cannot exclude the possibility that this strategy led to time-variant selection bias.

Policy on recovery-oriented practice has been described as "substantially ahead of research and practice".⁶ Recovery-oriented practice is a values-based movement, and policy and societal imperatives are strong that something be done to encourage services to work towards

recovery-oriented practice, despite there being insufficient evidence on the best strategy. Other training programmes based on recovery-oriented practice are in use, often with limited evidence at levels 1–3 and none at level 4.¹¹ The REFOCUS-PULSAR programme can be considered for use on the basis of findings suggesting improvements in high-adopting teams in the English REFOCUS study, along with the findings from this study. Teams in the participating public mental health service have requested further PULSAR training, with potential to extend and adapt the training to include inpatient staff. We are mindful of the need to carefully evaluate such initiatives, to continue plan-do-study-act cycles, to evaluate training programmes wherever possible, and to develop measures of fidelity.

To better understand how practice change can be sustained within services, future recovery-oriented practice training initiatives should focus on implementation strategies, such as follow-up coaching or mentoring, refresher programmes, and service-user feedback and evaluation.^{8,10,38} Wide-ranging organisational factors have a part in supporting or constraining implementation efforts,^{9,10} so attention to organisational readiness for change and alignment of organisational policies, processes, staffing, and resources with recovery-oriented principles are also important. Cluster RCT designs that study teams impede the use of organisation-wide strategies, and RCTs wherein randomisation is by organisation are limited by large cluster sizes; thus, design considerations continue to be a challenge in accumulating evidence for these approaches.

Taken together, these results suggest that the REFOCUS-PULSAR intervention can lead to a modest improvement in personal recovery.³⁹ From an educational intervention perspective, we have provided some level 4 evidence for the REFOCUS-PULSAR intervention,¹¹ which has otherwise been lacking for recovery-oriented practice. Although the findings of this study are modest, this is not surprising in view of the pragmatic trial design, and they provide at least some indication of positive change for individuals accessing the intervention services.

Contributors

GM was the principal investigator of this trial and, together with JCE, led development of key elements of the design and analysis approach and interpretation of the findings. MS developed the original REFOCUS intervention and advised on its adaptation. LB chaired the research module task group and provided oversight to development and implementation of all elements of the design. FS provided overall coordination for field work and staff training and was centrally involved in the day-to-day operations of trial implementation. JCE did the data analyses. EF and EW-E made specialist contributions to certain elements of study design. CDT contributed to study design and implementation within mental health community support services and was a chair of the adaptation module task group. PJW chaired the implementation module task group, which oversaw the delivery of the training intervention. VE, LB, GM, PJW, and EW-E developed the specialist care-specific training intervention and associated resources. GM, LB, FS, VE, and EW-E developed the specialist care instrumentation and fieldwork trial protocols. GM, LB, FS, JCE, and MS comprised the core drafting group

for this paper; the remaining authors critically revised the manuscript for important intellectual content. All authors read and gave final approval for this version of the paper to be published.

Declaration of interests

We declare no competing interests.

Data sharing

In compliance with the requirements of the Monash Health Research Ethics Committee, the data supporting our findings in the manuscript will not be shared because we did not obtain participant consent to do so.

Acknowledgments

We thank Ermsa, Mind Australia Limited, and Monash Health for supporting the project; the steering group and lived experience advisory panel for sharing their expertise; the REFOCUS-PULSAR trainers; and the team of PULSAR research and fieldwork staff for data collection. We thank all project participants who, in sharing their time and experience, made this study possible. This Article presents independent research that was funded by the Victorian Government through its Mental Illness Research Fund. MS is supported by the National Institute for Health Research Nottingham Biomedical Research Centre. The views expressed in this publication are those of the authors and do not necessarily reflect those of the Victorian Government, including the Department of Health and Human Services.

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