OUTCOME HEALTH

Insights Paper No.5

COVID-19 and Australian General Practice

Mental Health Impacts of COVID-19
22nd June, 2020

The fifth in a Series of insight papers prepared by Outcome Health with the support of participating PHNs.

South Eastern Melbourne Primary Health Network
Eastern Melbourne Primary Health Network
Gippsland Primary Health Network
South Western Sydney Primary Health Network
Central and Eastern Sydney Primary Health Network

OUTCOME HEALTH POLAR   phn CENTRAL AND EASTERN SYDNEY *An Australian Government Initiative*   phn GIPPSLAND *An Australian Government Initiative*   phn EASTERN MELBOURNE *An Australian Government Initiative*   phn SOUTH EASTERN MELBOURNE *An Australian Government Initiative*   phn SOUTH WESTERN SYDNEY *An Australian Government Initiative*

Contents

Preamble

This is the fifth in a series of papers which considers the impact of COVID-19 on Australian General Practice and the broader healthcare community:

Paper 1. Report into COVID-19 AND GENERAL PRACTICE, Insights from the first few weeks.
Paper 2. COVID-19 and General Practice, Insights Paper no. 2 – A predictive impact model for the healthcare sector.
Paper 3. COVID-19 and General Practice, insights paper no 3 - A preliminary analysis of changes due to telehealth use
Paper 4. COVID-19 and General Practice, Insights paper no 4 - Medication prescribing impacts of the pandemic.

Through the COVID-19 outbreak, Outcome Health has been producing daily reports and dashboards via the POLAR GP tool for Primary Health Networks (PHNs) to allow direct planning and resource allocation through their respective practices. These insight reports are an initiative of the following PHNs – Central and Eastern Sydney, South Western Sydney, Gippsland, Eastern Melbourne and South Eastern Melbourne.

More information about POLAR can be found here polargp.org.au.

Key Learnings

Since mid-April we have seen significant increases in,

- New mental health diagnoses, particularly anxiety related diagnoses.
- More frequent presentations to general practice of people with an existing mental health conditions.
- Medication prescriptions for mental health increasing.

Having bottomed out in weeks 13-16, the trend is rising, and we expect that it will continue to do so for some time as the consequences of isolation, fear around Covid-19, social circumstance and the economic impacts persist in the coming months. As we write this, Victoria is experiencing an increase in COVID-19 cases and increased social distancing rules. This is consistent with our modelling (paper 2). Nevertheless, our data represents both an increase in the incidence of mental health conditions, but also of those receiving treatment. What we do not know is the true incidence in the community, as many do not seek treatment from their GP. We suspect there may be many cases where people are waiting for 'life to return to normal' in the hope that symptoms dissipate or pass. Current mental health symptoms may be seen as situational or somewhat transient in the current environment.

For these reasons, we anticipate a slow and steady increase in general practice activity in this area. The federal government's funding announcements[1] are welcomed.

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[1] https://www.health.gov.au/resources/publications/covid-19-national-health-plan-supporting-the-mental-health-of-australians-through-the-coronavirus-pandemic

Recommendations

- General Practice increase screening - check in with patients basic coping, even if they are presenting with physical conditions and/or symptoms.
- Government support general practice by encouraging longer consultations via a variety of modes, including telehealth.
- The practice nurse role should be recognised – including a role (with MBS item number) for nurse check-in in on isolated patients via telehealth.
- Communication in waiting rooms. Practice websites and social media – normalise the experience - 'if you are worried about your mental health, mention it to your doctor'.

Method

Outcome Health provides Population Level Analysis and Reporting (POLAR) services to Primary Health Networks (PHNs), including for collaborative research in the AURORA Data Space. The current database includes over 10,000 contributing providers including GPs, practice nurses and other general practice staff in 1000 individual practices. The basic programme (called POLAR GP) provides quality assurance and audit/feedback loops to GPs, to enhance care and improve data quality. Two PHNs are in NSW and extend from central Sydney (Central and Eastern Sydney) all the way down to Wingello and Bundanoon in rural NSW (South West Sydney). In Victoria three PHNs include a predominantly rural (Gippsland) and two urban (Eastern Melbourne and South East Melbourne), essentially including the Victorian population east of Craigieburn and Heidelberg in Melbourne, and the great dividing range in rural Victoria. The sample therefore covers about 30% of the Australian populace, with an urban and rural (but not remote) focus.

Ethics approval for the programs data collection has been granted by the RACGP ethics committee, a Privacy Impact Assessment performed by external consultants, as well as regular external security testing. De-identified data is extracted daily and processed into coded schemas: SNOMED for diagnoses, ATC for medications, and other coding schemas for referrals, pathology etc. Further detail about the POLAR program (including technical, privacy and ethical aspects) has been published and is available at: Pearce C, McLeod A, Rinehart N, Ferrigi J, Shearer M. *What does a comprehensive, integrated data strategy look like: The Population Level Analysis and Reporting (POLAR) program*. Stud Health Technol Inform. 2019;264:303-7.

Timing

As these reports gather evidence based on a weekly analysis, interpretation of the figures often requires an understanding of the policy and practical happenings at the relevant time. Below is a representation of the significant events since the beginning of the year, from the first notification of the identification of the virus in China through to the current staged easing of restrictions. Only significant events for NSW and Victoria are included, as our data comes from only those regions. The timeline highlights the rapidity in which this pandemic formed. The first case was identified in January when Australia was still grappling with the bushfire crisis. Australia's first death did not occur until March, and social distancing did not start until mid-March.

Week	Date	Health	Social Policy
1	1-7 Jan	Virus identified in China	Bushfires
2	8-14 Jan		Bushfire state of emergency declared.
3	15-21 Jan		
4	22-28th Jan	First case confirmed in Australia	
5	29 Jan-4th Feb		WHO declares public health emergency. Travel ban from China to Australia
6	5-11th Feb		
7	12-18th Feb		
8	19-25th Feb		
9	26 Feb -3rd March	First Death in Australia	Extended travel ban
10	4-10th March		
11	11-17th March	First Round COVID telehealth medicare items	WHO declares global pandemic NSW social distancing commences. Victoria declares state of emergency
12	18-24th March		Ruby Princess docks. Human biosecurity emergency declared. High level social distancing announced NSW beaches closed
13	25-31st March	Second Round COVID telehealth items	Easter Highest peak of identified cases in both NSW and Victoria
14	1-7th April		Peak of deaths in both states
15	8-14th April		
16	15-21st April		
17	22-28th April	e-prescribing commences – image based prescribing	
18	29 april-5th May		NSW eases restrictions Elective surgery restarts
19	6-12th May		Vic eases restrictions
20	13-19th May		
21	20-27th May		
22	28th May-2nd June	Eprescribing – token model	Further easing of restrictions
23	3rd-9th June		
24	10-16 June		Time of writing. *Note some data represented for week 24 may still be incomplete.*
25	17-23rd June		Victoria experiences rise in cases

Mental Health

Data Comments

We predicted in the second of these papers a steady rise in issues related to mental health post the initial wave of anxiety related visits. General practice is well recognised to have a significant role in the management of mental health in a community setting. It has been said that general practice is one third physical health, one third mental health, and one third mixed health presentations[2]. General practice is supported in the management of mental health conditions by programs managed by the PHNs and mental health care plans that are available to practitioners with specific mental health training (items 2715 and 2717 – and their telehealth equivalents), or for those without (2715 and 2717). Appendix 1 has more detail of the item numbers.

General practitioners can refer patients to services funded by the federal Primary Mental Health Care program and commissioned by PHNs. Available services will vary between PHNs as they are commissioned according to local needs, and all are delivered according to a stepped care model of mental health.

"Stepped care is an evidenced-based, staged system comprising a hierarchy of interventions, from the least to the most intensive, matched to the individual's needs. While there are multiple levels within a stepped care approach, they do not operate in silos or as one directional step, but rather offer a spectrum of service interventions."[3] The aim is to start at the lowest intensive level that meets their needs, but people can move up and down the levels as required. The model has five steps, from step 1 where information and self-help resources are provided to the well (non-help seeking) population, to step 3 providing interventions for people with mild mental illness, and step 5 delivering interventions for people severe mental illness with likely collaboration with secondary and tertiary mental health services. For example, low intensity coaching services at the 'mild' step to mental health nurses working alongside general practices at the 'severe' step.

Fifth National Mental Health and Suicide Prevention Plan 2017 [4]

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[2] McWhinney, I. R. (1997). A textbook of family medicine. New York, Oxford University Press.
[3] Australian Government Department of Health. PHN Primary Mental Health Care Flexible Funding Pool Implementation Guidance. 2015. P.2
[4] Commonwealth of Australia as represented by the Department of Health. The Fifth National Mental Health and Suicide Prevention Plan. 2017. P.22

In the POLAR system we have several means of analysing the impact on mental health; these indicators are proxies to the actual impact. They are:

- **Mental health item numbers**. Although mental health care plans are for mental health issues, they do not capture the full impact and not all mental health conditions result in a mental health care plan. Although framed as part of a comprehensive management process, in effect the MHCPs also facilitate access to Medicare funded psychology sessions, and therefore represent the subset of cases that GPs feel would benefit from psychology treatment. This in itself is dependent on individual GP skill sets, some are capable of high level mental health care (including cognitive behavioural therapy and counselling), other GPs offer basic mental health care.
- **Prescribing**. The 'reason for prescription' is not well recorded in GP datasets[5], so assumptions of the indication must be taken from either the drug class or by an association with specific diagnosis in the record. In this analysis we have not attempted the latter. We rely on the large numbers to limit any errors due to 'diagnosis creep'. While antidepressants can be used for other indications such as chronic pain, insomnia, migraine, we believe that the numbers of patients being prescribed the medications for these indications are sufficiently small that the increases we are seeing are due to managing mental health conditions. In other words, even if the use of antidepressants *for migraine* doubled, we would not show any increase in this data. Any increase is due to the 'most common indication' principle.
- **Diagnoses**. POLAR captures the diagnoses fields and extracts them into the system. In order to increase utility and preserve de-identifiability. The free text diagnoses are then taken through a series of processes including NLP to generate SNOMED codes. These codes are then grouped to clinically derived, higher level groupings. In addition, Outcome have developed a further grouping around chronic disease. Thus a diagnosis of 'reactive depression' exists and is searchable as the SNOMED code 'reactive depression', and is also contained within a higher level grouping of 'mental health', as well as 'chronic disease'. Appendix 2 lists the higher level categories within the POLAR system.

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[5] Yan J, Hawes L, Turner L, Mazza D, Pearce C, Buttery J. Antimicrobial prescribing for children in primary care. J Paediatr Child Health. 2018.

Diagnoses

What follows now is an initial look at the numbers of mental health diagnoses recorded by GPs during the first half of this year. Figure 1 represents the percentage change for the high level category 'Mental Health' compared to this time last year, in a week by week comparison. These are for new diagnoses recorded, not visits for ongoing care.
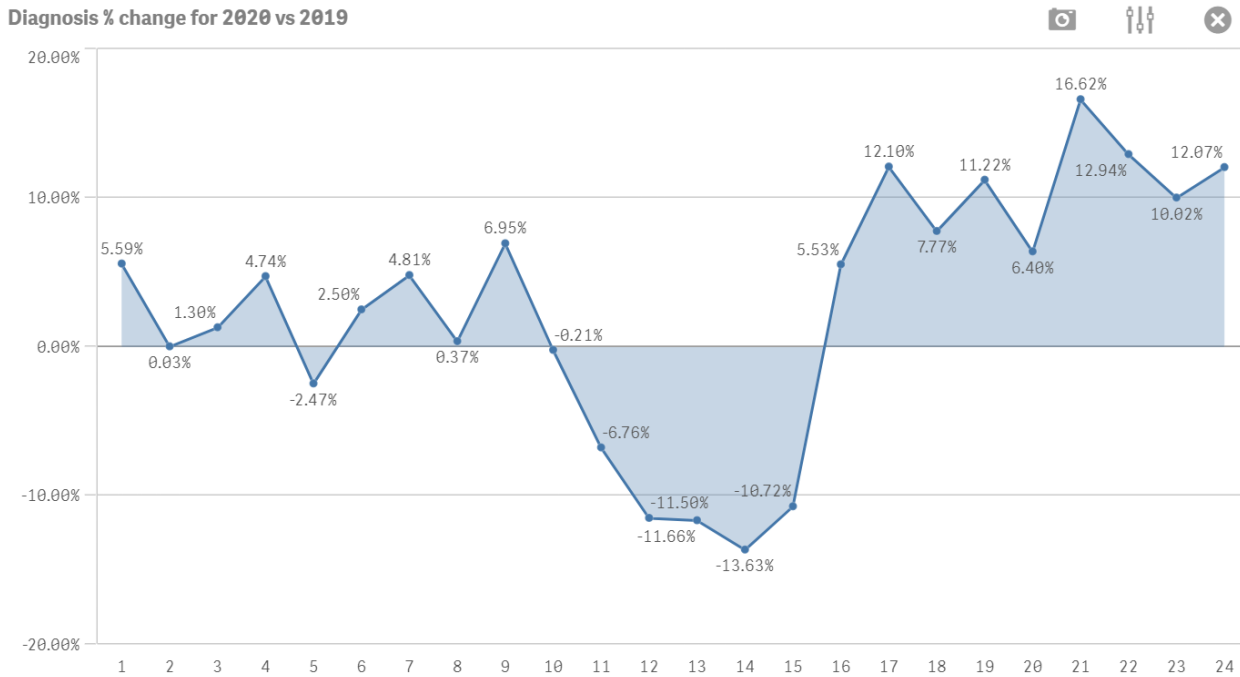
Diagnosis % change for 2020 vs 2019

Figure 1, New Mental Health Diagnosis 2019 vs 2020 / week.

When we look at new diagnosis, we see during the middle weeks, 10-15 there is a drop in the number of diagnoses this is the time of most significant impact, when people were staying away from general practices, or potentially were more focused on physical than mental health. In the early bushfire period, week 1-6, we have a slight increase overall (which is quite marked in our rural data shown later). In the current period, from week 16, end of April to now we see a significant and (at this time) sustained rise, supporting our initial model.

From Paper 4 (medications) we observed that the greatest change in mental health prescribing was due to increases in the anti-anxiety drugs. This is also reflected when we look at recorded diagnoses by GPs. Figure 2 shows the change in prevalence for anxiety diagnoses[6], which clearly shows a pattern that mimics the changes for overall mental health conditions.

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[6] SNOMED codes: Anxiety, Anxiety about body function or health, Anxiety attack, Anxiety disorder, Anxiety Neurosis, Generalised anxiety disorder, mild anxiety, moderate anxiety.

Diagnosis % change for 2020 vs 2019
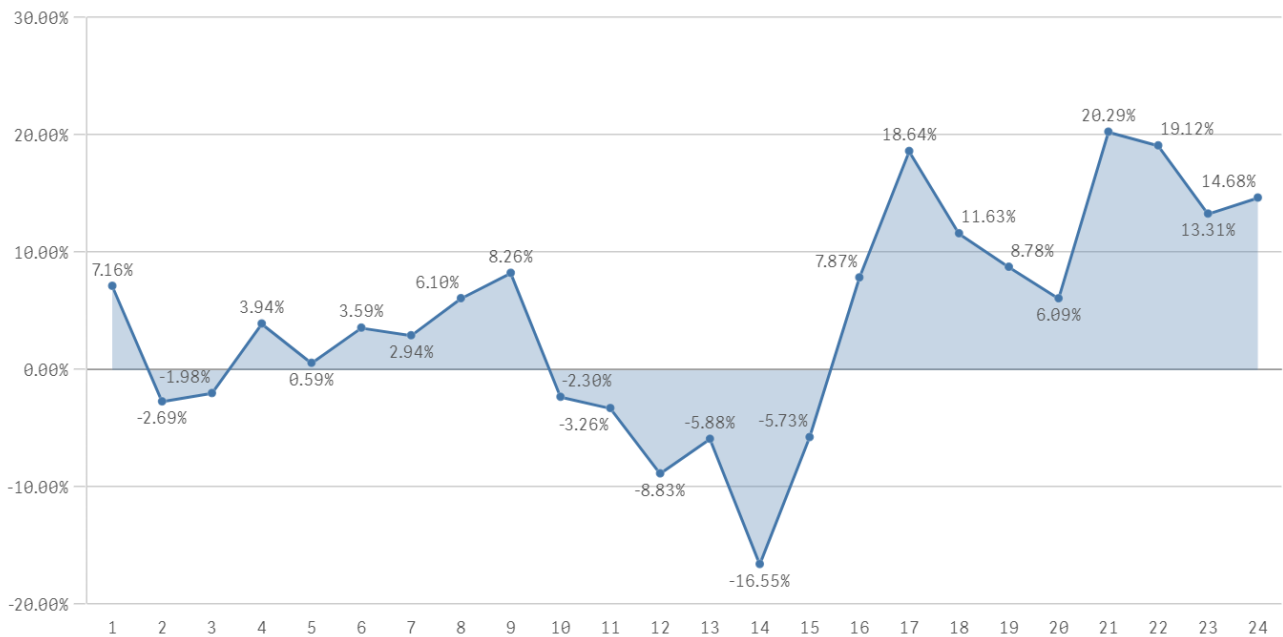
Figure 2 – New Anxiety diagnoses

This pattern is in contrast to the pattern and frequency of depression-related diagnoses, which is shown in figure 3. The time of spread sees a trend more in line with an overall drop in diagnoses we have seen demonstrated in the other papers, and post spread we are not seeing any significant trend in the data to suggest increase in depressive disorders. Thus, from a general practice perspective, it is anxiety disorders that has had the most impact.

Diagnosis % change for 2020 vs 2019

Figure 3 – New Depression diagnoses

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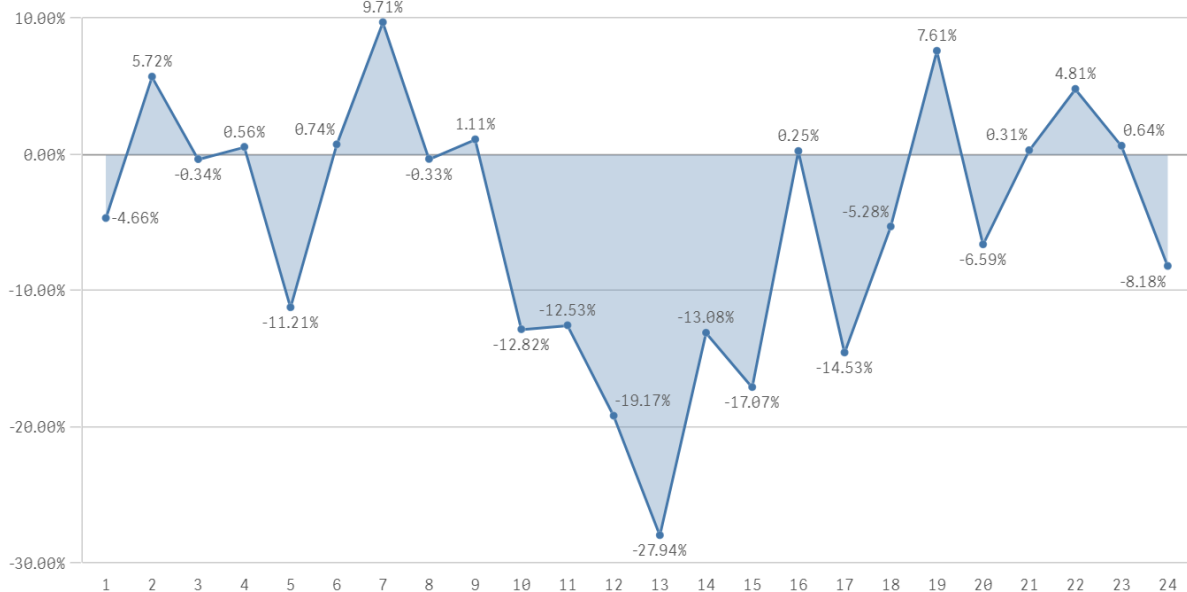The data set is large enough to look at regional differences. In terms of national impact, NSW recorded the largest number of positive cases (although at the time of publication Victoria is experiencing a rise in clusters). This is consistent with the global trend which has seen densely populated urban centres hit hard. Figures 4 and 5 separate our data according to state – figure 4 being Victoria and figure 5 NSW.

Diagnosis % change for 2020 vs 2019
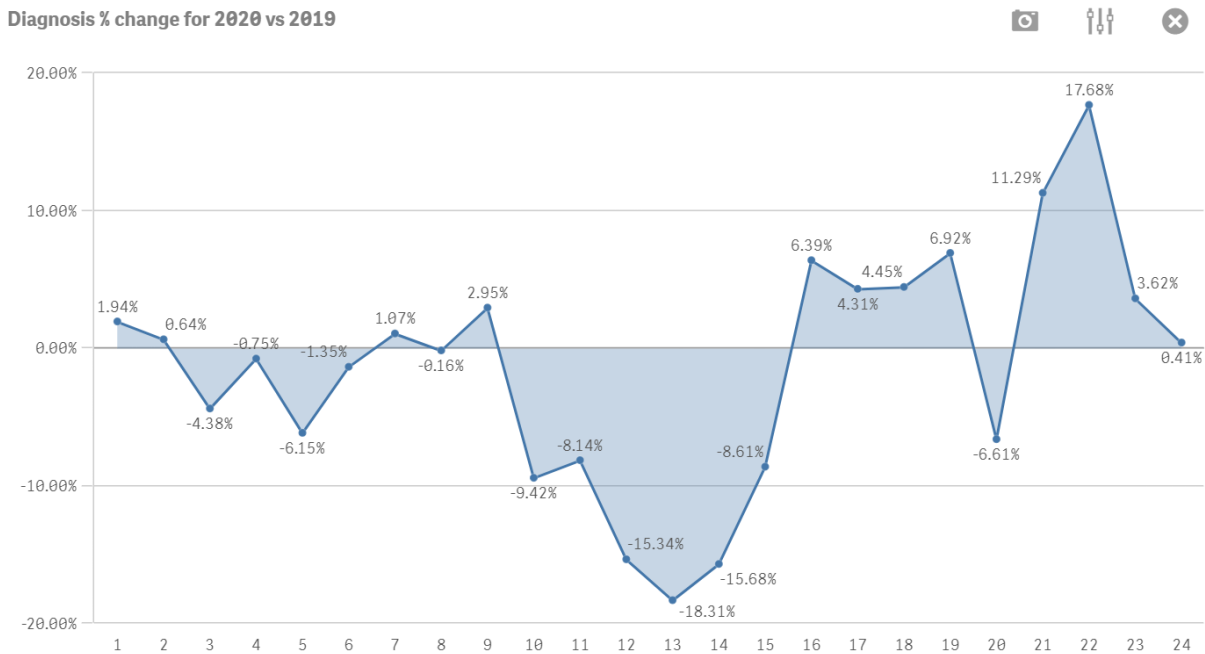
Figure 4 – Victorian PHNs NEW Anxiety &/or Depression Diagnosis.

Diagnosis % change for 2020 vs 2019
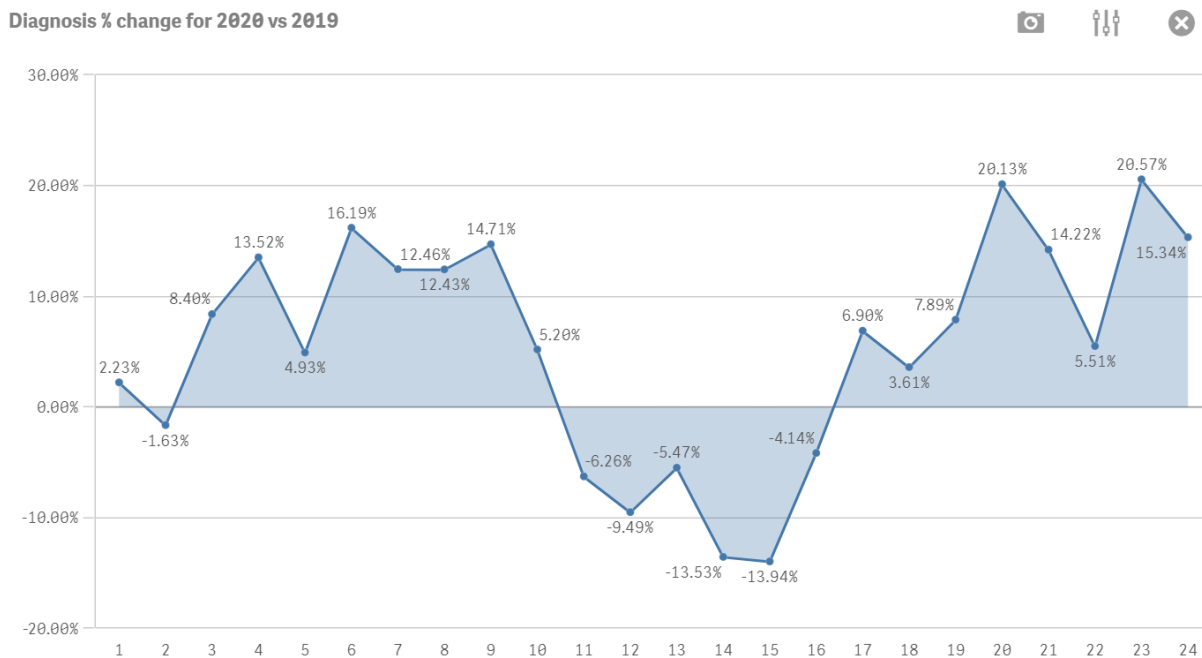
Figure 5 – NSW PHNs NEW Anxiety &/or Depression Diagnosis.

Here we see the NSW practices recorded a much higher level of anxiety in the earlier part of the year as concern about COVID-19 spread. This may also be an effect of the bushfires. That hypothesis is

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supported by looking at the impact on rural practices – shown in figure 6 highlighting Gippsland PHN which was severely impacted by bushfires. Here we see a large increase in anxiety both before and after the time of spread, The impacts appear sporadic, as rural communities respond to the double hit. Weeks 3 to 6 represent the time when access for rural communities to health services was the hardest.
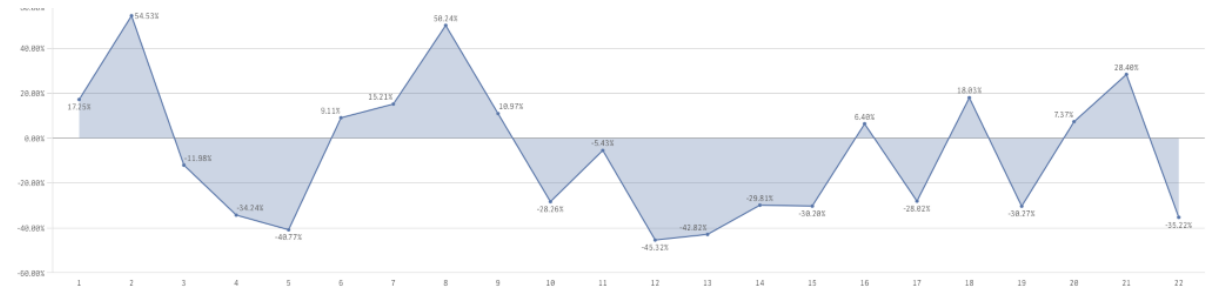
Figure 6 – GPHN practices NEW Anxiety Diagnosis.

Figure 7 however shows a large metropolitan PHN, South East Melbourne, which was not as severely impacted by bushfires, but had significant pockets of COVID-19. Clearly a different trend has appeared with increasing levels of anxiety and depression, during the latter part of the period.
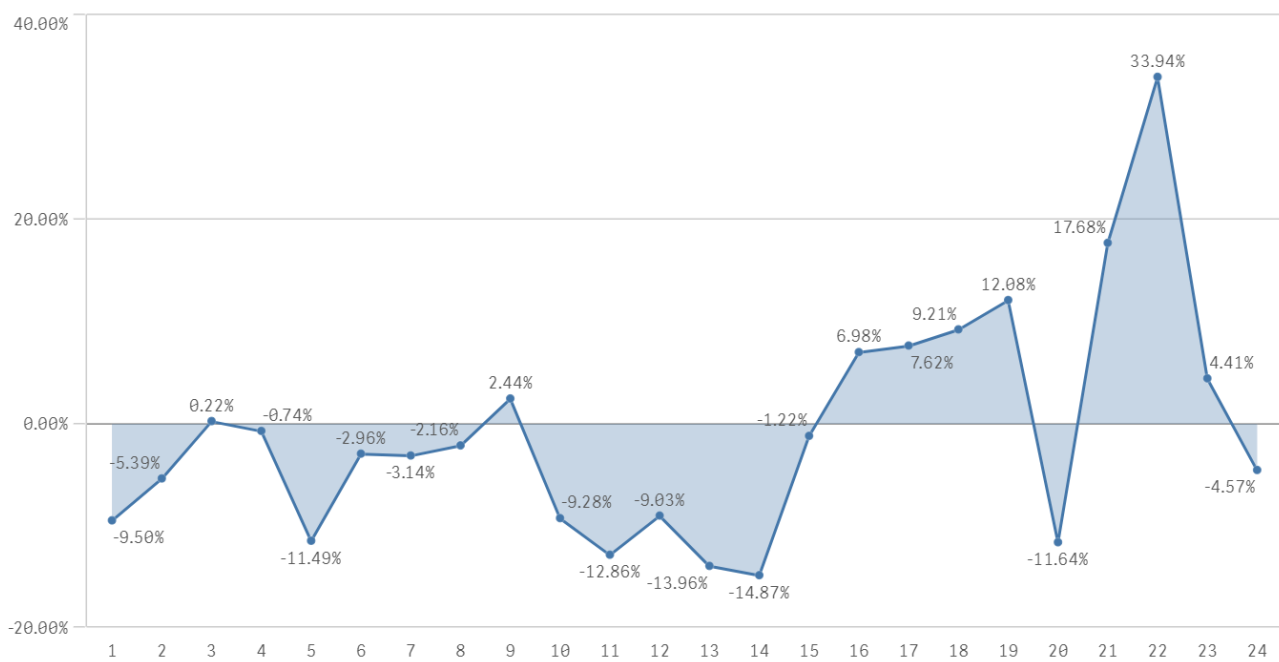
Figure 7 – SEMPHN practices NEW Anxiety &/or Depression Diagnosis.

Whilst showing state-based disparities, it is worth looking at variations within the cities. The following figures represent heat maps of new anxiety diagnoses in Melbourne and Sydney. Given the concentration of cases in these cities, and the relatively low number of cases in rural Australia, we have not included a rural focus. These graphs represent a patient centred view, in other words a

concentration of patients in a given area, regardless of where they attend their GP (although usually it is in the same area).

Figure 7 – Sydney Heatmap NEW Anxiety Diagnosis

Figure 7 represents the heatmap for Sydney. Red represents a higher number of patients with a new anxiety diagnosis, down to blue as low numbers. Our data is concentrated in the south of Sydney, as it is derived from the 2 southern PHNs, CESPHN & SWSPHN. We can see a concentration of new diagnoses in the inner-city section, which corresponds to the areas with highest infection rates.

Figure 8 shows a similar pattern is seen in Melbourne. Again, our data is focussed on the east of Melbourne, in line with participating PHNs, SEMPHN & EMPHN. There is a significant concentration in the inner east and hot spots in the South-East, concurring with some of the largest number of positive COVID-19 infections.
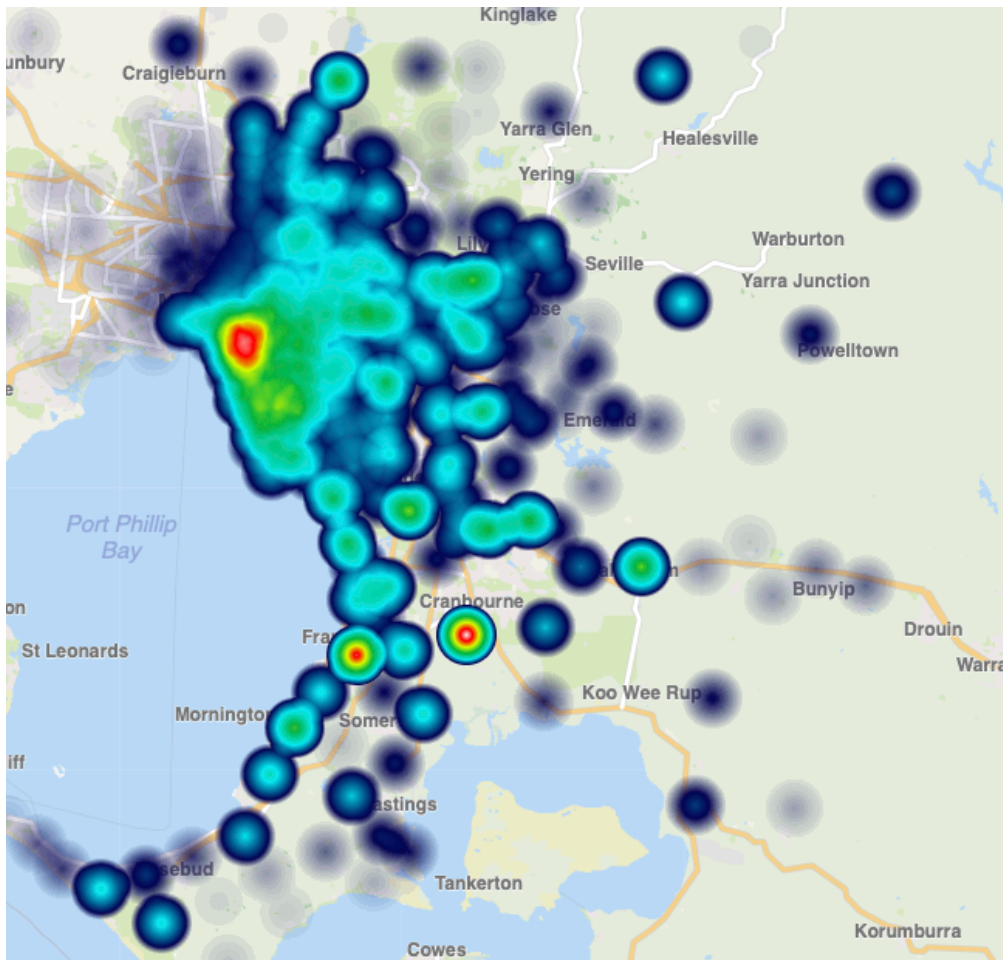
Figure 8 – Melbourne Heatmap

Consultations

This section represents an analysis of the consultation load of mental health on general practice. Figure 9 represents the mode of consultations for mental health conditions – illustrating the impact of telehealth item numbers. Figure 10 calls out the specific consultations for the preparation of mental health care plans. While mental health consultations are often well accepted in a telehealth environment, the trend has not significantly varied from that of all conditions which have followed a similar trend, in that telephone consultations are now accounting for approximately 50% of consultation activity. The number of telehealth 'video' consultations remains very low compared to telephone and telephone. Mental Health Care plans have at week 14 – 19 been more commonly completed via telehealth. Telehealth has long been advocated for wider use in mental health and is well accepted by participants. COVID-19 has however, made telehealth mainstream [7].

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[7] Xiaoyun Zhou, Centaine L. Snoswell, Louise E. Harding, Matthew Bambling, Sisira Edirippulige, Xuejun Bai, and Anthony C. Smith. Telemedicine and e-Health.Apr 2020.377-379.http://doi.org/10.1089/tmj.2020.0068

General Consults for Patients with an HLA Diagnosis of Mental Health
Face to Face Item Numbers 23, 3, 36, 44 || Telehealth Item Numbers 91790, 91800, 91801, 91802 || Telephone Item Numbers 91795, 91809, 91810, 91811
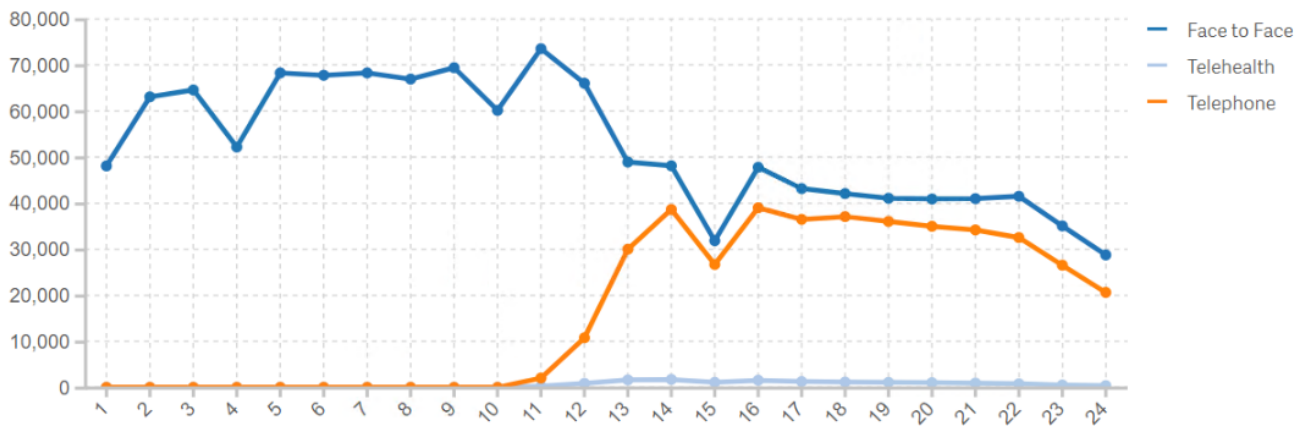
Figure 9 : Mode of consultation for patients with an Active Mental Health Diagnosis

Mental Health Care Plans
Face to Face Item Numbers 2700, 2701, 2712, 2713, 2715, 2717 || Telehealth Item Numbers 92112, 92113, 92114, 92115, 92116, 92117 || Telephone Item Numbers 92124, 92125, 92126, 92127, 92128, 92129
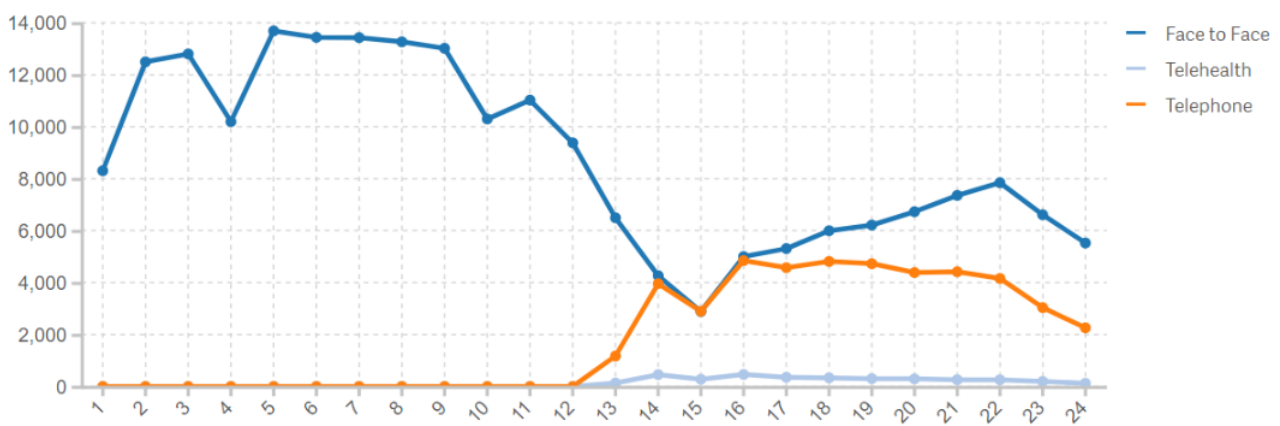
Figure 10: Mode of consultation for Mental Health Care Plans

Mental health medications

Analysis of the data has revealed impacts in GP recording of mental health diagnoses, with an initial increase during the time of uncertainty[8], and a steady increase currently as we endure the constraints of lockdown. Figure 11 shows the overall increase in mental health prescriptions ATC level 3 in all categories, as predicted by our impact model presented in paper 3. Week 16 was the week we saw the largest increases in both new mental health conditions and an increase in visits from patients with an existing mental health condition. This correlates with the increase in medications prescriptions which have all continued to grow significantly, in particular antipsychotics.

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[8] See GP Insights paper 2: An impact model on the healthcare system.

Medication Level 5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ANTIDEPRESSANTS	5%	5%	5%	6%	6%	-1%	8%	9%	2%	2%	3%	5%	8%	6%	7%	13%	22%	13%	14%	19%	18%	19%	20%
ANXIOLYTICS	-4%	-3%	-4%	-5%	-4%	-19%	-1%	-5%	-14%	-9%	-13%	-9%	4%	3%	12%	8%	6%	8%	15%	17%	15%	14%	14%
HYPNOTICS AND SEDATIVES	-5%	0%	2%	-1%	-1%	-15%	-2%	-1%	-11%	-6%	-15%	-15%	-8%	-1%	3%	6%	8%	1%	10%	13%	12%	15%	15%
ANTIPSYCHOTICS	-2%	5%	2%	-2%	-0%	-8%	3%	-2%	-7%	-3%	-11%	-8%	3%	7%	13%	15%	14%	14%	23%	21%	17%	19%	14%
DOPAMINERGIC AGENTS	8%	-2%	19%	7%	-2%	1%	35%	12%	-2%	7%	5%	13%	27%	20%	16%	18%	29%	13%	23%	15%	18%	2%	19%

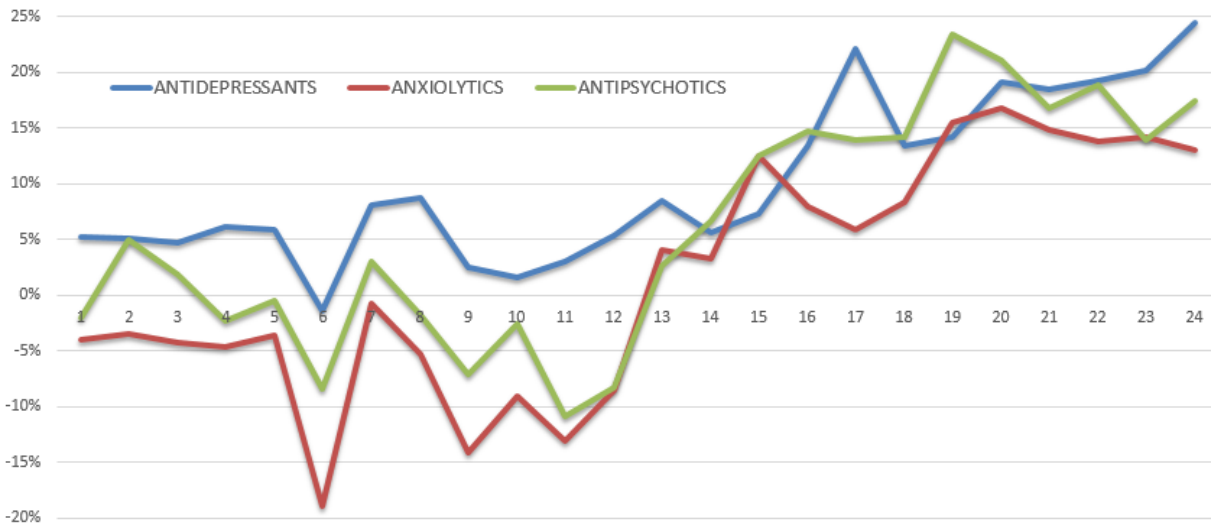Figure 11 – ATC level 3 medications used in mental health.

Figure 12 – Line Graph Representation of Antidepressants, Anxiolytics & Antipsychotics in Figure 11.

Figure 13 is a further breakdown for medications used in mental health conditions (using a threshold of 400 prescriptions per month to include some of the less prescribed medications). Included in the figure are medications used for addictive disorders. We can see that whilst there is a steady increase in the use of antidepressants, there has been a marked recent increase in anxiolytic prescribing, most notably for diazepam.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ESCITALOPRAM	10%	13%	11%	17%	11%	9%	15%	20%	12%	5%	11%	16%	14%	11%	13%	15%	26%	22%	29%	35%	19%	40%	34%	27%
SERTRALINE	3%	4%	7%	10%	8%	7%	5%	14%	8%	9%	13%	5%	3%	4%	13%	20%	22%	15%	7%	26%	15%	32%	36%	34%
MIRTAZAPINE	-	-4%	1%	-	15%	5%	3%	12%	13%	2%	-5%	-3%	4%	16%	-	19%	33%	30%	19%	29%	36%	31%	-	-
AMITRIPTYLINE	-3%	3%	5%	-0%	-3%	-7%	5%	7%	4%	9%	1%	11%	13%	7%	3%	20%	33%	19%	17%	20%	17%	38%	38%	24%
VENLAFAXINE	-	-2%	9%	-	-0%	11%	9%	-1%	6%	0%	2%	11%	11%	2%	-	16%	19%	11%	22%	18%	18%	15%	16%	-
NON-SELECTIVE MONOAMINE REUPTAKE INHIBITORS	10%	9%	8%	-1%	6%	13%	10%	7%	9%	5%	4%	11%	17%	8%	7%	2%	18%	7%	9%	21%	24%	24%	21%	17%
SELECTIVE SEROTONIN REUPTAKE INHIBITORS	11%	6%	6%	8%	7%	6%	10%	10%	5%	-1%	1%	8%	6%	5%	3%	14%	16%	12%	15%	14%	18%	10%	7%	21%
OTHER ANTIDEPRESSANTS	9%	4%	-0%	5%	2%	1%	6%	7%	-0%	-5%	1%	-3%	5%	8%	8%	12%	23%	15%	11%	17%	22%	8%	6%	20%

Common Anti-Depressants

Mental Health conditions during the pandemic.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
DIAZEPAM	-5%	-5%	-5%	-4%	-7%	-11%	-2%	-5%	-4%	-9%	-18%	-9%	1%	-0%	12%	8%	8%	16%	18%	21%	13%	19%	31%	25%
BENZODIAZEPINE DERIVATIVES	2%	1%	-2%	-1%	0%	-3%	4%	-2%	-7%	-8%	-9%	-7%	7%	4%	13%	9%	7%	10%	14%	13%	13%	9%	2%	3%
OXAZEPAM	-11%	-14%	-11%	-15%	-10%	-13%	-12%	-14%	-15%	-10%	-13%	-15%	-0%	8%	11%	1%	7%	7%	14%	20%	26%	18%	15%	12%

Common Anti-Anxiety / Anxiolytics

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
OLANZAPINE	-12%	2%	4%	-8%	24%	7%	-7%	2%	1%	11%	1%	9%	12%	8%	36%	43%	46%	22%	43%	25%	42%	30%	11%	16%
DIAZEPINES, OXAZEPINES, THIAZEPINES AND OXEPINES	8%	6%	12%	3%	-2%	1%	14%	3%	-3%	-4%	2%	-1%	14%	24%	22%	32%	16%	17%	31%	31%	20%	15%	12%	15%
QUETIAPINE	8%	7%	0%	-1%	7%	17%	-4%	5%	-5%	14%	-11%	3%	17%	7%	23%	17%	12%	25%	34%	37%	34%	29%	22%	43%
OTHER ANTIPSYCHOTICS	3%	23%	-3%	-	3%	-5%	11%	-2%	17%	-9%	27%	-5%	-3%	20%	5%	23%	-	20%	29%	16%	20%	23%	-7%	-
PROCHLORPERAZINE	-8%	-2%	-7%	-8%	-12%	-1%	0%	-9%	-18%	-5%	-31%	-35%	-24%	-16%	-13%	-13%	-15%	-10%	7%	-2%	-10%	12%	9%	1%

Common Anti-Psychotics

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
BUPRENORPHINE, COMBINATIONS	16%	37%	-6%	1%	-0%	14%	0%	0%	17%	3%	-26%	-10%	15%	7%	21%	8%	27%	13%	23%	46%	37%	33%	6%	26%
METHADONE	1%	1%	-4%	-15%	-10%	-10%	-3%	1%	-12%	1%	-11%	-16%	11%	13%	33%	-7%	4%	20%	41%	35%	26%	42%	15%	-2%
DRUGS USED IN OPIOID DEPENDENCE	4%	39%	5%	-14%	3%	19%	18%	10%	-23%	-22%	-26%	-18%	-0%	4%	-3%	21%	8%	16%	-20%	2%	12%	29%	12%	16%
DRUGS USED IN NICOTINE DEPENDENCE	-7%	-10%	8%	-2%	-4%	1%	6%	10%	11%	-5%	-11%	-18%	-11%	-0%	-21%	6%	2%	-0%	-4%	1%	33%	13%	-12%	4%

Common Drugs used in Addictive Disorders

Figure 12 – individual mental health medications

This figure (different to the one in paper 4) also includes data from the antipsychotics and drugs used in addictive disorders. Prochlorperazine (Stemetil) is listed in this section because of its mode of action, although its principal use is as an anti-nausea agent, and it is markedly reduced along with the findings of other drugs in that class. Otherwise the rise in antipsychotic prescribing likely reflects a change from hospital/specialist prescribing to community prescribing during the pandemic.

The changes to drugs used in addictive disorders show a drop off during the time of spread, as was common across all interactions. The sustained drop off for drugs used in nicotine dependence may reflect that patients were reluctant to engage with the difficulties of smoking cessation during lockdown. It is also possible that it was due to the social media information circulating at the time that smoking may have a protective effect on patients with COVID-19. Equally there are noted increases in Buprenorphine and Methadone prescriptions.

Discussion

The findings of this paper confirm the general findings from our other papers of a drop off of all activity during the time of spread, when the burden of COVID-19 was at its greatest. Since then, as predicted by our model, there is an increase in mental health related activity that is sustained as we emerge from lockdown. Conversely the impact of the economic losses takes a further hold.

These figures represent those seeking treatment – and being general practice based – do not represent the full burden of mental health issues [9], however provides an interesting snapshot of what is happening in the community as a whole. Many do not seek support from traditional general practice. What it does represent, however, is a measure of those who are seeking treatment, and it is significant. We have seen an increase in the use of pharmacotherapy, and a significant shift to the use of telehealth in supporting the care of mental health patients.

Conclusion

This paper represents a snapshot of the mental health impacts on the community, the impact has been significant. It supports our modelling from paper 2, which suggests that in the coming months a threefold impact on the community, from mental health, chronic disease care, and a (lesser) resurgence of COVID -19 in the coming months.

We acknowledge that this report represents the impact where mediated by general practice, and we understand that mental health care occurs across a variety of settings, from phone services (beyond blue, lifeline), web based initiatives (see https://thiswayup.org.au or https://moodgym.com.au as examples), private psychology, and hospital services. Nevertheless, general practice represents a significant percentage of the care of mental health in the community and has so far been able to meet the demand, although this shows regional variation.

The effects on mental health are unlikely to be mitigated by a single approach – and although primary care needs the resources to implement effective treatment, support will have to come through other areas as well, and will require a focus on the social and economic factors that influence the mental wellbeing of the community.

Limitations to our data:

This series of papers is being produced quickly to help guide early thinking about the impact of COVID19 on Australian General Practice. Given the speed of development, the limited resources available for analysis and other factors they should be understood as early thinking and appropriate caveats applied. In particular it should be noted that:

1. This data represents only general practice activity, and we acknowledge that mental health care occurs in a wide variety of settings.
2. Not all general practices opt in to each PHN's QI program. Accredited and general practitioner owned practices are over-represented in the data. Data from some corporate general practice, non-accredited general practices and 'paper only' general practice are not included, (the 'paper only' group now represents approximately 5% of general practice). Use trends from these groups

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[9] Fisher JRW, Tran TD, Hammarberg K, Sastry J, Nguyen H, Rowe H, Popplestone S, Stocker R, Stubber C, Kirkman M. Mental health of people in Australia in the first month of COVID-19 restrictions: a national survey. Med J Aust 2020; https://www.mja.com.au/journal/2020/mental-health-people-australia-first-month-covid-19-restrictions-national-survey [Preprint, 10 June 2020].

may well be markedly different from this data set. Nevertheless, the sample represents the vast majority of practices.

3. Change is occurring rapidly: daily and weekly reports show snapshots of weekly activity that may not represent longer term trends. Peaks can come and go in weeks.
4. Whilst a large sample, it is geographically focussed on the south of Sydney and Eastern Victoria, with obvious gaps if to be interpreted nationwide.
5. This is data, and we have made assumptions about the social context – all such assumptions should be explored by further research. Social context is particularly relevant in the realm of mental health.

We encourage all health system decision-makers to consider these predicted impacts and early insights and to plan ahead, in particular working with their PHNs to facilitate the changes needed to further enhance the overall system response to the current pandemic situation.

Acknowledgments and thanks to the practices that contribute data and for their commitment to quality improvement.

Next steps

We believe that the information contained here, and the ongoing monitoring we can do, will be of interest to policy makers and other PHNs. We encourage groups to engage with us on ongoing issues, and we look forward to being involved in policy discussions in the future. We intend to continue these papers ongoing, if we can attract funding support (and as of now – we haven't).

In addition to the contacts below, if you have feedback and/or questions of the data – contact kgardner@outcomehealth.org.au. This activity remains a service provided by Outcome Health on behalf of the PHNs, as we feel it important to inform policy and planning. It is not funded in any other way.

Contacts for more information

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The POLAR Program

Outcome Health is a Not-For-Profit providing innovative services to the Healthcare sector and Primary Health Networks in particular. The POLAR suite provides advanced data analytics and population

health to GPs and PHNs, with an emphasis on delivering outcomes. Data is used to support patient care, population health and research. More information at www.outcomehealth.org.au.

Across six PHNs – Outcome Health extracts data from over 1000 practices for the purposes of informing practice and policy at the GP, PHN and national level. Data is extracted using a purpose built tool, data is stripped of identifying information and further coded and classified to create a useful data set. At the practice level all data can be re-identified, creating useful tools for practices to identify at risk patients, At the PHN level, information is collated and made available for population health and practice support initiatives. Finally, the pooled data is made available for collaborative research via the Aurora research platform.

Appendix 1 – Item Numbers

AN.0.56

GP Mental Health Treatment Items - (Items 2700 to 2717)

This note provides information on the GP Mental Health Treatment items 2700, 2701, 2712, 2713, 2715 and 2717. It includes an overview of the items, patient and provider eligibility, what activities are involved in providing services rebated by these items, links to other Medicare items and additional claiming information.

Overview

The GP Mental Health Treatment items define services for which Medicare rebates are payable where GPs undertake early intervention, assessment and management of patients with mental disorders. They include referral pathways for treatment by psychiatrists, clinical psychologists and other allied mental health workers. These items complement the mental health items for psychiatrists (items 296 - 299), clinical psychologists (items 80000 - 80021) and allied mental health providers (items 80100 - 80171).

The GP Mental Health Treatment items incorporate a model for best practice primary health treatment of patients with mental disorders, including patients with both chronic or non-chronic disorders, that comprises:

· assess and plan;

· provide and/or refer for appropriate treatment and services;

· review and ongoing management as required.

Who can provide

The GP Mental Health Treatment Plan, Review and Consultation items are available for use in general practice by general practitioner. The term 'GP' is used in these notes as a generic reference to general practitioners able to claim these items.

Training Requirements (item 2715 and 2717)

GPs providing Mental Health Treatment Plans, and who have undertaken mental health skills training recognised through the General Practice Mental Health Standards Collaboration, have access to items 2715 and 2717. For GPs who have not undertaken training, items 2700 and 2701 are available. Items 2715 provides for a Mental Health Treatment Plan lasting at least 20 minutes and item 2717 provides for a Mental Health Treatment Plan lasting at least 40 minutes. It is strongly recommended that GPs providing mental health treatment have appropriate mental health training. GP organisations support the value of appropriate mental health training for GPs using these items.

What patients are eligible - Mental Disorder

These items are for patients with a mental disorder who would benefit from a structured approach to the management of their treatment needs. Mental disorder is a term used to describe a range of clinically diagnosable disorders that significantly interfere with an individual's cognitive, emotional or social abilities (Refer to the World Health Organisation, 1996, Diagnostic and Management Guidelines for Mental Disorders in Primary Care: ICD-10 Chapter V Primary Care Version). Dementia, delirium, tobacco use disorder and mental retardation are not regarded as mental disorders for the purposes of the GP Mental Health Treatment items.

These GP services are available to eligible patients in the community. GP Mental Health Treatment Plan and Review services can also be provided to private in-patients (including private in-patients who are residents of aged care facilities) being discharged from hospital. Where the GP who provides the GP Mental Health Treatment item is providing in-patient treatment the item is claimed as an in-hospital service (at 75% MBS rebate). GPs are able to contribute to care plans for patients using item 729, Contribution to a Multidisciplinary Care Plan, and to care plans for residents of aged care facilities using item 731.

Appendix 2 – diagnostic groupings

HLA Group	Sum([#Diagnosis Count])
Totals	23,285,115
Signs and symptoms	2,479,596
Respiratory system	2,351,617
Gastrointestinal system	2,182,807
Procedures	1,999,396
Nervous system	1,627,054
Cardiovascular system	1,616,694
Musculoskeletal system	1,553,235
Integumentary system	1,505,868
Mental health	1,324,782
Reproductive system	925,402
Disease of metabolism	903,170
Viral infections	699,110
Hypersensitivity reaction	554,122
Urinary system	526,741
Other findings	514,839
Diabetes	493,797
Patient management and administration	339,642
Abnormal morphology	290,493
Bacterial infections	259,086
Endocrine system (excl. diabetes)	205,956
Events	158,763
Benign neoplasm	147,667
Infectious diseases and vaccinations	95,575
Breast disease	95,299
Fungal infections	82,366
Alcohol and other drugs	80,632
Parasitic infectiouns	56,386
Body structure	47,753
Cancer	47,082
Genetic disease	38,567
Medications and supplements	27,317
Immune system	20,890
Not Coded	19,235
Family History	14,176

Figure 13 – Higher level SNOMED groupings

ChronicDiseaseCategory	Sum([#Diagnosis Count])
Totals	4,059,613
Cardiovascular	1,139,305
Mental Health	1,088,400
Respiratory	620,448
Musculoskeletal	608,920
Diabetes	336,897
Cancer	153,046
AoD	62,551
Dementia/Alzheimer's	26,218
CKD	18,350
Oral	5,478

Figure 14 – Chronic Disease groupings.