The Benefits of an Innovative Early-Intervention Mental Health Model

COST BENEFIT ANALYSIS REPORT

Report by Donal Curtin, Economics NZ, on the economic benefits of the mental health services provided by not-for-profit Hearts & Minds NZ Incorporated

November 2022

Hearts & Minds
Manawa Ora me te Hinengaro
Strengthening the Wellbeing of People and Communities

economics
new zealand limited

Hearts & Minds is a community development organisation with an integrated focus on mental wellbeing. Our early-intervention model ensures that people have the information, support and resources they need to turn around difficult or challenging situations and achieve sustainable mental health outcomes.

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Foreword from Kaumatua John Marsden

As Kaumatua of Hearts & Minds, it gives me great pleasure to introduce this Cost Benefit Analysis Report, which shines a light on the immense value of what the organisation achieves in the field of mental wellbeing.

Over my many years of being the Kaumatua of Hearts & Minds, I have observed the simple premise to their success: they place people at the heart of all they do. It is this focus that has seen the organisation grow from strength to strength as people resonate with their inclusive and valuing approach.

This independent report by economist Donal Curtin of Economics New Zealand confirms and validates the value of the unique Hearts & Minds' model. Their focus on equitable access, early intervention and transformative change has proven for over 40 years to be a model for success.

Hearts & Minds is a gift to the community. Their integrative model ensures the whole-of-person approach is both valuing and supportive, generating real results in the lives of people and whānau. There is no doubt that we have a great deal to celebrate and be grateful for.

John Marsden
Kaumatua, CNZM, QSO, JP

WHAIA TE MARAMATANGA KIA TINO MOHIO AI TE KATOA TE HUARAHI TIKA ME TE HUARAHI PONO KIA WHAKAORA AI NGA HUNGA KATOA.

May the contents of this publication provide each of us with knowledge to do what is right and what is truthful in order than we may live an honourable and healthy life.

BACKGROUND AND SUMMARY

What we do

Hearts & Minds is a mental wellbeing organisation that generates strong population health outcomes by providing community-based mental health support across the Waitemata Auckland region and more recently into Te Tai Tokerau Northland.

Our highly effective early-intervention model is underpinned by recognised community development principles. We achieve excellent results on the premise that given access to information and support, people can exercise greater choice in their lives, define their own priority health gains and strengthen their mental wellbeing.

Our focus is on the mild-to-moderate end of the mental health spectrum, turning health conditions around before they become complex or reach crisis point. We apply a whole-of-person to whole-of-community approach, using evidence-based modalities to improve mental wellbeing. With a focus on accessibility, our free services ensure that people have access to high quality mental health support in their local community at the time they need it.

As a highly respected community provider we receive referrals from more than 200 GPs, health professionals and NGOs across the region. Self-referrals are also accepted.

Our services are supported by Te Whatu Ora Health New Zealand funding, local and central government contracts, and donations from philanthropic organisations.

Our services

Mental wellbeing groups and workshops

Our groups/workshops are run across the region and offer high quality mental wellbeing education and support, provided by qualified health professionals, in group settings. These free groups and workshops are delivered both in-person and via online formats. All programme content applies clinically recognised approaches that are overseen by our Clinical Director. With over 93% of participants reporting mental health gains, this programme generates measurable mental health improvements for participants as well as strong outcomes for wider family/whānau.

> *This amazing organisation achieves excellent outcomes for communities. The elegant simplicity of their model generates outstanding results in mental health.*
>
> **DR HILLARY BENNETT, PARTNER, LEADING SAFETY LTD**

Health Navigation service

Offered in-person, via phone, email and online, this free and confidential service quickly connects people to the right support in their community, ensuring that they have access to the health and social services they need. Drawing on our extensive network of over 800 service providers, this invaluable community resource helps people to successfully navigate the ever-changing mental and social health environment to find best fit resources that meet their needs.

Support services directories

Hearts & Minds compiles and publishes the complete Support Services Directories for Waitemata Auckland and Te Tai Tokerau Northland. Each directory contains information on over 400 free or low-cost support services operating in the regions, ensuring easy access to valuable information to improve individual and family/whānau health. Freely available digitally online and in hard-copy format, this is a highly respected resource that is of immense value to health professionals and community members alike.

Key features

- Highly effective early intervention model
- Increases population health, reduces health costs
- Community-based barrier-free support
- Focus on accessibility, free and confidential services
- Applies proven, evidence-based modalities
- Culturally inclusive, responds to population diversity
- Quality framework, qualified staff, strong accountability
- Results driven, robust evaluative framework
- Reputation for excellence in service delivery
- Highly respected by the health sector and community alike.

Why we commissioned this report

This report highlights the mental wellbeing and financial benefits gained when applying an early intervention approach with people who are experiencing mild-to-moderate mental health challenges.

It gives me great delight to introduce this Cost Benefit Analysis Report. First and foremost, this about people 'He Tangata, He Tangata, He Tangata'.

Dear to our heart is seeing first-hand the difference made in people's lives. With each quarterly review of Hearts & Minds' outcomes we see how we are tracking – and what really touches me and my colleagues about the feedback we receive is the difference made. This inspires us to reach out, to do more and to work collaboratively with other organisations. Always our focus is to hear from the people, and together foster wellbeing across populations.

This report validates and highlights that the earliest mental wellbeing intervention is from the ground up, which has the power to change the current landscape with its high demand on mental health services.

The report, written by Donal Curtin, Managing Director of Economics New Zealand Ltd, estimates both the clinical and economic benefits of Hearts & Minds' mental health programmes and support services. It concludes that, considering the impact of mild-to-moderate mental ill-health on New Zealand's economy, Hearts & Minds' group therapy services offer a direct economic payback of at least $4.70 for every $1 spent on them. In addition, our Health Navigation service offers an economic benefit of $6.65 million a year, by addressing one of the biggest problems confronting people with mental health issues – finding the help they need within a fragmented health and social services system, especially since COVID.

Hearts & Minds' services help to remove potential inequities within existing mental health programmes by offering barrier-free services to communities. We believe this approach aligns with recommendations flowing from the 2018 *Government Inquiry into Mental Health and Addiction* and with current thinking within government that supports expanded primary mental health support within communities.

The report highlights the potential of this approach to act as a pathway to expand the delivery of clinically effective and cost-effective services to those with mild-to-moderate conditions. It outlines the high payoffs from this effective early intervention, both in terms of the quality of life for the individual and the economic benefits to the country.

While Hearts & Minds' services are designed for those with mild-to-moderate conditions, the report considers that they are likely to help prevent suicides. Given that each suicide prevented in New Zealand represents an estimated $4.4 million benefit to society, stopping just one suicide would cover all the organisation's running costs for a year six times over.

The report's conclusions are topical given that Aotearoa New Zealand's health system still struggles to meet demand for mental health services – despite a considerable boost in funding in recent years.

We hope it will be informative to policy makers and others looking to improve access to publicly funded services as part of the mental health system reforms.

We believe this report provides solid economic evidence of how a community-based approach could be used to 'scale up' mental health services for people with mild-to-moderate conditions, and to do more with a limited mental health budget.

The economic analysis in this report will be informative to all those making decisions about the future shape of Aotearoa New Zealand's mental health provision.

Carol Ryan
Chief Executive Hearts & Minds NZ Inc.

SNAPSHOT OF THE FINDINGS

Of a study on the economic benefits of the mental health services provided by Hearts & Minds Inc.

Source: The Benefits of an Innovative Early-Intervention Mental Health Model – November 2022 **heartsandminds.org.nz**

Mental ill-health has a significant impact on individuals

1 in 4 adults

experiences mental health challenges

Group therapy is a clinically effective way to treat many people

4 in 5 people

said they are coping better after attending a Hearts & Minds' course

Mental ill-health brings high economic costs

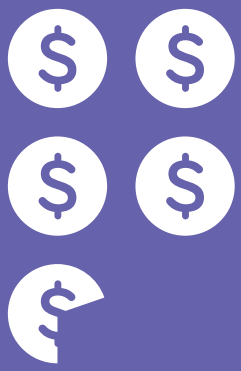
$13.6 billion a year

is the economic cost to NZ of mental ill-health

Hearts & Minds' services are a cost-effective way to help prevent suicides

Even 1 suicide prevented a year

would cover Hearts & Minds' annual costs 6 times over



The economic payback of group therapy is high

$4.70 for every $1 spent

is the payback on Hearts & Minds' group courses

Group therapy is cost-effective and improves access to help

$50 an hour per person

versus $150-$250 for one-on-one counselling

Helping people access the services they need offers significant benefits

$6.7 million a year

benefit delivered by Hearts & Minds' Health Navigation services

Executive summary

The report, The Benefits of an Innovative Early-Intervention Mental Health Model (Economics NZ, Nov. 2021), provides an estimate of the economic value of mental health programmes and support services provided by Hearts & Minds Inc. It highlights the potential of these programmes and services to help 'scale up' the provision of mental health care for people with mild-to-moderate conditions.

Mental ill-health has a significant impact on individuals and businesses.

- In Aotearoa New Zealand an estimated one in four adults experiences a mental health disorder.
- Mental health issues cost New Zealand an estimated $13.6 billion in 2016-17 due to reduced productivity, higher unemployment and absenteeism, and extra health care costs, etc.
- Most of this cost resulted from people experiencing mild-to-moderate mental health issues (anxiety, stress, trauma etc). That's because these conditions are far more common and affect far more people than severe disorders.

1 in 4 adults experiences mental health challenges

$13.6 billion a year was the economic cost to NZ of mental ill-health in 2016-17

Group therapy offers a clinically effective way to treat many people.

- International evidence shows that for many mild-to-moderate issues, the group therapy approach used by Hearts & Minds is as effective clinically as individual-focused treatment.
- Attendees' assessment of their wellbeing nearly doubled after attending Hearts & Minds' courses – from 18% to 37%.
- 83% of people treated said they were coping better and 92% said they'd learned useful skills.

4 in 5 people said they are coping better after completing a Hearts & Minds' course

Group therapy is cost-effective, and the benefits mean it pays for itself many times over.

- Hearts & Minds' group sessions cost just over $50 an hour per person, compared with about $150 an hour for a one-on-one session with a counsellor/therapist or $200-$250 with a psychologist.
- Comparing the costs against the potential economic benefits shows the courses deliver an economic payback of $4.70 for every dollar spent on them[1].
- By treating people before they potentially deteriorate into more serious mental illness, they help prevent the need for more expensive treatments like hospitalisation.

$4.70 for every $1 spent is the payback on the group courses

1 This was the value of the post-course improvements in productivity compared to pre-course levels, after allowing for the cost to employers of giving employees the time off to attend the courses. These net benefits are then compared to the cost of running the courses, to come up with the benefit-to-cost ratio, or 'payback' ratio. See more in the detailed report.

Hearts & Minds' mental wellbeing services contribute to preventing suicides, and reducing NZ's suicide rate.

- While Hearts & Minds' treatments are not specifically designed to prevent suicide, they offer an early intervention that can prevent people deteriorating to the point where they suicide.
- To Hearts & Minds' knowledge, no one who has attended its courses has gone on to commit suicide – despite some of them presenting with quite serious conditions, including suicidal thoughts.
- Each suicide prevented represents a $4.4 million benefit to New Zealand – so preventing even one suicide a year would cover Hearts & Minds' running costs six times over[2].

1 suicide prevented a year would cover Hearts & Minds' annual costs 6 times over

Group therapy has a wide range of 'ripple' benefits.

On top of these economic benefits, the report identified that Hearts & Minds' therapy had additional benefits including:

- Unemployed people getting well enough to re-enter the workforce.
- Family members being less likely to have to take time off work to deal with the attendee's challenges.
- Reduced crime and other anti-social behaviour.

2 Based on the $3.8 million 'value of a statistical life' (used by organisations like Waka Kotahi to make investment decisions) and the estimated $634,000 economic value of a loss of life. See more on this valuation in the detailed report.

There are also high returns from investment in Hearts & Minds' Health Navigation services.

- Hearts & Minds runs online and personalised Health Navigation services, which address one of the biggest problems confronting people with mental health issues – finding the help they need within a highly fragmented health and social services system.
- The payoff from these navigation services comes from more people getting the support they need, which helps them get better and become more productive.
- The economic benefits of this are conservatively estimated to be in the region of $6.7 million a year.

$6.7 million a year benefit delivered by Hearts & Minds' Health Navigation services

In summary, Hearts & Minds' programmes were found to be a cost-effective way to deliver services to those experiencing mild-to-moderate mental health problems.

- The report concludes that Hearts & Minds' services are a cost-effective way to help people with mild-to-moderate mental health issues.
- Their benefits included improved productivity, lower unemployment and reduced strain on the hospital system, meaning the economic gains are many times the cost of running the services.
- Hearts & Minds' services offer a powerful way to deliver on recommendations from the 2018 *Government Inquiry into Mental Health and Addiction*.

Janice's story: Case study of group therapy

Janice* had a rough start to life. She couldn't wait to leave school – she struggled to learn, had no confidence, and home life wasn't great. She married at 18, thinking she was leaving her troublesome family life behind, and had a couple of kids. Then her husband started being abusive. In the end, she left with her children, having to go onto a benefit immediately.

Janice was at a loss about what to do next. She felt anxious and lonely and struggled on her own looking after her two children. She didn't know where to start to change her life.

After seeing an advertisement for a support group, she decided to go along and give it a try. She listened to what the other women were facing and realised she wasn't alone. There were others experiencing similar things to her, who could relate to her, as she could to them. In that group environment, light bulbs went on for Janice. She began unpacking multiple insights about her life to date.

At the last session of the group, they discussed where to from here, and Janice shared that she would like to study and learn to do community work. She had thought about what she loved doing – and she loved her Nan and being with older adults.

*Not her real name

"You won't believe where I am now. I'm doing what I absolutely love. My children have grown and are doing well, and I'm in a really good place and loving work."

So, she went to AUT, flew through her course, and left with a qualification in caring for older adults.

Years later, I bumped into her and she told me how the group transformed her life. Her comments still resound in my head, "You won't believe where I am now. I'm doing what I absolutely love. My children have grown and are doing well, and I'm in a really good place and loving work."

That's transformation. It's one example of how early interventions can help people who are struggling with isolation, loss, grief, anxiety etc. to find a new path.

Shared by Carol Ryan
Chief Executive Hearts & Minds NZ Inc.

ECONOMICS NZ COST BENEFIT ANALYSIS REPORT

The Benefits of an Innovative Early-Intervention Mental Health Model

By Donal Curtin of Economics NZ, commissioned by Hearts & Minds NZ Incorporated

November 2021

Introduction

This report[3] has been prepared in the context of a large but significantly under-served proportion of the community, those who experience mild-to-moderate mental health conditions.

Historically this has not been the focus of the public health system's mental health spending: up to the 2019 Wellbeing Budget, public health system resources had been heavily concentrated on the most severe mental conditions. In that Budget, a $1.9 billion spending package provided more resources for mild-to-moderate conditions: $1.12 billion was allocated to the Ministry of Health for a variety of programmes and progress has been made[4] particularly through provision of mental health services through GP practices. But there is still a challenge ahead to extend coverage further and in particular to resource community-based mental health providers.

Making further progress is possible as international evidence and economic data indicate that there are high payoffs from early intervention, both in terms of the quality of life for the individual and the economic benefits to the country.

This report estimates the value of the current economic benefits of Hearts & Minds' investment in its mental health programmes and other mental health support services, as well as highlighting its potential as an effective pathway into the future.

3 Written by Donal Curtin, Managing Director, Economics New Zealand Ltd, **economicsnz@gmail.com**

4 Readers interested in the progress of the Wellbeing Budget initiatives will find useful updates in an October 2021 report, Access and Choice Programme: Report on the first two years, Te Hōtaka mō Ngā Whai Wāhitangame Ngā Kōwhiringa: He purongo mō tecrua tau tuatahi, by the Mental Health and Wellbeing Commission, Te Hiringa Mahara, available at **https://www.mhwc.govt.nz/assets/Our-reports/MHWC-Access-and-Choice-report-Final.pdf**, and in the September 2021 Department of Prime Minister and Cabinet report, 'Implementation Unit: Mid-term Review of the 2019 Mental Health Package', available at **https://dpmc.govt.nz/publications/implementation-unit-mid-term-review-2019-mental-health-package** (the FAQs provide a quickly accessible summary)

Conclusions

In the past few years there have been major inquiries on both sides of the Tasman into the provision of mental health services.

Both inquiries found, in line with wider international experience, that the mental health needs of a large constituency of people with "mild" to "moderate" mental health issues were being served badly or not at all.

New Zealand's inquiry said that "One of the most striking features of our current system of mental health and addiction services, is that it focuses almost entirely on those people with the most severe needs. New Zealand has relatively few publicly funded services for people with less severe mental health and addiction challenges"[85]. Australia's found very similar outcomes, with some 500,000 people who would benefit from the likes of group therapy not accessing any, and up to a further 2 million who are being expensively overtreated and "who could have their treatment needs equally well met through services that offer a lower treatment burden (in terms of time, financial cost, and treatment adverse side-effects)"[86].

Hearts & Minds provides these missing cost-effective services for those with mild-to-moderate mental health issues.

A variety of calculations show that the group therapies it offers are effective in absolute terms (they improve participants' mental wellbeing) and cost-effective relative to individual-based therapy and to even more expensive options such as hospitalisation. Estimates of the benefits from Hearts & Minds' expenditure show large payoffs across a range of its services.

85 *He Ara Oranga*, p105

86 Australia Productivity Commission report, Vol 1, p30

The New Zealand Government Inquiry into mental health identified a better way forward, which was accepted almost in its entirety by the government and which started to be implemented in the 2019 Wellbeing Budget mental health package.

There have been some implementation successes to date, including the establishment of the Mental Health and Wellbeing Commission to oversee the progress on the Inquiry's recommendations; mental health services have been placed in many GP clinics; and funding has gone to some community pilot programmes. However, while the Inquiry strongly validated Hearts & Minds' community-based approach, investment into community-driven programmes such as Hearts & Minds' has yet to take place. This key action has the potential to greatly enhance the government's ability to realise the transformative change called for by the Mental Health Inquiry, extending its reach into the community and enabling early and efficient cost-saving interventions.

Key findings

- Strong domestic and international evidence shows that there is **a significant number of people with mental health issues who have been poorly (or not at all) served by existing services** (Section 2)
- The evidence also shows that inexpensive **interventions to help those people can have significant payoffs** (Section 2)
- This report, conservatively, shows that the group courses run by Hearts & Minds are likely to have a direct payback of around **4.7 dollars for every dollar spent on them**, a result that is cross-checked against similar paybacks for similar programmes in New Zealand and overseas (Sections 3 & 4)
- The courses have a wide range of further indirect **'ripple' benefits** (Section 5)
- The **suicide prevention** benefits of Hearts & Minds' services are likely to be very large. Each suicide prevented represents a $4.4 million benefit to New Zealand – if Hearts & Minds prevented just one death a year, it would represent a benefit to society of around $4.43 million ($3.8 million prevention of loss of life, $634,000 prevention of economic loss), and on its own would represent 6.5 times Hearts & Minds' total expenditure in 2019-20 (Section 5)
- There are **high returns from the investment in Hearts & Minds' Health Navigation services** (Section 6)
- The **relatively inexpensive services provided by Hearts & Minds save on the expensive resources** that would otherwise have been incurred elsewhere in the mental health system (Section 7)
- International evidence shows that the **group therapy approach used by Hearts & Minds is as effective clinically as individual-focused approaches**, but is considerably less expensive (Section 8)
- The **community-focused Hearts & Minds' approach** is strongly aligned with the path forward for mental health services recommended in New Zealand's 2018 Report of the Government Inquiry into Mental Health and Addiction (Section 9)

1

About Hearts & Minds

Hearts & Minds started out in 1978 on Auckland's North Shore under the auspices of the Mental Health Service of the Area Health Board and in 1984 became the North Shore Community Health Network Inc (commonly known as Raeburn House).

In 2017 in response to community feedback, its name was changed to its current Hearts & Minds NZ to better reflect the organisation's focus on a whole-of-person and whole-of-community approach to wellbeing. Further details of Hearts & Minds' background and activities can be found at its website[5].

Hearts & Minds' purpose statement reflects its group and community orientation, and is "To inspire stronger, healthier communities by connecting people to resources and support that transform lives". Its main activity in a normal year[6] is running group courses that aim to improve attendees' mental health.

In 2018-19, Hearts & Minds' Wellbeing and Resilience Groups[7] ran 60 courses catering to 669 participants, which at a cost of some $8,000 per course accounted for some 78% of total expenditure. The courses cover topics such as managing anxiety, building self-esteem, dealing with stress, managing emotions, and finding balance. The courses are free to attendees who have been referred by a health professional. Funding is provided partly through Waitemata District Health Board (DHB), but as demand has consistently been well in excess of what the DHB has funded, Hearts & Minds has had to find supplementary sources of funding from a variety of sponsors.

5 **https://www.heartsandminds.org.nz/**

6 The pattern of activity was heavily impacted by Covid in the 2019-20 year, when because of lockdown restrictions Hearts & Minds was unable to run the normal in-person group courses, and instead provided support through online channels. "Brief Intervention Counselling" by qualified counsellors and psychologists provided 200 phone-based support sessions, and there were 8 online groups programmes with 50 participants. The analysis which follows is based on 2018-19 patterns, which will re-emerge as the norm post Covid.

7 Current courses on offer can be found at **https://www.heartsandminds.org.nz/groups**

Hearts & Minds provides a number of other services, in particular its Health & Support Navigation, which as the website says is a free and confidential personalised service "that connects people to the right support within their local community at the time it is needed". The service is more significant than the website description might indicate, partly because (as discussed further later) provision of mental health services is highly fragmented, access qualification is often unclear, and people looking to access the services are often not in a good space to conduct careful research. Hearts & Minds elsewhere have described the Health Navigation service as "a cornerstone of community mental health and wellbeing, providing information to health care professionals, community members, police, support workers, schools and all those supporting vulnerable, disadvantaged populations across diverse communities.

The directory is recognised as a highly effective community resource, with independent evaluators stating that its unique production within a community development framework takes it well beyond information provision; its generative effects have been shown to strengthen connectivity outcomes across the health and social sectors"[8].

The service is partly phone-based, and in the 2019-20 year handled 5,642 approaches from individuals/family/whānau (up from 4,625 in 2018-19), and partly an online directory resource, which is now in its 23rd edition and is heavily utilised. In 2019-20 there were 112,177 visits to Hearts & Minds' online directory (up from 93,001 in 2018-19).

8 Funding application to Northland DHB Mental Health and Addiction Services, March 2021

2

Context: An underserved community that can be helped

There is now a strong body of evidence, both overseas and in New Zealand, that mental ill-health imposes very large costs on the community, but also that the bulk of the public funding response has been over-concentrated on the sub-section of those most severely affected, leaving little to alleviate the larger costs imposed by the far bigger category of those with mild-to-moderate illness.

It is also evident that spending targeted on the costs imposed by the under-served mild-to-moderately affected community can be highly effective.

The OECD for example found[9] in 2012 that "The costs of mental ill-health for the individuals concerned, employers and society at large are very large. A conservative estimate from the International Labour Organisation put them at 3-4% of gross domestic product in the European Union. Most of these costs do not occur within the health sector. Mental illness is responsible for a very significant loss of potential labour supply, high rates of unemployment, and a high incidence of sickness absence and reduced productivity at work. The high costs of mental ill-health are a direct consequence of its high prevalence. At any one moment, around 20% of the working-age population in the average OECD country is suffering from a mental disorder in a clinical sense. Lifetime prevalence has been shown to reach levels up to 50%. This implies that the risk of experiencing mental ill-health at any moment during working life is high for everyone".

In New Zealand *He Ara Oranga*, the Report of the Government Inquiry into Mental Health and Addiction[10] published in 2018, said that "The economic costs of mental illness are substantial.

9 *Sick on the Job? Myths and Realities about Mental Health and Work*, available to read online at **https://www.oecd.org/els/mental-health-and-work-9789264124523-en.htm**. Quote is from p11

10 Available at **https://mentalhealth.inquiry.govt.nz/inquiry-report/he-ara-oranga**. He Ara Oranga translates as Paths to Wellness. The quote is from p97

Recent estimates for OECD countries are that mental illness reduces gross domestic product (GDP) by approximately 5%, through disability leading to unemployment, work absenteeism and reduced productivity, and the additional costs of physical health care among people with mental health problems".

The same level of economic costs prevails in Australia and New Zealand. A widely cited study[11] published by the Royal Australian and New Zealand College of Psychiatrists in 2016 found that "Overall the cost of the burden of [mental] disease in Australia and New Zealand in 2014 is estimated to have been A$98.8 billion (6% of GDP) and NZ$17.0 billion (7.2% of GDP) with the inclusion of opioid dependence, and A$56.7 billion (3.5% of GDP) and NZ$12.0 billion (5.0% of GDP) not including this group". These numbers, as the College pointed out, are on the low side, as they do not include the economic costs of other illnesses ('comorbidities') that tend to come with mental illness, which in New Zealand's case would add a further cost of 1.3% of GDP (ex-opioid dependence) or 2.6% of GDP (including it).

What is not generally realised, however, is that the bulk of the costs are not caused by the most severe mental conditions: while they are traumatic for those suffering from them, and can be very expensive to treat, the most severe conditions with high personal and social costs are relatively rare, and their impact is less than the lower-cost but very much more common incidence of mild-to-moderate mental conditions.

As the OECD put it[12] in 2012, "The detrimental impact of mental disorders on functioning and disability is not restricted to severe mental disorders. Moderate disorders may also severely impair work functioning, and may lead to disability, especially when they are enduring. Due to the high prevalence of moderate mental disorders in the population, their effect on the societal burden through disability and unemployment is much larger than the effect of the relatively small population with severe mental health conditions. Thus, the population with moderate mental health problems and their working problems should be a major target group of policies and initiatives, as well

11 'The economic cost of serious mental illness and comorbidities in Australia and New Zealand'

12 *Sick on the Job?*, p120

as of mental health care. However, to date this is not the case".

The OECD's findings were corroborated for New Zealand in *He Ara Oranga*. It found that public mental health spending ($1.9 billion in the 2016-17 year) was heavily skewed towards severe disorders, with little left over for the mild-to-moderate spectrum which actually amounts to where the bulk of the social costs are incurred. In practice only the most severe 3% of cases are funded: the report said that "The target set in the 1996 Mason Inquiry report, of having specialist services available for the 3% of people with the most severe mental health needs, has been achieved[13] ... Our mental health system is set up to respond to people with a diagnosed mental illness. It does not respond well to other people who are seriously distressed[14] ... The system does not respond adequately to people in serious distress, to prevent them from 'tipping over' into crisis situations. Many people with common, disabling problems such as stress, depression, anxiety, trauma and substance abuse have few options available through the public system"[15].

The OECD recommended that "Policy will have to put more focus on moderate mental disorders. Because of its high prevalence, the overall cost of CMD [common mental disorders] to society is larger than the cost of SMD [severe mental disorders] – taking into account all costs for the health system, the social security system and the employers. Similarly, the cost of sub-threshold conditions [i.e., those falling short of a formal 'mild' clinical diagnosis], because of the even higher prevalence in the population, is potentially very high, as some studies demonstrate. This is explained by the fact that direct health-system costs are only a very small part of the total costs of mental illness, much lower than, in particular, the costs of productivity losses.

"This observation alone has significant relevance for policy makers. Policy today predominantly targets people with SMD. This is understandable given the strong and urgent needs of people suffering from SMD and limited public resources. However, in order to deal with mental disorders more effectively greater focus should be devoted to CMD, which when becoming long-lasting or recurrent can manifest themselves in substantial impairments with negative repercussions on work functioning".

Because the mild-to-moderate spectrum is currently very significantly under-served, it is likely that early interventions could have very large payoffs. The eminent British economist Richard Layard, an expert on wellbeing, has calculated[16] the effects of a plan where "by 2030 an additional quarter of people with depression or anxiety disorders should be in treatment", with treatments known to work: "For moderate-to-severe depression, anti-depressants are recommended, combined with Cognitive Behavioural Therapy (CBT) or Interpersonal Therapy (IPT). For mild-to-moderate depression, only psychosocial treatments are recommended (including CBT, IPT, behavioural activation, behavioural couples therapy, counselling, short-term psychodynamic therapy and guided self-help for mild cases)". Even though this is a modest and cheap plan – "The gross cost of these outlays is very small ... Even by 2030 it is only 0.1% of current GDP" – it has substantial payoffs.

13 *He Ara Oranga*, p8

14 *He Ara Oranga*, p11

15 *He Ara Oranga*, p11

16 'Mental Illness Destroys Happiness And Is Costless To Treat', Chapter 3 in the *Global Happiness Policy Report 2018*, available at **https://www.happinesscouncil.org/report/2018/global-happiness-policy-report**

Layard found (emphases in the original) that "the **net** cost is **negative**. This is because people who are mentally ill become seriously unproductive. So, when they are successfully treated, there are substantial gains in output. And these gains exceed the cost of therapy and medication.

"This conclusion has been repeatedly supported, and it emerges clearly in the costs of the expansion package we are proposing ... In these estimates, for every $1 spent on treating depression, production is restored by the equivalent of $2.5. So, the result of spending $1 is a net saving of $1.5. For anxiety disorders, the net saving is even bigger. On top of this, there are savings on physical healthcare costs, which (in rich countries at least) are of the order of $1 per $1 spent. Not all the savings accrue to the public/social sector but enough do so to ensure that there is no net cost to the public/social sector either. It is a no-brainer".

Figure 1a: Net cost per $1 spent of treating depression ($)

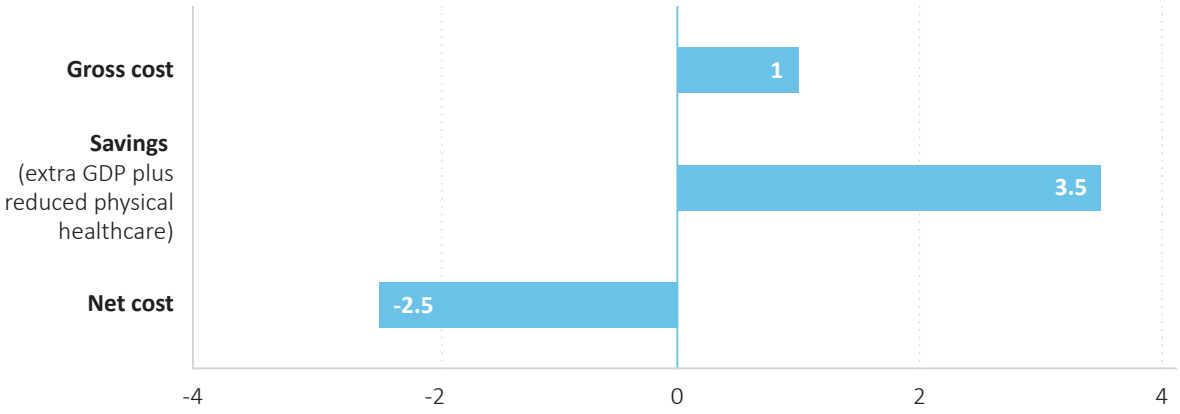
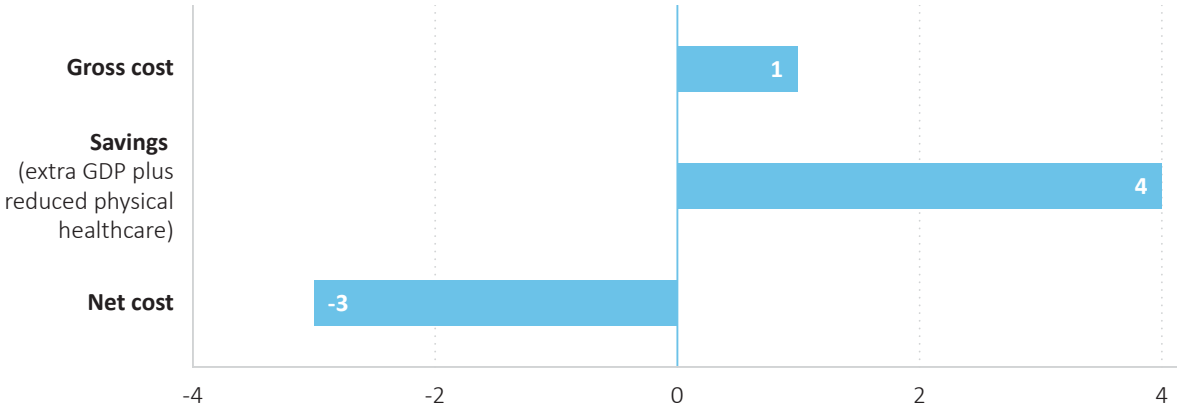


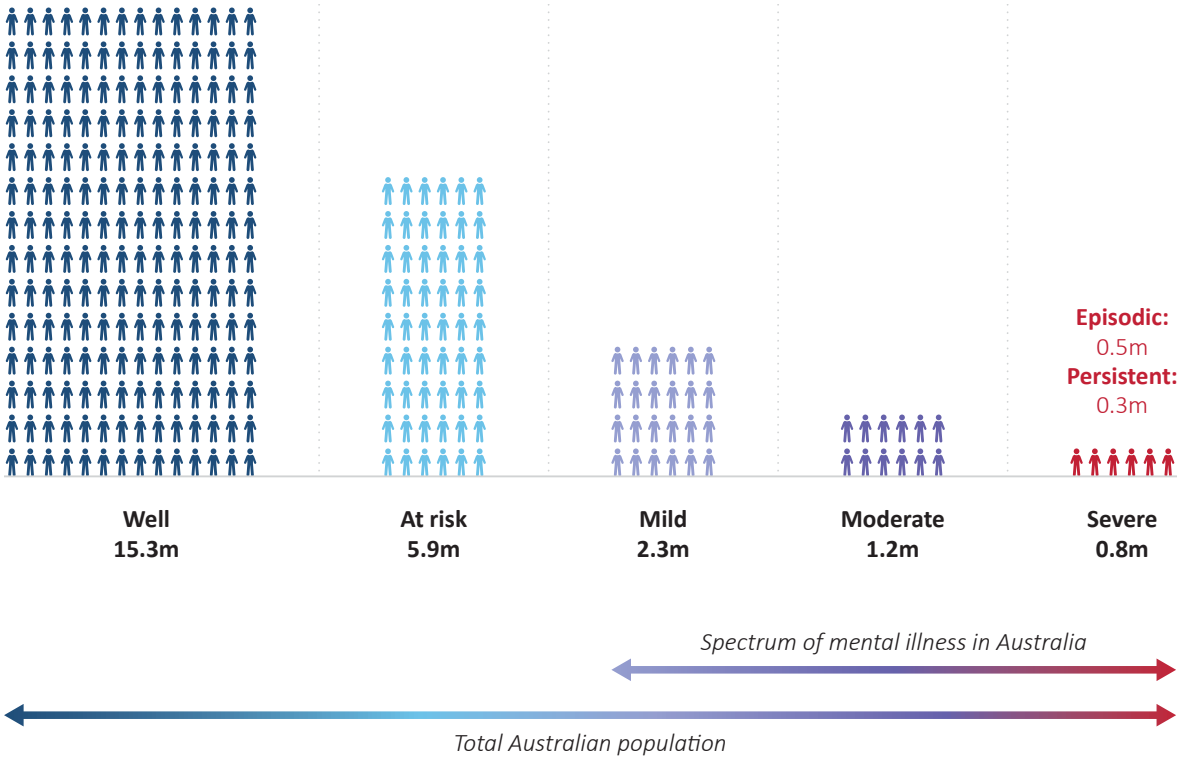
Figure 1b: Net cost per $1 spent of treating anxiety ($)



The same picture of potentially very large payoffs from relatively modest expenditures emerged from Australia, where by coincidence their Productivity Commission was engaged in the same wide-ranging inquiry[17] into mental health as our own *He Ara Oranga*. In its November 2020 report it too found that a large proportion of mental health issues are not adequately addressed: "Almost one in five Australians has experienced mental illness in a given year. Many do not receive the treatment and support they need[18]". It also found the same pattern of a relatively small prevalence of severe illness but significantly large numbers of people with mild-to-moderate illness, as shown below[19].

But, more positively, and in line with the effects of Layard's plan, it found that the first steps to address the deficiency could have very large payoffs: "Reform of the mental health system would produce large benefits. These are mainly improvements in people's quality of life – valued at up to $18 billion annually. There would be an additional annual benefit of up to $1.3 billion due to increased economic participation. About 90% of the benefits – about $17 billion – could be achieved by adopting identified priority reforms, requiring expenditure of up to $2.4 billion and generating savings of up to $1.2 billion per year".

Figure 2: Distribution of mental health among the Australian population



17 Productivity Commission 2020, Mental Health, Report no. 95, Canberra. Available at **https://www.pc.gov.au/inquiries/completed/mental-health#report**

18 Both this and the next quote are from p2 of the 'Overview' in Volume 1.

19 Productivity Commission, Volume 1, p10

Translated into New Zealand terms, our mental health spending of $1.9 billion in 2016-17 was an order of magnitude short of the $13.57 billion[20] likely economic costs of mental illness, illustrating the unaddressed scope for reduced economic cost from increased treatment of mild-to-moderate illness. Put more positively, a programme along the lines of Layard's would in New Zealand cost around $325 million[21], and assuming a 50:50 split between treating anxiety and treating depression, would generate net savings of $894 million.

20 5% (the College of Psychiatrists' estimate) of the money value of GDP in the 2016-17 year, which was $271.4 billion.

21 0.1% of money GDP in the 2020-21 year, which was $325.1 billion

3

Benefits and cost-effectiveness role of group therapy

Hearts & Minds is focused on a group-based approach to improving people's wellbeing.

Its website says that its "Wellbeing groups provide a safe and inclusive therapeutic space for participants to learn tools and techniques to improve wellbeing. Group members participate at their own pace, and there is no expectation to share information they are not comfortable with, although often participants do find it helpful to share their experiences and learnings. All groups are confidential and are led by qualified facilitators who are committed to the process of improving wellbeing".

The evidence on group-based therapy shows that (a) it has positive effects on wellbeing (b) it compares well with individual-based approaches and (c) from an economic point of view, it is cost-effective and fits well into a "stepped care" approach to mental health services, where you roll-out the more cost-effective options first and the more expensive options later.

As an example, from a recent academic paper on experience with Canadian students, "with major depression a stepped care model may include nine steps ranging from watchful waiting, followed by psychoeducation, bibliotherapy, E-health, group therapy, individual therapy, medication, ending with inpatient treatment as the most intensive step. Clients are referred to a lower intensity intervention, unless counter indicated by symptom complexity or risk level, and then the level of care can be "stepped up" if needed, or indicated by outcome monitoring"[22].

Stepping through the evidence for each of these propositions, initially it was not immediately evident that group therapy had anything to offer beyond the established forms of medical treatment from clinical psychologists, psychiatrists, or medication.

22 Emily Fawcett, Michele Neary, Rebecca Ginsburg, and Peter Cornish, "Comparing the effectiveness of individual and group therapy for students with symptoms of anxiety and depression: A randomized pilot study", *Journal of American College Health* 2020, Vol. 68, No. 4, pp430–437

But by 2003 there was enough accumulated research available to do a 'meta-analysis' of what the various studies had found. The analysis[23] by Professor Gary Burlingame of Brigham Young University and his co-authors looked at 111 studies done over the preceding 20 years. It said that "Pre- to post-treatment ESs [effect sizes, a measure of the degree of any improvement] were calculated on 111 active group treatment and 51 wait-list control groups [a 'wait list control group' are people who are waiting for the same treatment but have not received it yet, so are a very similar group to make comparisons against] ... The overall ES for active treatment groups was .71, which demonstrates that statistically significant pre- to post-treatment improvement took place in these patients[24] ... The pre- to post-treatment change comparisons begin by underscoring the overall effectiveness of group therapy. Improvement did indeed, take place, thus confirming that group therapy works[25] ... Specifically, three fourths of the classified patient diagnoses demonstrated reliable improvement, thus helping refine our knowledge about what works with whom[26] ... The meta-analytic data from this study confirm the general and selected diagnostic effectiveness of group treatment, and in a day when group treatment is on the rise, this indeed is encouraging[27]".

Group therapy was not a complete panacea. Some things responded particularly well (notably eating disorders, depression, personality disorder, and anxiety disorder) and some groups improved, but to a lesser degree (the sexually abused, the stressed, and the neurotic), while there was no statistically significant improvement for substance abuse, thought disorder, or criminal behaviour[28]. But overall, across all conditions there was a clear improvement.

23 Gary M. Burlingame, Addie Fuhriman, and Julie Mosier, "The Differential Effectiveness of Group Psychotherapy: A Meta-Analytic Perspective", *Group Dynamics: Theory, Research, and Practice*, 2003, Vol. 7, No. 1, pp3–12

24 Burlingame et al, p9

25 Burlingame et al, p10

26 Burlingame et al, p11

27 Burlingame et al, p11

28 Readers can see the results by condition in Table 5. The authors said the 'no effect' conditions could be an artefact of the small number of studies available on those conditions.

Professor Burlingame has more recently also turned his attention to issue (b), whether group therapy is any better than individual-focused approaches. There is a formal academic paper[29] but fortunately he and two of his co-authors have also written a plainer-English web-only version[30]. The answer? Contrary to what people might expect before researching it – one-on-one must surely be more tailored and effective, mustn't it? – it's a draw. Or as Burlingame and his team put it, "There is an ongoing debate about the effectiveness of individual versus group therapy. Unfortunately, findings in the literature thus far haven't been entirely clear. Some individual studies have reported greater effectiveness is shown during individual therapy [citing 10 of them] ... while some studies suggest group is more effective [citing 5 more] ... Other studies report both are equally effective [citing another 11]".

There have been meta-analyses of the body of research on group versus individual, but at the time Burlingame and his colleagues looked at them, they felt they had not been done terribly well ("the findings are suspect at best" in the 14 conducted). When Burlingame and his colleagues did their own, they found that it was indeed a draw: "This is the largest format comparison meta-analysis that we know of, and the overlap between our findings and past meta-analyses increases our confidence in the conclusion that when identical treatments, patients, and doses are compared, individual and group formats produce statistically indistinguishable outcomes".

The last word (as at time of writing of this report) on the relative effectiveness of group therapy also found equal effectiveness of group therapy, in treating depression and bipolar disorder. Again featuring Burlingame as one of the co-lead authors[31], it was another meta-analysis and found that "A common argument for group treatment referral is its cost-efficiency over individually delivered treatments ... While empirical studies support this fiscal advantage, a growing body of evidence provides a more compelling reason for group referral – effectiveness. Stated differently, the findings herein support group treatment's effectiveness over WLC [wait list control] and TAU [treatment as usual] conditions and recent empirical evidence supports outcome equivalence between identical treatments delivered in individual and group formats ...Thus, we acknowledge the cost-efficiency but highlight effectiveness as the primary reason for practice guideline inclusion".

That is where the practising mental health community has got to as well. As one nice explanation of group versus individual recently put it[32], there are advantages and disadvantages to both. On the plus side of group therapy, for example, "Individuals begin to understand that they are not alone in their issues, and other people have similar issues and struggles. This results in the development of a sense of identity, belongingness, and the release of tension and stress". Hearts & Minds has found the same[33], with participants saying things like "I am not alone" or "It's more than just me", and in general starting to break the barriers of their social isolation.

29 Gary M Burlingame, Jyssica D Seebeck, Rebecca A Janis, Kaitlyn E Whitcomb, Sarah Barkowski, Jenny Rosendahl, Bernhard Strauss, "Outcome differences between individual and group formats when identical and nonidentical treatments, patients, and doses are compared: A 25-year meta-analytic perspective", *Psychotherapy Theory Research & Practice* 53(4), pp446-461, December 2016

30 "Individual vs. Group Psychotherapy: Couching It in Everyday Practice", available on the Society for the Advancement of Psychotherapy's website at **https://societyforpsychotherapy.org/individual-vs-group-psychotherapy**

31 Rebecca A Janis, Gary M Burlingame, Hal Svien, Jennifer Jensen & Rachel Lundgreen, "Group therapy for mood disorders: A meta-analysis", *Psychotherapy Research*, 2020, pp1-17. Quote from pp14-5

32 Editorial Staff of American Addiction Centres, "The Differences Between Individual vs. Group Therapy", August 17 2020, available at **https://oxfordtreatment.com/addiction-treatment/drug-therapy/individual-vs-group**

33 Zoom discussion with Hearts & Minds' staff, July 19 2021

The American Addiction Centres piece concluded that, "In general, the majority of the research suggests that individual therapy and group therapy are effective for treating nearly every type of problem, psychological disorder, or issue that is addressed within a therapeutic or counselling environment. Some individuals may be more suited to working in groups based on the above discussion of the strengths of group therapy, whereas others may be more suited to working in individual situations. In addition, a number of different therapeutic paradigms, such as Dialectical Behaviour Therapy, use both group and individual therapy, and individuals benefit from both.

The choice to become involved in group or individual therapy will depend on a number of different factors, including affordability, one's comfort level with discussing problems in front of other individuals, and the type of intervention being used. Neither form of therapy is "better" than the other, but both represent different approaches to reaching the same goal".

While clinically they may be equivalent or complementary, the reference to "affordability" is important from a cost-effectiveness point of view. If there are broadly the same outcomes, the more cost-effective option should be first cab off the rank. As Professor Burlingame notes, group therapy isn't costless: "groups come with a unique set of additional responsibilities when compared to individual therapy. For example, additional tasks include finding enough clients to begin the group, pre-group screening sessions, progress notes for each group member per session, progress notes for the group as a whole, and managing attrition". But as the earlier data on Hearts & Minds' cost effectiveness showed, even after group-specific costs the group approach is considerably less costly, and international evidence says the same.

One study[34] for example did a meta-analysis of studies that had examined the efficacy of group psychotherapy in treating depression: it found "4 studies that reported cost information. One study found that group therapy (10 sessions of 1.5 hours each) resulted in cost-savings of 37.5% in comparison with individual therapy. Another study found that group therapy saved 41.7%. One study found that group therapy saved 25% with 4 patients per group and 42% with 6 patients per group. One study found that group therapy cost 8 to 17% that of individual therapy". Those estimates average out to something like a 30% saving: in an environment of tight health budgets, banking savings of that order should be a high priority.

With demand for mental health treatment high, and resources to provide it under stress in many countries, many people have reached the same conclusion, that there needs to be more use of the cost-effective group approach. Professor Burlingame, for example, said that "While [US] students are seeking treatment more frequently, clinicians at counselling centres are struggling to find ways to manage this increase in demand", and one solution is that "some counselling centres create more therapy groups to address the increasing demand for services. In a group, a single clinician can meet the needs of several clients in 90 minutes as opposed to meeting the needs of a single client in 50 minutes ... encouraging clinicians to run groups may help fulfil the aforementioned issue of demand clinicians are facing, especially given our conclusion that groups and individual therapy produce statistically indistinguishable outcomes".

34 As summarised in the US National Center for Biotechnology Information's database of reviews of effects, available at **https://www.ncbi.nlm.nih.gov/books/NBK68475**

The Canadian study mentioned earlier landed in the same place. It looked at individual versus group therapy for students with anxiety and depression, and though it had not expected to, it found the same result as Burlingame did, which was that they were equally effective: "The results of the pilot study revealed no significant differences between individual and group therapy in reducing symptoms of anxiety and depression among university students. Our findings were contrary to our hypothesis, that individual therapy would show greater improvements in depressive/anxious symptoms compared to group therapy[35]".

They also concluded that, if the clinical outcomes are the same, then go the less costly route of a group-based approach: "These results provide preliminary evidence in support of increased group therapy programming for university counselling centres, given their efficacy, cost effectiveness, and maximization of resources".

35 Fawcett et al, p435

4

Methodology to evaluate the benefits of Hearts & Minds' mental health services

Estimates have been made in this report of the potential benefits, relative to their cost, of both the group programmes and the personalised and directory navigation support services.

There are a number of ways that might be used to measure the benefits of courses like Hearts & Minds'. The approach used here is to estimate a benefit-to-cost ratio (BCR): benefit-to-cost ratios are used in a wide variety of contexts to act as a guide to the payoff from spending decisions. Waka Kotahi / the New Zealand Transport Agency (NZTA), for example, uses them to rate the desirability or otherwise of roading projects[36]. A recent example was the cycling and pedestrian bridge proposed to run alongside the Auckland Harbour Bridge, which at a first estimate had a benefit-to-cost ratio of 0.4 to 0.6 (it is normal for BCRs to be presented as a range, as they vary with different assumptions about likely usage or other variables). The proposed bridge did not stack up well as an investment. While it generated benefits, there were likely to be only 40 cents to 60 cents of benefit for every dollar spent on it, and the proposal was dropped.

NZTA in its guide to BCRs says that it is expected that "investment proposals included and prioritised in the NLTP [National Land Transport programme] will achieve a BCR of greater than 1". NZTA says that projects with a BCR from 1.0–2.9 times cost are regarded as a "low" level of desirability, BCRs of 3.0–4.9 times costs as of "medium" desirability, 5.0–9.9 as "high" desirability and above 10 "very high". These are loose rather than firm and fast assessments: many might well regard a payback of $3 for every $1 spent as a handsome return rather than the "medium" outcome NZTA would call it, and in practice NZTA is prepared to entertain projects with BCRs in the 1.5 to 2.0 range.

For these purposes benefits are measured as the value of the post-course improvements in productivity compared to pre-course levels, after allowing for the cost to employers of

36 Their approach is described at **https://www.nzta.govt.nz/planning-and-investment/planning-and-investment-knowledge-base/201821-nltp/2018-21-nltp-investment-assessment-framework-iaf/developing-an-assessment-profile-2018-21/#Cost-benefit-appraisal-for-improvement-activities**, in particular in the section 'Cost-benefit appraisal for improvement activities'.

giving employees the time off to attend the courses. These net benefits are then compared to the cost of running the courses, to come up with the benefit-to-cost ratio, or "payback" ratio.

This approach needs as its first input a measure of the pre-course starting point of the attendees, where it is assumed that their mental health issues have led to their being less productive in their jobs than usual, perhaps only operating at 70% or 80% of what they would be able to do if they were in a normally healthy state of mind. This 20% to 30% loss of productivity typically manifests itself as "presenteeism", where the person concerned is still turning up to work but is not as effective as usual on the job. Mental health issues also result in absenteeism, although international evidence shows that this tends to be a considerably smaller component of the productivity impairment.

The next input is the post-course state of the attendees. An attendee may have gone from being able to achieve only 70% of their normal level of output, to being able to achieve 80%, for example. We can calculate what this 10% improvement is worth in dollar terms since we know people's normal level of earnings.

The person's employer is the beneficiary of this increased output, but has also likely incurred some cost while the person has been away on the course. This down-time cost needs to be subtracted from the benefits of the increased output to get the net benefit to the employer.

Finally, the net benefit is divided by the cost of providing the course to give a BCR.

5
The details of the calculations

Some of these inputs are relatively easy to calculate, particularly the costs of the courses, the down-time costs to employers while attendees are away, and people's level of normal, 100%-productivity earnings.

Programme costs

The cost of each course programme has been costed in some detail by Hearts & Minds (as part of a funding submission to Waitemata District Health Board in 2019). Per course direct delivery costs (including the likes of programme design and development, and facilitators' fees) are $4,973; administration costs are $1,360; and Hearts & Minds' operational overheads are $1,667, for a total cost per programme of $8,023. Each course is designed to accommodate 12 attendees, which means the per-participant cost is $669 (for a full complement) or (assuming, realistically, some dropouts) $802 for a course with 10 participants. Both per-participant costings have been used in the BCR calculations following, with the $802 figure likely to be the more relevant.

Employer costs

Some courses are held in the evenings (of the 9 currently advertised on the Hearts & Minds' website, 4 are evening sessions), but in practice some attendees are likely to have to take some time off from work to attend. While some employers may be prepared to waive or absorb the costs in the interests of a better outcome for both employer and attendee, for these purposes it has been assumed that 5/9 of all courses require 24 hours off work (16 hours to attend the typical 8-session 2-hour session programme, plus an hour's travel time to each of the 8 sessions), which has been treated as a cost to the employer at an hourly rate of $33.60 for male attendees and of $25.15 for female attendees (based on annual earnings divided by 2,000 working hours per year). The male time-off cost is $448 and the female cost is $336. These costs have been subtracted from the value of the productivity benefits in the benefit-to-cost calculations.

Employee's normal level of earnings

Median earnings for employees in ongoing jobs in Auckland in the year to June 2019 are taken from Statistics New Zealand's Linked Employer-Employee Dataset, or LEED. Separate calculations are done for male and female employees, as (a) their earnings are significantly different and (b) some 75% of attendees at Hearts & Minds' courses are women. Men's annual earnings were $67,180 and women's earnings were $50,310. In passing, the methodology in this report will show that the value of a 10% increase in productivity for men comes out as a higher dollar number than the value of a 10% increase in productivity for women: this should not be read as in any sense endorsing the idea that treating men is a higher priority or a more worthwhile thing to do. It is purely an artefact of the fact that men's full-productivity earnings are higher than women's, and 10% of one number is more than 10% of the other number.

Illustrative benefit-to-cost ratios

At this point, even though we do not yet know the pre-course starting point and post-course finishing point of the attendees, we can draw up a table showing the potential range of BCRs from the courses on the assumption that the course has made some (as yet unquantified) improvement. The table below, for example, uses the data for a female attendee who is assumed to get a productivity improvement which lasts for six months, and is based on a relatively expensive course with 10 rather than 12 attendees. It is very much down the conservative end of likely BCRs (the results for males, for benefits lasting longer than six months, and for full 12-person courses, will show larger BCRs).

Table 1: Illustrative benefit-to-cost ratios

Initial level of impaired productivity	Post-course final level of productivity									
	55	**60**	**65**	**70**	**75**	**80**	**85**	**90**	**95**	**100**
95										1.1
90									1.1	2.7
85								1.1	2.7	4.3
80							1.1	2.7	4.3	5.9
75						1.1	2.7	4.3	5.9	7.4
70					1.1	2.7	4.3	5.9	7.4	9.0
65				1.1	2.7	4.3	5.9	7.4	9.0	10.6
60			1.1	2.7	4.3	5.9	7.4	9.0	10.6	12.1
55		1.1	2.7	4.3	5.9	7.4	9.0	10.6	12.1	13.7
50	1.1	2.7	4.3	5.9	7.4	9.0	10.6	12.1	13.7	15.3

The result is that even with a low level of hypothetical improvement in productivity – from say 60% of normal capability to 65% – the courses would have a minimum positive BCR of 1.1. For any material improvement in productivity larger than that, say from 60% to 75% or from 60% to 80%, the BCRs become large, with a 60% to 75% move showing a BCR of 4.3 and a 60% to 80% move showing a BCR of 5.9.

Without knowing anything else, there is a working presumption that the Hearts & Minds' benefits likely represent a significant payback on the course costs. But ideally we would like to get a fix on where Hearts & Minds actually lies on this table. Can we get a closer handle on the pre-course and post-course outcomes? The driving element in the table is the degree of improvement, but it would also be nice to know where the Hearts & Minds' clientele sit on the initial productivity level.

To do that, we can use a mixture of qualitative assessments from the attendees themselves, supplemented by some international evidence as cross-checks on the plausibility of the attendees' responses.

The attendees' initial starting-point

At the start of each course each attendee completes a questionnaire asking them to rate four areas of their lives – individual (personal wellbeing), interpersonal (family, close relationships), social (work, school, friendships) and overall (general sense of wellbeing). They complete the same questionnaire again at the end of the programme. This report focuses on the self-appraisal forms completed for the courses run in Term 3 (the September quarter of the 2018-19 year), which provided 67 before and after responses.

The pre-programme self-appraisals suggest that attendees were in quite poor wellbeing shape. The numbers provided are necessarily qualitative, but before the courses, attendees rated their overall wellbeing at only 18% (individual 15.7%, interpersonal 28.2%, and social 22.1%). As noted earlier, Hearts & Minds receives funding from Waitemata DHB for people with "mild" to "moderate" needs: at face value the pre-course self-appraisals suggest that attendees may be more down the "moderate" rather than "mild" range of the needs spectrum. The fact that some 70% of referrals comes from GPs (and the rest largely from medical NGOs in the mental health sector) also points towards issues at a level serious enough to warrant approaching a medical professional.

Evidence gathered in *He Ara Oranga*, the Report of the Government Inquiry into Mental Health and Addiction published in 2018, also suggests that agencies like Hearts & Minds are dealing with people with reasonably severe issues that might normally be expected to be handled by a national mental health system.

There is also evidence that people with severe mental issues are being referred to Hearts & Minds, but are being in turn referred to other agencies as falling outside Hearts & Minds' funding remit of "mild to moderate". A 2018 report for the Ministry of Health by Synergia[37] says that "In 2017-18, 115 people presenting to Hearts & Minds were identified as being more severe than 'mild to moderate' and so required other services.

37 Synergia, *WDHB Fit for the Future: Evaluation of our Health in Mind Business Case 1*, September 2018

An analysis of this group of people found that 42% were experiencing suicidality, 23% had personality disorder and 12% were self-harming"[38].

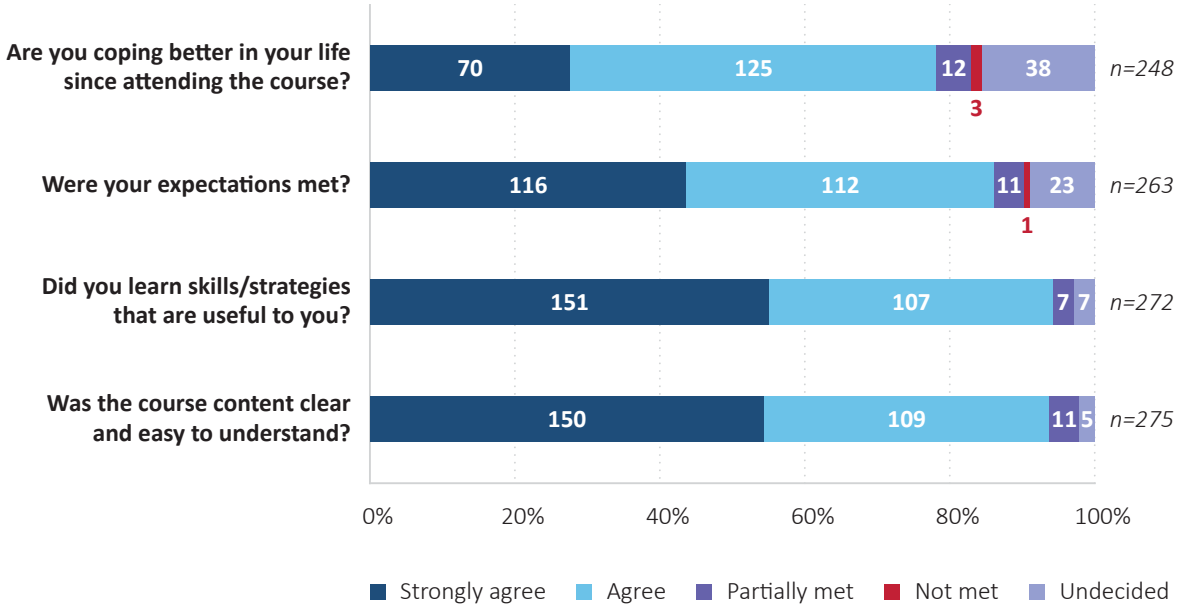
It is likely that Hearts & Minds' dealing with referrals which might run quite close to the borderline between "moderate" and "severe", and who are suffering quite a significant degree of functional impairment. For these purposes the assumption is made that "mild" corresponds to an 80% level of normal productivity, and "moderate" corresponds to a 65% level of normal productivity. The assumptions are not key to the BCRs, which are driven by the amount of improvement rather than by the initial starting point.

Course benefits

There is some useful albeit qualitative evidence of the benefits of the courses from the appraisal responses of the attendees.

There are three forms of appraisal available which throw some light on course benefits. At the end of each course, attendees are asked to compete a group/workshop evaluation questionnaire, which asks four questions on a five-point scale (whether expectations were not met / partly met / undecided / agree / strongly agree). Responses to this questionnaire in the 2018-19 year were strongly positive, as they had been when the same exercise was run in 2017-18 (results shown below)[39].

Figure 3: Feedback from group attendees



38 Synergia, p45
39 Synergia, p49

The results for 2018-19 showed a very similar pattern. 95% agreed that the course material was clear and easy to understand, and 90% felt that their expectations had been met. Two of the questions spoke more directly to the personal benefits participants experienced from the courses: 92% agreed that the skills/strategies/tools learned at the programmes were useful to them, and 83% felt they were coping better in life after the course. While entirely qualitative, these results suggest that a large majority of participants get an improvement that was sizeable and meaningful to them.

The other two forms of appraisal aim to probe the improvements in more detail.

The post-course appraisals showed that attendees' subjective rating of their overall wellbeing had risen significantly from 18% to 37%, with similar increases for the separate components (particularly for individual wellbeing, up from 15.7% to 37%, but also for interpersonal wellbeing, up from 28.2% to 39%, and social wellbeing, from 22.1% to 35%). It is worth noting that the attendees appear to have taken the appraisal exercise seriously and do not appear to have felt an obligation to give solely up-beat feedback: out of 21 responses to one group of courses in Term 3, for example, 1 respondent felt that their overall wellbeing had gone backwards, and 6 that it was the same as before. A clear majority (14) of the respondents, however, felt that their wellbeing had improved either modestly (8), quite a bit (5), or a lot (1).

Exactly what attendees meant by "18%" increasing to "37%" in the context of subjectively assessing their overall wellbeing is not a straightforward idea to interpret. For the purposes of the benefit calculations which follow, several possible interpretations are used.

One is to take the attendees' responses at face value: there has been a 19 percentage points improvement in their wellbeing and a corresponding 19 percentage points improvement in their ability to function productively. A more conservative assumption might be that there is indeed some material improvement, which would be fully in line with the tone of the self-appraisal responses, but perhaps not to the extent that the attendees describe, and for want of any better-grounded metric we might conservatively assume that the improvement is only around half of what has been reported, or an improvement of 10 percentage points. As a final (very conservative) scenario we might assume that there is a material improvement, but it is quite small, and not easily related to the subjective appraisal responses, and this small improvement has been assumed to be 5 percentage points.

A combination of people starting from some initial level of impairment, in the 65% to 80% level of normal productivity, and achieving an improvement of somewhere between 5% and 19%, is a plausible pattern that has been seen in other contexts.

A 2008 study by Hargrave et al[40] , for example, surveyed people in the US who had benefited from an employee assistance programme (or EAP – the form of programme assistance was not stated but probably represented a variety of approaches, as it covered programmes offered by a variety of different employers). As with Hearts & Minds, a large majority of respondents felt that they had benefited: "88.5% of the employees reported improvement in their problems, with 25.5% reporting much improvement"[41].

Respondents were asked what they thought their average reduction in productivity had been during the 7 days preceding treatment: the answer was 9.22 hours per responding participant, which for a typical 40-hour work week means that people were operating only at 77% of potential productivity, which corresponds reasonably well with the 65% (moderate) to 80% (mild) reduction assumed here. They were also asked how they were going post-treatment: "The average post-treatment rating of reduced productivity during the 7 days prior to completing the survey was 2.70 hours"[42], so they were now working at 93.3% of capacity, a productivity gain of 16.3 percentage points, which suggests that the 10% to 20% improvement reported in the Hearts & Minds' appraisals looks reasonable.

A large global survey in 2016[43] of pre- and post-EPA outcomes, which covered EAPs involving some 240,00 people over 20 years in 6 countries, found that "For presenteeism, the average employee user of the EAP was functioning at a 64% level of productivity during the month before use of the EAP (on a 0-100% scale; with the typical "healthy" employee at 84%). But this initial rather severe deficit changed to a more normal level of 79% when assessed several months later at follow-up after completing EAP counselling". In this context, the initial starting point was close to the "moderate" Hearts & Minds' case, and the improvement was 15%, a bit shy of the 19% in the Hearts & Minds' responses, so again broadly in the same ballpark.

Two assumptions are made about the duration of the benefit: one that it lasts for one year, and a second that it lasts for six months. Note that this is could well be an underestimate, as the skills acquired in the courses are likely to be ongoing assets for at least some attendees, but there is also a possibility that some attendees may have recurring episodes of mental challenge, or are impaired for one reason at one point and another reason at another point.

Benefit-to-cost ratio results

The BCR results from various scenarios (female/male, 6 month/12-month payoff, lower/higher course costs, and improvements of 5%/10%/15%/20%) are shown in the table on the following page.

40 George E. Hargrave, Deirdre Hiatt, Rachael Alexander, Ian A. Shaffer, "EAP Treatment Impact on Presenteeism and Absenteeism: Implications for Return on Investment", *Journal of Workplace Behavioral Health*, Vol 23 (3), 2008, pp283-93

41 Hargrave et al, p287

42 Hargrave et al, p288

43 Mark Attridge, *EAP Industry Outcomes for Employee Absenteeism and Presenteeism: A Global Research Analysis*, 2016, available at **https://archive.hshsl.umaryland.edu/handle/10713/7203**

Table 2: Range of payback ratios

Duration of benefit	Degree of improvement	Payback ratios (BCRs)					
		Women *Lower course cost*	**Women** *Higher course cost*	**Men** *Lower course cost*	**Men** *Higher course cost*	**Weighted average 75% W 25% M** *Lower course cost*	**Weighted average 75% W 25% M** *Higher course cost*
6 months	5	1.4	1.1	1.9	1.5	1.5	1.2
6 months	10	3.3	2.7	4.4	3.6	3.6	2.9
6 months	15	5.1	4.3	6.9	5.7	5.6	4.7
6 months	20	7.0	5.9	9.4	7.8	7.6	6.4
12 months	5	3.3	2.7	4.4	3.6	3.6	2.9
12 months	10	7.0	5.9	9.4	7.8	7.6	6.4
12 months	15	10.8	9.0	14.4	12.0	11.7	9.8
12 months	20	14.5	12.1	19.4	16.2	15.7	13.1

In all scenarios the payback ratio is clearly positive, ranging from a minimum benefit equivalent to 1.1 times cost (for a female attendee with a small 5% improvement at a 10-person course where benefits last only six months) to 19.4 times cost (for a male attendee at a 12-person course where benefits last for a year).

How to draw a central tendency or "best guess at average outcome" through this range is not easy. The high-end BCRs could be a misestimate under this modelling approach, but they could just as easily be evidence of a highly effective approach by Hearts & Minds to therapy and/or a demonstration of the scale of the upside value that could be realised by better addressing the significant problems caused by poor mental health[44]. Therapy professionals and analysts closer to the coalface of treatment and with clearer visibility of longer-term post-course outcomes are likely to be in a better position to make an informed call.

As potential guides, however, the average of the (weighted average) BCRs across all scenarios shown in the table above is 6.5. If minded to take a more conservative view (splitting the difference on likely duration of benefit at 9 months, assuming a 10% improvement, running the more expensive course option) the weighted average BCR is 4.7. Using the NZTA's typology of BCRs mentioned earlier, which is suggestive rather than definitive, this would put the Hearts & Minds' programmes either clearly within a "high" rate of return category (on a BCR of 6.5) or close to the boundary between a "medium" and "high" rate of return (on the more conservative BCR of 4.7).

44 "The annual cost of serious mental illness, including addiction, in New Zealand is estimated at $12 billion per year (5 percent of gross domestic product)", according to the Ministry of Health's *Briefing to the Incoming Minister of Health 2017*, p26, available at **https://www.health.govt.nz/system/files/documents/publications/briefing-to-the-incoming-minister-of-health-2017-the-new-zealand-health-and-disability-system_0.pdf**. By way of context a $12 billion a year cost in the year to March 2017 was roughly equal to the GDP contribution of the agriculture sector ($11.1 billion) or the education and training sector ($11.9 billion).

'Ripple effects' increase these conservative estimates

It should be noted that all these scenarios are likely to be a low estimate of the benefit payback ratios, not just because of assumptions around a relatively limited improvement towards full potential and time-limited rather than ongoing benefits, but also because the calculations do not reflect the ripple effects beyond the direct immediate benefits to the person involved, a process which Hearts & Minds internally calls "One action many outcomes". These include:

- the value of attendees' improved wellbeing on their co-workers (including, for example, the improved productivity of work groups they are members of, and reduced call on managers' remedial performance management or on internal staff support resources)
- the estimated benefits are on the basis of improvement in already employed people, but the benefits may also extend to unemployed people who attend and who gain improved mental wellbeing and the confidence to enter or re-enter the workforce
- the value of attendees' improved welfare on their families. Family members are less likely, for example, to have to take time off their own work to help deal with the attendee's challenges). Hearts & Minds' feedback is that "We know that parents who attend groups have reported improved family dynamics and relationships with their children, which can ultimately contribute towards reduced levels of family harm/violence and family conflicts"
- all quality-of-life improvements for the attendee and their families, which for issues such as depression or anxiety are likely to be substantial
- the value of the increased ability of attendees to perform better in non-productive contexts
- potentially reduced levels of crime or other anti-social behaviour as people are either personally less disaffected and/or have less inclination to offend against their communities when they feel connected, included and supported
- the (typically smaller, but still significant, on international evidence) impact on reduced absenteeism, which would likely add a productivity gain roughly one quarter of the presenteeism gain
- the potentially large savings on expensive core public health system costs that would otherwise have been engaged (discussed later in this report)
- the gains from arresting a further slide in productivity from the levels encountered at treatment (i.e., a counterfactual of further deterioration could well be an appropriate comparator). As a particularly important example, the benefit of preventing dramatically worse outcomes such as suicides is potentially extremely large (also discussed in more detail later in this report).

Comparison with other reports

There have been a variety of other reports which have estimated BCRs for similar programmes. Appendix 1 lists three other sources of estimates, from the New Zealand Institute of Economic Research, from Deloitte in the UK, and from a Canadian company, LifeWorks and provides details of their findings. The bottom line is that all three reports found that programmes similar to Hearts & Minds' produce significantly positive BCRs of a magnitude broadly similar to those estimated in this report.

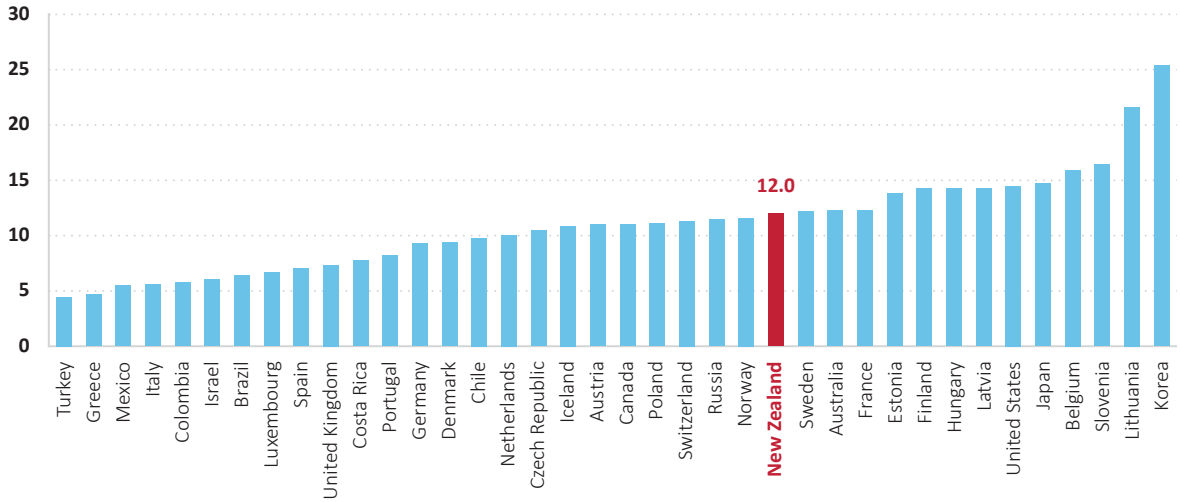
6

Potential benefit of suicide prevention

New Zealand has not done well to prevent suicide. Overall, our national rate is a little worse than that of our comparators in the generally well-off OECD countries, as the first of the graphs below shows[45], and our rate of youth suicide is exceptionally bad by world standards, as the second graph shows[46]. Our annual total according to the Chief Coroner's provisional estimate was 654 people in the year to June 2020[47].

Figure 4: Suicide rates

Total, per 100 000 persons, 2019 or latest available



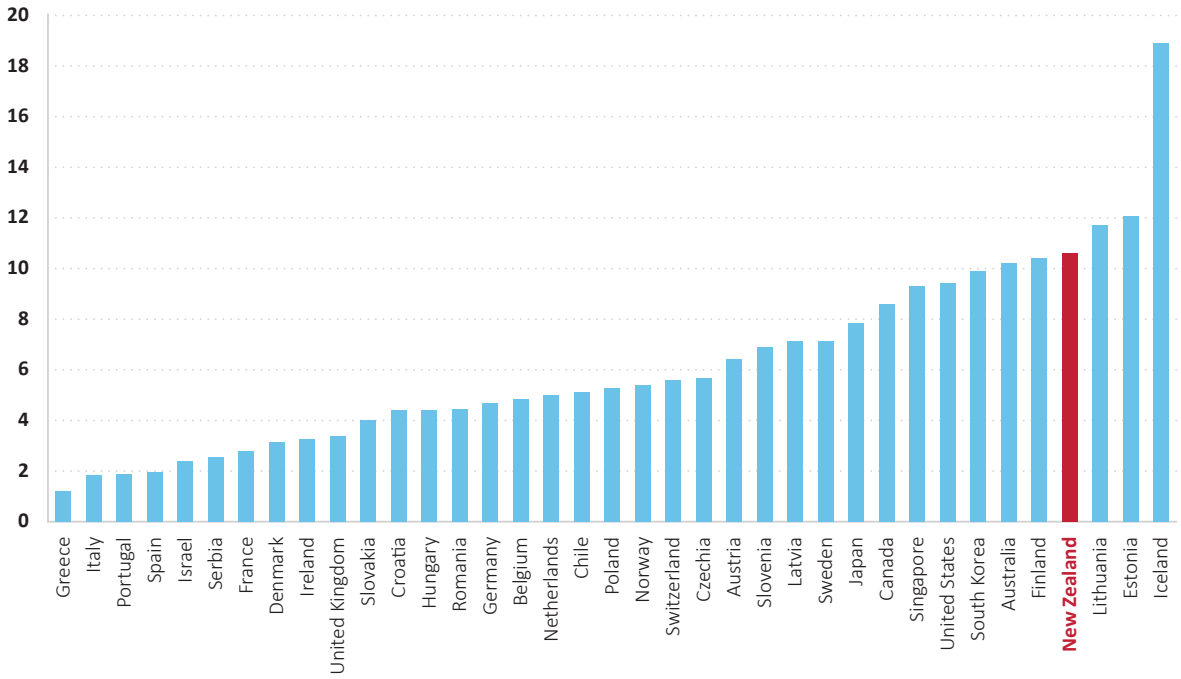
45 From **https://data.oecd.org/healthstat/suicide-rates.htm**

46 UNICEF Office of Research (2017). 'Building the Future: Children and the Sustainable Development Goals in Rich Countries', Innocenti Report Card 14, UNICEF Office of Research – Innocenti, Florence, p22.

47 From **https://coronialservices.justice.govt.nz/assets/Documents/Publications/Chief-Coroner-Suicide-Stats-2020-Media-Release.pdf**

Figure 5: Teen suicides[48]

Number, per 100,000



Programmes like Hearts & Minds' have the potential to save lives that would otherwise be lost to suicide, and there is some helpful data that demonstrate what the costs of suicide are, and hence what the payoff would be from preventing it.

The best source data date back to 2005 when the Ministry of Health commissioned a report[49] on the costs to New Zealand of suicides and attempted suicides. It found that each suicide gave rise to two kinds of economic costs. By far the largest part was the loss to the country of the output the person would have produced, if still alive.

This is the same idea used earlier in this report. The 2005 report estimated the loss of output at $438,050 per suicide. The other economic cost was the cost of the resources involved in handling suicides (emergency services, coroners, mortuary services and the like), which was much smaller, at $10,200. The total economic cost per suicide was consequently $448,250.

Each attempted suicide was less costly: the 2005 report calculated that an attempted suicide involved $2,600 in lost output, and resource costs such as medical treatment of $3,747, making a total economic cost of $6,350.

48 World Health Organisation, Global Health Observatory data, suicide rates, **https://www.who.int/data/gho/data/themes/mental-health/suicide-rates**

49 O'Dea, D and Tucker, S, *The Cost of Suicide to Society*. Wellington: Ministry of Health, 2005. Available at **https://www.health.govt.nz/system/files/documents/publications/thecostofsuicidetosociety.pdf**

These estimates were updated to 2015 conditions in a report developed jointly by the Health Quality & Safety Commission and the New Zealand Institute for Economic Research (NZIER)[50]. The report was designed to look at the potential payoffs from investing in 'mortality review committees', a process that can require a range of agencies to provide their data and then analyse them, "linking them in ways not previously possible and identifying key patterns and possible intervention points. This knowledge can be used to develop new suicide prevention strategies and action plans".

The report was then able to do a benefit-to-cost analysis using various assumptions about the numbers of suicides that might be prevented each year, compared with the cost of running the mortality review committee (some $700,000 a year). It found that the review committee strategy was likely to be an extremely worthwhile thing to do, with an estimated benefit-to-cost ratio of $19-$20 for every $1 spent on it. The report also calculated that "It would only require a reduction of 1.2 suicides per year (or less than a 0.5% reduction from current levels) for the investment to break even"[51].

A similar analysis can be done on Hearts & Minds' data. The HQSC / NZIER 2015 report had updated the $448,250 economic costs estimated in 2005, to $587,200 at the prices that prevailed in the March quarter of 2012. This report has further updated the costs to the prices of end-2018 (halfway through the Hearts & Minds 2018-19 year), which results in a further 8% increase to $634,180.

Both of these updates are likely on the conservative side, as there is a case that the original 2005 costs should be updated by the increase in earnings rather than the increase in prices.

The cost of the 60 courses run in 2018-19 was $480,000. If the courses saved 0.76% of a suicide, they would break even. Or to put it in a more intelligible way, if the courses saved 3 lives over 4 years, they would break even from an economic-cost-saved point of view. Over that period some 2,675 people[52] would have gone through the Hearts & Minds' courses, meaning that the breakeven level would be only 0.1% of the Hearts & Minds' clientele[53]. This looks to be a very low sighting shot of the proportion of Hearts & Minds' clients that are likely to be at suicide risk, given (as noted earlier) that Hearts & Minds accepts people all the way up to the boundary between "moderate" and "severe" impairment. The Synergia report looked at people presenting to Hearts & Minds in 2016-17, and found that 115 were more severe than "moderate", and so needed other services. Of that 155, "42% were experiencing suicidality ... and 12% were self-harming"[54]. It seems highly likely that suicidality spanned the border between "moderate" and "severe" and that there were clients taken on by Hearts & Minds who were indeed at risk of suicide. People apparently on top of managing their risk of suicide, and who would be comfortably within the "mild to moderate" classification can, unfortunately, turn for the worse with little warning, as this tragedy indicates[55].

50 Health Quality & Safety Commission and NZIER, *ESTIMATING THE BENEFITS OF INVESTMENT IN ONGOING SUICIDE MORTALITY REVIEW – A COST BENEFIT ANALYSIS*, 2015. Available at **http://email.myexperience.health.nz/assets/SUMRC/PR/Suicide_Mortality_Review_Cost_Benefit_Analysis.pdf**

51 HQSC & NZIER report, p9

52 The 669 of 2018-19, times four.

53 3 suicides prevented among 2,675 people = 0.11%

54 Synergia report, p45

55 **https://www.stuff.co.nz/national/125720572/doctor-concerned-over-mans-visit-to-waikato-hospital-days-before-his-death**

It is likely that Hearts & Minds' therapies were effective in preventing suicide and while not definitive it is nonetheless suggestive that, to the best of Hearts & Minds' knowledge, none of the people who have gone through their services has gone on to commit suicide. It is safe to conclude that there has been some prevention, and to note that this benefit is very nearly all in addition to the productivity gains estimated earlier (there is a small overlap, representing the output loss prevented in the first 6/12 months of the person's life, with the remainder of the person's output contribution to society over the rest of their life being an additional benefit).

Taking a 'lost production' economic cost approach is, however, a rather narrow perspective on the value of suicide prevention, and not one that sits comfortably with normal people's views on the true costs. As the original 2005 paper by O'Dea and Tucker pointed out[56], "The costs of suicide to society are high. The direct economic costs of suicide are not insignificant, as we shall see. But they are small in comparison to the 'intangible costs'; the grief and bereavement of family and friends, and the lost potential of lives cut short". As they went on to show, the value of the "lost potential of lives cut short" can be quantified, and it is very large indeed.

The starting point for these kinds of calculations is the 'Value of a Statistical Life', or VoSL[57]. This is what people say in surveys that they would be prepared to pay to prevent someone's life being lost, and it is used in circumstances such as road safety improvements to help figure out the value of improving accident black spots: indeed, the standard VoSL measure used in New Zealand is calculated by the Ministry of Transport and NZTA. Spread over the number of years a person would have been expected to live, it can give you a value for each year of life. Those values can then be used to value the number of life years lost to suicide.

When O'Dea and Tucker did it, they started with a VoSL in June 2004 of some $2.75 million. On that basis, the value of the years of life lost to suicide was around $2.25[58] million *per suicide*, far more than the $448,250 of purely economic costs. They commented, rightly, that "These amounts are huge, underlining the fact that by far the most important cost of suicide is the loss of life". With 460 suicides in their reference 2002 year, the national cost of loss of life was $1.15 billion, very much more than the $239 million of purely economic costs.

That was then. In the meantime, both the VoSL and the number of suicides have gone up. In the 2015 update by the HQSC/NZIER, the latest VoSL was $3.85 million and the number of suicides was 508, meaning that the loss of life cost per suicide had gone up to $3.225 million, and the national cost to $1.63 billion. And at time of writing the latest VoSL is $4.53 million and the number of suicides is 654, making a loss of life cost per suicide of just below $3.8 million and a total national cost of just below $2.5 billion.

These numbers look very large, and an observer might wonder about their realism. In fact, if anything, they look to be on the low side, judging by estimates from Australia, which has a similar overall suicide rate to New Zealand.

56 O'Dea & Tucker, p1

57 There is a nice plain English explanation of the VoSL, and its recent use in different contexts, in **https://www.newsroom.co.nz/pro/government-valued-your-life-at-46m-until-covid**

58 This is what the authors say, though their Table 13 on p14 shows numbers close to $2.5 million. $2.5 million also tallies with their $1.15 billion national cost estimate. This report uses $2.5 million, as did the 2015 update of the numbers by the Health Quality and Safety Commission / NZIER.

The Australian Productivity Commission's recent health inquiry report looked at the suicide costs in Australia in some detail[59]: it calculated the loss-of-life cost per suicide to be A$9.2 million in 2018 dollars (NZ$9.5 billion converted at 2018 purchasing power parity[60]). Even if we discount the Australian number by the difference in our income levels (New Zealand's GDP per head is roughly 78% of Australia's), our loss-of-life cost would be $7.4 million per suicide.

Whatever the true number is, it is very large indeed, and a wider view of the overall costs of suicide means that the benefit of preventing even very small numbers of them is very high. On New Zealand's latest numbers, if Hearts & Minds prevented just one death a year, it would represent a benefit to society of around $4.43 million ($3.8 million prevention of loss of life, $634,000 prevention of economic loss), and on its own would represent 6.5 times Hearts & Minds' total expenditure in 2019-20.

59 Details of their suicide cost calculations are in Appendix H of the report

60 Purchasing power parity or PPP exchange rates are regarded for many uses as a better way of making international comparisons, partly because they avoid the sometimes significant volatility in market exchange rates, which can have the effect of temporarily making overseas currency data look unusually cheap or expensive in NZ$ terms. The rates used here come from the OECD's database at **https://data.oecd.org/conversion/purchasing-power-parities-ppp.htm**. For 2018 the PPP rate was 96.81 Australian cents, for 2019 97.63 cents and for 2020 98.17 cents. At time of writing the market rate was 94.77 Australian cents, which means the PPP conversions make Australian costs look a bit lower than if converted at the market rate.

7

Potential benefits of navigation services

Hearts & Minds provides two forms of assistance to people looking for help with their mental health or other social issues.

Their key resource is the Support Services Directory[61] which in its 2019-2021 version launched in December 2019 is in its 23rd edition. It currently lists over 400 free or low-cost support services in areas such as abuse/violence, addiction, counselling/support, crisis/emergency, health support, and mental health. There are also sections catering for particular groups (Māori, Pacific Island people, newcomers/migrants to New Zealand). Under mental health it lists 46 entities (including Hearts & Minds itself), each with contact info and a brief description of what each entity provides. Hearts & Minds also provides a personalised service of support pathways[62], which is available in person, over the phone, or by e-mail.

The value of these services is difficult to quantify, but is likely to be very large, as they address one of the biggest issues confronting people with mental health problems.

This is the fragmentation of support services and the wide range of smaller-scale initiatives underway at any given time, with a great deal of variation in provision and outcomes. As the OECD's *Mental Health and Work: New Zealand* report noted, "A myriad of trials and pilots are in place all around the country to fill some of the gaps. Service use and outcomes, consequently, differ substantially across the country and across ethnicities ... Regional disparities are the result of considerable regional autonomy across government

61 Available at **https://www.heartsandminds.org.nz/support-services-directory**
62 Described at **https://www.heartsandminds.org.nz/services/health-navigator**

agencies, in turn leading to significant variability in the availability of adequate support and services ... Health and employment services in New Zealand are highly fragmented with numerous programmes and initiatives running in parallel"[63].

Finding what is available in any given area, and to what standard, is currently a difficult exercise, and is likely to be even more so for those with mental issues which may leave them not well placed to spend the time and effort to navigate a complex matrix of potential services. The key payoff is consequently likely to be the matching of people with mental health needs with services of value to them, which they would not have been able to find by themselves, and the value of this matching is likely to be very high.

As an illustrative example, there were over 112,000 visits to the online directory in the 2019-20 June year. If only a very small proportion (1%) of those visits resulted in people finding services appropriate to them which they would not have otherwise discovered, and which resulted in an improvement in their productivity similar to the Hearts & Minds' outcomes discussed earlier (a 10% improvement in productivity, for a female, maintained for 9 months), then the economic payoff alone could be as high as $2.95 million a year[64].

For the personalised pathways, there were 5,642 provided in the 2019-20 year: it is likely that the more customised service has a higher matching success rate. Hearts & Minds report, for example, that they encourage a "come back to me if it doesn't work out" approach, and the two-way feedback improves their knowledge of what service best suits whom.

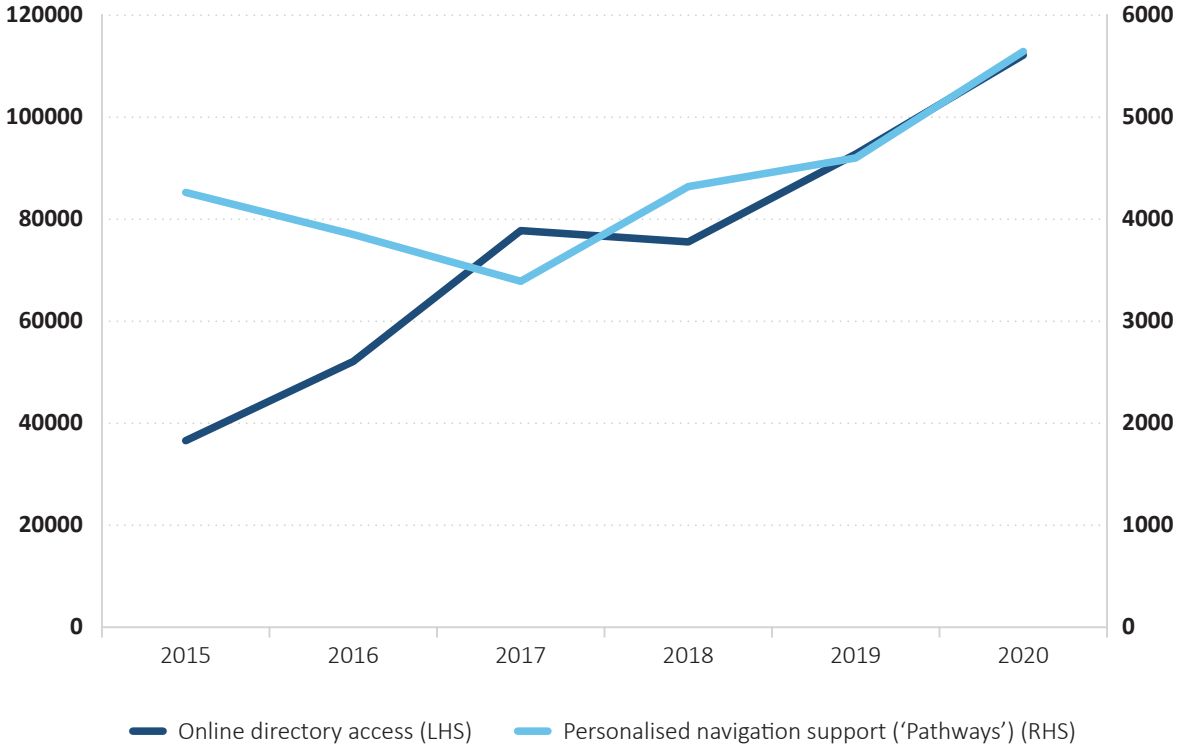
63 *Mental Health and Work: New Zealand*, p12 (1st two sentences, p15)

64 A 10% improvement for 9 months on annual earnings of $50,310 is worth $3,773 which, less down-time course attendance costs of $336 and less the $802 per person cost of a 10-person Hearts & Minds course, is a net payoff of $2,635. For an assumed 1,120 people successfully matched, the payoff would be $2.95 million. The payoff would be smaller, however, if the resource identified had higher costs than Hearts & Minds, which is likely.

If we illustratively assume a 25% success rate in matching, then the annual economic payoff could be around $3.7 million a year. On these admittedly imprecise estimates of successful matching, taken together the economic payoff from the navigation support services could be in the region of $6.65 million a year – in context, a payoff from the navigation services substantially greater than Hearts & Minds' entire expenditure for the year across all its activities ($678,000). Compared to the costs of the navigation services alone, the payoff is very large[65].

It is also suggestive that usage of both the directory and pathway navigation services has been increasing steadily in recent years, which is indicative of clients valuing the service and which has been evident in surveys. Hearts & Minds' 2018-19 annual report[66] found that 97% of respondents rated the directory as very useful/useful and 90% of respondents found the information very easy/easy to use. Another indicator of its value is the rollout of a second directory, currently under development for Northland.

Figure 6: Usage of support resources navigation[67]



65 Hearts & Minds' estimate that updating the directory every two years requires 10 hours a week over a period of six months at $35 an hour plus overheads (estimated here to be a loading of 60%, in line with the admin and overhead costs of the courses), which is a total of $14,560 every two years, or $7,280 per year. There is also ongoing maintenance of some 5 hours per month, or $3,360 annually. Costs for the personalised pathways are estimated at half an hour per client, at the same hourly rate plus overheads, or $157,976 a year. Total annual costs on this basis are $168,616. On any kind of illustrative level of matching success the payoff is likely to be very substantial.

66 From p9 of the report, available at **https://www.heartsandminds.org.nz/images/Publications/annual-report-2018-19.pdf**

67 Source: Successive annual reports

8

Saving costs that would otherwise have fallen on the health system

Hearts & Minds clearly has the potential to save costs that would otherwise have been incurred elsewhere in the health system.

There are two channels. One is that Hearts & Minds' services are efficiently provided compared to the costs incurred by other providers outside of the hospital system. The other is where Hearts & Minds saves costs compared to the costs of hospital treatment. A typical instance would be where early Hearts & Minds' intervention at the group or community level prevents a deterioration that would have taken a person into the "severe" category and would have necessitated hospitalisation. There will of course be instances where Hearts & Mind's services will not be able to be substitutes for the most acute, hard to treat / most persistent and clearly "severe" conditions, but in the large space of "mild" to "moderate" (and in prevention of slipping into "severe"), Hearts & Minds is likely to be a cost-effective alternative.

While not necessarily amounting to a cost saved, there may also be a further benefit to the public hospital system, from Hearts & Minds freeing up capacity in the public system. The recent evidence is that current public psychiatric facilities are at or beyond safe levels of capacity use. Data released in June 2021 on occupancy levels showed, according to the *NZ Herald*'s coverage[68], that "acute mental health units across the country regularly operate at full capacity, when 85 per cent is considered the maximum safe level. It's jeopardising patient care and safety and leading to longer waits for people who desperately need beds". The doctors' union agreed: the Association for Salaried Medical Specialists said[69] that "An occupancy rate of about 85 per cent was the upper limit of what was clinically safe ... it absolutely diminishes the therapeutic value of being placed in an inpatient facility".

68 *NZ Herald*, "Long-term patients add to strain", June 22 2021

69 From Stuff's coverage, '**Mental health: Union says acute wards too crowded to be safe or therapeutic, as patients put into offices**', July 7 2021

While there could be a cost saved, if Hearts & Minds' therapies reduced the inflow into the public wards, another outcome could be that Hearts & Minds takes on an (appropriate) client and either (a) a slot becomes available for someone who cannot currently access full-capacity hospitals or (b) capacity use is reduced to more clinically effective levels, either of which would represent a social gain. This is a realistic possibility: *He Ara Oranga* found that there are many instances where patients have ended up in the expensive hospital system but could be better treated outside it. As it said, "The lack of access to a broader range of options outside of specialist mental health services means that people remain in those services far longer than they need through fear of being discharged and then not being able to access support if and when they need it. Services are hard to get into, making people and clinicians reluctant to discharge. This provides an incentive to stay in the specialist system just to get ongoing support even when a general practice could provide clinical support. The fact specialist services are free, unlike most primary care services, creates another perverse incentive"[70].

Looking at the first of the two channels of potential cost savings, Hearts & Minds' course costs ($8,023 for a 10-person, 8-week, 2 session course) equate to a patient per hour cost of just over $50 an hour. This is highly competitive compared to costs of other providers. Hearts & Minds' view is that not only are costs competitive, but the effects of their services last longer, as their emphasis on group and community support helps to embed the wellbeing gains.

A small sample (based on Internet search) of other providers' hourly costs is shown in the table below. The data suggest that typical rates for non-Hearts & Minds' providers are in the region of $150/hour for counsellors and therapists (perhaps the closest comparator for Hearts & Minds), around $200-250/hour for psychologists, and around $500/hour for psychiatrists. A lower bound estimate of psychiatric costs would be what ACC (as a key bulk buyer) pays, which is currently $435.23[71] including GST.

Table 3: Indicative costs of other providers ($)

Provider	Counsellor/therapist	Psychologist	Psychiatrist
Capital Psychiatry (Wellington)	150 (short term) 100 (longer term)		500
Ellerslie Clinic (Auckland)	175	195 210 (couples therapy)	400
Re-centre (Auckland)		230	From 430 (60-90 mins) Follow-up 500
Rojolie Clinic (Auckland)		275 (initial assessment) 265 (follow-up)	715 (initial complex assessment) 585 (initial assessment)

70 *He Ara Oranga*, p105

71 As shown in **https://www.acc.co.nz/assets/contracts/clps-schedule.pdf**

On the potential costs saved by averting hospitalisation, comparisons are more difficult. Intuitively, Hearts & Minds' services, where clinically appropriate, must be very significantly lower than the high-overhead costs of in-hospital care, but this is, somewhat oddly, difficult to quantify.

Ideally it would be good to be able to see the per-patient costs in the hospital system to get a feel for the costs that Hearts & Minds are saving. Rather surprisingly, however, cost-per-patient data for public treatment are very hard to find, and this report was not able to find any in the public domain. There is some excellent reporting available from the Ministry of Health's web page 'Mental Health and Addiction monitoring, reporting and data'[72]: its 'system performance library', for example, "includes details about how long people have had to wait to be seen by mental health and/or addiction services and the demographic breakdown of people accessing services". Its Mental Health and Addiction: Service Use tables[73] provide "demographic and geographic information, client referral pathways, the types of services provided, the outcome of the services and legal status and diagnosis information". But neither appear to include information on the per patient cost of treatment.

One workaround is to appropriately adapt recent Australian cost-per-patient data. The Australian Institute of Health and Welfare[74] is an independent Australian government agency which publishes a range of data on health and welfare. In particular it publishes a report on 'Expenditure on mental health-related services'[75]. The 2018-19 edition said that "The $2.8 billion of recurrent expenditure for public sector specialised mental health hospital services during 2018–19 equates to an average cost per patient day of $1,254. The Northern Territory ($1,679) had the highest average cost per patient day, while the average cost in Queensland ($1,080) was the lowest".

The Australian average of A$1,254 translates into NZ$1,290 at Purchasing Power Parity rates. This is then adjusted for the fact that incomes (which will form a large part of the Australian costs) are significantly higher in Australia: New Zealand costs to provide the same hospitalisation services are likely to be significantly lower[76]. The $1,290 figure is consequently reduced by the difference in our two countries' GDP per capita: the IMF's data show New Zealand incomes are currently 78% of Australia's. The end result is an estimate of NZ$1,006 as the cost of a patient day in a New Zealand mental health hospital facility[77].

72 At **https://www.health.govt.nz/our-work/mental-health-and-addiction/mental-health-and-addiction-monitoring-reporting-and-data**

73 The latest year's data is at **https://www.health.govt.nz/publication/mental-health-and-addiction-service-use-2019-20-tables** and the raw data can be downloaded as an Excel file from **https://www.health.govt.nz/system/files/documents/publications/mh_online_tables_201920_final.xlsx**

74 Its website is **https://www.aihw.gov.au**

75 The AIHW's reports can be read online at **https://www.aihw.gov.au/reports/mental-health-services/mental-health-services-in-australia/report-content/expenditure-on-mental-health-related-services**

76 In principle, if there was a very flexible market in medical health professionals between Australia and New Zealand, local salaries would be likely to be close to Australia's. But in the interests of producing a conservative number for the costs that Hearts & Minds might save, the lower adjusted-for-GDP numbers have been used.

77 As noted, data on per patient costs do not seem to be easily available, and not a great deal of reliance should be placed on one data point, but Counties Manukau DHB, setting out the costs that will face someone without eligibility for free New Zealand treatment, says that costs for "Inpatient Stay start from $821 per day", which is not too dissimilar to the $1,000 estimated here. From **https://www.countiesmanukau.health.nz/for-patients-and-visitors/do-you-have-to-pay**

The estimate is roundabout, but it gets to what one would have strongly suspected a priori: there is an orders of magnitude difference between Hearts & Minds' costs and inpatient mental hospitalisation costs. There may be limited substitution possibilities, but if even a tiny fraction of the 4,387,830 mental hospital bed nights in 2019-20[78] were handled by non-hospital suppliers like Hearts & Minds, there would be scope for significant cost savings.

78 From Table 14 of the 2019-20 Mental Health and Addiction: Service Use tables

9

Benefits of a community-based approach and alignment with future policy direction

A final aspect of Hearts & Minds' activities is their application of community development principles in the delivery of mental wellbeing services, a community-focused approach which they understand is unique in New Zealand.

Their website quotes the World Health Organisation saying that "research and literature findings indicate when communities are well-informed, have access to information, resources and support, and are engaged in identifying their own health needs and solutions, then the wellbeing / health outcomes in those communities are greatly improved." Social isolation aggravates mental issues, whereas social connectedness is known to improve mental outcomes.

Conversely, when things go wrong, they go wrong community wide. The government's mental health inquiry found that "People told us how whole communities, not just individuals, can become depressed or anxious, disconnect from each other, and lose the sense of trust and the ability to work together.

They expressed dismay at their limited influence over important decisions that affect community wellbeing, such as the number and placement of liquor or gambling outlets and access to addiction detoxification (detox) facilities"[79].

Hearts & Minds puts this community-basis viewpoint into practice in a variety of ways. One is its Shared Vision programme, which "supports, facilitates and promotes the development of mental wellbeing across the mental health sector, communities, community organisations, businesses and government agencies. Shared Vision offers quarterly lunchtime seminars for the community, community sector, business etc, and monthly mental health client meetings that offer a supportive and informative environment to raise and advocate on issues that impact their mental wellbeing".

79 *He Ara Oranga*, p43

Another is its Community Volunteering referral service, which matches up people who would like to be a volunteer in Hearts & Minds' catchment with community organisations who have registered with Hearts & Minds.

Hearts & Minds has found[80] that a community focus has a number of benefits. The non-siloed approach of offering a range of community services is easier for people to access than the typical government funding model which is fragmented across a range of agencies. Again, this was corroborated in the government inquiry: "People reported difficulties with boundaries between services even within the same DHB. They described negotiating the system as time-consuming and a cause of anxiety and uncertainty – a problem echoed by GPs and paediatricians. Submitters felt disempowered by unexplained delays, confusing and sometimes contradictory criteria to access services, difficulty in sustaining and adjusting packages of support over time, and uncertainty in moving between different levels of service and service providers"[81]. A consequent efficiency of Hearts & Minds' Health Navigation services is that people only need to tell their story once to Hearts & Minds, who then make the connection to the most appropriate agency, rather than people having to do multiple approaches.

Hearts & Minds' experience is also that people have a greater propensity to come forward to a local organisation that they trust, and are very much less likely to share their issues with central government entities which they mistrust for a variety of reasons[82], and which they see as "top down", doing things "to" them rather than "with" them. At the risk of repetition, this was also confirmed in the government inquiry: "We heard that people facing mental health or addiction challenges are often reluctant to seek help for fear of encountering negative attitudes from health practitioners and being subject to restraint, seclusion, the removal of their children, separation from family, loss of employment and suspension of their human rights. We were told that often the result is a worsening of their condition until they eventually enter the system under a compulsory treatment order or enter the criminal justice system"[83].

In addition to fear of loss of control, some people are concerned about the potential stigma of being treated in a clinical setting and again are more comfortable fronting up to a local community organisation. One result is that Hearts & Minds find people surfacing mental health issues with them that might not otherwise have been brought to light, and at an earlier stage, enabling prompter intervention with a greater likelihood of success. They also find that a network of supportive community resources improves the sustainability of their interventions. Simple calculations based on the BCR framework used earlier shows that already significant payoffs become even larger if, for example, members of groups stay in touch with each other post-course and their mutual support extends the effect of the course for longer than the 6 or 12 months used in the BCR modelling.

80 Zoom conversation with Hearts & Minds' staff, July 19 2021

81 *He Ara Oranga*, p57

82 In passing, this came as very much of an eye-opener to the author of this report, who over the years has been happy to trust a range of clinical facilities, but as Hearts & Minds' experience and the inquiry show, it is a real and worrying phenomenon.

83 *He Ara Oranga*, p62

The bottom line is that the effectiveness of organisations like Hearts & Minds was recognised as a key part of the way forward in the Government Inquiry. As it said, "Hospital and inpatient units will not be the centre of the system. Instead, the community will be central, with a full raft of intervention and respite options designed to intervene early, keep people safe and avoid inpatient treatment where possible ... Support will be available as close to home as possible in local hubs. These will offer people a range of immediate health and social support options. The focus will be working with the person and their whānau to sort out what is causing their distress and help them to relieve it. These hubs will be the first points of contact for people (and their families and whānau) to access immediate support, assessments, brief interventions, talk therapies, peer support, alcohol and other drug services, and self-help, individualised and group therapies. Psychiatric and clinical assessment, advice and support will be more widely available through primary health care, Whānau Ora and community providers that will link strongly to, provide or be part of local hubs. A full spectrum of early interventions and support opportunities will be easy to enter and exit".

Recommendation 14 of the inquiry was to "Agree that future strategies for the primary health care sector have an explicit focus on addressing mental health and addiction needs in primary and community settings, in alignment with the vision and direction set out in this Inquiry". It was accepted in principle by the government in May 2019[84].

84 The government response can be read at **https://www.health.govt.nz/our-work/mental-health-and-addiction/he-ara-oranga-response**

Appendix 1: Other reports estimating benefit-to-cost ratios

This Appendix presents more detail on three recent reports which have estimated the BCRs from programmes similar to those offered by Hearts & Minds.

Comparison with NZIER report

In April 2021, the New Zealand Institute of Economic Research (NZIER) published a report, *Wellbeing and productivity at work*[87], commissioned by the business accounting software company Xero. It aimed to evaluate the benefit-to-cost ratios for two kinds of approaches to improving mental health at work, employee assistance programmes (EAPs) which "support individuals with counselling", and organisation-wide approaches which "develop organisational cultures and activities to improve mental wellbeing".

Their EAP results are an alternative and reasonably comparable sighting shot on the effectiveness of programmes like Hearts & Minds' courses. Their approach is similar: they attempt to assess how much productivity is lost through impaired mental wellbeing, and they then compare how much of that lost productivity could be recovered though EAP programmes. With data on the cost of the programmes, they can then calculate benefit-to-cost ratios.

In what they describe as a "conservative" analysis, the NZIER's central estimate for the benefit-to-cost ratio is 3.6:1, which is somewhat lower than the 'more conservative' 4.7 BCR calculated here.

As here, their estimates of payback vary with the underlying assumptions used: for example, they used a range of assumptions about the degree to which at-work performance (or "presenteeism") is affected by impaired metal wellbeing. Their medium estimate was a 23.1% productivity loss (similar to the 20% reduction used here for the "mild" case") but also looking at the possibility that it could be as low as 6.6% or as high as 36.4% (similar to the "moderate" case here). This means that the payback ratio varied within a range of a minimum payback ratio of 2.1 and a maximum payback ratio of

87 Available at **https://www.nzier.org.nz/hubfs/Public%20Publications/Client%20reports/nzier-wellbeing-and-productivity.pdf**

5.1. As NZIER commented (p7), "The variation in the input assumptions was unavoidable and reflects the variation found in most studies".

Comparison with Deloitte UK findings 2017 & 2019

In 2017 the UK government announced some mental health reforms, and as part of the exercise set up an Independent Review Of Mental Health and Employers (the 'Stephenson-Farmer' review[88]). It was asked to look at "how employers can better support the mental health of all people currently in employment including those with mental health problems or poor wellbeing to remain in and thrive through work".

UK accountancy firm Deloitte was commissioned to assist the review[89] and surveyed the best evidence on the effect on mental health and productivity of a wide variety of employee assistance programmes (EAPs). It looked at three issues: for present purposes the important one was "What is the return on investment to employers from mental health interventions in the workplace?[90]".

After identifying 23 studies that Deloitte regarded as reliable, Deloitte's conclusion was that " The return on investment of workplace mental health interventions is overwhelmingly positive. Based on a systematic review of the available literature, ROIs[91] range from 0.4:1 to 9:1, with an average ROI of 4.2:1. These ranges account for a number of data sources and methodologies. Our research indicates that these figures are likely to be conservative given the declining cost of technology-based interventions over time, increase in wages, cross-country differences and limited consideration of the full breadth of benefits"[92].

The overall finding of a BCR of 4.2 is a useful cross-check signpost, but the programmes surveyed covered a wide range of types of assistance, some of them quite different to the courses provided by Hearts & Minds. Deloitte included a summary of high-confidence sources[93], which gave individual examples of EAPs similar to those provided by Hearts & Minds. The closest parallels look to be a 2013 study which examined the effectiveness of seven 45 minute sessions based on problem solving therapy and CBT (Cognitive Behaviour Therapy, one of the techniques taught by Hearts & Minds), which had a BCR of 3.0:1, and another 2013 study involving three therapist sessions teaching acceptance commitment therapy (also used by Hearts & Minds), with a BCR of 5.7:1. Averaging those two gives a BCR of 4.3, similar to the overall Deloitte finding for all kinds of EAP. Given the inherent imprecision in all these kinds of estimates, a BCR of 4.3 is in the rough general area as the more-conservative 4.7 BCR estimated here.

Deloitte updated the exercise in in 2019 (published at the start of 2020)[94]. This time round they found that "The results of our updated return on investment (ROI) analysis

88 Available at **https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/658145/thriving-at-work-stevenson-farmer-review.pdf**

89 Monitor Deloitte, *Mental health and employers: the case for investment*, *Supporting study for the Independent Review*, October 2017, available at **https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/public-sector/deloitte-uk-mental-health-employers-monitor-deloitte-oct-2017.pdf**

90 The other two were estimating the costs of mental health to UK employers, and identifying best EAP practice from international examples.

91 Deloitte use the term Return on Investment (ROI) but it is the same concept as the BCRs used here. As noted in Deloitte's 2020 update (p40), "The formula used in this report is ROI=benefits-costs/costs", the same as here.

92 Monitor Deloitte report 2017, p14

93 Monitor Deloitte 2017 report, Figure 22, p14

94 Deloitte, *Mental health and employers: Refreshing the case for investment*, January 2020, available at **https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/consultancy/deloitte-uk-mental-health-and-employers.pdf**

show a complex but positive case for employers to invest in the mental health of their employees, with a return of £5 for every £1 spent (5:1). However, there is a large spread of potential returns from 0.4:1 up to nearly 11:1."[95] Deloitte's 5:1 is close to the more-conservative BCR for Hearts & Minds of 4.7. It is possible, though, that as a comparison sighting this may overstate the BCR of programmes like Hearts & Minds': Deloitte (as they had in 2017) divided up the kinds of EAP into three groups, one of which ('Reactive 1-1 mental health support') includes by way of example, 'Therapy with a licenced mental health practitioner', which is broadly where Hearts & Minds would be categorised. In 2017 Deloitte has shown a maximum ROI for this category of 5.1 (they did not show an average); in 2020 Deloitte showed an average ROI of 3:1.

Comparison with recent Workplace Outcome Suite findings

In 2020 a Canadian company, then called Morneau Shepell and now called LifeWorks, published two reports[96] which aimed to document the productivity benefits of employee assistance programmes that had used the Workplace Outcome Suite (WOS). The WOS is "a self-report measure of change that examines five key aspects of workplace functioning: Work Absenteeism, Work Presenteeism, Work Engagement, Workplace Distress, and Life Satisfaction. It is the only publicly available outcome instrument that has been psychometrically validated and tested for use in EAP settings. It is an easy-to-administer tool that uses a short, precise, and easy-to-administer survey to collect EAP specific outcome data both at start of the counselling and at a follow-up (usually at two or three months) after the last clinical session"[97].

Helpfully, the latest results include New Zealand, although it must be noted that (a) on the one hand the data rely on the outcomes from just one EAP provider who uses the WOS (Benestar) though (b) on the other hand the outcomes are based on a reasonably large number of people (1,147). Pre EAP treatment, the level of productivity at work in New Zealand was assessed at 57.3% of full 100% productivity, and post-treatment it was assessed at 70.6%, a 23% improvement[98]. This suggests that using the 20% improvement figure that emerges from the Hearts & Minds' appraisals may be a realistic option to use in picking likely BCRs, especially as the New Zealand improvement figures are similar to the improvements noted in WOS-centred EAPs in the US (24%), 'other global' (21%) and China (30%).

Finally, Part 1 of the two Morneau Shepell reports had a go at estimating ROIs (again, actually BCRs) for employee assistance programmes. Unfortunately, the estimates appear to cover only US based company-wide programmes, but for the record the estimated ROIs[99] were 3.25:1 for smaller US companies, 5.07:1 for medium-sized companies, and 9.33:1 for large companies. The main takeaway is likely that, even if the data are not easily comparable with Hearts & Minds' experience, their figures also show substantially positive BCRs.

95 Deloitte 2020 report, p25

96 Morneau Shepell, *Workplace Outcome Suite (WOS) Annual Report 2020: Part 1 – Decade of Data on EAP Counselling Reveals Prominence of Presenteeism*, (2020) and *Workplace Outcome Suite (WOS) Annual Report 2020:Part 2 – Profiles of Work Outcomes on 10 Context Factors of EAP Use*. They are available at **https://www.eapassn.org/WOS**

97 Morneau Shepell, Part 1, p14

98 Morneau Shepell, Part 2, p22

99 Morneau Shepell, Part 1, p46

The work of Hearts & Minds NZ is absolutely driven by a conviction that mental health is created in communities. Their work demonstrates that when communities are engaged in developing and providing the solutions, real and measurable mental health gains are made.

ROB WARRINER, CHIEF EXECUTIVE OFFICER, WALSH TRUST

I've witnessed first-hand the real difference made in people's lives when they access Hearts & Minds' support. They are warm and welcoming, ensuring everyone is connected to the support areas that they need, which in turn has led to positive outcomes. They are an incredible asset to our wider community.

JILL NERHENY QSM, KAIPATIKI COMMUNITY FACILITIES TRUST

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