This Social Sector Science Advisor's Report titled "Towards an Evidence-Informed Plan of Action for Mental Health and Addiction in New Zealand: A response by the Social Sector Science Advisors to the request of the Government Inquiry into Mental Health and Addiction", dated 13 July 2018, was requested by the Mental Health and Addiction Inquiry to assist the Panel in its internal deliberations. It contains the views of the Social Sector Science Advisors, and should be read in conjunction with their submission titled "Toward a Whole of Government/Whole of Nation Approach to Mental Health: Presentation to the Government Inquiry into Mental Health and Addiction by the Social Sector Science Advisors", 10 May 2018

These reports were produced as one input only amongst other commissioned research, and additional to information received by the Inquiry in over 5200 submissions and conveyed at over 400 meetings.

Towards an Evidence-Informed Plan of Action for Mental Health and Addiction in New Zealand

A response by the Social Sector Science Advisors to the request of the Government Inquiry into Mental Health and Addiction

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Introduction

We presented our high-level narrative to you May 10, 2018 in what, to us, was a very satisfactory conversation. At the end of almost 2 hours being fully engaged with us and our story, you asked if we would prepare a plan based on what we had covered. What follows is our response to your request.

It seems to us that the final report that you will prepare is an extraordinary opportunity, not only for New Zealand, but for the world. We are fairly sure that nobody has created something global of the sort that is in your hands to create. There are lots of gems and stardust but no overall coherent mental-health framework anywhere that is informed by good evidence, threaded through with compassion and humanity, aware of all the difficult places that humans can find themselves, and looking to the need for culturally aware structures and solutions. You are uniquely placed to do this and we are grateful for the opportunity to have input.

For this plan, we focus on what we do well, namely pointing the science at the policy, not writing the policy.

As you can see from the graphical representation of the Table of Contents (see page 3), we took the framework of the life-course as we presented it to you and imagined "dropdowns" from a total of 18 different stages, transitions, exposures, or comprehensive needs and wrote pieces for each that framed the importance of the topic, the current status, and what was possible on the basis of what we know or, where there are gaps in knowledge, what we might explore at micro- or meso-level and take to scale when we have a direction.

Thus, for each of the dropdowns, we wrote 3 sections:
Why this matters
The current status
What is needed

This layout has more than one benefit:

- If you do not need any convincing about the importance, you can skip the first section of each piece;
- If you do not need more detail on the current status, you can similarly skip that section;
- It may provide you with a useful framework for your own report – we have tried hard to keep in mind that you asked for a plan. The opinions expressed are those of the authors alone, and are not attributable to the Inquiry panel. We regard all of what follows as yours to do with as you see fit.

Because we provided a broad narrative in our initial presentation, this more focused plan should be read in the context of that presentation and accompanying document.

As we have written what follows about an evidence-based approach to mental health, we have also tried to keep four big issues in view:

- the underpinning science;

- the ease of implementation of relevant changes at the coalface;
- the balance between national coordination and local implementation; and
- the building in of evaluation and continuous improvement into everything we do.

To expand on this last point, we here specifically address the nature of, and need for, ways to build in evaluation and improvement in a continuous cycle. A common refrain amongst policy-makers, politicians, practitioners, and consumers alike is that good ideas are often mangled at the implementation stage. Indeed, the well recognised risks of implementation failure have led to the development of a specialist subfield of research called implementation science.

Continuous quality improvement via implementation science

In brief, there are many reasons for failure to implement successfully: careful planning and systematic adherence to a number of criteria (*e.g*. intervention fidelity, well trained staff, appropriate resourcing, good design, reliable and valid measurement tools) are essential for successful implementation.

In reality, this boils down to:

- development of good ideas with reference to both the established scientific literature and the local context, followed by:
- small-scale piloting among the people for whom the service is intended, to test feasibility and acceptability and to provide proof-of-principle to the extent that the hoped-for outcome of the intervention is achieved, followed by:
- larger fit-for-purpose policy trials, which, depending on circumstances, should include RCT's as well as quasi-randomisation approaches like wait-list control etc. in order to test effectiveness. The last step asks the question: "Does this work in the real world, when the expert researchers and practitioners are no longer around?" and is distinct from the proof-of-principle stage that demonstrates efficacy;
- a final stage involving sensible scaling up for regional and/or national rollout; this is a nontrivial logistical challenge.

However, this is only the first part of what good implementation science looks like. The second and equally essential component involves building in the routine (which does not mean careless or cursory!) monitoring of effects and constant improvement in the services that are provided: a circle of data collection – analysis – upgrade. This is necessary because even the best (*i.e*, gold-standard) interventions, implemented with high fidelity cannot expect to help everyone. This should motivate all service providers to strive to improve their service so more people obtain greater benefits, more often. Good IT systems, measurement, and data-analysis capability in real time are necessary for this to work well[1]. We also discussed this idea in our recent paper on Child Wellbeing, prepared for the Prime Minister[2].

System level monitoring and identification of what works for whom under what conditions at scale will be greatly enhanced by the effective use of the IDI.

Complex problems require multiplexed, coordinated, and coherent solutions.

What we are facing with mental wellbeing and mental disorder (as well as a large number of other societal issues) is a complex problem — what has been dubbed a "wicked problem"[3]. These complex problems are not subject to simple linear solutions. They encompass a dense substructure that, not inevitably but far too commonly, includes:

- knots (violence, crime, drug and alcohol dependence, deprivation, poverty, joblessness);
- transgenerational loops (poverty, alcohol, poor nutrition, and maternal depression damage the fetus who grows up with poor learning capacity, poor self-control, does not acquire education or even become literate and, in turn, becomes a parent of a similarly damaged child);
- hysteresis loops (in systems that exist in 2 or more states that can transition rapidly through a tipping point, the work (money, effort, time) required to fix a problem can be greater than the work that created it);
- entropy (systems that are not maintained and renewed will decay);
- interactions (consequences of exposure to, say, tobacco and alcohol are greater than the sum of the individual effects);
- reinforcing feedback loops (juvenile crime leads to remand in jail leads to brutalisation followed by lessons in crime; together, and particularly following release, they lead on to loss of sense of place and belonging, depression, alcohol and drug abuse, and more serious crime)

Each of these – and related – issues and their manifestation as mental damage, distress, and disorder can provoke singular solutions but these are only sometimes successful because of this complex substructure, which ensures that there are more forces arrayed against a solution than in its favour. So, yes, we can:

- reform the remand system;
- increase the tax on alcohol;
- work on reducing family violence;
- treat depressed patients with anti-depressants;
- teach pregnant women about the toxic effects of alcohol and tobacco on the fetus;
- provide support to help children out of poverty.

…but, unless we do all of these – and more – simultaneously and coordinatedly across all agencies and with full participation of communities, we will struggle to reduce the burden of mental disorder

Even if we do launch a coherent, coordinated, multiplexed response, we must:

- still be aware that some things will take a generation – perhaps two – to change;
- still be ready for unexpected failures when the complex nature of the problem turns on our best efforts and bites us;
- still understand that we must learn things on the fly as we implement the response – because there is much that we do not know and can only learn – and implement – as we proceed. That is the point about implementation science described above.

None of this is cause for despair. Rather we need courage, trust, unbounded effort, and that special sense – in New Zealand – of community that Māori have long understood and held and that can become a taonga for us all.

Treaty of Waitangi

Central to everything we do is keeping Te Tiriti o Waitangi in mind. Māori are over-represented in essentially every class of vulnerable New Zealanders, including those in need of better protection as infants and children, those in need of greater attention in education, those at risk as adolescents, those with overt mental disorder and dependence. This is a legacy of colonisation. It is essential that the Treaty of Waitangi is the cornerstone of all approaches to prevention, early detection, early intervention, and mental-health services themselves. As we note in a number of places, that means keeping Te Ao Māori at the forefront and markedly increasing our efforts to hear Māori voices, train Māori workers, and focus closely on training all workers across the whole system in what is culturally appropriate.

The Table of Contents is provided in two forms – firstly, graphically and laid out across the life-course and subsequently in standard fashion. In the graphical representation, the green and the red labels indicate beneficial and deleterious exposures, respectively; the other colours identify groups of related stages, transitions, needs, etc.

Graphical Table of Contents laid out across the Life-course

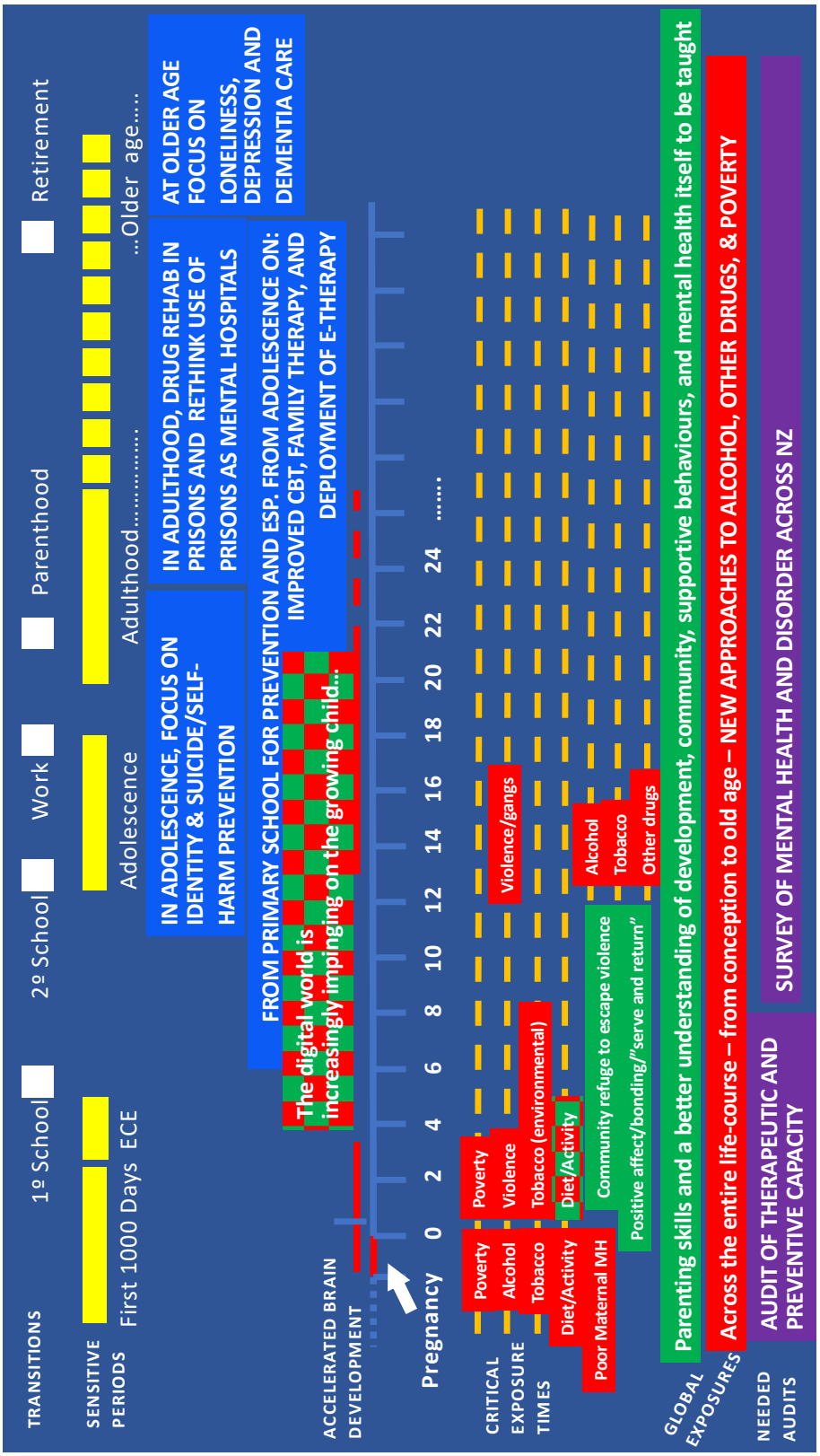

Table of Contents

1. Early and Later Life-course Action

1.1 First 1000 Days: from pre-pregnancy to age 3 years

Why this matters

There is a maldistribution of conditions and outcomes across society: conditions of employment, housing, and living standards; outcomes related to health (neonatal, infant, child, and adult), violence, and crime (victims and perpetrators). Further, these are not haphazardly maldistributed; rather, poorer conditions and outcomes cluster at the lower end of the spectrum of income and education. In the life of any one person, this maldistribution has its impact from pre-pregnancy onward – and, in truth, beginning in the previous generation and still further back.

There is a complex net of causes, feedback loops, and hysteresis loops that keeps this maldistribution in a relatively steady state – hence the multi-generational impact. It is not easy, therefore, to specify primary remediable causes. What is needed is a proper understanding of the structure of the net and a careful mapping of how to rebuild it so that it supports, rather than suppresses, better mental health, a higher quality of life, comfort, development, adaptation, skills, community connectedness, and opportunity. Some of the elements of the net that contribute to, or alternatively ameliorate, the maldistribution and its impact on mental (and physical) health include:

1. In the pre-natal setting: local environment (physical, social, and cultural); alcohol and drug use; smoking; diet (quality and quantity); obesity; maternal diabetes; maternal mood/mental health; housing quality; physical activity; and family/whanau support;
2. In early childhood: local environment (physical, social, and cultural); alcohol and drug use; smoking; diet (quality and quantity); family violence; housing quality; family/whanau support; and nurse-family partnerships;
3. After the first 1000 days (see Sections 1.2-1.5 for more detail) in early and later education: local environment (physical, social, and cultural); alcohol and drug use; diet (quality and quantity); family violence; housing quality; physical activity; obesity; youth mental health; and attention to quality of education: formal as well as social skills, critical thinking, and moral precepts.

There are ways to think about underlying theories of social justice that move us toward amelioration of the maldistribution described above[4-7]. Investing early in identification, prevention, and amelioration of social problems with a view to establishing good mental health and resilience rather than dealing with such problems after they have emerged is a useful way to apply such theories of social justice and the idea of targeted universalism.

The current status

Some of the relevant outcomes – as children reach adolescence and early adulthood – of physical and sexual violence and consequent poor coping capacities (adverse childhood experiences) include[8-11]:

1. poor health: impaired mental health (particularly depression and risk of suicide), smoking, hospitalisation, high use of prescription medication, use of illicit drugs, overweight/obesity;
2. poor educational achievement;

3. criminal convictions;
4. fatherless children;
5. lowered career & social aspiration;
6. need for welfare benefits.

These account for much of the individual and societal burden of dysfunction and disease in the first 20-30 years of life.

Some of the relevant outcomes in later life[10,12,13] include:

1. chronic disease: overweight/obesity, diabetes, cardiovascular disease, cancers, neurodegenerative disorders; musculoskeletal disorders;
2. behavioural and mental-health problems;
3. social isolation;
4. poor employment prospects;
5. criminality;
6. disability.

These account for as much as 90% of health and disability costs to society as well as the need for welfare support.

The current system aimed at reducing and managing dysfunction, distress, misery, and disease is not working well; costs continue to rise and the burden is not diminished. Therefore, we need to change the system. It is fragmented and therefore needs to be rebuilt with coherence at its heart. The burden at individual level is cumulative and, therefore, we need a system that keeps track of, and maps, life trajectories. Poor outcomes can occur across the life-course but the earliest failure is associated with the worst outcomes and these are the hardest to ameliorate.

There is *prima facie* evidence that the current system for supporting those most in need does not work as well as it could, even to moderate the impact of the most obvious of adverse childhood experiences[14]. We do not even understand which parts of the system ameliorate, which are simply not contributing, and which actually make things worse. The argument that the current system is better than nothing is, at best, weak.

What is needed

Developmental neuroscience has established the critical role that early brain development plays in good mental (and physical) health - during childhood and adulthood – as well as educational achievement, employment, friendships, intimate relationships, parenting, and prosocial behaviour. The young brain is especially sensitive to environmental inputs and settings. When these inputs and settings are supportive - in the form of a safe and stable families, characterized by warm, sensitive and stimulating parenting - healthy brain development is maximized and the likelihood of good mental health and wellbeing enhanced. When toxic stress is the norm – taking the form of a poor intrauterine environment, neglectful/abusive caregiving, parental violence, substance abuse, mental disorder, and poor nutrition – brain health and mental health are compromised.

The starting point for protecting and promoting mental health (and well-being more generally) is now empirically and strongly established. It is a programme of coherent (across sectors *and* life-stages) evidence-based universal provisions and interventions supported by the state as well as facilitated by other systems, beginning before conception, carried through to the early twenties, and delivered according to proportionate universalism principles.

There are also transgenerational effects with maternal mood during pregnancy affecting offspring brain development as well as maternal mood after pregnancy affecting infant development.

Nonetheless, the impact of the most effective interventions currently available, even when well implemented, is modest. Therefore, there is another key ingredient: an ethos of continuous improvement in service content and delivery. Continuous improvement across all interventions designed to promote and protect mental health (and health and wellbeing generally) should become standard practice, as happens in research, in product development, in environmental management, etc. To be successful, this requires sophisticated data collection, analysis, and interpretation systems. In practice, this means starting with evidence-based approaches when possible, rigorously trialling novel approaches that are matched appropriately to our unique social and cultural context, and continuing the process *ad infinitum* – see Introduction p3 above, on Implementation Science.

When we do this well:

- there will be appreciable gains in population mental health and wellbeing, with benefits persisting (and possibly strengthening) over time;
- we will establish what works best for all New Zealanders (*i.e*., Māori, Pasifika, Asian, and Pākehā); and
- we will develop a culture of innovation in social-good intervention capable of rivalling any in the world – and being exportable to anywhere in the world.

We can use data and information – properly analysed and interpreted – and technology to identify and better understand individuals, whanau, families, and groups who need greater input from public services. We can use both local data and research as well as findings from elsewhere to establish what works and provide the needed services accordingly. We can learn from this initial round of service delivery and thus inform the next round, and so on. The intent is to use early intervention/prevention to lower dependence on state services and thus reduce both the misery of dependence and cost. The approach involves using information and technology to identify and understand needs, then setting measurable goals, measuring effectiveness, focusing on results rather than inputs, and funding effective services irrespective of provider (public or private).

We have information that allows us to identify indicators of poor outcomes even at a very early age[15]. It has become increasingly clear, especially from the Dunedin Multidisciplinary Health and Development Study, that a great deal of the early and late individual and societal burden can be predicted by a simple examination at age 3. What we have long suspected and now know with greater clarity – from New Zealand data – is that the first few years of

life (0-3 years) are absolutely crucial in setting us on a life-course that has a good chance to be successful vs. a life-course that will be turbulent, distressed, and distressing – with a considerably elevated and markedly disproportionate risk of poor health, criminality, and lack of education and life skills.

What is proposed begins with a description, followed by some specific steps towards detailing, testing, and instantiating a solution. At the highest level, what is needed is an approach that:

- is based on the life-course;
- takes a targeted-universalism approach to ethics and the distribution and investment of relevant resources;
- specifies the services needed to maximise human development – individual and societal;
- identifies when, for whom, and how these services are to be delivered;
- identifies and, where necessary, builds or rebuilds the primary vehicles for achieving the maximising of human potential;
- identifies what needs to be created, to be changed, and to be eliminated to make such maximising functional and seamless

In more detail, it might look something like this:

1. from conception to birth, implementation of systematic evidence-based antenatal care delivered by an expanded and specialised service provided by midwives, Tamariki Ora workers, other Iwi-based support workers, and Plunket nurses; among other things, they will address low maternal mood and exposure to tobacco, alcohol, and other drugs embedded in universal pregnancy screening from the first trimester
2. risk assessment occurs during this period;
3. at birth, well-child providers, including Plunket, provide a universal intervention intended to:
    a. eliminate, reduce, and ameliorate known and suspected malign influences – particularly violence and toxic exposures;
    b. teach, demonstrate, and support warm, sensitive, and stimulating parenting practice as an early precursor of good socioemotional function;
    c. use family, whanau, and neighbourhood resources and links to reinforce this approach;
4. steps 1-3 are titrated according to need and under which those in greater need are provided with greater investment of resources and support. At the extreme end of need (5%), this would include an organized approach to nurse-family partnerships;
5. monitoring of growth and development begins during this period;
6. at age 2 years, much of the coordination and delivery is handed seamlessly to early childhood education (ECE) (see Section 1.2) with a needs profile accompanying each child;
7. further risk assessment occurs during this period;
8. subsequently, attention is paid to the quality of ECE, (see Section 1.2) primary and secondary school (see Sections 1.4 and 1.5) with a prioritised focus on development of socioemotional skills, on learning about appropriate sexual behaviour, on understanding the impact of alcohol and other substance use (see Sections 4.1 and 4.2 for more detail), and on understanding the importance of nutrition[16];

9. throughout the early life-course (0-18 years), attention is paid to the cumulative benefits of coherent approaches *e.g.*, to the development of self-control and other social skills across early-childhood, primary, and secondary education.

Such a new approach would entail changes to curriculum and usual practice. It would require: making greater use of the skills and services of particular professional groups *e.g.*, Plunket nurses; broadening the skillsets of other groups *e.g.*, midwives (see Section 5.2); and increasing collaboration across all professional groups. It would require extensive coordination of services across agencies, both public and private. These necessary steps could be embraced but could also become barriers or excuses for doing nothing.

The underlying logic is simple:

1. understand that there is a marked contrast between poor and optimal human development;
2. comprehend that these outcomes benefit or harm the whole of society;
3. invest in services to match need, reduce harm, and optimise benefit.

Right system – right elements

1. What do we do now?
   We need much better data on who gets what services so that current implementation and effectiveness are easier to measure. We need better analytic tools for measuring system effectiveness – a role for the Social Investment Agency (SIA).
2. What does it cost?
   Currently, we do not understand the costs well, *e.g.*, it is difficult to get a good estimate of the costs per individual teacher of a well-designed professional development course, say, a series of 10 workshops led by expert facilitators.
3. Modelling the existing system.
   Our experience with the DSA case studies for Treasury has exposed marked difficulties in acquiring and using relevant data. Some of these proposals, which have asked questions about the use of existing resources in new or more productive ways, have proved hard to model.
4. Hence, we also need to work on modelling change in the system.
5. Why does it take so long to get change that we recognize as necessary into action? Tobacco control provides a good example and some lessons for change. Key barriers include:
   a. vested interest;
   b. ideology;
   c. not a lack of evidence, but a failure to see or accept the evidence;
   d. inertia;
   e. need for training;
   f. the almost universal human preference for treatment (ambulance at the bottom of the cliff) rather than prevention (fence at the top);
   g. lack of coordination;
   h. lack of the system focused on the whole problem;
   i. lack of a coherent strategy designed to apply resources at the right time in the life-course, in the right order, by the right agencies;

j. lack of an optimum delivery system even when we know what works.

Rebuilding the system

1. Start with a “What Works" unit.
   Currently, most services are devolved geographically and socially and are contextual in their concept and delivery. A “What Works” unit could identify the best of international (and local) experience and shape it for New Zealand. This is currently a direction that the Social Investment Agency is appropriately headed.
2. Agree on the fact that much of the aggregated misery and burden of disease is not a consequence of deprivation *per se*, but rather the result of relative deprivation and marked and growing inequality of resources[17-19]. Therefore, one key element of any programme must be provision of greater resources to the most deprived.
3. Agree on the need for local experiments and local data.
   For example:
   a. we need to have the courage to implement trials and pilots to assess effectiveness: of system changes; in programmes; and in social and geographic settings. It is wasteful of resources, damaging to society, and cruel to individuals to imagine that changes in the system can be conceived and implemented without ever testing their effectiveness at micro- and meso-scale;
   b. we need to know how trajectories of development are reshaped under different conditions.
4. Agree on the need for coordination.
   For example:
   a. across government ministries *e.g.*, Oranga Tamariki, MSD, Education, Justice, Health;
   b. in the use of CSAs/DSAs and other government expertise;
   c. in better shaping of advisory committees and their protocols;
   d. by improving availability and timeliness of advice from universities, CRIs, etc.
5. All of this points to a need for a research roadmap across this whole-of-government approach to the complex problems of maximising human development and consequently nurturing and optimising lives.

1.2 Early childhood education and mental health

Why this matters

High-quality early childhood education has a substantial role to play in promoting mental health[20]. The soon to be released report from INGSA to the OECD highlights this period as being most critical to promote resilience and provide the basis of emotional skills needed in the digital world. There are known impacts on mental health through the promotion of interpersonal skills (*e.g.*, empathy and collaboration) and intrapersonal skills (*e.g.*, self-control), as well as through important cognitive skills (*e.g.*, language and literacy) and educational achievement. The impact can be seen over the short term and, under best conditions, long term[21,22]. Five general features of early childhood education services from 3 years of age to entry to school, typically at 5 years, provide conditions for the promotion of positive mental health and intervention for early indicators of mental difficulties[23]:

1. Skills associated with positive mental health are malleable during this period;
2. Individual differences and early indicators of difficulties can be identified as young as 3 years;
3. Early intervention in this period can have detectable effects across the life-course, under known conditions;
4. Robust school-readiness profiles on entry to school are associated with positive trajectories of progress and achievement during the school years;
5. Teachers/kaiako in ECE services together with parents and whānau can effectively identify and intervene in early behavioural, emotional, and cognitive difficulties.

Consistent with other features of a coordinated national system, ECE services can be designed and delivered to effectively and reliably promote mental-health needs in a coordinated way. Done well, this can be characterised by seamless continuity from the first 1000 days (see Section 1.1) and lead on to later application of a systemic life-course approach. The need is to build in – to all these time periods – early identification, prevention, and early intervention.

The current status

Currently, several features of ECE services in New Zealand provide enablers of, and constraints on, the effective and reliable promotion of positive mental health[24]:

1. Early childhood service delivery is a substantial component of the Ministry of Education, attracting an annual budget for the 0-5 years of about $1.7 billion. There is high and still increasing participation in ECE services but disparities in access and take-up exist, exemplified by differences in duration, frequency, and consistency of attendance. The disparities are associated with SES and ethnicity.
2. There is a wide variety across public, not-for-profit, and commercial ECE services, for which there is public monitoring agency (ERO).
3. There is a national, but non-mandatory, curriculum (Te Whāriki) that identifies dispositions and areas of development; it encompasses many of the cognitive and social emotional skills contributing to mental health and school readiness but the expectations in the curriculum around the development of these skills are broad and relatively non-specific.
4. Pockets of innovation in use of developmental progressions or measures exist but there is no national approach to monitoring the development of skills related to mental health and school readiness[23].

5. Little is known, at a system level, about the overall quality relating to the promotion of mental health and school readiness. Both large variability in quality and wide differences in readiness measures on entry to school characterise what is on offer and these differences reflect SES and ethnicity[23].
6. Scattered innovation also exists in the testing and application of specific teaching and learning activities that promote skills related to mental health and school readiness. Some of these provide very promising evidence for effectiveness and scalability in New Zealand[25].
7. A ten-year plan for ECE services is being developed through a process that includes a Ministerial Advisory Group[26]. The opportunity exists, through this plan, to have a coherent and supportive system that has a strong focus on the promotion of mental health and self-control as well as relevant wider educational goals.

What is needed

1. Repeatable measures of development that lead to an entry-to-school profile that provides:
    a. teachers/kaiako with valid and reliable tools for their formative assessments;
    b. ECE services with tools for routinely and continuously assessing effectiveness;
    c. the diverse ECE system with common indicators of quality and variability;
    d. ECE services with the means to identify early those aspects of development in which children might need further support.

    These measures should be developed in a systematic "design, test, and phased implementation" process, be in Māori and English from the beginning, and have early options for major Pasifika languages and mandarin.
2. Identification of and, where appropriate, further design and testing of, teaching and learning activities that promote the cognitive and social emotional skills that contribute to mental health and school readiness. Evidence-based activities need to have functions of prevention (universal promotion) as well as being suitable for non-clinical (and see 3 below) responses to early difficulties. Activities need to be taken to scale – in a systematic fashion – across the diverse ECE services.
3. Evidence-based clinical interventions provided though appropriate services by the relevant agencies of Ministries of Education (*e.g.,* Early learning Services), Health (*e.g.,* DHBs) and Oranga Tamariki; and co-ordinated with needs that emerge from the commitment to the early identification of difficulties.
4. A national approach to professional learning and development for ECE teachers that focuses on teaching and learning activities to promote the cognitive and social emotional skills that contribute to mental health and school readiness.

1.3 The digital world

Why this matters

Children and adolescents have increasingly ubiquitous access to and use of online devices, smart tools, and technologies, including social-media platforms. The pervasive adoption is influencing aspects of their developing mental health, through increased capacity for outreach, communication, and connectedness on the one hand, and increased stressors on the other.

The current status

Both benefits and risks to mental health are known although, in some areas, the evidence for the impact is limited. Immediate and direct access to networks, commentary, information, and ideas, means amplification of contacts, social influence, and the shaping of ideas and beliefs. There are potential benefits of greater connectedness in the availability of messages and support for mental health. For example, social media can enhance access to valuable support networks, providing positive effects for those with mental-health needs and fostering social inclusion and community membership for marginalised or excluded groups, such as LGBTQI youth[27]. The significance of not being connected is illustrated by the relationship between usage and mental and physical health outcomes, which, for adolescents, is not linear. Negative outcomes have been found at extremes of both low/no Internet usage and heavy usage (>2 hours/day)[28].

Digital technology can have positive effects on social-emotional skills – those that are intra-personal (*e.g.*, self-control) and those that are inter-personal (*e.g.*, prosocial)[27]. In classroom settings, the positive effects are dependent on a number of specific conditions, particularly the design of the tools (such as in games or online collaborative activities) and the role of the teacher who is providing guidance and back up. Generalised impact probably depends on how the activities fit with a whole-school approach to the promotion of the skills[29-34].

However, high use is associated with problems: for younger children increased distractibility and, for older children, through games, social media and the internet, with addiction-like behaviours, pathological engagement, and mental disorders. Heavier users of the internet and social media tend to have reduced capacity to judge the appropriateness of their own behaviour (an online 'disinhibition effect')[27,28,35-37]. Cyber-bullying, is associated with the same negative consequences that face-to-face bullying has, including anxiety, lower academic achievement, suicidal ideation, self-harm, and sometimes suicide[38,39].

Self-perpetuating and reinforcing systems of knowledge can be created whereby misinformation, inaccuracies, or untruths are taken as truths through the repetition and support within social media and online networks. Indirect impacts on mental health include reinforcement of damaging gender, social, and ethnic stereotypes and anti-social behaviour[27]. Judgments about health matters are susceptible to these influences.

What is needed

A primary focus is the building of individual resilience and social skills that support individual and group well-being, including skills of self-control, empathy, perspective taking, and collaboration. Self-control and social skills can be enhanced – and from an early age[21,40]. This

means that a life-course perspective is needed, with early promotion of needed agency skills in both educational (starting with early childhood services) and family settings. School-based programmes are needed that provide deliberate promotion within a context of caring teacher-student relationships, safe and orderly environments, and adult norms of high expectations and academic success.

Currently, there are digital tools that are designed specifically to promote aspects of positive mental health and these are noted elsewhere in this report (see Section 3.2). However, more needs to be known about whether the various existing approaches to both prevention and intervention work as effectively with, or need adapting for, self-control and social skills in digital contexts.

There is a further set of skills that contribute indirectly to resilience and positive mental health, namely critical-thinking and critical-literacy skills, which include: problem solving; recognising when information is needed; locating, evaluating, and using needed information effectively; and making judgements about the reliability and usefulness of information[41]. These are especially required in the new digital environments to effectively filter and use the knowledge and information that impinge on everyday lives.

The key implications are that deliberate national attention – and consequent change – are needed across early-childhood, primary, secondary, and tertiary education. The skills needed by teachers must include those related to promoting resilience and social skills for digital lives. This, in turn, has implications for the nature of initial teacher education and for funding for the research and development programmes needed to design the most effective pedagogy and digital tools. Well-designed digital tools, including games, can promote these sets of skills. Right now, we are at the very early stages of designing and evaluating the range of tools needed for different ages, cultural and language contexts, and skills. This needs urgent attention.

1.4 Strengthening school-based services for positive mental health: paying particular attention to suicide & self-harm

Why this matters

New Zealand's youth suicide mortality rate in 2010 was 15.6 per 100,000 among adolescents aged 15 to 19 years – the highest among reported OECD rates. From 1st July 2014 to 30th June 2016, there was a total of 238 suicides among New Zealanders aged 12–24 years. The suicide mortality rate for Māori aged 15–24 years in 2012 was about three times the non-Māori rate. The rates of hospital admission for self-harm are about 50-100-fold greater than those for suicide and it is likely that many more young people have suicidal thoughts, even though they may not attempt suicide or even commit self-harm. There are high subsequent life-course costs to the young people themselves and to family, whānau, and society associated with the 8–9% of all youth who are suicide attempters. Youth self-harm and suicide are not just mental disorders. The likelihood of an attempt needs to be seen as the result of multiple factors: a state of stressed, impaired, or underdeveloped self-control in which mental health, emotional, and brain development, alcohol, sociological, economic, and other factors interact to put some young people at greater risk[42].

There are general stressors that impact on young people, such as the developmental transition from primary/intermediate school at Year 8 (13 year olds) to secondary school at Year 9 (14 year olds). The trend seen in the primary years towards greater self-motivation shifts over the transition towards greater external (extrinsic) motivation and is accompanied by a change towards more negative attitudes to school, as well as disengagement and lowered achievement patterns for some students. The international patterns, whereby there is a greater impact on minority children and those from low SES backgrounds, are paralleled in NZ data with Māori and Pasifika students and those from low decile schools. Also see Section 1.5.

There is considerable evidence that high proportions of students (up to 20%) feel disengaged or stressed at school; feel like outsiders, out of place, or lonely; or report a lower sense of belonging. This pattern has become more marked over time (from 8% of 15 year olds in 2003 to 22% in 2015)[43].

Bullying and cyberbullying are stressors across the age range but reports increase in frequency through the primary- and secondary-school years. New Zealand has the second highest reported frequency on the OECD exposure-to-bullying index[43]. Bullying is associated with increased internalising problems, such as anxiety and depression, and externalising problems. Cyberbullying has been associated with similar negative consequences and even suicide. Some groups are more vulnerable than others (*e.g.,* LGBTQI youth or those diagnosed as ASD)[44].

There are both positive and negative impacts of digital technologies on child and adolescent mental health[44]. Apart from exposure at the extremes (too little or too much), it is not the amount of screen time that is important; rather, what matters are patterns of access to digital media, what is being watched or used, and whether and how relationships are facilitated or impeded. Social media can enhance access to valuable support networks, providing positive effects for those with health needs and fostering social inclusion and community membership for marginalised or excluded groups, such as LGBTQI youth. The

importance of not being connected is illustrated by the relationship between usage and mental- and physical-health outcomes, which, for adolescents, is not linear: deleterious outcomes have been found at extremes of both low/no Internet usage and heavy usage (>2 hours/day). How an individual uses social media matters (following strangers on Instagram and engaging in social comparisons versus following friends and engaging in fewer social comparisons are associated with higher and lower depression symptoms respectively). Similarly, 'sexting' correlates with impulsivity and high-risk behaviour in general but is more impactful with specific groups such as LGBTQI youth[44]. For more on the Digital World, see Section 1.3.

The current status

A number of different programmes and approaches to prevention and interventions associated with resilience, wellbeing, self-harm, anxiety and depression, bullying, and suicide exist in schools. There are many providers funding and delivering programmes to schools. It is not known whether these programmes have a positive or negative effect or if they are an effective use of money. The providers include commercial entities, Government organisations, non-Government organisations, charities, and interest groups. Despite the popular appeal of some, the effectiveness of formal suicide-prevention programmes in schools and in the community is not known, except perhaps in reducing contagion. Indeed, some programmes may actually increase the risk of suicidality[45].

The most extensive Ministry of Education programme is PB4L, drawn from a well-researched school prevention and intervention model designed in the US. It is a three-tiered suite of behaviour initiatives for schools, the primary focus of which has been to prevent or reduce challenging student behaviour, essentially a school-behaviour management tool[46,47]. The Tier 1 suite includes a School Wide component to move to the establishment of a whole-school culture that supports learning and positive behaviour: Incredible Years (IY) teacher; IY Parent; and the use of the student self-report and teacher self-report instrument, *wellbeing@school* (NZCER), which is accompanied by feedback and guidance for school discussion. Pilot programmes are in place: Huakina Mai, and Restorative Practice. By 2015, 597 schools had been involved in School Wide and approximately 2,400 teachers participate in the IY Teachers programme every year. From 2013-2016, 400 schools used the *wellbeing@school* with 58,337 students[48]. Current overall estimated spend is around $19 million. The various initiatives are delivered to schools in a range of ways: by Ministry and RTLB staff; contracted providers; school leadership teams. However there is no consistency around which components of PB4L are used and whether the selection is based on supporting teachers or assisting the child. The lack of consistency and the low coverage makes assessment of its value difficult.

There have been evaluation reports, mostly focused on inputs and outputs[49]. Recent modelling, using a large national database, shows substantial variation between schools using *wellbeing@school* in both self-reported wellbeing and aggressive behaviours and even higher within-school variation[48]. Higher wellbeing was associated with both broad-range school-wide policies and practices, and also – and more strongly – with reported active teaching. School-wide policies and practices were associated with lower self-reported aggressive behaviour, but direct teaching of wellbeing was not, suggesting that promoting a

pervasive culture of non-aggression and wellbeing is an enabler but that teaching for wellbeing does not, by itself, reduce aggressive behaviour. It is not clear whether:

- data collection and monitoring functions – including collection and analysis of outcome data – routinely happen;
- there is a clear overall policy for the leadership, management, and direction;
- there are clear policies around key functions of data, evidence, and implementation processes.

What is needed

It is really hard to predict suicide, with perhaps the best indicator being a previous suicide attempt/self-harm even though a very large majority who commit self-harm (which may or may not be an attempted suicide) do not go on to commit suicide. Prevention and primary and secondary intervention approaches that are coordinated and use coherent identification and tracking of need and effectiveness across the early childhood and school years are called for. Approaches should do two things:

- provide young people with the capacity to better withstand the stresses of the teenage years and, in particular, address their impulsivity by enhancing self-control in the early years; and
- reduce the societal, community, familial, and school-linked stressors.

For **primary prevention** through ECE and schools (for more detail see Gluckman[42]):

1. We recommend capitalising on the existing resources of PB4L but redesigning the whole programme to focus more specifically on:
    a. the promotion of resilience, as well as the development of personal and collective wellbeing, including prosocial skills (with empathy); and
    b. the prevention of stressors such as bullying in schools.

    The redesign needs to be done in a systematic structured way and must be piloted and tested and, when appropriate, taken to scale with rigorous evaluation.
2. More specifically, early education provides a crucial opportunity for enhancing these skills and should be an evaluable focus of all early childhood education (ECE) services. In both ECE and primary schooling, systematic use of well-defined activities (*e.g.,* ENGAGE; Good Behaviour Game) focused on behaviour in 3 to 5 and 6- and 7-year-old children contributes to reducing later adolescent suicidality as well as other unwanted behaviours[42]. The introduction of these into all primary schools via PB4L is strongly indicated.
3. Prevention and intervention studies show that the rates of bullying and victimisation can be reduced in school settings. The most effective programmes combine whole-school cultural changes using messaging, value statements, and information to establish shared norms, together with training in specific skills in media literacy, self-control, and social skills; they involve teachers, parents, and peers. Longer-term programmes over 6 months or more appear to be more effective than those that are short-term or involve one-off interventions[42].
4. An element of increasing importance is enhancing the skills of young people to live within a digital world. Cyberbullying research is relatively new and there is a paucity of investigations into psychological interventions. Nonetheless, there are promising online psychological treatments (E-therapies) for both victims and bullies. Further, family-

based prevention programmes and media-literacy education are producing promising results. (For more detail, see Section 1.3).

For **secondary prevention** in schools, what is needed are programmes that seek to identify those at risk and make referrals when necessary. Such programmes generally seek to increase knowledge and change attitudes about youth suicide and to enhance the capacity to intervene and prevent. The role of teachers, counsellors, and peer leaders is key. There is some evidence to support the importance of adults actively engaging with distressed students but, outside those situations where close relationships have been developed, these programmes tend to be distressingly ineffective. Better results are claimed when secondary prevention is combined with primary prevention and involves peer leaders (well-trained youth leaders). There is limited evidence to suggest that screening adolescents for depression in the primary-care setting, when combined with an appropriate therapeutic response, has modest benefits. There is also growing, if still preliminary, evidence to support some technology-enhanced interventions such as text messaging, web-based applications, etc[42].

For **tertiary prevention** in schools, the need is for a focus on CBT or medication or both; the effect on suicidality, as opposed to mental health, is relatively small. Although investing in youth mental health is a critical priority for the reduction of adult mental disorder, it cannot be the only strategy for reducing youth suicide. However, there are promising online psychological treatments for victims and bullies (E-therapies) as a means of coping with the distress caused from cyberbullying. Also, family-based prevention programmes and media literacy education are producing promising results[42]. See also Section 5.2.

There is a disproportionate number of **young Māori who suicide**. It is difficult to evaluate the spectrum of factors that contribute to this greater risk and to establish the importance of individual and community identity and self-worth. A contributing factor is likely to be the nature of relationships; for example, relationships with teachers, peers, and parents provide resilience over the transition to high-school through various forms of emotional support and there are changes, across the time of the transition, in the nature and quality of this support provided from these three sources. Nonetheless, international comparisons indicate that, in general, teacher relationships with Māori students need to be improved in secondary schools: Māori and Pacific students more likely than similar Pākehā students to report being frequently exposed to various unfair teacher behaviours at school[43]. The importance of teacher relationships for the engagement of both Māori and Pasifika students has been tested within a limited quasi-experimental design format in the intervention programme, Te Kotahitanga[50]. At the core of the programme is a change in relationships, through beliefs and teaching, that is designed to promote engagement and success. The perception of Pasifika students mirrors that of Māori students in commenting on the need to feel respected and appreciated by their secondary teachers[51].

Need for audit of resources, programmes, and skillsets. Currently, there is a variety of services and programmes provided within, or available to, schools for preventive or intervention services for mental-health needs. Personnel range from counsellors and school nurses to psychologists and social workers. Little is known about the consistency of this resourcing across schools, the skill sets of those involved, or the responsiveness or fit for

purpose of the services. Little is known about the effectiveness of the many mental-health programmes. An audit is therefore crucial to establish current resources to schools, and the skill sets, responsiveness and effectiveness of those involved. This audit should provide the evidence for accurate workforce planning and resourcing of schools consistent with the needs identified in this report. It could be accomplished as part of the wider audit recommended in Section 5.2.

Regarding measurement, evidence, and evaluation: in keeping with recommendations made in our original presentation to the Inquiry and again emphasised elsewhere in this report, we need approaches that are coordinated and use coherent identification and tracking of need and effectiveness across the early childhood and school years. This, in turn, requires measures, which we do not currently have, of the development of resilience and social and emotional skills through ECE and school years. This monitoring will enable us to increase these skills across the population of children and adolescents overall, as well as to enable effective prevention and intervention. The need for planned systematic implementation, testing, and evaluation – sometimes initially at micro- or meso-scale followed, as appropriate, by wider roll-out – is urgent.

1.5 Supporting transitions early in the life-course

Why this matters

We have discussed the transition to ECE and from ECE to primary school but other major developmental transitions can also have an impact on aspects of development and can create different stressors. There is a well-known dip in aspects of educational achievement and progress through the transition from primary to secondary (in NZ from Years 8 to 9) that is detectable in longitudinal cohorts[52-56]. The developmental picture shows a general trend among students over the primary years towards greater self-motivation. The subsequent change, during the secondary years, towards greater external (extrinsic) motivation is accompanied by a shift towards disengagement and lowered achievement patterns for some students. The patterns are more marked for minority children and those from low SES backgrounds.

Positive relationships with teachers, peers, and parents – and the various forms of emotional support that these provide – result in greater resilience over the transition; there are also changes associated with the transition in the nature of the support itself from each of these sources. The degree to which that support is present and shared amongst these three major sources of influence is the degree to which each student shows resilience in the face of the developmental transition.

The current status

Evidence from Ministry of Education databases[57] confirms the dip for achievement in reading, writing, and mathematics in Aotearoa/New Zealand. International comparison studies indicate that NZ children appear to be particularly impacted by the stressors with relatively high rates of disengagement and low ratings of well-being before and after the transition, but with a significant drop from Year 8 to Year 9. In NZ, attitudinal competencies (perseverance, communication, self-management) have been associated with time taken to adjust to secondary, even after prior performance and social characteristics were accounted for[58,59]. There is evidence to show that skills such as 'motivation orientation' (self-worth, and self-efficacy) are important to engagement and learning through to upper secondary[60].

Teacher relationships for both Māori and Pasifika students are important enablers of engagement and well-being as demonstrated in a limited quasi-experimental intervention programme, Te Kotahitanga[50]. At the core of the programme is a change in relationships – through beliefs and teaching – that is designed to promote engagement and academic success. Changes in the dimensions of caring (manaakitanga), high expectations (mana motuhake), secure and well managed environments (whakapiringatanga), interactional and best practice teaching (waananga and ako), and evidence-based monitoring (kotahitanga) were associated with higher engagement levels of Māori students. The perception of Pasifika students mirrors that of Māori students in commenting on the need to feel respected and appreciated by their secondary teachers[51].

A combination of factors contributes to the stressors in the transition from Y8 to Y9. These include aspects of teaching (there are changes to pedagogy in the shift from primary to secondary) as well as aspects of students' learning of cognitive as well as social and emotional skills, which provide resilience over the transition[58,60]. They indicate that a life-course approach is needed because the impact of the transition probably reflects

cumulative prior histories of progress and achievement, as well as variable growth in valued social and emotional skills for all.

What is needed

1. Better, more detailed student records that provide teachers and parents/whānau with descriptions of both cognitive and social and emotional skills across years and changes in schools. An important function of Kāhui Ako is indicated here;
2. Deliberate and systematic promotion of skills associated with resilience across years and across schools;
3. Deliberate and systematic specialist teaching of valued curriculum areas (especially subject English and mathematics) in the middle and upper primary years to better prepare students for the change in pedagogical patterns and in content areas;
4. A coordinated and evidence-based approach to building valued cognitive and social skills through early childhood education to impact on 'readiness' for school;
5. Systematic NZ evidence for the best ways to optimise the transition and to scale effective conditions for what is needed as described above. Internationally, social and emotional learning (SEL) programmes show that skills are malleable and that these programmes can have substantial and beneficial effects. Those that are well designed show causal relationships between increased social and emotional skills and academic achievement. However, these programmes have not been specifically examined for their effectiveness over the transition.

There is a need to consider systematically damping down – in a related manner and with a similar evidence-based approach – the deleterious impact of transition from secondary school to work and post-secondary education.

1.6 Support for refugees

Why this matters

Refugees are a particularly vulnerable group, having fled difficult, threatening, often intolerable living conditions, associated with war, famine, climate disruption, etc.

The current status

Data sourced from the Programme for the Integration of Mental Health Data (PRIMHD) indicate that there were 666 people seen by specialist refugee teams in New Zealand in 2017. These teams see a variety of age groups and there were 5,754 contacts for each person, thus averaging 9 contacts per person. However, this does not mean that refugees are not treated in other services where specialist teams are not provided; therefore, the data in Table 1.6.1 represent an undercount.

Table 1.6.1: Number of people and contact for team service type refugee, by age and DHB area, Jan – Dec 2017

DHB area	Under 18 years	18-24 years	25-64 years	65 years and over	Total
	Number of people seen				
Counties Manukau DHB (NGO services)	145	86	397	8	636
Waikato DHB (DHB services)		5	19		24
Capital & Coast DHB (NGO services)	2	2	12	1	17
Canterbury DHB (DHB services)	1				1
Total unique people	**148**	**90**	**419**	**9**	**666**
	Number of contacts				
Counties Manukau DHB (NGO services)	811	654	4,049	78	5,592
Waikato DHB (DHB services)		18	123		141
Capital & Coast DHB (NGO services)	2	2	15	1	20
Canterbury DHB (DHB services)	1				1
Total	**814**	**674**	**4,187**	**79**	**5,754**

Note: People can appear in more than one DHB area.
Source: Ministry of Health, PRIMHD extract, 9 April 2018, analysed and formatted by Te Pou.

What is needed

1. Investment is required into research and evaluation to establish whether refugees are better off following exposure to the current services and are achieving the desired outcomes.
2. In addition, there is a need for a focused approach to recruitment of people into the workforce from a variety of cultures and backgrounds to ensure that it better reflects the people who access services and can respond to them effectively. As with

other recommendations in our response, an updated Mental Health Survey would also strongly aid greater understanding in this area.

3. Finally, consideration should be given, in the New Zealand context, to the unique opportunity to explore whether Te Ao Māori ways of working with mental-health and addiction issues can be adapted to provide support for refugees (see also Section 2.1).

1.7 Older Adults

Why this matters

Some mental disorders associated with ageing can begin to emerge as early as 50 years but are more prevalent and often more problematic at 65+ years. This is a time when specific aspects of everyday life may press in on individuals, initially creating disturbances of mood and disruption of the sense of well-being but, sometimes later, merging into frank mental disorder.

A sense of failure around whatever life goals an individual may have set themselves, loss of a partner through death or divorce, children leaving home, etc. all contribute to a loss of sense of purpose and sometimes to the emergence of feelings of isolation and loneliness. These understandable and, indeed, predictable disruptions of mood and well-being can be exacerbated by physical illness. Poverty is also an important influence.

Faced with these changes, an individual can slide into a depressed state and be at elevated risk of suicide. At this time, too, some neurologic conditions with frank psychiatric overlay can manifest: several varieties of dementia, Parkinson's, etc.

All of these biologic, family, and community changes make older age a time that has its own pattern of psychiatric and neurological disorder and its own particular needs for prevention, early detection, and treatment.

The current status

In the 65 years and older in 2003-4 (the most recent date for which we have comprehensive NZ data), the 12-month prevalence of mood disorder was 2.0%, anxiety disorder 6% and substance-use disorder <0.1%[61]. There is some reason to believe that these prevalences have increased and it may be relevant to note that the UK has recently appointed a Minister for Loneliness. Nonetheless, suicide rates have remained flat in this age group between 2006 and 2015[62].

What is needed

It is important to note that, as in young people, discrete diagnostic categories can be useful for some purposes but the likelihood is, often, that there are some underlying vulnerabilities (perhaps genetic, perhaps acquired in early life, probably a mixture of both) and that mental disorder can manifest in ways that are both multidimensional and changeable over time. Again, as with young people, this may provide the possibility of using treatment approaches that themselves transcend boundaries.

Important elements of an informed New Zealand response mental disorder at older ages include:

1. greater awareness of those in need in the community because of their changed life circumstances, increasing physical ill-health, loneliness and isolation, and psychiatric symptoms;
2. community support for those affected by loss, increasing loneliness, declining mental health, and frank mental disorder: family members, whanau, and neighbours; and especially for those without their own family/whanau. Support can be via both

informal neighbourhood networks and more specific service delivery by NGOs and government agencies;

3. improved and focused management of neurologic and psychiatric disorders of the elderly, particularly transdiagnostic approaches where appropriate.
4. exploring whether E-therapy approaches, some of which have good evidence for efficacy among the young, are also useful among older members of society in need.

2. Action on Mental Health in Prison

2.1 Changing the interface between prisons and mental health: Alcohol and drug rehabilitation in prisons

Why this matters

When people are in prison, there is a unique opportunity to deal with addiction to alcohol and other drugs (AOD). Motivation is however a key problem: when delivering interventions to high-risk, incarcerated offenders, it cannot be assumed that they are motivated to change their substance use. Thus, intervention needs to be focused on evidence-based motivational strategies[63].

Therapeutic-community programmes have shown modest but consistent reductions in reoffending and drug relapse[64]. More recent reviews show short-term reoffending reductions but less relapse prevention[65]. There is, however, a lack of understanding of:

- which elements of a therapeutic-community approach can be adapted to a prison setting and remain effective; and
- how individual offender characteristics (such as negative affect) interact with treatment modalities[66].

Counselling programmes have had some effect on reoffending but less on drug relapse[64]. One of the few recent RCTs showed that a therapeutic community was no more effective than prison-based group counselling, but aspects of fit with either treatment modality were also important to consider, rather than having high-risk offenders going straight into the most intensive option of a therapeutic community[66].

Narcotic and opioid maintenance programmes have helped prevent drug relapse but not reoffending[64,65]. Boot camps had "negligible effects" on both reoffending and relapse (p. 6)[64]. For adolescent offenders, there is evidence that treatment can reduce substance use, but the effect on reoffending is inconclusive[64].

The current status

As we note in the sections on new approaches to alcohol (Section 4.1) and to illicit drugs (Section 4.2), the best treatment for AOD-prisoners is arguably to not send them to prison in the first place but, rather, to AOD-therapeutic communities; this is a health-centred, rather than offending-based, approach to problematic alcohol and drug use, particularly among adolescents and young adults.

Given that we currently are dealing with incarcerated AOD-prisoners, treatment should follow an individualised, comprehensive assessment and an appropriate management plan developed with tailored pharmacotherapy, psychological intervention, and family therapy for each individual – *i.e.,* a normal health approach to AOD problems. There needs to be continuous assessment, to ensure a match between programme and needs as the prisoner progresses through treatment; a one-size-fits-all approach is inappropriate[66].

The Department of Corrections has adopted a new quality and continuous improvement framework aimed at maintaining standards of informed, consistent practice and working together[67]. The model, known as Te Panekiretanga Integrated Quality Framework, is a

structured collection of quality assessment tools aimed at supporting continuous improvement. Within the framework, the Ara Poutama tool was being piloted at the end of 2017 to target practice quality, the "How well was it done?" question. This has relevance to prison-based drug and alcohol treatment programmes.

Recent NZ research showed almost two-thirds (65.5%) of offenders aged 17 to 24 had used methamphetamine in the past year (more than any other offender age-group). Lifetime methamphetamine dependence was associated with being imprisoned early and often – dependence was most prevalent amongst offenders whose "first imprisonment occurred at a younger age, who had spent more time in prison and had more custodial sentences" (p. 19)[68]. Anxiety and mood disorders frequently preceded the onset of methamphetamine dependence, suggesting that offenders with these mental disorders may be "self-medicating" with substances[68]. This points to the issue of co-occurring mental and substance-use issues needing to be assessed and treated.

What is needed - programmes

A number of key features of successful court-based intervention programmes were identified in a recent review of Queensland Drug Courts (p. 28)[63]:

1. early assessment of offenders to ensure the most appropriate intervention pathway is followed – assessments made prior to the first mention of a matter may assist in expediting the identification of appropriate intervention pathways;
2. clear and broad eligibility criteria that allow streaming of people based on their assessed risk, needs, and responsivity;
3. the inclusion of alcohol as an eligible primary drug of concern for drug intervention programs;
4. strong collaboration and communication between specially-trained magistrates, alcohol and other drug service providers, and other relevant stakeholders at the local level;
5. an adequate period of treatment that allows time for behaviour change while not inducing treatment fatigue;
6. high-quality case management to assist in addressing clients' broader social and health issues; and
7. availability of a range of treatment options.

Good post-prison programmes reduce reoffending; for example, 44% of former inmates who had completed both a prison drug programme and community aftercare stayed out of prison, compared to 15% of those who had done the prison programme alone. Follow-up programmes, however, are often unavailable in the offender's re-entry community or there is a lack of coordination, communication, or good links between prison and community treatment-providers[69]. A recent review showed the treatment effects of therapeutic communities and opioid maintenance programmes were both enhanced by good care after release[65].

Recidivism rates of incarcerated juvenile offenders were shown to be reduced by higher quality programme fidelity (in a review that included but was not specifically focused on AOD programmes). Quality was maintained by high levels of programme fidelity through good staff training, supervision and coaching, ongoing evaluation, and continuous

improvement feedback so that corrective actions could be taken when programme fidelity issues were identified[70]. Programme quality and fidelity need to be maintained and measured across different facilities, programmes, interventions and individual facilitators so issues can be identified and mitigated[71].“Translating evidence-based aspiration into real-world evidence-based practice is a daunting task”(p. 140)[71].

Co-occurring AOD and mental disorders are common and hard to treat in prison, with research focusing on substance-abuse treatment or mental-health treatment but less often both. Modified therapeutic communities in prison, that use more positive reinforcement, focus on individual recovery plans, and are less confrontational/punitive than more traditional therapeutic community models, are promising for those with co-occurring disorders[72]. Quality and fidelity measures of treatment, individual characteristics (including severity of mental and substance use disorders, criminal history, and risk) and different types of outcome measures make definitive statements of what works problematic[72].

A persistent point in the research literature is that although there is commitment to “evidence-based practice” in drug treatment, treatment fidelity is hard to maintain or assess, and evaluation methods are limited[73]. Programme drift, politics, staff and leadership changes, and funding issues can prevent delivery that follows the evidence-based design[74].

What is needed - research

A 2018 review noted that good-quality research is hard to conduct in a prison setting and that innovative evaluation methods need to be tried[65].

Research on drug-treatment programmes in prison focusses on the impact on reoffending rates; there is less research on the successful reduction of problematic drug use per se[75]. This is complex as the reduction in reoffending may or may not relate to successfully reducing the use of the harmful substance. Outcome measures may include reoffending, re-arrest, reincarceration, AOD relapse, and/or post-release employment over varied timeframes, post-release, with or without community aftercare[76].

All of this could be made less complex in the setting of a clinical/public health approach to drug dependence as outlined in Section 4.2.

2.2 Changing the interface between prisons and mental health: Prisons are not in-patient psychiatric hospitals

Why this matters

A recent survey shows that 91% of people in prison in NZ have a lifetime diagnosable mental illness or substance-use disorder, 62% of whom have been diagnosed in the past 12 months[77]. Compared to the general population, those in prison are seven times more likely to have a lifetime prevalence of any substance-use disorder, and one in three have a clinically significant personality disorder.

The current status

New Zealand has very few psychiatric inpatient beds, no psychiatric hospitals, and few forensic psychiatric beds.

Mental health and substance-use disorders often go undetected and under-treated; fewer than half (47%) of prisoners with a mental-health diagnosis had had mental-health treatment in the past year, with the lowest rates of treatment for substance-use disorders (42%)[77]. Men are significantly less likely to seek mental health treatment in prison than women[77].

Furthermore, high rates of comorbidity and multi-morbidity hamper treatment effectiveness[78,79], with two-thirds (66%) having two or more lifetime diagnoses of mental or substance-use disorders. Personality disorders make treatments for mood disorders less effective[80].

Untreated substance-use disorders and dependence keep people at risk of criminal-justice involvement. There is a strong relationship between alcohol abuse and offending, with youth drinking being particularly problematic[81]. Young NZ offenders saw heavy use of alcohol and drugs as precipitating and maintaining their offending (*e.g.,* heavy drinking by 79% of offenders vs. 27% of non-offenders)[82]. Alcohol consumption is associated with an increased risk of aggressive behaviour, interpersonal violence, and offending – including vandalism, property crimes, sexual crimes, and violence – especially among males under 25 years[83,84]. New Zealand's binge drinking culture is problematic[81] and new approaches to reducing substance use among young Māori, in particular, are required[85,86]. Methamphetamine is also an important problem[68] – see Section 4.2.

Childhood trauma is associated with poor mental health: NZ data show almost half (48%) of those in prison experienced family violence as a child[87], with estimates from child and youth offender records showing family violence as high as 80%[88]. Sexual and family violence has been experienced by 75% of women in prison and 56% of men (likely to be an underestimate because of the stigma associated with victimisation)[87].

Rates of mental illness among youth offenders far exceed those of children and adolescents in the general population[89]. Compared to 13% of children and adolescents in community samples, as many as 50% to 75% of youth involved in the justice system meet diagnostic criteria for at least one disorder[90-93], and young people in youth detention centres are about 10 times more likely to have a psychiatric disorder[89].

There is evidence that female offenders have higher rates of post-traumatic stress disorder (PTSD) than do males, having experienced more sexual trauma throughout childhood and young adulthood[94]. PTSD, especially in under-25-year-olds (given the effects of trauma on development), is associated with higher rates of recidivism[95]; a history of sexual abuse is the strongest predictor of reoffending by young females at 12-months follow-up[96].

Prisoners with mental illnesses often behave unpredictably as a result of their mental illness or their medication or both[97]. They also are at a high risk of victimisation and other disruptive behaviour from other inmates, a consequence that threatens overall security and increases challenges for correctional personnel[97]. Offenders with mental disorders who do not receive treatment are likely to cycle in and out of prison – and the criminal-justice system more generally – multiple times[98].

In the New Zealand National Prison Study, despite a similar prevalence of mental disorders, treatment for mental disorders (past and current) was less common among Māori and Pacific inmates than among European/Other inmates (p144)[61].

What is needed

Best practice is to provide early intervention through improved access to mental health and addiction services well before offending can begin or, at least, when young people first come to the attention of the criminal-justice system (following a needs assessment), *e.g.,* through pre-trial services[99]. Increased and sustained provision of evidence-based treatment for mental and substance abuse disorders, including comorbidity, is then needed throughout the system.

Trauma-informed practice is needed across all services involved in the justice system, as is the continuing exploration of the relationships between family-violence victimisation, mental health, and substance-abuse on the one hand and subsequent crime on the other[87]. Psychological trauma-focused treatments can produce large therapeutic effects[100]. Trauma-focused CBT has been found to be the most effective intervention in reducing PTSD symptoms in a recent meta-analysis (medium to large effect size)[100].

The evidence suggests that a health-centred, rather than an offending-based, approach to the problematic alcohol and drug use of adolescents and young adults is appropriate (also see Sections 4.1 and 4.2). International evidence shows that diagnosing and treating substance-use disorders, in particular, has an impact on lowering recidivism, for example through drug treatment courts (9% reduction in recidivism)[101].

Some people in prison with severe personality disorder and chronic self-harm behaviour would probably have their needs better catered for in the forensic mental-health system. For example, in Germany, mentally ill prisoners fall outside the jurisdiction of the Ministry of Justice and are, instead, admitted to psychiatric hospitals[102]. In the Netherlands, they are placed in specialist Forensic Psychiatric Care Institutions[102]. As noted above, New Zealand has very few psychiatric inpatient beds, no psychiatric hospitals, and few forensic psychiatric beds.

There are barriers to the early diagnosis and treatment of mental disorders in high-deprivation communities and for those in poverty[103], as well as cultural[104], social, and other barriers, especially for young people at risk of becoming offenders. Where there is engagement with child and adolescent services, transitions at age 18 to adult mental-health and addictions services need careful planning, especially as these transitions coincide with moves from youth justice to the adult criminal-justice system[105].

There is limited evidence for internet-based mental-health interventions (*e.g.*, E-therapy) for high-need populations with severe symptoms[106], such as many youth offenders[107,108]. Online programmes, such as computerised cognitive behavioural therapy (cCBT)[109] and game-based interventions[110], require high levels of self-motivation and focus, which the young-offender population typically lack. Internet-based therapy in prison requires close monitoring of mood and behaviour, to access more intensive support as needed, given that the young person might be following an E-therapy app by themselves in their cells. Internet access in custody is limited but there has been some use of portable devices for education with pre-loaded modules in New Zealand, an approach that reduces risks around misuse of internet connections. However, such an approach can heighten boredom and reduce engagement among young people who are typically sensation-seeking in their use of technology[108].

DHB mental health services are community-delivered, with some inpatient treatment for acute episodes available to a very limited extent. Partnerships with NGOs, cultural providers, and a wide range of health and social services are highly variable and mostly underfunded to meet population need. Forensic mental-health inpatient and treatment services are limited. When offenders with mental-health needs complete sentences, they need to access the limited DHB community services but will be able to do so only if severe enough to have their referral accepted.

3. Action on Therapy

3.1 Training more CBT therapists

Why this matters

With new models of care emerging and being developed, it is important that workforce planning considers:

- the skills and roles needed and required in the future;
- what the workforce currently has; and
- the priority areas that need to be addressed.

The current status

New graduate programmes, like Skills Matter (including modules on CBT) run by Te Pou support transition to practice. The Skills Matter programmes are in high demand and increased investment is required, especially for allied-health programmes, given the drive to address social determinants of health. Longer-term funding is also needed to ensure these programmes can be designed to meet future workforce needs. The short-term funding contracts currently in place do not support innovation or adaptation of programmes.

Specifically, the Te Pou Skills Matter programme has funded the following programmes over the last 8 years. There is scope for considerable expansion to evidence–based skill competencies across the whole of the mental health workforce.

Table 3.1.1 Te Pou Skills Matter programme

Year	Programme	No. of students
2018	PG Certificate in Cognitive Behaviour Therapy	17
2017	PG Certificate in Cognitive Behaviour Therapy	21
2016	PG Certificate in Cognitive Behaviour Therapy	18
2015	PG Certificate in Cognitive Behaviour Therapy	17
2014	PG Certificate in Cognitive Behaviour Therapy	18
2013	Certificate in Cognitive Behaviour Therapy	17
2012	Certificate in Cognitive Behaviour Therapy	20
2011	Diploma in Cognitive Behaviour Therapy	15
2010	Diploma in Cognitive Behaviour Therapy	20
	Total	**163**

What is needed

At the very least, the entire mental health workforce should have basic Cognitive Behaviour Therapy (CBT) skills. CBT is a strongly evidence-based approach to intervention and treatment for almost all the most common forms of mental disorders, including depression, anxiety disorders (panic disorder, agoraphobia etc.)[111,112], and substance-dependence disorders[113,114], as well as less common disorders, such as eating disorders[115]. A major benefit of CBT approaches is the avoidance of negative side effects associated with some medications[116,117]. In New Zealand, CBT approaches should be trialled, acknowledging and including Te Ao Māori perspectives.

It is important to note that evidence-based interventions for people with mental health disorders vary in their efficacy depending upon the client group being targeted. For example, interventions with hard-to-reach populations, such as those in the justice and welfare systems often require 1:1 contact over a much longer period and a more comprehensive and intensive approach than average. Scaling to need, even in the presence of highly effective CBT, is important.

One of the approaches that needs to be considerably improved in New Zealand is training therapists to work with families and provide evidence-based family interventions. We need more trained individuals in the area and more evidence about the settings in which it is most effective, again paying due attention to cultural and Te Ao Māori perspectives."

In this area, too, a new Mental Health Survey would help identify needs (see Section 5.1).

3.2 Introducing E-therapy

Why this matters

More than one person in three accessing primary-health services meet diagnostic criteria for depression, anxiety, or problematic substance use each year[118]. New Zealand research also indicates that over 60% of people who die by suicide visit their GP within the previous 6 months, and over one-quarter in the previous month[119]. In 2017, $32 million was invested in primary-mental-health initiatives, including extended consultations, assessments, brief interventions (including counselling), other psychological interventions, and medication reviews – targeting Māori, Pacific peoples, youth, and people on low incomes. Several programmes have been developed to support effective responses to people with mental disorder and addiction in primary-health settings including:

- Auckland Regional Health Pathways – to upskill and resource GPs; includes at least 20 clinical pathways; see https://aucklandregion.healthpathways.org.nz/
- Te Ao Māramatanga - College of Mental Health Nurses credentialing programme in mental health and addiction for primary care nurses; and
- Te Hikuwai - a brief intervention resource developed by Te Pou to support effective talking therapies to adults using a stepped care approach, which could be scaled up with further investment.

Other initiatives include the Beating the Blues – an online CBT programme for the treatment of depression and the Fit for the Future project – currently undertaking pilots to address increasing service demand. The Green Party's youth mental-health policy, agreed in confidence and supply with the government, also includes free counselling for all people aged under 25.

The current status

Despite this, primary mental disorder and addiction services continue to be under-resourced. There are simply not enough resources and services to handle need. Further, even when services are available, there is often not a match between what is offered and type and level of need, which tells us that there needs to be a range of services available:

- that are readily accessible;
- that are pitched at the right level of care;
- that do not necessarily involve medication, but rather provide a range of services and supports.

What is needed

E-therapy has been shown in more than 30 randomised controlled trials to be as effective as traditional face-to-face therapy for the most common and burdensome mental disorders of depression and the family of anxiety disorders (*e.g.,* panic disorder, agoraphobia, specific phobia, social anxiety disorder)[120,121]. Moreover, they are far more cost-efficient and represent excellent value for money. There is some evidence suggesting that they make be even more effective than face-to-face therapy due to their standardardised delivery and content for all users versus perhaps inevitable variability in delivery seen both within individual (across time) and across human practitioners.

In an environment in which funding is tight and that is characterised by massive unmet need, as in the case in New Zealand currently, E-therapy represents a potentially major tool,

the exact reach and limits of which remain to be established. In spite of the compelling supportive evidence for E-therapy, its quite remarkable cost-effectiveness, and the ability to circumvent massive shortages in workforce capacity, there still seems to be some resistance to its widespread adoption, even within the mental-health workforce itself[122]. A number of researchers have commented on the need to carefully and systematically prepare the ground for this type of initiative, rather than naively expecting practitioners to enthusiastically embrace a new form of operating, simply because it has been shown to be effective (Gavin Andrews personal communication to Richie Poulton, 2017).

4. Comprehensive Action on Addiction

4.1 Towards an evidence-informed alcohol policy

Why this matters

Understanding alcohol — and moving towards limiting intake across society — is central to any effective program to improve mental health.

Human exposure to alcohol was very limited until after the Agricultural Revolution 10 to 15,000 years ago. Prior to that, our only opportunity for access to alcohol would have been to beat the chimpanzees to a tree of overripe fruit[123]. After learning about fermenting sugar from many sources and later discovering distillation, alcohol became more predictably available. Nonetheless, for much of human history, alcohol has been a celebratory drug. Consumption surged in some societies at various points in the last 200 years but it is only quite recently that it has become ubiquitous: we have normalised regular and often daily consumption. There are extensive deleterious consequences – and few benefits – for health — physical, mental, and social. Nonetheless, alcohol plays a role in the social and cultural domains of many societies. Here we focus on the intersection with mental health.

The costs associated with alcohol amount to more than 1% of the gross national product in high-income and middle-income countries, with the costs of social harm constituting a major proportion in addition to health costs[124]. Despite the very high level of harm, alcohol is not high on the global health agenda and, unlike tobacco and illicit drugs, no agreed international policy is in place. This applies to New Zealand, where there are few controls on consumption.

Cost-effective interventions exist that apply at the population level, specifically interventions (which can be increasingly tightened) to control:

- availability via restrictions on time and place of sales and age of purchasers;
- price/affordability via minimum-pricing or taxation or both;
- marketing via controls on advertising and sponsorship, including product-placement restrictions in film and other media;
- driving under the influence of alcohol.

There are at least six areas where alcohol is causally linked to mental disorder:

1. Alcohol is toxic to the fetus and the cause of fetal alcohol spectrum disorder (FASD). FASD is diagnosed on the basis of a number of features, namely characteristic facial malformations; brain and central nervous system disorders; and growth retardation[125] as well as other more variable organ and system damage[126]. It is likely that there is a hidden tail to the distribution of this disorder with impaired mental (and physical) health and reduced capacity to learn and earn being important, albeit generally undiagnosed, in a much larger number of people[127]. The evidence indicates that, in New Zealand[128]:
    a. at least half of all pregnancies are exposed to alcohol (Growing up in New Zealand reported that 71% of pregnant women drank alcohol in the first trimester before they were aware of their pregnancy[129]);
    b. ten percent of pregnancies are exposed at high-risk levels;

c. two in five pregnancies are unplanned, increasing the likelihood that they will be exposed to alcohol;
d. pregnant women do not consistently receive timely maternity care or support to become alcohol-free;
e. health professionals do not consistently provide information on the risks of drinking during pregnancy or routinely screen for alcohol problems;
f. most clinicians lack the capability to diagnose FASD;
g. families of people with FASD struggle to access appropriate support;
h. FASD affects about 50 percent of children and young people in the care of Oranga Tamariki;

Canadian and US data (only data available) suggest that the lifetime cost to society per individual with FASD may be as high as $2.5M[130] and that young men with FASD are about 19 times more likely to be in prison than those without FASD[131].

2. Alcohol impairs self-control (the very set of skills that we are trying to make part of every child's life equipment[132] – see Sectons 1.1 to 1.5). Impaired self-control not only results in industrial accidents, traffic crashes, etc., but also in violence, particularly family violence; this, in turn, is linked to damage to the mental (as well as physical) health of children and partners, usually women[133].
3. Alcohol damages the developing brain, not only *in utero,* as discussed above, but also particularly in adolescents[134,135] when there is an extensive surge of complexification of connections across the central nervous system[136].
4. Alcohol is an important factor in depression, both as a consequence of the effect of alcohol on the central nervous system and because depressed individuals often self-medicate with alcohol[137-139].
5. Alcohol has a role in suicide, both because chronic high use leads to depression[140-142] and also because acute high intake is very often a precursor to the act of suicide (and self-harm). It facilitates the capacity for the recklessness about one's life that successful suicide requires[143-146]. At least half of youth suicide in NZ is linked to alcohol[42].
6. Finally, chronic alcohol abuse and dependence are DSM-V diagnosable addictive disorders[147,148]. They are characterised by mental impairment and difficulty with many aspects of life, including the fact of ethnic disparities related to care of abuse and dependence themselves[149].

In the community, there is generally insufficient understanding of the relationships between alcohol and important physical diseases such as cancer[150] and far less of the relationship between alcohol and mental disorder. This underscores the need for critical health literacy and recognition of the role of information and misinformation via social media (see Section 1.3).

Current status

Affordability of alcohol is influenced in part by excise tax. This is collected on all alcohol manufactured in, or imported into, New Zealand. The tax is applied on ethanol content within a range (*e.g.,* beverages with an alcohol content of 9-14% are taxed at 10%). This process has ensured that manufacturers develop products at the highest end of the range. (http://www.ahw.org.nz/Portals/5/Resources/Fact%20Sheet/Info%20Sheet%20Alcohol%20and%20Tax%20Final%2009.pdf). Compared to other developed nations, New Zealand's

alcohol tax is quite low: 10% (in Australia, it is 24%) of the retail price for beer, 15% (Australia: 25%) for wine, and 38% (Australia: 50%) for spirits. Most alcohol tax goes into the government's consolidated fund. A small separate levy on alcohol goes to the Health Promotion Agency.

The link between price and consumption is strong[151,152]l; taxation is the most direct way of influencing price. There are no other controls on the price of alcoholic beverages in New Zealand.

Availability of alcohol (who, what, where, when, and to whom) are governed by The Sale and Supply of Alcohol Act 2012 (http://www.legislation.govt.nz/act/public/2012/0120/latest/whole.html#DLM3339514). Under this act, local councils can adopt local alcohol policies and make local rules for alcohol licensing but, unless local councils decide differently, on-licences have maximum hours of 8am–4am and off-licences, 7am–11pm. Parental consent is required to supply alcohol to a person under 18 and, if alcohol is supplied to a minor, it must be done "responsibly" and, despite the vagueness of this word, it is defined under the act (http://www.legislation.govt.nz/act/public/2012/0120/latest/DLM3339743.html).

Alcohol marketing in New Zealand is governed only by a voluntary code promulgated by the Advertising Standards Agency (http://www.asa.co.nz/). It contains four principles, each followed by "guidelines". There is a complaints procedure if anyone feels these principles or guidelines have been breached but the evidence shows that complaint procedures generally work poorly[153]. The principles of the voluntary code are vague or weak and, in any case, not consistent with a regime that protects young people

Drink-driving. In New Zealand, from 1 December 2014, the breath-alcohol limit for drivers aged 20 years and over was lowered from 400µg/l to 250µg/l. The blood alcohol limit was lowered from 80mg/100ml (0.08) to 50mg/100ml (0.05). For drivers under 20, the limit remained (and remains) at zero (https://www.transport.govt.nz/land/bloodalcoholqanda/).

Treatment. In 2009, more than 30,000 people a year were convicted of drink-driving in New Zealand. With greater attention to breath- and blood-alcohol limits, including those further reductions in the legal limits in 2014, the numbers of convictions dropped – in 2016 it was less than 16,000. However, at least one third of those convicted are repeat offenders, indicating that they are likely to have an alcohol problem. Sentencing legislation requires drink drivers to be disqualified, fined or sent to prison, but little attention has been paid to their rehabilitation. Only a small proportion (5-10%) of drink drivers attend any kind of alcohol and drug assessment or treatment prior to getting their driver's licence back. (https://drinkdriving.org.nz/treatment/). There are impaired-driver-rehabilitation programmes (https://www.health.govt.nz/our-work/mental-health-and-addictions/rising-challenge/impaired-driver-treatment-programmes) but they enroll a very small proportion of all those in need.

The alcohol industry. Alcohol producers are well organised and effective lobbyists for industry-friendly policies, both internationally (making themselves key players in trade agreements and discussions of tariffs) and nationally, with extensive lobbying and purchase

of political support[154]. They lobby for ineffective strategies and against effective ones, while appearing to act as good corporate citizens. So-called "responsible drinking" messages are deliberately strategically ambiguous; they are designed to look as though they are protecting health but actually serve to advance sales and a safe public image[154,155].

The alcohol industry has established what have been labelled social aspects organisations; they are designed specifically to obfuscate issues around the marketing and consumption of alcohol and to actively oppose community, national, and international changes that are intended to reduce promotion, sale, consumption, and harm[156,157] as well as in other parts of the world. With the formation, earlier this year, of the NZ Alcohol Beverages Council (https://www.newshub.co.nz/home/health/2018/03/alcohol-industry-vows-to-take-on-health-lobby-s-hammer.html), we can expect a similar oppositional voice to be heard in New Zealand.

Self-regulation of alcohol advertising is, from the perspective of protecting vulnerable individuals and the community generally, not only ineffective but, the evidence shows, counterproductive[153,158].

The Expert Committee on Problems Related to Alcohol Consumption, reporting in 2007, recommended that WHO continue the practice of not collaborating with the alcohol industry, noting that any interaction should be confined to discussion of the way in which the industry can reduce alcohol-related harm and "only as producers, distributors and marketers of alcohol, and not in terms of alcohol policy development or health promotion"[159]. Margaret Chan, Director-General of the World Health Organization (2006-2017), noted in 2017 that national alcohol policies are "needed, desired, entirely feasible, and highly effective". They are also resisted by the alcohol industry both overtly and covertly. Following the unmasking of efforts by an industry-sponsored group to shape alcohol policies in four developing countries, Chan made a public statement in 2013, making clear, again, that industry was no longer welcome in discussion of regulations. She declared that "industry cannot sit at the table or have a voice when WHO defines its standards and preventive strategies, and it cannot supplant government's role in formulating policies for alcohol control." She noted that policies shaped by industry "consistently fail to include those measures proven by the evidence and endorsed by WHO to have the greatest impact."[160]

Despite the optimism of some regarding the emergence of a need for corporate responsibility in support of Sustainable Development Goals[161], there is essentially no sign that alcohol corporations recognise the need to support international and national regulation to protect their societies' interests.

What is needed

Control-policy implementation needs multisectoral and multi-agency commitment driven by the national government and with coherent support from local government, Iwi, NGOs, and communities. Potential actions include:

Reducing Affordability

- Excise tax graded by absolute volume (not across a range) of ethanol

- Continue Inflation-adjusted taxes
- Move to a minimum price, as recently adopted in Scotland

Reducing Availability

- Ban on sales and drinking in public places
- Enforce the laws on service (to people who are intoxicated and to minors)
- Different availability based on volume of alcohol

Regulating marketing

- Ban on sponsorship
- Ban on advertising of corporate philanthropy
- Advertising restricted by media (*e.g.*, no electronic media) and move to a ban on all forms of marketing
- Restrictions on packaging and product design and move to plain packaging and warnings in the manner of tobacco

Reducing Drink-driving

- Continue random breath testing; consider a still lower legal limit
- Suspension of driver's licence and no revalidation without screening for problem drinking/abuse/dependence, followed by treatment as necessary
- Mandatory treatment for repeat drink-drivers

Improving Treatment

- Detoxification
- Cognitive-behavioural therapy
- Pharmacologic approaches

Constraining the Reach of the alcohol industry

In New Zealand, we must ensure that the formulation of alcohol policies is the sole prerogative of government and informed by the best science. Industry, as is, of course, the democratic norm, should be able to make their positions known but they should not hold positions on standing bodies that a) advise on government alcohol policy or b) are responsible for alcohol regulation and control.

Health promotion – and a long conversation

In the discussion of community understanding of mental health and addiction (see Section 5.3), we note that "we need to be very selective about what programmes we launch expecting changes to promote better mental health, at individual, family, whanau, and community levels." However, we also note that there are some "public education and discussion topics that are relevant to improving and maintaining New Zealand's mental health" and we include alcohol in that list. We need long and detailed conversations across New Zealand that improve understanding of the damage that alcohol does to fetal and adolescent brains, to relationships, and to mental (and physical) health – and, most of all, we must have discussions to improve understanding of the extreme danger posed by our current level of consumption and how we need, as individuals and a nation, to move towards managing problematic use, abuse, and dependence and then towards de-normalising excessive routine regular alcohol consumption and more conscious use, and,

finally, towards remembering the joy of occasional and celebratory use. Again, there is a role here for critical literacy as noted in Section 1.3

In New Zealand, we need a coordinated approach that moves, as proposed above, to effective evidence-informed national policies. We appreciate that this is a long-term project – at least one, probably two generations – and appreciate that there are powerful forces arrayed against these changes. Nonetheless, we need to start now as a matter of urgency.

4.2 Towards an evidence-informed drugs policy

Why this matters

At the same time that we consider the harm that inappropriate alcohol use causes and begin to move towards better understanding and better usage patterns across society, we need to consider the impact of illicit drugs.

The estimated direct economic cost of drug-related harms and interventions in 2014/15 was $1.8 billion (personal harm: $601M; community harm: $893M; intervention cost: $351M). The specific impact of: cannabinoids was $1,283M; amphetamines: $364 M; opioids: $176M; and hallucinogens: $22M[162]. Annual cost of death and disability in 2010 was estimated at about $600M[162]. To tackle this issue in 2014/15, we spent $273M on the police, courts, and corrections and $78M on health[162].

As McFadden[162] noted in 2016 and is still true, the most recent available data on New Zealand drug deaths on the United Nations Office on Drugs and Crime (UNODC) website are for 2011, with 78 deaths registered[163]. Amphetamines, cannabis, opioids, and cocaine (in that order) were the drugs identified as the primary cause of death (UNODC records drug-related deaths as including, but not limited to, overdose deaths). In the figures for 2010 (the most recent available), 10 of 75 deaths were recorded as due to overdose – low compared to most developed nations and probably due to the low prevalence of heroin use[162]. However, it is unknown how many suicides are associated with drug use – at least 50% of youth suicides are associated with alcohol and there is almost certainly a similar high level of association with disinhibiting and mood-altering drugs.

As we detailed in our overview presentation to the Inquiry on May 10, illicit drugs – along with alcohol – are particularly damaging to the fetal and adolescent brain[31], with predictably lifelong repercussions. Further, among adults, we see loss and damage to earning capacity, family life, community, and ordinary human functioning. Lastly, substance abuse is frequently co-morbid with psychiatric illness. Increasing opportunity for assessment and individualised treatment is a necessary step to improving engagement in services and reducing overall disability.

In New Zealand, a large proportion of the illicit drug trade is carried out by gangs, which have become a major source of crime and violence[164]. Almost paradoxically, they fulfil a function in society that is missing elsewhere: a social and emotional home that is attractive to young people experiencing neglect, particularly boys. Unfortunately, this emotional home is frequently a terrifying one that substantially increases their risk of trauma, while nurturing their tendencies to violence. As Eggleston points out: “while gang members subjectively believed gangs were good protective agencies, joining a gang had a number of consequences that functioned to dramatically increase participants' needs for protection, their scope of vulnerability to violence, and pressure to commit crimes”[164]. Also see the reports from Lambie and Gluckman on the justice system which contain detailed consideration of this Janus role of gangs[165,166].

The current status

Relevant legislation – The Misuse of Drugs Act – was passed in 1975 and has been amended twice since (http://www.legislation.govt.nz/act/public/1975/0116/82.0/contents.html). It

sets out severe criminal penalties for possession and use of drugs. As an approach to drug control, it has proved ineffective; indeed, research shows that criminal penalties have little impact on drug use and usually miss the opportunity for public-health and treatment options[167].

Consequences of illegality include: crime to support habits (in addition to violent crime to control production and distribution networks); disease (especially Hepatitis B and C and HIV); prostitution (particularly problematic and destructive in young people of both sexes); stigmatisation and marginalisation of users (which makes integration back into society that much harder, both psychologically and socially); and large fortunes for a few.

It is clear that criminal sanctions deter neither the trade in illicit drugs nor their use by individuals. The current societal response exacerbates, rather than controls, the damage to individuals and society and aggravates the burden of mental disorder. The cost is high and increasing and the amount of money spent on ineffective control is more than three times the money spent on repairing the damage, with very little spent on prevention. Finally, therapeutic alternatives to incarceration have been shown to decrease drug use, drug-related criminal behavior, relapse, death, and cost[167].

What is needed

New Zealand should consider moving towards an approach focused on prevention and public health: treating addiction as a problem needing societal, public-health, and clinical solutions and rehabilitation not retributive prison. There are such approaches and here we discuss two, one from UK in the early 20th century and one from Portugal in the 21st.

What some refer to as the British System of drug treatment and control was in place from the 1920s to the 1960s, which was based on opiate (and, to a lesser extent, cocaine) abuse as these were the dominant drugs at that time. The medical prescription of opioid drugs to those addicted to them was sanctioned on the recommendation of the 1926 Rolleston Report[168], which defined drug addiction as an illness. The proper management was, therefore deemed to be clinical. Initially, there were a relatively small number of people who, pre-NHS, were treated in private practice, with a focus on detoxification or maintenance with the decision and the medication in the hands of the individual practitioner. The report[168] included the following key conclusions:

> *47. Apart from the cases dealt with in the two preceding paragraphs [persons being treated for intractable pain and those undergoing gradual-reduction withdrawal], we are satisfied that any recommendations for dealing with the problem of addiction at the present time must take account of and make provision for the continued existence of two classes of persons, to whom the indefinitely prolonged administration of morphine or heroin may be necessary:*
>
> > *(a) Those in whom a complete withdrawal of morphine or heroin produces serious symptoms which cannot be treated satisfactorily under the ordinary conditions of private practice; and*
> > *(b) Those who are capable of leading a fairly normal and useful life so long as they take a certain quantity, usually small. of their drug of addiction, but not otherwise.*
>
> *48. Most of the witnesses admitted the existence of these two classes of cases, though in some instances with reluctance. Some physicians of great experience believed that if*

> *thorough treatment could be carried out in all cases, it would very rarely, if ever, be found necessary to provide any addict with even a minimum ration of drug for an indefinite period. It was recognised, however, even by these witnesses, that under present conditions it was not possible, for reasons already stated (see, paragraph 44), thoroughly to treat all cases. There must, consequently, remain persons in whom a complete cure cannot be expected.*

Beginning in the late 1950s in the UK, and largely provoked by the use of drugs by ethnic minorities, notably West Indians and Africans in blues clubs and visiting African American musicians in jazz clubs, there were increasing worries about a new drug epidemic, fueled by press coverage[169,170]. The government response came in 1961 in the form of what is known as the first Brain Report[171] (after its chair, the distinguished neurologist, Lord Brain). The report noted that there was little need to make any major changes in the medical-management/public-health approach that had followed Rolleston because there was no substantial increase in numbers (this is possibly because they were not supplied with all the evidence); they attributed an apparent increase to increased surveillance[171].

In 1964, the government reconvened the Committee, with the terms of reference being to "review the advice they gave in 1961 in relation to the prescribing of addictive drugs by doctors"[172]. Yates suggests that this was largely because the Home Office appeared to have already identified the problem as the over-prescribing of heroin and cocaine by a small group of doctors in London[169]. The Second Brain Report was published in 1965[172]; its major recommendations were implemented in the Dangerous Drugs Act of 1967. The basic tenets of the 1926 Rolleston model would be retained but prescribing would require a licence from the Home Office and these would normally only be granted to psychiatrists working in specialist Drug Dependency Units (DDUs).

When they were established, the DDUs prescribed injectable heroin and methadone, but some influential London psychiatrists moved towards oral methadone and the system largely followed suit. Heroin prescribing became a minority activity – and increasingly marginalised[173].

From the 1980s, control of illicit drugs became increasingly focused on criminal sanctions in interdiction of availability at all levels of the system – from production and importation to low-level supply – and criminalisation of usage followed. Despite its extensive failure on essentially every level and driven by the "war on drugs", particularly in and from the US, this has become the model in most countries.

More recently, there has been consideration in some countries of how alternative approaches might work. For instance, the sale of cannabis has become big business following varying degrees of legalisation, often focused on medicinal uses, in now a total of 30 US states, the District of Columbia, Guam, and Puerto Rico[174]. The recreational use of cannabis is legal in 8 states plus the District of Columbia and decriminalized in another 12 states plus the US Virgin Islands[175]. An additional US state has been added to each of these groups since the referenced report was published. In the Netherlands, the US, and now in Canada, the regulated sale of cannabis has generated substantial tax revenue[176]. This approach to decriminalisation or legalisation of one particular previously illicit substance reduces some burdens on law enforcement, although cannabis use is prohibited under US federal law. Further, it is certain that adding a single drug to those that are already legal,

particularly alcohol and tobacco, does not improve health, the impact of early exposure (fetal and adolescent exposure particularly), or the problem of intoxicated drivers.

More radical has been the approach in Portugal, which, in July 2001, introduced a new law that substantially changed the legal status of drug users[177,178]. The new law decriminalised use, possession, and acquisition of all illicit substances for personal use, defined as up to ten days supply. Drug use was not legalised. Possession remained prohibited by law and criminal sanctions apply to production, dealing, and trafficking. The two central features were: ending the use of penal sanctions for drug possession and introducing a system of referral to *Comissões para a Dissuasão da Toxicodependência* (CDTs) – regional panels of three people, including social workers, legal advisors, and medical professionals, supported by a team of technical experts. Police refer those found in possession of drugs to the CDTs where they appear within 72 hours. The CDTs use targeted responses, including sanctions such as community service, fines, suspension of professional licences, and exclusion from specific places. The primary aim of the panels is to dissuade new drug users (hence the name) and to encourage dependent users into treatment. To accomplish this, they determine whether individuals are occasional vs. dependent drug users and apply an appropriate sanction. For those who are dependent, fines are not the sanction; rather, the CDT can recommend that the person enters a treatment or education programme. The law was part of a strategic approach to drug use that aimed at enabling a public-health approach to drug users and targeting police resources towards drug trafficking and supply[177].

This national social experiment has been highly successful across several domains. The number of new shared-needle-related HIV infections in Portugal has fallen precipitously from around 500 cases in 2006 to 30 in 2016[179]. Overdose deaths have declined from over 90 in 2008 to 27 in 2016[179]. The drug-induced mortality rate among adults (aged 15-64 years) was 3.86 deaths per million in 2016[179], which is more than five times lower than the most recent European average of 21.8 deaths per million[180] and much lower than the 2011 figures in NZ. By the late 1990s, roughly one percent of Portugal's population, around 100,000 people, were heroin users; today it is about half that.

There are voices calling for changes, including very sober, informed, and thoughtful voices, such as those of the editor-in-chief of the British Medical Journal[176], who writes "The global trade in illicit drugs is worth £236bn, but this money fuels organised crime and human misery. Why should it not instead fund public services?" She joins the Royal College of Physicians[181] in calling for legalisation, regulation, and taxation of the sale of drugs for recreational and medicinal use.

Legalisation, regulation, and taxation of the sale of drugs for recreational and medicinal use has never been applied, so, to this point, is unsupported by evidence. However, if as implemented in Portugal and as strongly supported by the Royal Society for Public Health[182], we decriminalise – but not legalise – currently illicit drugs, we should achieve several aims:

1. The cost, availability, and accessibility of drugs become predictable. This undermines the profit motive for the suppliers (especially gangs) and reduces the crime and other deleterious behaviours that are associated with the need to maintain a drug habit – burglary, theft, prostitution, violence, etc.

2. Removing the gangs as controllers of supply eliminates the entire business structure that underpins the gangs' existence. That, in turn, means that the gangs have to find a new reason for existence. Inasmuch as they perform, as noted above, an important, if massively problematic, social function as a home for young children escaping intolerable existing homes, collectively we are offered an opportunity to recraft the social function of gangs (preferably less traumatically) and help them work towards new – legitimate – businesses and roles in the community. It is not clear what gangs could do – or are likely to do – if the profit motive for controlling methamphetamine is reduced/eliminated. The evidence from the post-Prohibition-Era in the US is not entirely encouraging but there is every incentive for us, as communities and as a nation, to engage with gangs to help them turn their energy, their organising ability, their entrepreneurial skill, and their family-like structures towards prosocial ends.

3. The availability of a regular supply of a predictable dose of drugs allows better functioning of people and, therefore, a capacity to work and look after a home and family; this is consistent with observations that go back to the 1926 Rolleston Committee Report[168].

4. The accessibility of unadulterated drugs, clean syringes where relevant, and a safe hub/centre for controlled use ensures reduction/elimination of disease, particularly hepatitis B, hepatitis C, and HIV, as well as the risk of overdose (note the data from Portugal showing the decriminalisation of non-violent possession of drugs leading to considerable decrease in drug-related death, with only modest protections in place). The absence of the need to support a habit by prostitution reduces the risk of sexually transmitted infections, again including HIV and hepatitis B; other risks of prostitution include intimate partner violence and unwanted pregnancy or termination.

5. Tying the supply to a safe source ensures that there is a capacity to help individuals wean themselves off drugs by means of associated programs; the specific contract towards a drug-free state that accompanies a designation as a registered user needs to be negotiated, perhaps even on an individual basis. There should be expectations but the rule should be supportive not draconian — and wrapped around with opportunities, not coercion.

6. Prevention is more cost-effective than cure, and certainly more cost-effective than incarceration. A common-factor approach[183,184] to prevention, including opportunities for pro-social engagement reduce isolation and provide opportunities for exercise, social belonging, and meaning is recommended. In contrast, criminalisation is expensive. As noted above, approximately 78% of $351M intervention cost in 2014/2015 on intervention was spent on police, courts and corrections[162].

7. Given substantial comorbidity between mental illness and substance misuse and that fewer than 20% of New Zealanders in need of mental health services have accessible

care[31], regulated treatment provides a necessary opportunity to provide comprehensive assessment and appropriate intervention to improve quality of life and reduce harm.

8. Revenue generated by regulated legalisation (if that decision is taken) may be used to support mental-health assessment and substance-abuse treatment, as well as public-health/prevention programmes supporting vulnerable youth at risk for trauma, violence, and gang activity. Taxation may also function as a deterrent to unwanted behavior.

9. Māori are particularly at risk, so working together, across all cultures, to promote traditional culture and reassertion of the primacy of community, family, and whanau among individuals, families, and gangs that have lost this understanding can begin to steer us – as a nation – down a different, more beneficial path. Because of its impact on mental health more generally, this needs to be accompanied by a much stronger focus on remedying the impact of colonisation on identity, life, community, sense of place, social cohesion, education, and language[185].

A key step in the right direction, so that everyone understands what works and what does not is the commissioning of a substantial economic analysis of the current system and its possible alternatives, taking due account of:

- costs to the health of the individual;
- costs to society;
- costs of marginalisation;
- direct medical costs;
- lost productivity;
- cost of police, courts, and corrections;
- cost of crime used to support drug habits;
- costs to communities as a consequence of gang activity.

We suggest that the Inquiry consider one or both of the following approaches to decriminalisation:

EITHER:

Moving towards a pilot test of the system that is in place in Portugal as described above, namely decriminalisation plus a variety of non-criminal sanctions for use, support of health needs and for attempts to wean off drugs altogether, along with criminal sanctions remaining for supply, trafficking, and importing.

AND/OR:

Moving towards the pilot test of a system that resembles what was in place in the UK after the 1926 Rolleston Committee Report:

1. Decriminalise personal use of all currently illicit drugs;
2. Provide drugs on prescription by designated licenced practitioners;
3. Users to register their need with these practitioners.
4. Agreement between practitioner and user is that:
    a. drugs will be prescribed on an agreed schedule;
    b. drugs will be used in a safe environment on-site;

c. user will undertake to enrol in a program of cognitive behavioural therapy (CBT) or work with an E-therapy app that is supported by the practitioner with the specific aim of weaning him/herself off drugs.

5. Supply, trafficking, and importing of all designated drugs will remain illegal and subject to criminal sanctions.

All relevant safeguards would need to be in place, including:

- users would have to agree to programmes aimed at abstinence via CBT or E-therapy apps, although there would not be criminal penalties for failure – some people, as the Rolleston Committee recognised, need to be maintained long term;
- adolescence is particularly problematic and there needs to be focused education in schools on drug use and its impacts as well as on self-control and resilience in the face of adversity. The need is not just for knowledge but for knowledge put into action (see Section 1.4);
- as a nation, we need a long, fully engaged community discussion about brain development with particular reference to the impact of illicit drug use) see Section 5.3);
- pregnant women would need as much support in relation to avoidance of currently illicit drugs as we should put in place in relation to alcohol and tobacco – see Section 1.1. As there is a significant genetic component to addiction[167], this approach should include a particular focus in helping at-risk families strengthen healthy attachments, model healthy coping, and manage distress, so as to disrupt intergenerational trauma and substance abuse. These interventions strengthen healthy neurodevelopment, with exponential dividends in mental and physical health, including self-control, executive function, temporal decision-making, and regulated emotional reactivity.

It may seem plausible that cannabis fits readily into the second option – modelled after Rolleston[168] (which was conceived largely around heroin and cocaine use) – as well as the Portuguese model. However, there have been serious concerns around cannabis both as a cause of impairment of adolescent cognitive functioning and as increasing risk of later psychosis. In relation to the first concern, a recent meta-analysis suggests that cognitive impairment may be short-lived, largely disappearing after 72 hours since use[186]. Consequences of longer term chronic use are not well documented. More crucially, there are 3 excellent longitudinal studies, all undertaken in Australasia, that show consistent evidence of a higher risk of later psychosis following use of cannabis in early adolescence[187-189]. These latter findings argue strongly against the legalisation of cannabis and in favour of a decriminalisation model with the same kinds of extra protections for young people that we associate with the control of tobacco.

Finally, amphetamines raise additional issues because, unlike the other 3 major drug groups under discussion, maintenance on methamphetamine is much more problematic because of its tendency to induce rage and violence. Particular attention needs to be paid to the way in which to taper off use via a specific regimen or wean users off altogether. For instance, bupropion (approved for the treatment of depression and nicotine dependence) and methylphenidate have monoamine uptake inhibition effects. and have both been shown in individual trials to be useful in managing intravenous amphetamine withdrawal[190,191].

However, and crucially, in a 2013 Cochrane review, no statistically significant differences were found between any of four psychostimulants (dexamphetamine, bupropion, methylphenidate and modafinil) and placebo in their capacity to reduce amphetamine use or craving, nor did any of these increase sustained abstinence[192]. There is room for further research, as the Cochrane review notes, because the numbers both of studies and participants were limited and data on important outcomes, particularly efficacy in relation to severity of dependence, were absent[192]. If we are to control or manage dependence in New Zealand, where perhaps 1% of the population are methamphetamine users, often by inhalation, we need both to take note of what has been learned elsewhere and to undertake our own research and pilot programmes in pursuit of proper management of this aspect of a serious public-health problem.

We deeply appreciate that a proposal to decriminalise currently illicit drugs is politically highly fraught and may attract condemnation on philosophical grounds, moral grounds, economic grounds, and religious grounds, and on the basis of simple prejudice. However, drug use is currently not under any effective control and the cost to individuals, family/whanau, and society is enormous and growing. If we take a public-health approach to what is a public-health problem, we will benefit from exploring and implementing better ways to spend money and, even more importantly, better ways to promote the wellbeing of individuals, whanau, and the wider society.

5. Comprehensive Action on Data, Understanding, and Infrastructure

5.1 The need for a national survey of mental health and mental disorder

Why this matters

With a greater focus on wellbeing and recovery, a variety of new roles and ways of providing effective mental services can be anticipated.

These might include, for example, health/lifestyle coaches, digital support mentors for children and youth, and more employment specialists[193]. These examples are particularly apt because approximately one person in five accessing adult-inpatient services will have problems with one or more of the following: accommodation, employment, and activities of daily living[193,194]. In a new approach to mental-health service provision, such activities and functions can be supported by a suitably qualified non-clinical workforce, freeing up clinical workers to use their specialist skills[194].

Others examples of likely change include a thorough review of scopes of practice to ensure appropriate support is provided to a range of mental-health workers, allowing them to function at the peak of their competencies *e.g.*, for nurses and support workers (also see Section 5.2). Examination and review of the keyworker/case management model as applied currently by DHBs also appears justified.

Regardless of the specific recommendations from the current Mental Health Inquiry, the impact of the changes must be assessed. A fundamental prerequisite for a proper rigorous assessment of system changes will require a baseline survey of mental-health status and risk across the New Zealand population.

The current status

The most recent survey – Te Rau Hinengaro – was published in 2006[195,196], having collected data covering the periods 2002 to 2004. Like all surveys of its era, it had several limitations including:

1. the failure to recruit those people least known to the system and often with the greatest needs and highest rates of disorder; and
2. making no attempt to measure early risks and forms of disorder among people younger than 16 years.

This latter point is particularly important because research in the last two decades has shown unequivocally that most adult mental health disorders are preceded by disorders much earlier in life and, in fact, are best regarded as juvenile disorders grown up[197]. Further, a number of important early antecedents to later mental distress and disorder have been identified, with some identifiable (and measurable) as young as age three years[198,199].

What is needed

The take-away message is clear and straightforward. A new and much more sophisticated survey must be done that firstly and centrally focuses on wellbeing – not just measuring the absence of morbidity but also assessing levels of positive skills – and secondly, captures both the risks for, and rates of, mental symptoms and disorders amongst the whole population, beginning at a young age, with special efforts made to recruit those typically

beyond the reach of past surveys. We will find disproportionally high rates of mental disorder among this hard-to-reach group and we will find early – and more easily remediable – signs of disorder among the young.

This wellbeing survey is needed now and must be regularly repeated because, as we have previously advised, the context driving mental morbidity includes changing demography, urbanization, the digital transformation, and changing social, societal, and family structures. The digital transformation, which has only begun to exert its effects, has already had a marked impact on concepts of well-being, autonomy, privacy, and agency as well as the compact between the citizen and state. The implication of this is that strategies and policies that worked in the past may not work in the future: there will need to be continual reflection on what mental health, mental wellbeing, and mental disorder are. The potential to link this survey to the IDI and thus to get a far better understanding of what is happening could give NZ a real advantage. As Gluckman has noted, there are enormous possibilities from such linkages but they need to be managed within a sophisticated engagement of expertise in the analysis[200]. It is essential that there be continual attention to the issues of oversight, appropriate use of the data, and securing social license.

With neither current data nor accurate analysis of prevalence rates and mental-health service needs, it is difficult to gauge where change in the system will have the greatest impact. The MoH has signalled the shift to a population-based approach to mental disorder and addictions and invested heavily in a population-based outcomes framework. In the absence of the necessary leadership and action plan, there is no way to establish how this will be implemented or even if it will ever be implemented.

Such a survey is more sophisticated than previous mental health surveys. It is crucial to note that preliminary planning for just such a survey began in 2017, under the leadership of the Social Investment Agency. This could easily be brought back to life.

5.2 The need for a national audit of mental-health-service capability

Why this matters

The workforce is critical to achieving improvement in mental health and addiction services. Any change in the way services are delivered in the future needs to be underpinned by strategic workforce planning. Workforce planning involves the systematic identification, analysis and planning of future workforce needs, based on population-health needs and priorities[201] – see Table 5.2.1. The necessary outcome is: "the right number of people with the right skills, in the right place, at the right time, with the right attitude, doing the right work, at the right cost, with the right work output"[202].

The current status

The workforce is under substantial pressures and initiatives are needed that have a greater focus on the wellbeing of the workforce itself. Research indicates that bullying, abuse and violence, high caseloads, understaffing, occupational burnout, secondary traumatic stress, and vicarious stress are all current issues experienced by the workforce[203,204].

What is needed

Table 5.2.1. Domains of Workforce Planning and Development and 10 Key Future Directions

Domain	Future directions*
Workforce planning	1. Workforce with the right size and skill mix to respond to population needs, underpinned by strategic workforce planning 2. Workforce wellbeing and career pathways
Learning and development	3. Workforce responds effectively to people and their whānau
Organisational development	4. Building a culture that supports wellbeing and recovery
Recruitment and retention	5. Growing the Māori workforce 6. Growing the Pacific workforce 7. Growing the peer workforce
Information research and evaluation	8. Evidence-informed practice and continuous quality improvement
Workforce development infrastructure	9. Policy and funding supports workforce development 10. Working collaboratively with others

*Based on the *Mental Health and Addiction Workforce Action Plan*[205], other key plans and strategic documents.

Recruiting qualified and experienced staff to respond to the increasing demand for mental-health-and-addiction services is a key workforce issue. In 2016, the overall vacancy rate in infant, child, and adolescent services was 8% and more than 1.5 times higher than in adult services, but across all services, vacancy rates for some allied health roles (*e.g.,* psychologists, occupational therapists) as well as nurses are high. Further services are, at the moment, focused largely on moderate-to-severe illness and not on mild illness and prevention where greater efficacy can be seen. The unmet need is enormous. Perceived future shortages have also been identified for addiction-and-co-existing-problem practitioners, nurses, psychiatrists, and psychologists[193]. Another key challenge is maintaining a sufficient workforce in the face of workforce ageing. For example, about half

of the DHB mental-health-and-addiction workforce will reach retirement age within the next 15 years. Workforce planning is therefore needed both to address current workforce gaps and future loss. Further, there is a need for existing practitioners to acquire additional skills – see Section 3.1 on CBT and Section 3.2 on E-therapy.

To effectively support and respond to the increasing demand for services by people with experience of mental-disorder and addiction needs:

- we must make a commitment to more effective prevention and early-intervention services
- workforce planning is essential, including an examination of skill mix;
- the workforce needs opportunities to broaden its capability, particularly in the direction of evidence-based knowledge and skills;
- organisations need to support a culture of wellbeing and recovery;
- strategies need to be undertaken to grow the Māori, Pacific, as well as peer workforces;
- evidence and outcome data need to be available to inform practice and opportunities for quality improvement identified;
- policy and funding need to support workforce development and working collaboratively with others.

5.3 The need for a national conversation on mental health and addiction

Why this matters

There are regular calls for a variety of messages to be promulgated with a view to improving the health behaviours and health of individuals and communities. Obviously, the most successful messaging strategies belong to the advertising industry; this success depends, in large measure, upon relentless repetition, large budgets, and, as Packard put it more than 60 years ago, the ability to "identify, and beam messages to, people of high anxiety, body consciousness, hostility, passiveness, and so on"[206]. These approaches are usually antithetical to the messages of self-control, self-management, self-denial, and delayed gratification that are at the heart of achieving and maintaining good health for individuals and communities. There are underpinning theories as to how messaging works and attention has been paid to social marketing and use of social norms but massive forces are arrayed against these as effective strategies and, indeed, the empirical evidence is that pro-health messaging and health promotion do not work most of the time. This is even more of a problem when the products antithetical to health were themselves rare until after the Agricultural Revolution and uncommon subsequently[123] (and therefore have been “treats” through most of human history) and are addictive (sugar, tobacco, alcohol, illicit drugs); all this ensures even greater resistance to behaviour change.

The current status

There are, nonetheless, in recent times, successful outcomes to campaigns in support of health-promoting behaviours. They are informative for any steps we might wish to advocate in relation to improving mental health in New Zealand.

Sudden unexpected death in infancy (SUDI) was identified as being related to the influence of sleeping in the prone position, along with other factors, although some of these factors were not at all important when the infant was supine[207]. Other factors have been shown to be important as protection[208] and deleterious[209], but the focus on promoting the practice of placing infants on their backs in New Zealand ("Back to Sleep") was successful in changing behaviours[210] and has been instrumental in markedly reducing SUDI[211]. The key to success involved: the need to change a single behaviour that was an easy choice for individuals to make and remember, particularly when reinforced by reminders (from self, others, and the environment) and the absence of opposing forces (in the form of addiction or contradictory commercial messages).

In September 2007, in New Zealand, total **childhood immunisation coverage** at 24 months was 67%; among Māori, it was 59%; Pacific, 62%; and in Dep 9-10 communities, 62%. By June 2012, the comparable coverage was 93%, 92%, 97%, and 94%[212]. This was achieved by a programme that included complete wrap-around approach via health practitioners (docs, midwives, well-child services, etc.), the use of a national registry, and substantial attention to pre-calls and recalls. The decision that the parents had to make, once the relevant information regarding protecting the child’s health and all this support was there, was relatively simple: attend appointments. This decision was supported by reminders, attached to strong emotional indicators in favour of the actions, essentially no cost barriers, and no potent and strongly invested contradictory signals.

The elimination of **tobacco** has still not been achieved despite almost 70 years of data and campaigning. Much has changed, however, and many have quit despite the fact that giving up cigarettes requires multiple decisions on a day-by-day, often moment-to-moment basis, involves overcoming the craving for a highly addictive substance and, for society, combatting a relentless barrage of industry power and misinformation. Increasingly, the habit is not adopted among young people in the first place. The whole programme (across nations and across the world) has required attention to availability, sliding-scale taxation, banning of advertising, promotion, and sponsorship, etc. We do not yet have success largely because of the power of Big Tobacco plus the fact that tobacco and nicotine are highly addictive.

What is needed

We need to be very selective about what programmes we launch expecting changes to promote better mental health, at individual, family, whanau, and community levels. From the data above, it is clear that success depends either on applying messages towards a simple one-time, reinforceable, and largely unopposed change in behaviour or on a complex campaign that:

- is years-to-decades long;
- involves regulation and full-strength opposition to entrenched business and societal practices and values that maintain the status quo;
- is backed by fiscal incentives and disincentives; etc.

Educational approaches need to build resilience and critical awareness of manipulative messaging. Counteracting powerful messages that promote inappropriate use and problematic practices and values that are well embedded requires action on several fronts. It also requires knowing about effective and ineffective approaches to building the skills and knowledge needed by young people. Key parts of this include:

- developing skills and knowledge in young people that enable them to critically appraise and be resilient in the face of messaging, especially messages conveyed through social media and through advertising;
- regulation as above;
- social contract with businesses associated with addictive behavior including the gambling industry and the digital gaming industry.

It is not easy to see how we start and maintain a larger conversation in support of mental health. However, one approach is to keep the whole picture in mind and, at the same time, break it down into component parts where changes are needed and begin to improve individual and community understanding (also building this into the education system is essential) of some complex issues. Only when there is a clear path to effective health promotion of some component should we embark on this – and then in a way that initially involves trials at micro- and meso-scale.

In pursuit of this goal, some of the public education and discussion topics that are relevant to improving and maintaining New Zealand's mental health and towards which we should move include:

- understanding and destigmatising mental disorder – mental health literacy[213,214];

- mental health itself (what is it and how is it more than just absence of mental disorder) – again, part of mental health literacy;
- understanding neurodevelopment and life-course thinking;
- fetal alcohol spectrum disorder (FASD)
- self-control;
- sexual and physical violence;
- alcohol;
- compassion and community support;
- poverty and inequality
- reconsidering the concept of asylum (see Section 5.5)

5.4 Getting to grips with poverty and deprivation

Why this matters

Poverty and inequality are separately very strong predictors – probably causal – of mental distress and disorder[17]. As a result of the way in which economic policy has driven how we distribute resources in much of the world, capital and its earning power will continue to outstrip wages into the foreseeable future and continue to steepen the slope of inequality, including in New Zealand[19]. Although the degree of change and levels of inequality in New Zealand and their relationships with policy changes are sometimes contentious, it is clear that reducing inequality and poverty are critical to an effective national strategy to reduce mental illness and build mental wellbeing[17].

Current status: seeing deprivation as an ecosystems problem

It is not part of our brief to discuss the role of policy in reducing inequality further. We do, however, want to draw attention to a way to understand community, family/whanau, and individual deprivation in New Zealand that allows restorative and reparative responses to be designed. We very briefly describe a conceptual model that can be tested in micro- to meso-scale interventions: firstly, to establish the validity of the model and, secondly, if appropriate, to introduce changes that move towards emotionally richer, more stable, and more supportive communities that are better able to tolerate stress and better able to ameliorate the consequences of deprivation. If the model finds any favour with the Inquiry, we are happy to work it up into a more comprehensive discussion.

There is the relatively small subset of the population who, for a variety of historical, social, economic, and personal reasons, suffer a disproportionate amount of misery and need a disproportionate amount of government and community support across a wide variety of sectors. Many of the service providers across those sectors are, at least informally, aware of the fact that they are dealing with the same people but the system does not work in a sufficiently coordinated way to allow the most efficient use of the needed resources. Anyway, we are almost always in ambulance-at-the-bottom-of-the-cliff mode.

We could look at the milieu in which the most vulnerable live as an ecosystem that is unstable due to:

1. environmental impoverishment (*e.g.*, poorer houses, less green space, lower access to goods and services);
2. environmental instability (*e.g.*, frequent changes in neighbours, less security for families/whanau, reduced community social cohesion, violence);
3. “species” loss: most interactions are with similarly vulnerable, perhaps damaged and distressed people; there are marked gaps in the skills and personalities needed to provide all with a rich, varied, and fulfilling environment (*e.g.*, coaches for soccer and rugby, teachers of music and movement, skilled childcare); there is an absence of needed services; and there is less stable community leadership);
4. loss of habitat (*e.g.*, absence of green space, absence of playgrounds, encroachment of roads);
5. resource depletion (at household and community levels);
6. chaotic relationships;
7. predation on the vulnerable.

What is needed

Therefore, in addition to the development-driven focus on improving the lives of the next generation, we can search for ways, for those of all ages, to wrap these unstable ecosystems in more robust structures that are designed to provide – or at least informed by the need to provide – interactions among more diverse services. These can be collectively tailored to meet specific (including place-based) needs rather than such services acting in one-at-a-time crisis mode. The analogy might be to restoring a desert: the need is not to plant trees here, bushes there, spray water in a third place, and think the job done; rather, there is a need for concerted and coherent action that makes sure that all the needed resources are reintroduced in a planned way over time and that the community is involved in that restoration from its design onwards through implementation and maintenance. There might be community agreements around rules of the sort that would assert that there needs to be a well-equipped playground and shop or supermarket selling vegetables and fruit before there can be an alcohol outlet (bar, bottle shop, or supermarket seller).

Although this was conceived (by us) as an analogy, it has recently emerged that it holds a great deal of literal truth also about relative richness and complexity of the physical environment[215].

5.5 Reconsidering the concept of asylum

We use the words refuge and asylum in two important contexts.

Asylum, originally "a sanctuary or inviolable place of refuge and protection for criminals and debtors" later became "a benevolent institution affording shelter and support to some class of the afflicted, the unfortunate, or destitute; *e.g*. a 'lunatic asylum,' to which the term is sometimes popularly restricted." and finally "refuge in a nation other than one's own, esp. as a political refugee"*.

Refuge initially meant "Shelter or protection from danger or trouble" and then also "house of refuge, an institution for sheltering the homeless or destitute" and finally, "A place of safety or security; a shelter, asylum, stronghold; and specifically, an establishment that offers shelter to a woman who has been physically ill-treated"†.

As part of a system to manage human mental disorder, asylums have entirely gone out of fashion for at least 3 different reasons:

- they induced institutionalisation (a state in which an individual is so habituated to the restrictions and rules of the institution – mental hospital, prison, etc. – that they are severely hampered/distressed/disabled by any attempt to live outside);
- some became places of maltreatment, cruelty, and violence;
- they were perceived as costing the state too much.

The elimination of asylums as places of torment, however, has also meant that we have lost them as places of refuge. In the same way that people fleeing war, famine and climate change, need asylum, some people in deep mental distress need "asylum" even if they do not need "a lunatic asylum".

As a community, we understand the need for refuges for women and children who are fleeing or avoiding abusive relationships. When we explore the causes and prevention of family violence in New Zealand, we need a community discussion on making such refuges:

- accessible and welcoming;
- known to women;
- known to children, some of whom need refuges from the violence of parents of both sexes;
- supported by Iwi and community leaders of all ethnicities.

However, most of all, we need to make them less needed.

For those in mental distress, not because of the violence of others but because of internal turmoil, we need to think again about a safe harbour, a sanctuary, an asylum – not a long-term locked facility but a short-term place of refuge. Can we build that into our New Zealand way of supporting those in need?

* OED

† OED

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