COMPLEMENTARY MEDICINES: A PUBLIC HEALTH PERSPECTIVE
WHY IS TCIM IMPORTANT TO PUBLIC HEALTH?

Patients will be:

more likely than not to be using CM product

more likely than not to be seeing CM practitioner

more likely than not to not discuss this use with conventional providers*

* Also not likely to discuss conventional use with CM provider
THE CHANGING HEALTH LANDSCAPE
CHANGING DISEASE BURDEN IS CREATING OPPORTUNITIES FOR TCIM

<table>
<thead>
<tr>
<th>Disease or injury</th>
<th>2004 As % of total DALYs</th>
<th>Rank</th>
<th>2030 Disease or injury</th>
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<td>Unipolar depressive disorders</td>
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<td>Diarrhoeal diseases</td>
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<td>Ischaemic heart disease</td>
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<td>4.3</td>
<td>3</td>
<td>Road traffic accidents</td>
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<td>4</td>
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<td>5</td>
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<tr>
<td>Prematurity and low birth weight</td>
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<td>7</td>
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</tr>
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<td>2.7</td>
<td>8</td>
<td>Refractive errors</td>
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<td>9</td>
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<tr>
<td>Neonatal infections and other*</td>
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- **Is** TCIM addressing global disease burden? *Probably not!*
- **Could** TCIM address global disease burden? *Maybe???
INCREASING DISEASE BURDEN

- Non-communicable diseases (NCDs) are on the rise
- 71% of deaths globally due to non-communicable diseases
- Main types: CV Diseases, cancers, respiratory diseases, and diabetes
EVIDENCE BASE

Conditions
- Chronic Pain
- Anxiety Disorders
- Obesity
- Headaches
- Depression
- Quality of Life

Evidence-Based Therapies
- Yoga
- Acupuncture
- Chiropractic/Osteopathic Manipulation
- Meditation
- Massage
- Nutrition
- Physical Activity
FACTORS FOR SUCCESSFUL HEALTH PROMOTION

Need an evidence-based health promotion program that is multidisciplinary, adequately funded, engages the community and that targets the socioeconomic and cultural changes at family and community levels.
CM PRACTITIONERS

- TCIM now constitutes nearly half the Australian health sector
- Practice is as significant as use
- Largely unregulated
- At least 10% of naturopaths have no formal training at all
- The “Black Market of Health Care”
- Can affect other health utilisation: Vaccines? Chemotherapy?
- Significant biomedical practice by CM practitioners

CHANGING DISEASE BURDEN IS CREATING OPPORTUNITIES FOR TCIM

Table 1: Prevalence of consultations with a naturopath based on diagnosis with nationally important chronic diseases

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WHAT TCIM CAN TEACH US?

Various ‘push’ and ‘pull’ factors influential in driving CM use in some populations.

‘Pull factors’ include:
• dissatisfaction with conventional care
• concerns about the safety of conventional care

‘Push factors’ include:
• alignment with personal beliefs or traditions
• attraction of the holistic principles of CM
• desire for greater personal control of their wellbeing
PH AND TCIM ALIGNMENT

- “Health is not merely the absence of disease, but a state of complete wellbeing”
- Social determinants, mind-body-spirit… not just physical
- Preventive
- Patient-centred
- Holistic
- Similar methodological challenges in PH as there are in TCIM research and evaluation
A PUBLIC HEALTH PERSPECTIVE
WHAT IS TCIM?

Defined by exclusion → what it “is not”, not what “it is” → fraught with difficulties

**Vitamins**, yoga, aromatherapy, homeopathy, hypnotherapy, acupuncture, herbalism, naturopathy, chiropractic, osteopathy, massage, reiki healing, distance healing, **spiritual healing/prayer**, ayurvedic medicine, art therapy, music therapy, autogenic training (self-hypnosis), light therapy, colour therapy, **muesli**, reflexology, sauna, **Scientology**
ALTERNATIVE/COMPLEMENTARY/INTEGRATIVE

- When used in place of conventional treatment it is *alternative medicine*
- When used as an adjuvant to conventional treatment it is *complementary medicine*
- When treatment combines CM and conventional approaches in coordinated fashion it is *integrative medicine*

- In Australian setting almost all CM use is used concurrently with conventional treatments
- Most use is also self-directed or patient-controlled
- *Extraordinary* heterogeneity between and within CM
T, C, I OR M?

- What happens when a ‘tradition’ leaves its country/region of origin (e.g. Chinese medicine outside of China v. Ayurveda outside of India)
- Are established traditional forms acceptable overseas (e.g. Rongoa Maori has government directive for inclusion in New Zealand, but is little known outside that country) → increasing issue in Australia
- Assimilation (e.g. loss of philosophical and holistic elements to fit into generic health systems → e.g. yoga as physical therapy)
- What of traditions from ‘Western’ countries (e.g. are they valid traditions or historical artefacts of historical ‘Western’ medicine)
- Indigenous versus cultural traditions (e.g. herbal traditions in Latin America)
- Some transfer into conventional – e.g. “leaky gut” → increased intestinal permeability
ISSUES WITH TCIM

- Potentially victim-blaming (this is opposed to social science perspective of health and illness)
  - "you’re not getting better because you’re not doing it right"
  - "your health is the consequence of your actions"
  - Sometimes denies wider inequalities and environmental influences upon health

- Can be dogmatic, non-integrative
  - Practitioners may not be aware of limitations of therapies
  - "Oppositional stances not related to underlying philosophy" (Gort and Coburn, 1988) – vaccine, cancer treatment, surgery

- Not always holistic
  - ‘Protocol’-driven or ‘shotgun’ treatment

- False legitimacy?
  - Does a 18yo “vitamin consultant” seem qualified by virtue of their role?
  - Variability in training
  - Legitimacy, but no accountability
PROTECTING TRADITIONAL KNOWLEDGE

- Kava, one of the safest and most effective anxiolytic drugs of any kind
- Traditional use in the Pacific Islands for thousands of years - aqueous extract
- German company began manufacturing - solvent extract
- Solvent extracted hepatotoxic compounds, resulting in cases of toxicity and the ban on Kava in many countries

Result: Co-option and adulteration of traditional knowledge. An effective treatment unnecessarily taken off the market. Devastation of Pacific Island economies, cultural use lost, expatriate use lost.
PUBLIC HEALTH VIEWS
Complementary Medicines

Policy position statement

PHAA affirms the following principles:

Traditional, complementary and integrative health care use and practice are significant public health issues requiring balanced debate and critical academic investigation.

Research and interventions around traditional, complementary and integrative health care that are impactful are required to help inform best world practice and policy.

Public health enquiry must subject traditional, complementary and integrative health care practice and use to rigorous research methods and critical perspectives in order to provide a broad evidence-base for patient care and health policy.
Complementary Medicines

PHAA notes the following evidence:

• Research in (and research funding for) TCIM in Australia has not been commensurate with TCIHC use, has not included the TCIHC community, and does not appropriately reflect the major public health issues associated with TCIHC.\(^5\), \(^6\)
• Regulation of TCIHC practitioners can be controversial, but has been unequivocally shown to improve public protection and public safety,\(^7\) and has been shown to infer the same levels of accountability as provided by regulation of conventional practitioners.\(^8\), \(^9\)
• Even in a relatively tightly regulated Australian sector, some TCIM products\(^10\) and practices\(^8\) may still promote themselves in potentially misleading and/or deceptive ways. Regulation of TCIM product and practices is an evolving and ongoing process and rigorous and evidence-based public health perspectives should continue to inform this process.
Complementary Medicines

PHAA notes the following evidence:

• Policy, regulatory and education initiatives (such as labelling of complementary medicines) can guide TCIM users to safer and more effective treatment decisions, but these policy initiatives can have unintended consequences (e.g. drive people towards non-evidence based treatments) if not enacted correctly as a result of ignoring a public health perspective on TCIM.

• The major harms associated with TCIM are often when these products and services are used as alternatives to effective care, and these can be reduced by ensuring TCIM – when appropriate – are used in conjunction with conventional evidence-based care.
Complementary Medicines

PHAA notes the following evidence:

• There are numerous international and national scientific, legal and policy initiatives that recognise the validity of traditional health knowledge and traditional health claims, but the lack of current policy development and inadequate documentation of this knowledge can lead to misuse and misappropriation.\textsuperscript{11}

• The major drivers of TCIM use in Australia and globally are social and cultural factors, and such use often persists even in the presence of barriers such as additional out-of-pocket costs or lack of integration into the public health system.\textsuperscript{12} As such, studying TCIM use may offer insights into broader healthcare issues, and lead to better understanding of patient-centred perspectives and current gaps in health policy and healthcare delivery.
Complementary Medicines

PHAA seeks the following actions:

• Promote and facilitate a growth in research capacity in critical public health research focusing upon traditional, complementary and integrative health care.
• Develop partnerships and collaborations between PHAA and other international public health associations and organisations with regard to the critical public health of traditional, complementary and integrative health care.
• Ensure that public health perspectives on TCIHC are appropriately integrated into health policy and health care delivery initiatives.
• Advocate for the above steps to be taken based on the principles in this position statement.
• Ensure that public health perspectives on TCIM are appropriately integrated into health policy and health care delivery initiatives.
NEW POLICIES

- Regulation
- Medicinal Cannabis (moved from Drug SIG)
- Food-Medicine Interface (with Food SIG)
- Sustainability (with Environment SIG)
- Traditional Knowledge/IP (with Indigenous SIG)
INTEGRATIVE HEALTH ORGANISATIONS – PLEDGE TO COLLABORATE

• Integrative Complementary and Traditional Health Practices (ICTHP) Section within the American Public Health Association (APHA) along with its sister organizations:
  • American Public Health Association – Integrative Health Section
  • Public Health Association of Australia – Complementary Medicine SIG
  • South Africa Public Health Association – Integrative Health Section
  • TCIM Americas Network – (PAHO/Virtual Health Library)
• Pledged to collaborate in developing a position statement advocating the inclusion of Integrative Health practices for health promotion in all health policies during its annual meeting in November 2018
Our specific position is that Integrative Health Practices must be included in all health promotion policies because Complementary and Integrative Health practices have demonstrated benefit at the level of primary prevention. These include lifestyle counseling, dietary guidance, stress mitigation techniques, interventions to sleep quality, and use of natural products for health promotion.
Integrative Health Practices (IHPs) are primarily holistic in nature and offer recommendations that incorporate psychological and somatic therapies that promote health.

- Patient satisfaction and outcomes to care improve when an entire person is the focus
- Focus more on “health” than “health-care”
- Psycho-emotional factors are integral to overall health – emphasis on mind-body therapies

IHPs are often tailored to the individual needs and include several self-care techniques, which encourage health promotion and encourage community participation. IHPs consider dietary habits, therapeutic nutrition and physical activity as a cornerstone of health. IHPs are philosophically aligned towards environmentalism and social justice. Some studies show that IHPs may be cost-effective as well.

RATIONALE FOR RECOMMENDATIONS
RATIONAL FOR RECOMMENDATIONS

Several IHPs are evidence based

- **Yoga**: Improves self-regulation, resilience to stress, reduce cortisol levels, improve immunity, benefits mental, emotional and behavioral health in children
- **Tai-Chi**: Reduces the risk of fall in elderly population, improve cognitive function. Beneficial effect on blood pressure
- **Acupuncture**: Activates parasympathetic nervous system, increases HRV,
- **MBSR**: Increases telomere strength and positive health outcomes. Improves mental symptoms, coping, and self-regulation
- **Massage**: Reduce pain and improve sleep
- **Functional foods and Diet**: Prevent diabetes and cardiovascular disease
- **Natural Products**: *Withania, Ginseng, Curcumin, etc* – prevent and/or modify NCDs such as obesity, diabetes, low levels of inflammation
TCIM POLICY - WHO

- **Alma Ata Declaration**
  - “people have the right and duty to participate individually and collectively in the planning and implementation of their care, which includes access to traditional medicine” (Section VII, Point 7) (WHO, 1978)

- **Astana Declaration**
  - **Knowledge and capacity building:** “We will apply knowledge, including scientific as well as traditional knowledge, to strengthen PHC, improve health outcomes and ensure access for all people to the right care”
  - **Technology:** “We support broadening and extending access to a range of health care services through the use of high quality, safe, effective and affordable medicines, including, as appropriate, traditional medicines, vaccines, diagnostics and other technologies.” (WHO, 2018)
The success of primary health care will be driven by:

**Knowledge and capacity-building.** We will apply knowledge, including scientific as well as traditional knowledge, to strengthen PHC, improve health outcomes and ensure access for all people to the right care at the right time and at the most appropriate level of care, respecting their rights, needs, dignity and autonomy. We will continue to research and share knowledge and experience, build capacity and improve the delivery of health services and care.

**Human resources for health.** We will create decent work and appropriate compensation for health professionals and other health personnel working at the primary health care level to respond effectively to people’s health needs in a multidisciplinary context. We will continue to invest in the education, training, recruitment, development, motivation and retention of the PHC workforce, with an appropriate skill mix. We will strive for the retention and availability of the PHC workforce in rural, remote and less developed areas. We assert that the international migration of health personnel should not undermine countries’ ability to meet the health needs of their populations.

**Technology.** We support broadening and extending access to a range of health care services through the use of high-quality, safe, effective and affordable medicines, including, as appropriate, traditional medicines, vaccines, diagnostics and other technologies. We will promote their accessibility and their rational and safe use and the protection of personal data. Through advances in information systems, we will be better able to collect appropriately disaggregated, high-quality data and to improve information continuity, disease surveillance, transparency, accountability and monitoring of health system performance. We will use a variety of technologies to improve access to health care, enrich health service delivery, improve the quality of service and patient safety, and increase the efficiency and coordination of care. Through digital and other technologies, we will enable individuals and communities to identify their health needs, participate in the planning and delivery of services and play an active role in maintaining their own health and well-being.

**Financing.** We call on all countries to continue to invest in PHC to improve health outcomes. We will address the inefficiencies and inequities that expose people to financial hardship resulting from their use of health services by ensuring better allocation of resources for health, adequate financing of primary health care and appropriate reimbursement systems in order to improve access and achieve better health outcomes. We will work towards the financial sustainability, efficiency and resilience of national health systems, appropriately allocating resources to PHC based on national context. We will leave no one behind, including those in fragile situations and conflict-affected areas, by providing access to quality PHC services across the continuum of care.
IN PRACTICE
“THERE IS NO SUCH THING AS ALTERNATIVE MEDICINE”

“It is time for the scientific community to stop giving alternative medicine a free ride. There cannot be two kinds of medicine – conventional and alternative. There is only medicine that has been adequately tested and medicine that has not, medicine that works and medicine that may or may not work. Once a treatment has been tested rigorously, it no longer matters whether it was considered alternative at the outset. If it is found to be reasonably safe and effective, it will be accepted”

IT’S A LITTLE MORE COMPLICATED THAN THAT…

- For example, pharmaceutical anti-depressants still preferred in medical prescribing over St John’s Wort (SJW – *Hypericum perforatum*) for mild to moderate depression, even though its efficacy and safety profile may have shown clear benefit for decades\(^1\)

- The herbal anxiety medicine Kava Kava (*Piper myustesticum*) remains banned in several countries for safety concerns around hepatotoxicity, even though:
  - a) it is recognised as equally or more effective than several existing medications for that condition;
  - b) that its hepatotoxic characteristics only relate to a modern solvent extraction formulation invented in Germany and that is not used by most manufacturers;
  - c) that its traditional use in the Pacific islands is based on an aqueous extract that has no hepatotoxic properties, and;
  - d) that it still has a safety profile that proffers less risk than most conventionally available anxiety medications\(^2\)

- More than 1/3 of Australian GPs would refuse to use a herbal medicine product regardless of evidence

- The debate of traditional Chinese medicine terms in regulation (v. no debate for DSM, IBS etc.)

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1. Primary prevention reduces the risk of health problems by reducing lifestyle risks or targeting high risk groups
   - e.g. naturopathic/supplement intervention for promoting cardiovascular health
2. Secondary prevention intervenes in the early stages of (or before) disease to reduce the impact on function and independence
   - e.g. yoga/supplement intervention in pre-diabetic patients
3. Tertiary prevention prevents or delays disability from long term conditions (i.e. symptomatic treatment).
   - e.g. tai-chi/herbal intervention for cognitive decline
CARDIAC PREVENTION & REHABILITATION

Improves post-surgical outcomes

- Clinical measures
- Functional measures
- Resource measures

Long-term improvement in clinical outcomes
The efficacy and safety of nutrient supplements in the treatment of mental disorders: a meta-review of meta-analyses of randomized controlled trials

Joseph Firth, Scott B. Teasdale, Kelly Allott, Dan Siskind, Wolfgang Marx, Jack Cotter, Nicola Veronese, Felipe Schuch, Lee Smith, Marco Solmi, André F. Carvalho, Michael Berk, Brendan Stubbs, Jerome Sarris

The role of nutrition in mental health is becoming increasingly acknowledged. Along with dietary intake, nutrition can also be obtained from "nutrient supplements," such as polyunsaturated fatty acids (PUFAs), vitamins, minerals, antioxidants, amino acids and pre/probiotic supplements. Recently, a large number of meta-analyses have emerged examining nutrient supplements in the treatment of mental disorders. To produce a meta-review of this top-tier evidence, we identified, synthesized and appraised all meta-analyses of randomized controlled trials (RCTs) reporting on the efficacy and safety of nutrient supplements in common and severe mental disorders. Our systematic search identified 33 meta-analyses of placebo-controlled RCTs, with primary analyses including outcome data from 10,351 individuals. The strongest evidence was found for PUFAs (particularly as eicosapentaenoic acid) as an adjunctive treatment for depression. More nascent evidence suggested that PUFAs may also be beneficial for attention-deficit/hyperactivity disorder, whereas there was no evidence for schizophrenia. Folate-based supplements were widely researched as adjunctive treatments for depression and schizophrenia, with positive effects from RCTs of high dose methylfolate in major depressive disorder. There was emergent evidence for N-acetylcysteine as a useful adjunctive treatment in mood disorders and schizophrenia. All nutrient supplements had good safety profiles, with no evidence of serious adverse effects or contraindications with psychiatric medications. In conclusion, clinicians should be informed of the nutrient supplements with established efficacy for certain conditions (such as eicosapentaenoic acid in depression), but also made aware of those currently lacking evidentiary support. Future research should aim to determine which individuals may benefit most from evidence-based supplements, to further elucidate the underlying mechanisms.

Key words: Nutrient supplements, polyunsaturated fatty acids, omega-3, eicosapentaenoic acid, methylfolate, vitamin D, N-acetylcysteine, depression, schizophrenia, attention-deficit/hyperactivity disorder, adjunctive treatment

(WORLD PSYCHIATRY 2015;16:308-324)
INTEGRATIVE CANCER TREATMENTS

SYMPTOMS AND SIDE-EFFECTS

- Acupuncture
- Oncology massage
- Nutritional/herbal interventions
- Yoga
- Tai Chi

IMPROVING COMPLIANCE OR IMPROVING CONVENTIONAL CARE IS AN IMPORTANT OUTCOME
SELF-CARE AND TCIM

- Direct and indirect risks
- Require partnership with patients and practitioners, not sole reliance on patients
- Lifestyle choices aren’t always the patient’s choice
- Need to acknowledge upstream factors (societal, economic, etc.)
- Relatively new area (in PH)
- Standardisation non-existent, significant heterogeneity

Background

The number of Australians aged 65 years and over will double in the next 30 years [1] and the already enormous burden of chronic illness is set to expand dramatically, accounting for nearly half of all deaths and forms of disability in Australia by 2030 [2]. Chronic illness has profound impacts on daily living and family and community life [3] and the economic and psychological burden of chronic disease upon households is enormous [4]. Yet, conventional health services – both practitioner-delivered and conventional forms of self-care (activities undertaken for ‘enhancing health, preventing disease, limiting illness, and restoring health’) [5] (principally or solely directed by the individual with no or minimal practitioner involvement) – have largely failed to meet the complex needs of the chronically ill [6]. As a result, some people are seeking ‘alternatives’ for coping with their chronic illness and there has been an exponential rise amongst older adults and (more generally) in the use of complementary and alternative medicine (CAM) [8] – defined here as those practices and products not traditionally associated with conventional medical practice or the medical curriculum including acupuncture, aromatherapy, herbal medicine [9,10].

Unfortunately, the vast majority of research interest in CAM (beyond or within the field of chronic illness) has focused on potential adverse events (such as CAM-drug interactions) and the (lack of) monitoring of events [12,13]. The care indirect risks of CAM self-care use relate to possible delays with other health treatment-seeking and potentially serious conditions/symptoms being ineffectively treated due to patients receiving poor quality information from the untrained [14]. Addressing these challenges is increasingly important in the contemporary Australian environment of promoting coordinated, effective chronic care across health sectors [13].

Social disadvantage and patterning of CAM self-care use. We know substantial inequality exists in the use of conventional care [16] and, despite efforts to publicly fund essential care and support, Australians experience extensive economic hardship as a result of out-of-pocket expenses associated with chronic illness [17]. Moreover, early work shows the poor and most vulnerable – often older people and those with chronic illness – also have limited access to practitioners-led CAM [18]. Meanwhile, some CAM self-care can be expensive, is largely untested by the State [19] and may be a ‘hidden’ site for significant disadvantage (e.g geographic, cultural, gendered). Recent work shows place and income remain important factors shaping opportunities to self-management care [11,20-22] and the increasing use of CAM self-care may further highlight how a range of factors can mediate access to care and health outcomes.
EXAMPLES OF INTEGRATION

**Australia:** Victorian Endometriosis Hospital Naturopathic Clinic
- Symptomatic, prevention of recurrence

**Canada:** Ottawa Centre for Integrative Cancer Care
- Symptomatic, reduces side-effects, clinical care

**Nicaragua:** National Institute
- Post-infectious disease sequelae; chronic pain

**Zambia:** ZINARE
- Improvement of indicators in HIV; Alcohol Dependence

**US:** Boston Medical Center Integrative Health Unit
- Chronic Pain; Nutrition and Mental Health in low SES
CM PRACTITIONERS ARE DOING HEALTH PROMOTION IN DISEASE AREAS

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## WEIGHT MANAGEMENT PRESCRIPTIONS (NATS)

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<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
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<tbody>
<tr>
<td><strong>Specific diets</strong> (incl. low carb, low fat, low GI diet, dairy free, gluten free, Paleo, Clean Eating, Atkins, Zone diet, vegetarian or vegan diet, Mediterranean)</td>
<td>6</td>
<td>12</td>
<td>15</td>
<td>47</td>
</tr>
<tr>
<td><strong>Commercial weight loss programs</strong> (incl. Weight Watchers®, Jenny Craig®, Lite N Easy®, Sureslim®)</td>
<td>55</td>
<td>17</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td><strong>Nutritional supplements</strong> (incl. vitamins, minerals, probiotics, and other supplements)</td>
<td>11</td>
<td>9</td>
<td>34</td>
<td>26</td>
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<tr>
<td><strong>Herbal supplements</strong> (incl. Ginseng, Garcinia Cambogia, turmeric, Green tea extract, and other herbal supplements)</td>
<td>15</td>
<td>13</td>
<td>29</td>
<td>23</td>
</tr>
<tr>
<td><strong>Commercial weight loss products</strong> (Hydroxycut, Fatblaster, Fat Burner)</td>
<td>73</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Physical activity</strong> (general exercise, aerobics, yoga, aquatic exercises, Pilates)</td>
<td>3</td>
<td>1</td>
<td>7</td>
<td>69</td>
</tr>
<tr>
<td><strong>Psychological interventions</strong> (psychotherapy, Cognitive Behavioural Therapy, meditation, relaxation, hypnosis, stress reduction, motivational interviewing, goal setting)</td>
<td>5</td>
<td>8</td>
<td>46</td>
<td>21</td>
</tr>
<tr>
<td><strong>Physical therapy or physiotherapy</strong> (manual therapies, massages, ultrasound, spa therapy, hydrotherapy, cryotherapy)</td>
<td>28</td>
<td>19</td>
<td>22</td>
<td>11</td>
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</tbody>
</table>
## WEIGHT MANAGEMENT PRESCRIPTIONS (NATS)

<table>
<thead>
<tr>
<th>Prescription Type</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Specific diets</strong> (incl. low carb, low fat, low GI diet, dairy free, gluten free, Paleo, Clean Eating, Atkins, Zone diet, vegetarian or vegan, Mediterranean)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial weight loss programs (incl. Weight Watchers®, Jenny Craig®, Lite N Easy®, Sureslim®)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutritional supplements (incl. vitamins, minerals, probiotics, and other supplements)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herbal supplements (incl. Ginseng, Garcinia Cambogia, turmeric, Green tea extract, and other herbal supplements)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial weight loss products (Hydroxycut, Fatblaster, Fat Burner)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical activity (general exercise, aerobics, yoga, aquatic exercises, Pilates)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological interventions (psychotherapy, Cognitive Behavioural Therapy, meditation, relaxation, hypnosis, stress reduction, motivational interviewing, goal setting)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Physical therapy or physiotherapy (ultrasound, spa therapy, hydrotherapy, cryotherap)</td>
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</tbody>
</table>

- Mediterranean 50
- Fasting 32
- Low carb 29
- Low GI 28
- Minerals 48
- Probiotics 45
- Vitamins 43
- Green tea 32
- Turmeric 27
- Others 32 (like Cinnamon)
- Yoga 57
- Cardio 53
- Strength 52
- Massage 48
- Hydrotherapy 16
- Manual therapy 14
- Stress reduction 52
- Mindfulness 48
- Meditation 42
CHANGING DISEASE BURDEN IS CREATING OPPORTUNITIES FOR TCIM

- **Is** TCIM addressing global disease burden? *Probably not!*
- **Could** TCIM address global disease burden? *Definitely!!*

<table>
<thead>
<tr>
<th>2004 Disease or injury</th>
<th>As % of total DALYs</th>
<th>Rank</th>
<th>2030 Disease or injury</th>
<th>As % of total DALYs</th>
<th>Rank</th>
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<tbody>
<tr>
<td>Lower respiratory infections</td>
<td>6.2</td>
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<td>Unipolar depressive disorders</td>
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<td>Diarrhoeal diseases</td>
<td>4.8</td>
<td>2</td>
<td>Ischaemic heart disease</td>
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<tr>
<td>Unipolar depressive disorders</td>
<td>4.3</td>
<td>3</td>
<td>Road traffic accidents</td>
<td>4.9</td>
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<tr>
<td>Ischaemic heart disease</td>
<td>4.1</td>
<td>4</td>
<td>Cerebrovascular disease</td>
<td>4.3</td>
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<tr>
<td>HIV/AIDS</td>
<td>3.8</td>
<td>5</td>
<td>COPD</td>
<td>3.8</td>
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<tr>
<td>Cerebrovascular disease</td>
<td>3.1</td>
<td>6</td>
<td>Lower respiratory infections</td>
<td>3.2</td>
<td>6</td>
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<tr>
<td>Prematurity and low birth weight</td>
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<td>7</td>
<td>Hearing loss, adult onset</td>
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<td>7</td>
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<tr>
<td>Birth asphyxia and birth trauma</td>
<td>2.7</td>
<td>8</td>
<td>Refractive errors</td>
<td>2.7</td>
<td>8</td>
</tr>
<tr>
<td>Road traffic accidents</td>
<td>2.7</td>
<td>9</td>
<td>HIV/AIDS</td>
<td>2.5</td>
<td>9</td>
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<tr>
<td>Neonatal infections and othera</td>
<td>2.7</td>
<td>10</td>
<td>Diabetes mellitus</td>
<td>2.3</td>
<td>10</td>
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<tr>
<td>COPD</td>
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<tr>
<td>Refractive errors</td>
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<td>14</td>
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<tr>
<td>Hearing loss, adult onset</td>
<td>1.8</td>
<td>15</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>1.3</td>
<td>19</td>
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</tbody>
</table>

*a* Denotes the use of antiretrovirals in the treatment of HIV/AIDS.
QUESTIONS?

Jon.wardle@uts.edu.au

Twitter: @wardlejon