# CONTENTS

## CHAPTER 1  COMPLEMENTARY THERAPIES AND MEDICINE IN AUSTRALIA

- Complementary therapies .................................................. 1
- Understanding complementary medicine ............................. 3
- Position on medicine and pseudoscience ........................... 6
- Why people resort to complementary and alternative interventions .......... 7
- Complementary medicines trends ................................... 9
- FAQs about complementary medicines .............................. 9
- Australians spend well over $1 billion each year on complementary medicines ...... 10
- Choosing a complementary medicine practitioner .................. 11
- AMA position statement on complementary medicine ............. 14
- Pharmacists’ role in complementary medicines use ................. 16

## CHAPTER 2  SAFETY AND EFFECTIVENESS OF COMPLEMENTARY MEDICINES

- The safety of complementary medicines ............................. 17
- An overview of the regulation of complementary medicines in Australia .......... 21
- Complementary medicines highly regulated in Australia .............. 22
- The effectiveness of natural therapies ................................ 23
- Homeopathy no more effective than placebos, NHMRC study finds .......... 25
- NHMRC statement on homeopathy .................................. 26
- New research: complementary medicines can contribute to reduced government health care costs and productivity gains ............... 27
- Targeted use of complementary medicines ........................... 28
- Complementary medicines and supplements – are they safe? .......... 29
- Be wise with complementary medicines: interactions and side effects can happen ........ 32
- Healing cancer through diet: patients urged to be wary of ‘wellness’ bloggers .......... 33
- Herbal supplements linked to organ transplants, data shows ............... 36
- Herbal medicine and vitamin supplements .......................... 38
- 1 in 5 take multivitamins for the placebo effect ....................... 39
- Medical myth: take a vitamin a day for better health ................ 40
- Multivitamins: looking for a quick fix to a poor diet? ................. 41
- Don’t believe the hype – your complementary medicines are unlikely to deliver .......... 43
- Panacea or placebo: doctors should only practise evidence-based medicine .......... 45
- Doctors should focus on providing the best care, alternative or otherwise .......... 47
- Here’s why we should research alternative therapies ................ 49
- Viewpoints: should universities accept funding from industry? .......... 50

**Exploring issues – worksheets and activities** .................................................. 53

**Fast facts** ............................................................................................................. 57

**Glossary** .............................................................................................................. 58

**Web links** ........................................................................................................... 59

**Index** .................................................................................................................. 60

---

This e-book is subject to the terms and conditions of a non-exclusive and non-transferable SITE LICENCE AGREEMENT between THE SPINNEY PRESS and: Trinity College, East Perth, library@trinity.wa.edu.au
INTRODUCTION

Complementary and Alternative Medicine is Volume 412 in the ‘Issues in Society’ series of educational resource books. The aim of this series is to offer current, diverse information about important issues in our world, from an Australian perspective.

KEY ISSUES IN THIS TOPIC
The gap between mainstream and alternative medicine is blurring. Complementary and alternative medicine (CAM) is widely used in Australia; increasingly, people are turning to these treatments for ailments ranging from minor conditions to life-threatening illnesses. While there are many enthusiastic proponents of alternative healing, others remain sceptical and demand scientific evidence of its success.

This book explores the various techniques and therapies available, and looks at how to find a reliable CAM practitioner. The book also considers the myths and facts in the debate over the use of alternative treatments, offering differing perspectives from conventional and alternative medical practitioners and peak bodies.

What are the potential benefits and harms of these therapies, and how are they regulated? What evidence is there to support the effectiveness and safety of dietary treatments such as herbal medicines and vitamin supplements? Are these medical alternatives a panacea or a placebo?

SOURCES OF INFORMATION
Titles in the ‘Issues in Society’ series are individual resource books which provide an overview on a specific subject comprised of facts and opinions.

The information in this resource book is not from any single author, publication or organisation. The unique value of the ‘Issues in Society’ series lies in its diversity of content and perspectives.

The content comes from a wide variety of sources and includes:

- Newspaper reports and opinion pieces
- Website fact sheets
- Magazine and journal articles
- Statistics and surveys
- Government reports
- Literature from special interest groups

CRITICAL EVALUATION
As the information reproduced in this book is from a number of different sources, readers should always be aware of the origin of the text and whether or not the source is likely to be expressing a particular bias or agenda.

It is hoped that, as you read about the many aspects of the issues explored in this book, you will critically evaluate the information presented. In some cases, it is important that you decide whether you are being presented with facts or opinions. Does the writer give a biased or an unbiased report? If an opinion is being expressed, do you agree with the writer?

EXPLORING ISSUES
The ‘Exploring issues’ section at the back of this book features a range of ready-to-use worksheets relating to the articles and issues raised in this book. The activities and exercises in these worksheets are suitable for use by students at middle secondary school level and beyond.

FURTHER RESEARCH
This title offers a useful starting point for those who need convenient access to information about the issues involved. However, it is only a starting point. The ‘Web links’ section at the back of this book contains a list of useful websites which you can access for more reading on the topic.
CHAPTER 1

Complementary therapies and medicine in Australia

COMPLEMENTARY THERAPIES

BETTER HEALTH CHANNEL EXPLAINS THE INCREASINGLY POPULAR USE OF COMPLEMENTARY MEDICINE IN AUSTRALIA

Summary

- Complementary therapies are systems of health care that treat the whole person, not just the symptoms of their disease
- Modern medicine is increasingly aware of complementary therapy techniques
- You may not need to choose between conventional medicine and complementary therapies, but you must keep all your health carers informed to ensure you are using your medicines safely.

Complementary therapy is known by many different terms, including alternative therapy, alternative medicine, holistic therapy and traditional medicine.

A wide range of treatments exists under the umbrella term of ‘complementary therapy’. Each treatment has its own unique theory and practice, which makes it difficult to offer a blanket definition. Perhaps a simple definition can be reached by comparing the philosophy of complementary therapies with that of modern (conventional) medicine.

Historically, modern medicine evolved out of an assumption that the mind and body are separate. Disease and illness were viewed as mechanical breakdowns and, generally, it was these breakdowns and the symptoms they caused that were treated. Complementary therapies aim to treat the entire person, not just the symptoms.

Complementary therapies and conventional medicine

Today, the gap between conventional medicine and complementary therapies is blurring. Many complementary therapies are as based on anatomy and physiology as modern medicine, while modern medicine has widened its scope to include a more holistic approach to health care and has adopted therapies that originated in complementary medicine.

You don’t always have to choose between conventional medicine and your preferred complementary therapy. They can often work well alongside each other. However, it is important to tell your doctor and your complementary therapist of all drugs, treatments and remedies you take. Herbs and homeopathic remedies can sometimes interact with prescription drugs and cause side effects.

Never stop taking prescribed medications, or change the dose, without the knowledge and approval of your doctor.

Use of complementary therapies

Complementary therapies are widely used in Australia. A survey conducted by NPS MedicineWise in 2008 revealed that 65 per cent of Australians had used one or more complementary medicines in the previous 12 months.

Complementary therapies are often based on traditional knowledge, which is why there is sometimes less scientific evidence available about their safety and effectiveness.

However, the increasing use of complementary therapies has begun to trigger scientific research and some complementary therapies now have some scientific evidence about their safety and effectiveness, as well as a history of traditional use. Sometimes, they are less invasive and more cost-effective than conventional medical treatments. Nonetheless, it’s still important to ask about both potential benefits and potential harms of any therapy.

Natural and complementary medicines can be bought without prescription; however, they may still have side
effects or interact with other drugs, or they may not be the most effective treatment for you.

It’s important to consider seeking advice from a qualified professional before using a complementary medicine, and to let your health professionals know about all medicines – herbal and conventional – that you are taking.

Philosophies of complementary therapies

Complementary therapies tend to share a few core beliefs, including:

• Illness occurs if the body is out of balance
• The body can heal itself and maintain a healthy state if given the right conditions
• The whole person should be treated, not just the disease or the symptoms
• The gentlest therapies must be tried first before harsher ones
• There is no quick fix, since healing and balance take time
• Natural products are preferable to synthetic ones.

Examples of complementary therapies

Some of the more popular complementary therapies include:

• Acupuncture
• Alexander technique
• Aromatherapy
• Herbal medicine
• Homeopathy
• Naturopathy
• Reiki
• Yoga.

Why people use complementary therapies

People may have more than one reason for choosing a complementary therapy and they may use other strategies at the same time to enhance their health.

Some of the reasons for using complementary therapies include:

• Achieving and maintaining good health
• As an aid to the performance of everyday tasks
• Dissatisfaction with conventional medical practices
• Unsatisfactory doctor-patient relationships
• The desire to take charge of your own health and medical problems
• The increase in easy-to-access consumer health information, including health information on the internet
• Evidence of the benefits and safety of some complementary medicines and therapies
• Dissatisfaction with limited success rates or adverse side effects of prescription medicines
• The desire to receive health care that treats the whole person and not just their symptoms (it’s worth noting that both complementary health care practitioners and some conventional health professionals actively endorse holistic care).

Studies show that the most frequent users of complementary therapies include well-educated women, high-income earners and people with chronic conditions. They also show that many people use complementary therapies and medicines because of their cultural traditions and beliefs.

How to choose a complementary therapy practitioner

Some suggestions on finding a reputable practitioner include:

• Contact the professional association for your chosen therapy and ask for a list of members in your area
• Ask your doctor for a referral
• Ask your friends for word-of-mouth recommendations
• During the first visit with your practitioner, ask about their training and qualifications
• Be very cautious about any practitioner who advises you to abandon your conventional medical treatment.

Where to get help

• Your doctor
• Pharmacist
• Medicines Line (Australia) Tel. 1300 MEDICINE (1300 633 424) – for information on prescription, over-the-counter and complementary medicines.

Things to remember

• Complementary therapies are systems of health care that treat the whole person, not just the symptoms of their disease.
• Modern medicine is increasingly aware of complementary therapy techniques.
• You may not need to choose between conventional medicine and complementary therapies, but you must keep all your health carers informed to ensure you are using your medicines safely.

This fact sheet was produced in consultation with and approved by NPS MedicineWise.

Understanding complementary medicine

THE NATIONAL INSTITUTE OF COMPLEMENTARY MEDICINE EXPLAINS

DEFINITION OF COMPLEMENTARY MEDICINE

Complementary (adj) forming a complete or balanced whole.

Medicine the scientific study or practice of diagnosing, treating, and preventing disease or disorders of the body or mind of a person or animal.

Definition of complementary medicine (modified) from the Cochrane Collaboration

Complementary medicine (CM) is a broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period. CM includes all such practices and ideas self-defined by their users as preventing or treating illness or promoting health and wellbeing. Boundaries within CM and between the CM domain and that of the dominant system are not always sharp or fixed.

We use the term complementary medicine to describe health care practices such as those listed. We use it synonymously with the terms ‘complementary therapies’ and ‘complementary and alternative medicine’ found in other texts, according to the definition used by the Cochrane Collaboration.

Common complementary therapies

• Acupressure
• Acupuncture
• Alexander technique
• Anthroposophic medicine
• Applied kinesiology
• Aromatherapy
• Autogenic training
• Ayurveda
• Chiropractic
• Cranial osteopathy
• Environmental medicine
• Healing
• Herbal medicine
• Homoeopathy
• Hypnosis
• Massage
• Meditation
• Naturopathy
• Nutritional therapy
• Osteopathy
• Reflexology
• Reiki
• Relaxation and visualisation
• Shiatsu
• Therapeutic touch
• Yoga.

The Therapeutic Goods Administration definition of complementary medicines

In Australia, medicinal products containing such ingredients as herbs, vitamins, minerals, nutritional supplements, homeopathic and certain aromatherapy preparations are referred to as ‘complementary medicines’ and are regulated as medicines under the Therapeutic Goods Act 1989 (the Act).

Traditional medicine (TM)

Traditional medicine has a long history. It is the sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness (www.who.int/medicines/areas/traditional/definitions/en/).

Complementary medicine (CM)

The terms ‘complementary medicine’ or ‘alternative medicine’ refer to a broad set of health care practices that are not part of that country’s own tradition or conventional medicine and are not fully integrated into the dominant health care system. They are used interchangeably with traditional medicine in some countries (www.who.int/medicines/areas/traditional/definitions/en/).

Traditional and complementary medicine (T&CM)

T&CM merges the terms TM and CM, encompassing products, practices and practitioners.

THE FOUR CM DOMAINS

1. Mind-body medicine

Mind-body medicine uses a variety of techniques designed to enhance the mind’s capacity to affect bodily function and symptoms. These include meditation and therapies that use creative outlets such as art, music, or dance.

2. Biologically-based practices

Biologically-based practices in CM use substances found in nature, such as herbs, foods, and vitamins. This includes what the Australian Therapeutic Goods Administration defines and regulates as complementary medicines. Some examples include dietary supplements and herbal medicines.

3. Manipulative and body-based practices

Manipulative and body-based practices in CM are based on tactile therapies and structured exercise

This e-book is subject to the terms and conditions of a non-exclusive and non-transferable SITE LICENCE AGREEMENT between THE SPINNEY PRESS and: Trinity College, East Perth, library@trinity.wa.edu.au
regimes. Manipulation involves the application of controlled force to a joint, moving it beyond the normal range of motion in an effort to aid in restoring health. Manipulation may be performed as a part of other therapies or whole medical systems, including chiropractic medicine, osteopathic medicine, massage and naturopathic medicine. Structured exercise regimes include yoga, tai chi and specific exercise programs aimed at restoring health and enhancing wellbeing.

4. energy medicine

Energy therapies involve the use of energy fields. They are of two types: biofield therapies and bioelectromagnetic-based therapies.

Biofield therapies are intended to affect energy fields that purportedly surround and penetrate the human body. The existence of such fields has not yet been scientifically proven. Some forms of energy therapy purportedly manipulate biofields by applying pressure and/or manipulating the body by placing the hands in, or through, these fields.

Examples include:
• Qi gong, a component of traditional Chinese medicine that combines movement, meditation, and controlled breathing. The intent is to improve blood flow and the flow of qi.
• Reiki, a therapy in which practitioners seek to transmit a universal energy to a person, either from a distance or by placing their hands on or near that person. The intent is to heal the spirit and thus the body.
• Therapeutic touch is a therapy in which practitioners pass their hands over another person’s body with the intent to use their own perceived healing energy to identify energy imbalances and promote health.

Bioelectromagnetic-based therapies involve the unconventional use of electromagnetic fields, such as pulsed fields, magnetic fields, or alternating-current or direct-current fields.

WHOLE MEDICAL SYSTEMS

Whole medical systems can cut across all domains. Whole medical systems are built upon complete systems of theory and practice. Often, these systems have evolved apart from, and earlier than, the conventional medical approach.

Examples of whole medical systems that have developed in Western cultures include homeopathic medicine and naturopathic medicine.
• Homeopathy seeks to stimulate the body’s ability to heal itself by giving very small doses of highly diluted substances that in larger doses would produce illness or symptoms (an approach called “like cures like”).
• Naturopathy aims to support the body’s ability to heal itself through the use of dietary and lifestyle changes together with CM therapies such as herbs, massage, and joint manipulation.

Examples of systems that have developed in non-Western cultures include traditional Chinese medicine (TCM) and Ayurvedic medicine.
• TCM is based on the concept that disease results from disruption in the flow of qi and imbalance in the forces of yin and yang. Practices such as herbal treatments, meditation, massage, and acupuncture seek to aid healing by restoring the yin-yang balance and the flow of qi.
• Ayurveda is a whole medical system that originated in India. It aims to integrate the body, mind, and spirit to prevent and treat disease. Therapies used include herbs, massage, and yoga.
FACTS AND STATISTICS

Complementary medicines have a long history of use. Some 2,500 years ago, the Chinese were using treatments made of mouldy soybean curd to treat infections. Only in 1942 did Howard Florey and Ernst Chain develop the manufacturing process for penicillin, enabling the first antibiotics to be sold as drugs.

Many modern pharmaceuticals are derived from plants used in complementary medicine. Common examples include aspirin (from willow bark), the cardiac drug digoxin (from foxglove), quinine (from cinchona bark) and ephedrine (from ma huang, a widely used Chinese medicine).

At least two out of three Australians use some form of complementary medicine4, with rates as high as 87% among specific patient groups, such as those with breast cancer5.

Australians invest heavily in complementary medicines, spending over $3.5 billion each year on complementary medicines and therapies6.

Consumers use them as part of their self-care approach and seek better information to support their health care choices7. Australians spent $2 billion in out of pocket expenses on complementary medicines in 2010-11. This is more than the out of pocket contribution to pharmaceuticals of $1.6 billion8.

Evidence has shown many complementary medicines to have excellent safety and efficacy profiles, providing advantages over available treatment, and offering treatment options where none currently exists.

Examples include:
• Acupuncture for relief of chronic lower back pain and depression9
• Omega 3 fatty acids to prevent secondary cardiovascular events in Australia10
• Calcium and vitamin D supplementation to reduce the incidence and severity of osteoporosis11
• St John’s wort for mild to moderate depression12

Complementary medicines represent a substantial, growing industry with manufacturing jobs and export potential in Asia. Industry revenue is currently $3.5 billion and is expected to grow to $4.6 billion in 2017-1813. Over this period, employment is anticipated to rise to 45,00014.

Australian companies export around $200m in complementary medicines to more than 20 countries in South-East Asia, Europe and the Americas and this continues to grow at higher rates than domestic consumption. There is enormous growth potential for the export market15.

Australian Government support for complementary medicine research is minimal. NHMRC funding for complementary medicine has been 0.2% of total funding from 2003-2012, despite high levels of usage by the Australian public and despite being acknowledged as a major health issue in successive NHMRC Strategic Plans. In 2012, funding for complementary medicines fell to 0.14% of total funding or $1.24m out of a total of $780m.

REFERENCES
6. Access Economics. ‘Cost effectiveness of complementary medicines’, Report to the National Institute of Complementary Medicine, Sydney, Australia. 2010
15. CHC Industry Audit May 2011.

National Institute of Complementary Medicine.
Understanding Complementary Medicine.
Lobby group Friends of Science in Medicine critiques the principles claimed to underly complementary and alternative medical interventions

It is the view of the FSM that the clustering of all these interventions under an apparently common umbrella of complementary medicine (CAM) is part of a deliberate strategy to make them more acceptable to the public. Some of the sensible advice given by some CAM practitioners about lifestyle, exercise, nutrition etc are actually based on medical and social research which is beginning to determine the more general factors that determine health and disease.

Under the National Institute of Complementary Medicine’s (NICM) ‘Mind and Body’ CAM ‘domain’, however, there is a strong implication that modern medicine does not take into account links between mind and body. Since the development of the sciences of experimental psychology, psychiatry in the 1800s and the more recent cognitive sciences, psychosomatic medicine and neuroscience, the study of the complex relationship between mind, brain and body has been well researched on scientific principles. These are the proper sciences through which to address the relationship between mind/brain functions and body states in health and disease.

In Australia, scientific research into the relationship between mind, brain and body is among the most advanced in the world. In addition to many research groups in most Australian universities, several world-class research institutes are dedicated to this last frontier of science and medicine (e.g. the Brain and Mind Research Institute in NSW, the Queensland Brain Institute, the Florey Institute of Neurosciences in Victoria and the Australian Neuroscience Research Institute in NSW).

The modern sciences of counselling, psychotherapy, psychopharmacology and clinical psychology are increasingly effective interventions based on sound empirical and scientific principles.

Various activities and sensations, such as music, painting, aromas, good food, massage, relaxation and meditation, are increasingly accepted as personal choices to improve quality of life. Claims that these are actually useful in the treatment of diseases have seldom been accompanied by proper research.

Under the NICM’s ‘Biologically-based Practices’ CAM ‘domain’, it is claimed that CAM uses only substances found in nature as therapeutic agents (e.g. vitamins, foods, herbs and animal extracts). This allegedly ‘natural’ approach to health confuses some important issues.

Natural is not necessarily good. In the first place, this attitude irresponsibly identifies ‘natural’ as ‘good’: Many perfectly natural substances are highly poisonous, often fatally so. Strychnine, curare, spider, snake and scorpion venoms, many mushrooms and other plants—all natural substances—are highly poisonous.

Food is the essential fuel of life. The effect of different foodstuffs, how they should be prepared, stored and consumed etc is the field of the relatively recent science of nutrition. The evidence for the adverse effects of certain diets on
Why people resort to complementary and alternative interventions

*Friends of Science in Medicine* claims that several important factors explain why so many people resort to complementary and alternative interventions. Some are alleged faults perceived in the orthodox health care system. Others relate to the temptations of pseudoscience.

**Excessive expectations from medicine**

The successes of scientific modern medicine, and some exaggerated media coverage of research which gives readers false hope, have resulted in recent years in excessive expectations of miracle cures for every ailment.

**Excessive specialisation of medicine**

Commonly alleged reason for discontent with scientific medicine is that individual patients do not feel that general practitioners, specialists or hospitals deal with them as ‘whole’ persons, and that insufficient attention is paid to their psychological wellbeing.

**Side effects**

Scientific medicine is slowly but steadily tackling the so-called ‘complex’ diseases, such as diabetes, obesity, rheumatic and immune diseases, allergies, cancers, mental diseases, dementia etc. Management of a number of these serious diseases by scientific medicine is unavoidably accompanied by side effects. Although these are usually much less serious than the disease being treated, many people expect their treatment to be free of unwanted effects. All interventions have side effects. The challenge is to find interventions which do enough of the desired activity, without too much disruption to other bodily systems. The new science of pharmacogenetics might open the way to tailoring specific medications to specific patients, depending on their innate genetic ability to cope with the medication. But this is still some years away.

**Lack of cures for some mild illnesses**

There is often a sense of dissatisfaction with the relative lack of medical cures for common ailments which, although not life-threatening, interfere with the quality of life – such as the common cold, tiredness, feeling stressed and various aches and pains.

**Lack of cures for some serious diseases**

Scientific medicine does not yet prevent or cure a number of serious life-threatening diseases. This leads patients and their relatives to seek ‘heroic’ interventions offered by practitioners of alternative interventions as being ‘miracle cures’. Conventional medical doctors adhere to the highest ethical standards. Amongst these is a commitment to honesty. Medical doctors will be honest when they have no cure or treatment for a particular disease. A common attraction of CAM interventions are the promises of cure for any and every illness, including many end-stage cancers.

**Insufficient time of GPs for patient care**

Patients increasingly complain about the short consultation times provided by their General Practitioner with little time to consider their personal histories and health issues in detail. This is a serious problem resulting from the chronic shortage of doctors over recent decades and some restrictions placed upon their consultations by funding authorities.

**Expense**

Scientific medicine is expensive, sometimes beyond the patients’ budget. They can be tempted to try alternatives, especially when these are cleverly marketed. It should be noted that many alternative interventions, involving useless interventions or gadgets, are offered, with extravagant promises but no valid justification, at high cost.

**Scientific medicine is excessively linked to ‘Big Pharma’**

Most research funded by pharmaceutical companies is based on the scientific principles adhered to by FSM. However, the potential for undue influence of these companies on medical practice is a well-acknowledged problem. FSM does not condone such influence. Pharmaceutical research is too important to medicine to let anyone derail genuine processes of discovery of new, effective and safe medications. FSM is committed to support Government and regulatory bodies’ policies which aim to reduce undue influences from the pharmaceutical, medical instrument and prostheses industries.

**Marketing**

Alternative health interventions are not subject to the same regulation and supervision as medicine and pharmacy. They are free to advertise, often making outlandish claims which are demonstrably false. They often target vulnerable people.
the cardiovascular system and on health in general has been slowly but steadily accumulated by proper clinical studies performed by medical researchers, not by naturopaths or other CAM practitioners.

Vitamins are essential chemicals needed in tiny quantities by humans for normal functioning. They have been discovered by biomedical researchers through orthodox science. Further good science has established that diseases caused by a deficiency or an excess of vitamins are well known and mostly preventable or curable. It is both false and dangerous to portray vitamin deficiencies as causing other specific diseases as championed in the textbook of clinical naturopathy (Jon Wardle and Jerome Sarris, 2010, Clinical Naturopathy: An evidence-based guide to practice. Churchill Livingstone).

Herbal remedies are the foundation of most pre-scientific traditional medicine. Since then, the scientific discovery of the active chemical principles of many herbs has become the province of modern pharmacology and clinical pharmacology. These genuine sciences led to the discovery of many active molecules in plants and animals which can beneficially affect living beings, and reveals how some of these molecules may also, in excess, be toxic. Some, such as aspirin, morphine, digitalis, atropine and curare, are used carefully in modern medicine, but are extremely dangerous if misused.

The active molecules of herbal remedies from other cultures are progressively being identified by the discipline known as ethnopharmacology, (the scientific research on unidentified and potentially useful substances extracted from plants and animals which were used in pre-scientific traditional medicines). This involves orthodox scientific research. An excellent journal is dedicated to its discoveries. The diversity of plants and animals on Earth is an enormous potential repository of potentially effective new treatments. Only science-based research can unveil such treasures.

Under the NICM’s ‘Manipulative and Body-based Practices’ CAM domain, there are a number of unscientific beliefs, mostly founded in the late 1800 by dubious, unqualified characters. For example, the original concept of chiropractic was based on the belief of a universal ‘innate’ intelligence which flows as energy along the spine – when there is ‘a misalignment’ of the spine and a consequent ‘distortion of this energy flow’, various diseases may result.

Osteopathy is based on the reasoning that the bone (osteon), is the starting point from which it is possible to establish the causes of disease states. Some modern osteopaths still claim that, based on this knowledge, they can aid natural self-healing by application of ‘manually guided forces’.

At their best, these CAM practitioners apply manipulations with some benefit to minor musculoskeletal ailments. There is no reason to use any of these pseudoscience-based interventions in place of physiotherapy, one of the allied health sciences appropriate for minor ailments of musculoskeletal origin.

Under NICM’s designation of ‘Energy Medicine’ CAM domain, all the different variations on this theme propose the existence of mysterious magical or supernatural forces which determine our health. Worse, self-proclaimed ‘healers’ claim to be able to harness such forces to improve health.

FSM disputes such claims, all of which are based on spurious explanations which not only contradict one another, but which totally contradict everything we know to be scientifically valid.

“These ‘energies’ are figments of the imaginations of the healers” (Singh and Ernst, 2008, Trick or Treatment: Alternative Medicine on Trial).

**COMPLEMENTARY MEDICINES TRENDS**

**COMPLEMENTARY MEDICINES AUSTRALIA PRESENTS THIS INDUSTRY TRENDS UPDATE**

**Australian complementary medicine (CM) industry growth**

- Industry revenue: $3.5 billion, will grow to $4.6 billion in 2017-2018 with a rise to 45,000 of employees\(^1\)
- There are over 10,000 complementary medicines available on the Australian market\(^2\)
- The sales of vitamin and dietary supplements will overtake OTC medicines by 2015\(^3\).

**Consumer trends**

- More than two-thirds of the Australian population use complementary medicines\(^4\)
- Australians spent $2 billion in out of pocket expenses on complementary medicines in 2010-11 whereas they spent $1.6 billion on pharmaceuticals\(^1\)
- 24% (1.3 million) of Australian adults with a chronic condition regularly applied CMs to treatment\(^3\)
- Only 6 % of Australian adults regularly meet the required daily intake of vegetables despite government advocacy for nutrition through food. They are filling their nutritional deficit with vitamins and dietary supplements\(^1\).

**Vitamin and dietary supplements\(^3\)**

Generating $2 billion in revenues, over 50% growth in 5 year and expected to grow at constant value CAGR\(^6\) of 7% of over the forecast period.

- Krill oil: over $201 million (growth of 180% in 2013) – fastest selling vitamins and dietary supplement
- Strong growth in multivitamins, VB, VC and VD
  - Multivitamins: $347 million (expected to grow by 6% in 2014)
  - Vitamin B: $79 million (2% growth) – 'manage stress'

<table>
<thead>
<tr>
<th>SALES OF CONSUMER HEALTH BY CATEGORY (2013)(^3) – A$ MILLION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Vitamin and dietary supplements</td>
</tr>
<tr>
<td>Sports nutrition</td>
</tr>
<tr>
<td>Herbal and traditional products</td>
</tr>
</tbody>
</table>

**FAQs about complementary medicines**

**Complementary Medicines Australia** answers some common questions

**What is a complementary medicines product?**

Complementary medicines products cover therapeutic (including vitamin, minerals, herbal and nutritional supplements and homeopathic products) and non-therapeutic products (including special purpose foods and natural cosmetics). In Australia, complementary medicines are regulated as medicines by the Therapeutic Goods Administration (TGA).

**How many people use complementary medicines?**

- More than two-thirds of the Australian population use complementary medicines (NHMRC CAM001 April 2014)
- 24% (1.3 million) of Australian adults with a chronic condition regularly applied CMs to treatment (http://onlinelibrary.wiley.com/doi/10.1111/j.1753-6405.2011.00745.x/full)
- Only 6% of Australian adults regularly meet the required daily intake of vegetables despite government advocacy for nutrition through food. They are filling their nutritional deficit with vitamins and dietary supplements. (‘Consumer Health in Australia’, Euromonitor International)

**What vitamins and minerals are most commonly taken?**

The current fastest selling vitamin and dietary supplement is krill oil, which generates over $201 million (growth of 180% in 2013). (‘Consumer Health in Australia’, Euromonitor International)

**How can I be sure that a product is safe and effective?**

Australia has a two-tiered regulatory system for therapeutic goods, based on risk. The TGA is responsible for the oversight of all therapeutic goods in Australia including complementary medicines.

Australians spend well over $1 billion each year on complementary medicines

PS MedicineWise is urging Australians to be aware of the importance of telling your health professional about all the medicines you take to avoid the risk of possible interactions. Multivitamins and mineral supplements are widely used in Australia. Polling released by NPS MedicineWise reveals that of the 1,000 Australians surveyed:

- 66% had taken a multivitamin or mineral supplements in the past year
- 64% were taking multivitamin or mineral supplements on most, or every day of the week
- 52% of baby boomers surveyed take a multivitamin or mineral supplement on most or every day of the week.

Results from the survey suggested only 14% of respondents who take complementary medicines had discussed with their doctor whether it was safe to take these with other medicines.

The polling also provides a snapshot of how Australians purchase complementary medicines. Sixty per cent of the surveyed Australians purchase their complementary medicines in supermarkets, 56% were purchasing from pharmacies and 28% of those surveyed had bought products online.

For more information on prescription, over-the-counter and complementary medicines (herbal, ‘natural’, vitamins and minerals) from a health professional, call NPS Medicines Line on 1300 MEDICINE (1300 633 424), Monday-Friday 9am-5pm AEST (excluding public holidays).

Source: NPS MedicineWise, Be safe and wise with complementary medicines this Be Medicinewise Week (Media release, 13 October 2014).

- Vitamin C: $64 million (growth of 4%) – reliable and stable growth
- Vitamin D: (10% growth in 2013)
- VA and VE are negative in constant value terms.

Herbal/traditional products³
A$498 million (growth of by 8% in 2013)

1. Herbal/traditional dietary supplements
   - Calming and sleeping products such as passion flower, valerian, and hops remain popular (15.8% value growth 2008-2013) – related to demand by ageing population.

2. Cough, cold and allergy (hayfever) remedies
   - $69.9 million

3. Dermatologicals
   - $20.6 million

Sports nutrition³
A$499 million (growth of 14% in 2013) – expected to have a constant value CAGR of 5% over the forecast period due to increasing demand for pre-workout products.

- Protein powder A$272 million (67% value share)
- Protein bars A$91.3 million.

Distribution channel for consumer health products³

- Although the most popular channel is still traditional pharmacy retailers, major supermarket chains are beginning to offer a challenge to this.
- Parapharmacies and online retailers, such as Chemist Warehouse Group, are gaining market share
- The face of the pharmacy is shifting from a community-focused store (which gives advice on and dispenses prescription medications) to a larger discount one-stop shop for health, beauty and accessories.

NOTES

1. NICM, www.nicm.edu.au/health_information/information_for_consumers/understanding_cm
2. Therapeutic Goods Regulation: Complementary Medicines, Australian National Audit Office.
3. Consumer Health in Australia, Euromonitor International.
4. NHMRC CAM001 April 2014.

Complementary Medicines Australia.
Complementary Medicines Retailer Industry Update.
CHOOSING A COMPLEMENTARY MEDICINE PRACTITIONER

THE NATIONAL INSTITUTE OF COMPLEMENTARY MEDICINE OFFERS ADVICE TO CONSUMERS ON SELECTING SUITABLE PRACTITIONERS

Selecting a complementary medicine (CM) health care practitioner is an important decision and is essential to ensure that you receive the best possible advice and care. CM may be practised by conventional health care practitioners with additional training such as medical doctors, registered nurses and physiotherapists as well as by other practitioners with relevant CM qualifications and experience.

Some CM professions are unregulated by the government so practitioners have limited legal requirements to reach a particular standard of training. In these instances, being a member of a professional association provides some assurance that they have attained a certain level of training. However, if a CM practitioner has not undergone formal training and is not a member of a professional association, there is no assurance they have the necessary skills to provide the best possible advice and care.

The National Institute of Complementary Medicine (NICM) has developed a number of fact sheets to assist you in your decision making about CM. They provide general information about CM, answers to frequently asked questions, issues to consider, and sources for further information.

Take charge of your health by being an informed consumer. If you are unsure about any answers or uncomfortable with your understanding of some of the issues, you should talk to a health care professional, such as your doctor, pharmacist, community health nurse or complementary health care practitioner.

What is complementary medicine?
CM encompasses a diverse range of therapies and health products that aim to prevent, treat or manage illness. Some CM therapies offer a complete system of diagnosis and treatment, while others complement conventional medical practices with supportive therapy. CM includes the principal CM disciplines such as acupuncture, chiropractic, herbal medicine, homeopathy, naturopathy and osteopathy.

It also includes long-established and traditional systems of health care such as Ayurvedic medicine and traditional Chinese medicine and therapies which are most often used to complement conventional medicine such as manipulative and mind-body practices including acupuncture, massage, counselling, hypnotherapy and meditation. There are many more CM therapies such as Bach and other flower remedies, crystal therapy and radionics.

Matters to consider before choosing a complementary medicine practitioner
• What benefits do I hope to achieve with CM?
• Which CM approach is suitable and feasible for me?
• What is the evidence that supports the quality, safety and effectiveness of this CM?
• What are the risks associated with using this CM therapy?
• Should I get more information from a CM practitioner who has expertise in this area of CM?

To help find answers to the above questions you should gather reliable information on the CM therapy that interests you. Reliable, up-to-date information is crucial, particularly when it comes to making decisions about your health. The internet is a major source of health information. While it provides access to a massive amount of useful information, it also can lead users to information of questionable quality (to find help in evaluating the reliability of internet resources see Choosing Complementary Medicine fact sheet). If you are unable to directly access the internet, you may be able to gain access through a service provider such as a library. Alternatively, ask your local library if they can help you locate books and articles on the therapy that interests you.

A good place to start searching for information on the internet is the Australian Government’s site – healthdirect Australia (www.healthdirect.gov.au). It is a single entry point to quality information from leading health information providers, including peak health organisations, government agencies and educational and research institutions.

Talk to your health care professionals about options

It is always a good idea to discuss any health options you are considering with all your health professionals such as your doctor, pharmacist, community health nurse and CM practitioner. This is important so that your care can be co-ordinated, to avoid safety issues such as drug interactions and to encourage communication between your health care providers. Your doctor or other health care professional may be able to give you a referral to a CM practitioner or a hospital with a CM service. Some medical practices may have a CM practitioner on staff. Professional CM associations can also provide useful information about their profession and suitable CM practitioners in your area.

Regulation and professional accreditation of CM practitioners in Australia

The principal purpose of regulating any health care profession is to protect the public from unqualified or inadequately trained practitioners. Effective regulation allows consumers to seek practitioners with confidence, knowing they will get appropriate treatment from a well trained practitioner in an environment where their rights are protected. It also encourages other health care professionals to have confidence in a therapy’s practitioners.

In both conventional medicine and CM, governments and professional organisations have roles in determining professional standards and the delivery of health services. In July 2010, a National Registration and Accreditation Scheme for health practitioners was established. The National Scheme will initially apply to ten health disciplines – medical, nursing and midwifery, pharmacy, physiotherapy, dental, psychology, optometry, osteopathy, chiropractic and podiatry. From 1 July 2012 the practice of Chinese medicine will be included.

Apart from chiropractors and osteopaths and, from 1 July 2012, Chinese medicine practitioners, there is no standardised national system for regulating other CM practitioners. The extent and type of regulation varies from state to state and from one CM profession to another. Most CM disciplines are unregulated although practitioners are subject to a range of Commonwealth and state legislation including the prescribing of medicines, health complaints, infectious diseases, the supply of services free of goods and services charges, etc.

Complementary medicine professional associations

Professional membership of CM organisations may offer confidence in the qualifications and skills of practitioners. Most professional associations offer some form of certification to their members, based on criteria established by the individual organisation. This may include appropriate standards of education and training for membership, requirements for continuing professional education, a code of ethics, procedures for receiving, investigating and resolving consumer complaints, a disciplinary system for enforcing conduct and a process for external scrutiny. Details of the criteria for membership and ongoing certification can be sought from individual organisations. Even within some therapeutic disciplines there may be several professional bodies, each with their own criteria, representing therapists in the same discipline.

At present there are numerous professional bodies representing CM practitioners and some disciplines are represented by several organisations. The standards for certification or registration can vary widely between professional bodies. CM practitioners may operate within voluntary professional registers or work independent of registration.

When searching for a CM practitioner, many
professional associations provide referrals to their members as well as information on specific therapies and their standards for membership. These organisations can be located via the internet or telephone directories. Ask at a library for assistance. Check their standards against the criteria detailed below.

Even if a friend recommends a CM practitioner, or if you have found a practitioner through a business directory or other advertisement, looking into their professional affiliations may help you decide on a particular therapist.

Choosing a practitioner
Feel free to contact the practitioners you are considering to obtain more information. Although you can do this over the telephone, some practitioners may also have an internet site or brochure. Before you make contact, think about what factors are important to you.

You might wish to have more information about:
- The practitioner's professional qualifications and professional affiliations. Understanding the criteria for professional membership may also be helpful
- The practitioner's experience in treating patients with problems similar to yours
- His or her approach to care and the treatments they use
- Costs of treatments including insurance reimbursement (see below)
- What to expect during the first visit or assessment.

Evaluating the practitioner and practice
After making your first visit:
- Think about how comfortable you felt during your conversations with the practitioner and their staff
- Review the information they provided
- Did the experience measure up in terms of what is important to you?

Building a relationship with a new practitioner takes time. Nevertheless, if at any time you are not satisfied or comfortable, you should discuss your concerns with the practitioner and feel free to stop treatment or look for a different practitioner. Before deciding to stop treatment, however, ask if it is safe to do so. If you do stop treatment, tell your other health care providers so they can continue to make fully informed decisions about your care.

Will insurance cover the cost of a CM practitioner?
A number of CM therapies are covered by private health insurance, but the amount of coverage offered varies depending on the insurer and the therapy given. In addition, the health fund may only recognise certain CM practitioners. Check first to see if the therapy is covered, if your practitioner is part of your health fund’s network, and what proportion of the costs will be reimbursed. Even with insurance, you may be responsible for a percentage of the cost of therapy as well as for any products such as vitamin supplements or herbal medicines.

Using complementary medicine safely
As with all medical treatments, there are risks associated with CM therapies and products. These risks depend on the specific therapy used, your general health, other treatments being used and the reasons for using the CM therapy.

Risks can relate to direct effects of treatment or indirect actions such as failing to give adequate advice or refer to another health care provider when appropriate. Risks might also arise when practitioners have inadequate skills or knowledge or are unaware of the limits of their practice. Such risks may result in misdiagnosis, failure to refer, failure to explain precautions, interactions with medications, inappropriate compounding and dispensing of herbal and other medicines.

To reduce the risks and maximise the benefits, ensure you do your homework first. Once you start CM treatment, tell all of your health care providers about any CM practices and products that you use. Give them a full picture of what you do to manage your health. This will help ensure your care is coordinated and safe.

This fact sheet has used and adapted material from a non-copyrighted fact sheet produced by the USA National Centre for Complementary and Alternative Medicine (NCCAM) that is in the public domain. This material is provided by NICM for your information. Nothing contained in this information sheet is intended to be used as medical advice and it is not intended to be used to diagnose, treat, cure or prevent any disease, nor should it be used for therapeutic purposes or as a substitute for your own health professional’s advice. We urge the readers of this information sheet to make their own investigations, decisions, enquiries about the information included in this fact sheet and talk to your doctor or health care professional. The mention of any product, service, or therapy is not an endorsement by NICM.
1. Introduction
1.1 Complementary medicine includes a wide range of products and treatments with therapeutic claims that are not presently considered to be part of conventional medicine.
1.2 Complementary medicines include herbal medicines, some vitamin and mineral supplements, other nutritional supplements, homeopathic formulations, and traditional medicines such as ayurvedic medicines and traditional Chinese medicines.
1.3 Complementary therapies include acupuncture, chiropractic, osteopathy, naturopathy and meditation.
1.4 In this position statement, the term ‘complementary medicine’ refers to both complementary medicines and therapies.
1.5 The use of complementary medicine in Australia is considerable and increasing.
1.6 The AMA recognises that evidence-based aspects of complementary medicine can be part of patient care by a medical practitioner.
1.7 However there is limited efficacy evidence regarding most complementary medicine. Unproven complementary medicines and therapies can pose a risk to patient health either directly through misuse or indirectly if a patient defers seeking medical advice.
1.8 Children are a vulnerable population group. Due to the complexities of diagnosing and treating illness in children, a medical practitioner should inform any diagnosis and ongoing treatment plan, including the use of complementary medicine.

2. Research
2.1 There is a substantial gap between the use of complementary medicine and the evidence to support that use.
2.2 Evidence-based, scientific research in the form of randomised controlled trials is required to validate complementary medicines and therapies for efficacy, safety, quality, and cost effectiveness so that practitioners and consumers can evaluate the potential benefits and any adverse effects.

3. Funding
3.1 Third party funding should only provide benefits for complementary therapies if they are supported by good quality scientific evidence of safety and efficacy.

4. Medical practitioners
4.1 Medical practitioners should have access to education about complementary medicine in their undergraduate, vocational and further education to provide advice to patients. They should be informed of the level of scientific evidence for both benefits and adverse reactions, including potential interactions with other medicines.
4.2 The AMA recognises that some medical practitioners choose to undertake additional training in complementary medicines and therapies and include them as part of their everyday practice.
4.3 Medical practitioners should specifically ask patients whether they are using complementary medicines or therapies in order to appropriately manage their medical treatment.
4.4 Medical practitioners should be able to explain the level of evidence for all medicines and therapies they utilise to help patients make an informed choice. It is acknowledged that some medical treatments have a low level of evidence.

5. Consumers
5.1 Consumers should have access to accurate information and education about the level of evidence for complementary medicines and therapies in order to make well-informed choices. This should include the risks and opportunity costs of delaying conventional treatment.
5.2 Consumer information and education should stress the importance of continuing to consult medical practitioners in relation to medical conditions and health concerns.
5.3 It is important that patients inform their medical practitioner about any complementary medicines or therapies they are using.

6. Regulation
6.1 Regulation of medicines
6.1.1 The majority of complementary medicines do not meet the same standards of safety, quality and efficacy as mainstream medicines as they are not as rigorously tested. Information about the level of testing and evidence should be easily accessible by medical practitioners, consumers and complementary medicine practitioners.
6.1.2 In the absence of sufficient efficacy data, it is essential there be clear and true statements regarding the efficacy and standards of evidence relied on, including accurate labelling.
6.1.3 Government agencies such as the Therapeutic Goods Administration (TGA) and educational bodies such as the National Prescribing Service should ensure information on the safety, quality, efficacy and cost effectiveness of complementary medicines is readily available to consumers and health practitioners.

6.1.4 Consumers and health practitioners should ensure they promptly report any adverse events they suspect are caused by a complementary medicine to the TGA.

6.1.5 The TGA should collate and make available information about adverse events to all health practitioners so that they can inform patients of the potential risks.

6.2 Regulation of practitioners

6.2.1 There should be appropriate regulation of complementary medicine practitioners and their activities.

6.2.2 Regulations should ensure complementary medicine practitioners cannot claim expertise beyond their scope of practice.

6.2.3 Complementary medicine practitioners should not claim to be able to make a diagnosis of illness for people that the medical profession does not believe are suffering from a medical condition.

6.2.4 Registered health practitioners

6.2.4.1 Recognition of health disciplines through the process of State or Territory registration should be dependent on:

a) the discipline being supported by accepted scientific evidence of safety and efficacy, and

b) registrants completing an approved course of training at an accredited institution.

6.2.4.2 Registered health practitioners must not depart from the scope of practice regulated by the relevant registration board.

6.2.5 Non-registered health and complementary medicine practitioners

6.2.5.1 There should be stronger regulation of health and complementary medicine practitioners for whom there is no State based registration arrangement.

6.2.5.2 Non-registered health and complementary medicine practitioners should be required by law to observe a code of practice, including that they must not provide care that is outside their experience or training.

6.2.5.3 There should be sufficient sanctions for breaching the code, such as a ban on practice.

6.2.5.4 There should be a national public register of non-registered health and complementary medicine practitioners who are the subject of a banning order in their State or Territory.

6.2.6 Misleading use of titles

6.2.6.1 Non-medical health and complementary medicine practitioners should not use the title ‘Doctor’ or ‘Dr’ unless:

a) such persons possess a doctorate recognised by the appropriate registration board in the State or Territory in which they practise, and

b) such persons ensure that their use of the title is always accompanied by information confirming that they are not medical practitioners.

6.2.6.2 Non-medical health practitioners should not the use the titles ‘surgeon’ or ‘physician’ unless they are a registrant of the Medical Board of Australia.

6.2.6.3 Use of these titles by non-medical health practitioners carries significant risk that members of the public will believe they are consulting a medical practitioner when they are not.

6.3 Regulation of advertising

6.3.1 Advertising of services by complementary medicine practitioners must not claim expertise in medical diagnosis and treatment nor should they attempt to dissuade patients from seeking the advice of medical practitioners.

6.3.2 Direct-to-consumer advertising must not:

a) exploit patients’ vulnerability or lack of medical or health-related knowledge,

b) attempt to induce unjustified fear or concern
Pharmacists’ role in complementary medicines use

- In its September 2015 position statement, Australia’s peak pharmacy organisation, the Pharmaceutical Society of Australia, recognised complementary medicines may have a role in the treatment or management of some conditions.
- The position statement notes that pharmacists are well-placed to help consumers make informed decisions on the use of complementary medicines, which may be used in conjunction with conventional medicines – but only provided there is evidence to support their use.
- PSA National President, Joe Demarte, advocates strongly for a partnership approach with consumers to promote the quality use of medicines and responsible self-medication.
- Mr Demarte noted there is a “wealth of information available about complementary medicines which can be confusing and the pharmacist can assist in ensuring that consumers are provided with the best available information about the current evidence for efficacy, as well as information on any potential side effects, drug interactions and risks of harm. In the event that a consumer chooses to use a product with limited evidence, the pharmacist must advise the consumer on the risks of rejecting or delaying treatments for which there is good evidence for safety and effectiveness.”
- The Pharmaceutical Society of Australia strongly encourages consumers considering taking complementary medicines to consult their pharmacist first for advice.
- PSA also endorses the NHMRC report (March 2015), which found there were no health conditions for which there was reliable evidence that homoeopathy was effective.
- The society does not support the sale of homoeopathy products in pharmacies.

*PSA Position Statement on Complementary Medicines can be found at: [www.psa.org.au](http://www.psa.org.au)*

Source: Pharmaceutical Society of Australia Ltd, *Pharmacists have a real role in advising on use of complementary medicines* (Media release, 10 September 2015).

---

FOOTNOTES

1. The term ‘complementary’ medicine is used in this position statement, rather than ‘alternative’, ‘traditional’ or ‘natural’ medicine, because it is a defined term in the Therapeutic Goods Regulations 1990 and the Australian Register of Therapeutic Goods, and is used by the National Prescribing Service.

2. In this section:
   - **Registered health practitioners** are those that are registered under the Health Practitioner Regulation National Law in force in each State and Territory.
   - **Health practitioners** are those whose qualifications have been conferred by an accredited university.
   - **Complementary medicine practitioners** are those who are not covered in the above two categories.

A increasing number of Australians are choosing to use some form of complementary medicine (CM). Like any decision concerning your health, decisions about using CM are important.

The National Institute of Complementary Medicine (NICM) has developed a number of fact sheets to assist you in your decision making about CM. They provide basic information, answers to frequently asked questions, issues to consider, and sources for further information.

Take charge of your health by being an informed consumer. If you are unsure about any answers or uncomfortable with your understanding of some of the issues, you should talk to a health care professional, such as your doctor, pharmacist, community health nurse or complementary health care practitioner.

WHAT IS COMPLEMENTARY MEDICINE?
CM encompasses a diverse range of therapies and health products that aim to prevent, treat or manage illness. Some CM therapies offer a complete system of diagnosis and treatment, others complement conventional medical practices with supportive therapy.

CM includes the principal CM disciplines such as acupuncture, chiropractic, herbal medicine, homeopathy, naturopathy and osteopathy. It also includes long-established and traditional systems of health care such as Ayurvedic medicine and traditional Chinese medicine and therapies which are most often used to complement conventional medicine such as manipulative and mind-body practices including acupuncture, massage, counselling, hypnotherapy and meditation. There are many other treatments such as Bach and other flower remedies, crystal therapy and radionics.

WHAT ARE COMPLEMENTARY MEDICINES?
Complementary medicines (CMs) are therapeutic products that are used in a wide range of CM therapies. For example, herbal preparations in a medicinal form are used in Western herbal medicine, traditional Chinese medicine, naturopathy, homoeopathy and Ayurvedic medicine.

In Australia, medicinal products containing herbs, vitamins, minerals, and nutritional supplements, homeopathic medicines and certain aromatherapy products are regulated as medicines. The Therapeutic Goods Administration (TGA), a Division of the Commonwealth Department of Health, is the responsible body for regulating medicines.

THE REGULATORY REQUIREMENTS FOR THE SUPPLY OF COMPLEMENTARY MEDICINES

Australian Register of Therapeutic Goods
The TGA maintains the Australian Register of Therapeutic Goods (ARTG), a database that includes details of all therapeutic goods, including complementary medicines that may be legally supplied in Australia. Information about the active ingredients, presentation (capsule, tablet, etc), indications, and conditions of entry in the ARTG, name and address of the sponsor of the product as well as other information is available from the TGA’s public register (www.tga.gov.au).

Listed and registered complementary medicines
CMs available for supply in Australia are included on the ARTG as Listed (low risk) or Registered (higher risk).
medicines. You can tell whether a product is on the ARTG by looking to see whether there is the designation AUST L or AUST R on the product’s label. Most, but not all, CMs included in the ARTG are Listed medicines and therefore considered as low risk medicines.

*Listed* complementary medicines may only contain ingredients permitted by the TGA for use in low risk medicines. The indications and claims for use of these products can only relate to health maintenance, health enhancement or non-serious, self-limiting conditions. Generally, they may not refer to a serious form of a disease or condition or indicate they are for treatment or prevention. Sponsors of the product must hold sufficient evidence to support the indications and claims made for their products. This evidence may be audited by the TGA.

*Registered* complementary medicines are considered to pose a higher risk or have indications or claims of a more serious nature so they are assessed individually for quality, safety and efficacy.

All CMs, whether Listed or Registered, must be manufactured under the same, internationally recognised, code of Good Manufacturing Practice (GMP) as other medicines.

**Post-market regulatory activity**

In addition to setting stringent regulations at the time of product manufacture and distribution, the TGA has a risk management approach that includes an appropriate level of post-market regulatory activity. This helps to underpin the quality, safety and effectiveness of all medicines, including both *Listed* and *Registered* CMs.

The essential elements of this systematic risk-based approach include:

- Targeted and random desk-based audits of Listed products
- Monitoring of adverse reactions to complementary medicines
- Targeted and random laboratory testing of products and ingredients
- Targeted and random surveillance in the marketplace
- An effective, responsive and timely recalls procedure
- Audit of GMP
- Controls for the advertising of therapeutic goods.

**Adverse reaction reporting**

Although stringent regulation aims to improve the quality and safety of medicine, no medicine is completely safe at all times. One important aim of post-market activities is to identify unsafe or potentially unsafe medicines and to take appropriate action to minimise the risk associated with their use. An essential element of this approach is to monitor adverse reactions to medicines, including complementary medicines.

An adverse reaction reporting system for medicines in Australia is well established. The Australian ‘Blue Card’ scheme covers all medicines and most health professionals. In addition, sponsors of all medicines included in the ARTG are under an obligation to report adverse reactions to the TGA. All adverse reaction reports received by the TGA for complementary medicines are reviewed. The review may result in various outcomes, including further analysis of database reports to investigate potential safety signals, publication in the TGA’s *Medicines Safety Update* (see [www.tga.gov.au/adr/msu.htm](http://www.tga.gov.au/adr/msu.htm)) or in medical journals to raise awareness of the reaction and/or removal of the product from the market.

**SPECIAL PROVISIONS FOR COMPLEMENTARY MEDICINES PREPARED BY HEALTH CARE PROFESSIONALS**

Certain medicines do not need to be included in the ARTG. This allows complementary health care practitioners, such as herbalists and naturopaths, to prepare medicines on their premises so that individualised treatments can be delivered. Hence, the exemption applies to medicines prepared for individual patients, either following consultations with that particular patient, or to fill a prescription for that particular patient. In addition, the medicines are not subject to requirement to be manufactured under the code of GMP as other manufactured medicines. These provisions assume that the health care practitioner is appropriately qualified and skilled to safely prepare the medicine and counsel their patients about its safe and effective use. It is therefore important that you choose your practitioner carefully (see *Choosing a Complementary Medicine Practitioner* fact sheet).

Access to some medicinal ingredients is restricted by legislation. This is generally based on their potential to be unsafe or be abused. Depending on the level of
quality. NICM has identified a range of international
traditions, it also leads users to information of questionable
reliability. Scientific studies about the safety and
effectiveness of the treatment are important to consider
before deciding on a CM therapy or product. They should be aware that individuals can respond differently to the same treatment – irrespective of whether it is a CM or conventional treatment.

To help in your decision making, consider the following questions:
• What benefits do I hope to achieve with CM?
• Which CM approach is suitable and feasible for me?
• Are there better alternatives?
• What is the evidence that supports the quality, safety, and effectiveness of this CM?
• What are the risks associated with using this CM therapy or product?
• Should I get more information from a CM practitioner who has expertise in this area of CM?

If you are unsure about the answers to these questions or uncomfortable with your understanding of some of the issues, you should talk to a healthcare professional, such as your doctor, pharmacist, or complementary healthcare provider.

USING COMPLEMENTARY MEDICINES SAFELY

As with any medical treatment, there can be risks with CM therapies and medicines. These risks depend on the specific therapy and the reasons for undertaking the therapy.

How a person might respond to a CM therapy depends on many things, including the person’s state of health, age and sex and how the therapy is to be used. You should be aware that individuals can respond differently to the same treatment – irrespective of whether it is a CM or conventional treatment.

It is always a good idea to discuss any health options you are considering, including CM options, with your trusted health professionals such as your doctor, pharmacist, community health nurse or CM practitioner. Before deciding on a CM therapy or product, tell them about the therapy or products you are considering and ask any questions you may have. They may know about the therapy and be able to advise you on its general safety, use, and effectiveness. Ideally, they should be able to provide guidance about whether it is safe and likely to provide benefits in your particular situation. Be very cautious about using a CM therapy as a replacement for any proven treatment or as a reason to postpone seeing your doctor about a medical problem.

If you are already receiving CM treatment, or using a
CM product, tell your health care practitioner about it. Give them a full picture of what you do to manage your health. Some CM approaches can have a positive impact on your overall wellbeing however others can cause side effects or interact with conventional medicines. This will help them receive better advice and ensure that your health care is coordinated and safe.

Consult your health care practitioner before arranging therapy for a child or if you are pregnant, intending to become pregnant or breastfeeding, if you are a senior, have been diagnosed with a serious disease or significant previously diagnosed medical condition, or are scheduled for an operation.

If you experience any adverse events that you associate with taking a medicine it is important that you report them. This not only allows your own therapy to be investigated but it may provide an important signal about the safety-in-use of the medicine. Reports can be made to your health care providers or there is a phone-in service for consumers to directly report adverse events – Consumer Adverse Medicine Events Line (Ph 1300 134 237). Reports can also be made to the TGA via the internet (www. tga.gov.au/eb/ADRS/ADRSRepo.nsf?OpenDatabase). You can also obtain information about medicines safety from the TGA (see Adverse Reaction Reporting above).

**USE OF COMPLEMENTARY MEDICINES FOR CHILDREN**

A wide range of CMs are used by children, including herbal medicines and nutritional supplements. Unfortunately there are few high-quality studies which have examined how CMs may affect children and results from studies in adults do not necessarily apply to children. Children are not small adults. Their immune and central nervous systems are not fully developed, so they may respond to treatments differently than adults. This is especially true for infants and young children.

Remember, ‘natural’ does not necessarily mean safe. CMs can have side effects, and these may be different in children than in adults.

In addition to asking your child’s health care provider what is known about whether a CM therapy or product works and is safe for children, consider these points when making decisions about using CM:

- Ensure that your child has received an accurate diagnosis from a health care provider and that CM treatment do not replace or delay conventional medical care
- If you decide to use CMs for your child, do not increase the dose or length of treatment beyond what is recommended (more is not necessarily better)
- Be aware that CMs may interact with conventional medicines and medical procedures as well as other CMs
- If your child experiences an effect from a CM that concerns you, contact your child’s health care provider.
- Store CMs in a safe place, out of the sight and reach of children.

**STANDARDISATION AND HERBAL MEDICINES**

Herbal medicines contain many different compounds and are very complex entities. In many instances, the complete range of active components present in a herbal medicine are not yet known. Some commercially manufactured herbal medicines contain standardised ingredients. This means a specific ingredient, such as a recognised therapeutic compound or quality marker, is adjusted to be present within an acceptable manufacturing tolerance amongst all batches. This provides herbal medicines with some degree of chemical consistency.

Consumers may perceive that standardisation always provides assurance of effectiveness of the product. However, with chemically complex ingredients such as herbal ingredients, this may not be the case as identification of the components responsible for biological activity is not always known. The TGA is working with the CM industry to provide better and more consistent information about the potency of herbal CMs. Hopefully, in the near future this will make it easier to compare CMs.

**IS IT SAFE TO USE IMPORTED COMPLEMENTARY MEDICINES?**

Under certain circumstances an individual may import medicines, including CM medicines, for personal use by, either bringing the medicine into Australia on their person or arranging for the product to be sent to them from overseas.

These products may be of unknown quality, safety and efficacy and individuals importing such products may be at risk. This is particularly the case with CMs where the regulation and enforcement may not be as rigorous as in Australia. Further, if an individual suffers adverse consequences from taking such a product, information about the product and redress may be difficult to obtain.

CMs that have been imported into Australia and included in the Therapeutic Goods Administration’s ARTG for supply in Australia are required to meet a standard of manufacture comparable to that required by Australian manufacturers and must also meet other standards consistent with the Australian requirements for Listed and Registered CMs.

---

An overview of the regulation of complementary medicines in Australia

REGULATORY ADVICE FROM THE THERAPEUTIC GOODS ADMINISTRATION

WHAT COMPLEMENTARY MEDICINES ARE

In Australia, medicinal products containing such ingredients as herbs, vitamins, minerals, nutritional supplements, homeopathic and certain aromatherapy preparations are referred to as ‘complementary medicines’ and are regulated as medicines under the Therapeutic Goods Act 1989 (the Act) (www.legislation.gov.au/Series/C2004A03952).

A complementary medicine is defined in the Therapeutic Goods Regulations 1990 (www.legislation.gov.au/Series/F1996B00406) as a therapeutic good consisting principally of one or more designated active ingredients mentioned in Schedule 14 of the Regulations, each of which has a clearly established identity and traditional use:

**Designated active ingredients**

1. An amino acid
2. Charcoal
3. A choline salt
4. An essential oil
5. Plant or herbal material (or a synthetically produced substitute for material of that kind), including plant fibres, enzymes, algae, fungi, cellulose and derivatives of cellulose and chlorophyll
6. A homeopathic preparation
7. A microorganism, whole or extracted, except a vaccine
8. A mineral including a mineral salt and a naturally occurring mineral
9. A mucopolysaccharide
10. Non-human animal material (or a synthetically produced substitute for material of that kind) including dried material, bone and cartilage, fats and oils and other extracts or concentrates
11. A lipid, including an essential fatty acid or phospholipid
12. A substance produced by or obtained from bees, including royal jelly, bee pollen and propolis
13. A sugar, polysaccharide or carbohydrate
14. A vitamin or provitamin.

HOW COMPLEMENTARY MEDICINES ARE REGULATED IN AUSTRALIA

Australia has a risk-based approach (www.tga.gov.au/how-tga-regulates) with a two-tiered system (www.tga.gov.au/medicines-and-tga-classifications) for the regulation of all medicines, including complementary medicines:


Some complementary medicines are exempt from the requirement to be included on the ARTG, such as certain preparations of homoeopathic medicines.


TGA POST-MARKET REGULATORY ACTIVITY OF COMPLEMENTARY MEDICINES

TGA post-market regulatory activities relate to the monitoring of the continuing safety, quality and efficacy of listed, registered and included therapeutic goods once they are on the market. Information on the TGA’s approach to managing compliance risk is available at: TGA regulatory framework (www.tga.gov.au/ tga-regulatory-framework). The TGA Manufacturing Quality Branch inspects manufacturers on an ongoing basis for compliance with good manufacturing practice.

The TGA also undertakes ‘Listed complementary medicine compliance reviews’ (www.tga.gov.au/listed-complementary-medicine-compliance-reviews).

ADVERSE EVENTS TO COMPLEMENTARY MEDICINES

Sometimes medicines, including complementary medicines, have unexpected and undesirable effects. The TGA has a strong pharmacovigilance program, which involves the assessment of adverse events that are reported to the TGA by consumers, health professionals, the pharmaceutical industry, international medicines regulators or by the medical and scientific experts on TGA advisory committees.
If you experience an adverse event to a complementary medicine, you should seek advice from a health professional and then report the adverse event to the TGA (www.tga.gov.au/safety-information-consumers).

Sponsors of medicines are required to report to the TGA suspected adverse reactions for their medicines that they are aware of. Guidance for sponsors is provided in ‘Australian requirements and recommendations for pharmacovigilance responsibilities of sponsors of medicines’ (www.tga.gov.au/publication/australian-pharmacovigilance-requirements-and-recommendations-medicine-sponsors).

ADVERTISING OF COMPLEMENTARY MEDICINES
The marketing and advertising of therapeutic goods (www.tga.gov.au/advertising-therapeutic-goods), including complementary medicines, is to be conducted in a manner that promotes the quality use of the product, is socially responsible and does not mislead or deceive the consumer.


Anyone may lodge a complaint about an advertisement for therapeutic goods and all complaints are treated in confidence. Refer to ‘Making a complaint about the advertising of a therapeutic product’ (www.tga.gov.au/making-complaint-about-advertising-therapeutic-product).

Purchasing complementary medicines over the internet
Products available on international websites are not regulated by the TGA. The TGA advises that consumers do not order medicines, including dietary supplements and herbal preparations, over the internet unless you know exactly what is in the preparation and have checked the legal requirements for importation and use in Australia. For more information refer to: ‘Buying medicines and medical devices over the internet’ (www.tga.gov.au/community-qa/buying-medicines-and-medical-devices-over-internet).

This work is copyright. You may download, display, print and reproduce the whole or part of this work in unaltered form for your own personal use or, if you are part of an organisation, for internal use within your organisation, but only if you or your organisation do not use the reproduction for any commercial purpose and retain this copyright notice and all disclaimer notices as part of that reproduction.

Apart from rights to use as permitted under the Copyright Act 1968 or allowed by this copyright notice, all other rights are reserved and you are not allowed to reproduce the whole or any part of this work in any way (electronic or otherwise) without first being given specific written permission from the Commonwealth to do so.

Requests and inquiries concerning reproduction and rights are to be sent to the TGA Copyright Officer, Therapeutic Goods Administration, PO Box 100, Woden ACT 2606 or emailed to tga.copyright@tga.gov.au.

The effectiveness of natural therapies

A review of 17 natural therapies by the Department of Health has found that the overall body of evidence was not sufficient to enable definite conclusions to be drawn about the clinical effectiveness of these therapies. The report did, however, find some evidence supporting a few natural therapies. Below is an adapted table summarising the findings.

**BODY OF EVIDENCE IDENTIFIED FROM OVERVIEWS**

**LEGEND:** EE – economic evaluation; RCT – randomised controlled trials; SR – systematic reviews.

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Conditions</th>
<th>Evidence (SRs; RCTs; other)</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALEXANDER TECHNIQUE</td>
<td>2 clinical conditions</td>
<td>9 SRs; 3 RCTs and 1 EE; 763 participants</td>
<td>May improve short-term pain and disability in people with low back pain, but the longer-term effects remain uncertain. For all other clinical conditions, the effectiveness of Alexander technique was deemed to be uncertain, due to insufficient evidence.</td>
</tr>
<tr>
<td>AROMATHERAPY</td>
<td>8 clinical conditions</td>
<td>20 SRs; 45 RCTs; 27,595 participants</td>
<td>Despite promising evidence that it may have beneficial effects on anxiety and pain in particular populations, the effect of aromatherapy on health outcomes in people with various clinical conditions remains uncertain.</td>
</tr>
<tr>
<td>BOWEN THERAPY</td>
<td>0 clinical conditions</td>
<td>2 SRs; 0 RCTs</td>
<td>Insufficient evidence from systematic reviews to reach any conclusion regarding the effectiveness, safety, quality or cost-effectiveness of Bowen therapy.</td>
</tr>
<tr>
<td>BUTEYKO</td>
<td>1 clinical condition</td>
<td>2 SRs; 7 RCTs; 988 participants</td>
<td>Insufficient evidence to support the clinical use of the Buteyko breathing technique for the management of asthma. For conditions other than asthma, conclusions about the effectiveness of Buteyko could not be drawn due to lack of evidence.</td>
</tr>
<tr>
<td>FELDENKRAIS</td>
<td>3 clinical conditions</td>
<td>10 SRs; 3 RCTs; 178 participants</td>
<td>Effectiveness of Feldenkrais for the improvement of health outcomes in people with any clinical condition is uncertain.</td>
</tr>
<tr>
<td>HERBALISM AS A HEALTH SERVICE</td>
<td>0 clinical conditions</td>
<td>0 SRs; 0 RCTs</td>
<td>No conclusions can be drawn about the effectiveness of herbalism as a health service, as no systematic reviews of the effects of herbalism as a health care practice were identified.</td>
</tr>
<tr>
<td>HOMEOPATHY</td>
<td>68 clinical conditions</td>
<td>57 SRs; 176 primary studies; ~18,319 participants</td>
<td>Available evidence failed to demonstrate that homeopathy is an effective treatment for any of the clinical conditions for which it has been examined.</td>
</tr>
<tr>
<td>IRIDIOLOGY</td>
<td>0 clinical conditions</td>
<td>0 SRs; 0 RCTs</td>
<td>No conclusions could be drawn, as the review did not identify any systematic reviews conducted in the last 5 years that assessed the efficacy of iridology as a diagnostic technique for any clinical condition.</td>
</tr>
<tr>
<td>KINESIOLOGY</td>
<td>0 clinical conditions</td>
<td>1 SR; 0 RCTs</td>
<td>Insufficient evidence to reach a conclusion about the effectiveness of specialised kinesiology for any clinical condition.</td>
</tr>
<tr>
<td>MASSAGE THERAPY OR MYOTHERAPY</td>
<td>46 clinical conditions</td>
<td>99 SRs; 158 RCTs; &gt;8,884 participants</td>
<td>A large number of systematic reviews were identified in massage therapy, however the quality of the randomised controlled trials included in those reviews was generally poor. As a result, the evidence evaluating the effectiveness of massage therapy remains uncertain for 43 of the 46 clinical conditions assessed. Compared with control, there is moderate-quality evidence to suggest that massage therapy may provide immediate-term relief in patients with chronic low back pain and reduce the length of hospital stay in pre-term infants. However, massage therapy may be no more effective for long-term pain relief in people with chronic low back pain. A small body of low-quality evidence suggests massage therapy may be effective in providing immediate, short-term pain relief for patients with acute low back pain, and promote weight gain in pre-term infants. There is low-quality evidence to suggest that massage therapy may be no more effective than other interventions (the spray and stretch technique, spinal manipulation, traditional bone setting, physiotherapy, traction) for relieving the intensity of pain in people with chronic, non-specific or mechanical neck pain. However, it was beyond the scope of this overview to assess the effectiveness of comparison interventions, and there is insufficient good-quality evidence to determine the effect of massage therapy compared with inactive control in people with chronic, non-specific or mechanical neck pain. Consequently, the effectiveness of massage therapy within this population remains uncertain. No studies were identified that assessed the effect of myotherapy in people with a clinical condition, and the effectiveness of this therapy is therefore unknown.</td>
</tr>
<tr>
<td>NATUROPATHY</td>
<td>6 clinical conditions</td>
<td>1 SR; 6 RCTs; 692 participants</td>
<td>Further evidence required to estimate the effectiveness of naturopathic practice for particular chronic conditions and outcomes in Australia.</td>
</tr>
</tbody>
</table>
PILATES

5 clinical conditions (13 SRs; 18 RCTs; 710 participants)

Effectiveness of Pilates for improving health outcomes in people with any clinical condition is uncertain, as the available evidence consisted of a small number of methodologically limited randomised controlled trials.

REFLEXOLOGY

16 clinical conditions (18 SRs; 31 RCTs; 2,146 participants)

Effectiveness of reflexology uncertain for all clinical conditions for which it has been assessed.

ROLFING

0 clinical conditions (1 SR; 0 RCTs)

No reliable conclusions can be drawn about the effectiveness of rolfing for any clinical condition, as there is a lack of evidence.

SHIATSU

0 clinical conditions (4 SRs; 0 RCTs)

No reliable conclusions about the effectiveness of shiatsu can be made for any clinical condition, as there is a lack of evidence from systematic reviews of randomised controlled trials published since 2008.

TAI CHI

16 clinical conditions (43 SRs; 117 RCTs; 8,852 participants)

There is very-low-quality evidence to suggest that tai chi may have some beneficial health effects when compared to control in a limited number of populations for a limited number of outcomes including older people (muscle strength) or people with heart disease (quality of life), hypertension (systolic and diastolic blood pressure) or osteoarthritis (physical function). There is also very-low-quality evidence that tai chi may have beneficial effects on selected outcomes in people with osteoarthritis (pain, physical function). Very-low-quality evidence suggests that there may be no difference between tai chi and another active comparator in a limited number of conditions and for a limited number of outcomes including hypertension (systolic and diastolic blood pressure), osteoporosis (bone mineral density) and type 2 diabetes (glycated haemoglobin, fasting blood glucose, total cholesterol). There is also low-to very-low-quality evidence that tai chi may have no effect on selected outcomes in older people (falls) and people with heart disease (heart rate variability, exercise capacity) compared to control. The magnitude and clinical significance of any potential health benefits are uncertain. For many outcomes, the health effects of tai chi are uncertain.

YOGA

31 clinical conditions (67 SRs; 111 RCTs; >6,562 participants)

There is weak evidence yoga improves symptoms in people with depression compared with control. For all other assessed clinical conditions there was insufficient evidence to draw any conclusions about the effect of yoga on outcomes.

NOTES

1. Only 1 study had a large sample size (23,857 participants). Given the potential for this large study to influence the overview, the evidence reviewers checked the original report and found that this was not a concurrently controlled trial. Since no outcome data from this study contributed to the results, the overall findings of the overview were not affected.

2. NHMRC’s homeopathy overview was provided to the Department to inform its natural therapies review. The homeopathy overview included any case-control studies (that is, it included level II evidence – RCTs – as well as level III-I and some level III-II studies).

Source: Australian Government Department of Health (2015),
Review of the Australian Government Rebate on Natural Therapies for Private Health Insurance.
HOMEOPATHY NO MORE EFFECTIVE THAN PLACEBOS, NHMRC STUDY FINDS

Homeopathy is no more effective in treating health conditions than placebos, a study by the National Health and Medical Research Council has found. The following report by Rebecca Trigger was first published by ABC News.

NHMRC released the findings after assessing 1,800 papers which examined the efficacy of the alternative ‘medicine’.

Homeopathic practitioners believe substances which may cause illness in a healthy person can, in very small doses, treat those symptoms. They also think molecules in a highly diluted form retain a ‘memory’ of the original substance.

The NHMRC found of the studies examined, only 225 were included in the review, as the scientific quality of other studies was limited. The review found homeopathy was not any more effective than a placebo, or sugar pill, in treating common medical conditions such as headaches, asthma, anxiety, attention deficit disorder, and ulcers.

The council found no study with enough participants which supported the idea homeopathy caused health improvements equal to other medical treatments.

In a statement, NHMRC chief executive Professor Warwick Anderson said that all medical treatments and interventions should be underpinned by reliable evidence.

“NHMRC’s review shows that there is no good quality evidence to support the claim that homeopathy works better than a placebo,” he said.

“People who choose homeopathy may put their health at risk if they reject or delay treatments for which there is good evidence for safety and effectiveness,” he said.

“People who are considering whether to use homeopathy should first get advice from a registered health practitioner and in the meanwhile keep taking any prescribed treatments.”

He said the council was aware of the “strongly held” views on homeopathy, and said the review process was consultative, and that the public was invited to submit information and evidence to be considered.

Review ‘biased’, ignored evidence, homeopathic association says

Australian Homoeopathic Association spokeswoman Ana Lamaro said the NHMRC had already “made up its mind” about homeopathy before the results of the review.

A draft position paper leaked in 2012 showed the council was considering taking a position that homeopathy was unethical, because there was no clinical evidence for its efficacy.

“We call that basically a prejudicial position, and of course they have to find exactly in such a manner or else they would have egg all over their faces,” Ms Lamaro said.

Ms Lamaro said studies which showed the effectiveness of homeopathy had been ignored by the council because the NHMRC’s overview of systematic reviews meant only studies which were similar enough to each other were included.

She said the varied way that homeopathy was prescribed meant that some studies were not included.

“We’re applying the prism of [a] very, very narrow, restricted format of research that applies well to situations where you’re testing one drug against one pathological state,” she said.

“Homeopathy is a holistic form, meaning we are taking into account the psychosocial, the physical, the emotional state of the person in assessing what they might need medicinally.”

What is homeopathy?

- Based on the theory of treating ‘like with like’, and is supposed to work by giving you very small amounts of substances that in larger doses would cause the very symptoms you want cured.
- Taking small doses of these substances – which are derived from plants, animals or minerals – will strengthen the body’s own ability to heal and increase its resistance to illness or infection.
- Substances contained in homeopathic products are so small they are usually undetectable, but it is argued they still have a biological effect.
- Homeopathy is used to treat a wide variety of complaints – coughs, colds, depression, headaches, asthma, arthritis – most common day-to-day ailments.

This e-book is subject to the terms and conditions of a non-exclusive and non-transferable SITE LICENCE AGREEMENT between THE SPINNEY PRESS and: Trinity College, East Perth, library@trinity.wa.edu.au
She said concerns over patients taking homeopathic treatments and ignoring other medical options were unfounded.

“What’s most typical is that patients are receiving advice from a homeopath and a medical doctor or specialist at the same time,” she said.

“Patients don’t risk their health, patients don’t go somewhere where something doesn’t work, and pay good money because it doesn’t work, patients ... act in their own best interests, and this is what they’re doing.

Doctors call for clear labelling on treatment effectiveness

The Australian Medical Association (AMA) chair of the council of general practice, Dr Brian Morton, said the council’s finding was important for the community.

“People can erroneously waste their time and endanger their health by using remedies that they believe will work when they’re not evidence based, and it’s a waste of money and it’s a danger to an individual’s health,” he said.

“We need to remove from the shelves of pharmacies those treatments that are sold without any evidence base and waste so much money.”

“For all treatments, we need ... a transparent attitude so people can choose themselves, understand whether a treatment is going to work.”

He said the AMA wanted clear labelling on the effectiveness of products claiming to treat medical issues.

Australians spent $US7.3 million on homeopathy in 2009, a World Health Organisation review found.


NHMRC statement on homeopathy

Based on the assessment of the evidence of effectiveness of homeopathy, NHMRC concludes that there are no health conditions for which there is reliable evidence that homeopathy is effective.

Homeopathy should not be used to treat health conditions that are chronic, serious, or could become serious. People who choose homeopathy may put their health at risk if they reject or delay treatments for which there is good evidence for safety and effectiveness. People who are considering whether to use homeopathy should first get advice from a registered health practitioner.* Those who use homeopathy should tell their health practitioner and should keep taking any prescribed treatments.

The National Health and Medical Research Council expects that the Australian public will be offered treatments and therapies based on the best available evidence.

FINDINGS

There was no reliable evidence from research in humans that homeopathy was effective for treating the range of health conditions considered: no good-quality, well-designed studies with enough participants for a meaningful result reported either that homeopathy caused greater health improvements than placebo, or caused health improvements equal to those of another treatment.

For some health conditions, studies reported that homeopathy was not more effective than placebo. For other health conditions, there were poor-quality studies that reported homeopathy was more effective than placebo, or as effective as another treatment. However, based on their limitations, those studies were not reliable for making conclusions about whether homeopathy was effective. For the remaining health conditions it was not possible to make any conclusion about whether homeopathy was effective or not, because there was not enough evidence.

* As defined in the Health Practitioner Regulation National Law, as in force in each State and Territory.


The review found homeopathy was not any more effective than a placebo, or sugar pill, in treating common medical conditions such as headaches, asthma, anxiety, attention deficit disorder, and ulcers.
New research: complementary medicines can contribute to reduced government health care costs and productivity gains

Australian Self Medication Industry Inc announces findings from a study which claims to quantify the potential reduction in economy-wide health care costs and productivity losses that can result from the use of specific complementary medicines in targeted populations.

Dr Deon Schoombie, Executive Director of the Australian Self Medication Industry (ASMI), which commissioned the research, said: “The report highlights the important role that complementary medicines and self care can play in improving individual health and reducing government health care costs.

The study, Targeted Use of Complementary Medicines: Potential Health Outcomes and Cost Savings in Australia, by economic research firm Frost and Sullivan, revealed that when specific complementary medicines are used by high risk target populations, there is the potential for improvements in the health of individuals, lower costs due to reduced need for hospitalisation and reduced work absences/productivity losses.1

The study examined six complementary medicines, all with evidence of efficacy, across four chronic disease conditions – osteoporosis, cardiovascular disease (CVD), age-related macular degeneration and depression.

“The biggest gains identified in the study are in the area of osteoporosis and osteopenia – conditions which resulted in approximately 140,822 fractures in 2012 and affect some 1.8 million people at a cost of approximately $3 billion per annum,” explained Dr Schoombie.2,3

“Potential health care costs savings and productivity gains were calculated if all women over 50 with osteoporosis were to take calcium and vitamin D at a preventive dose to reduce the risk of osteoporosis-attributed bone fractures.

Frost and Sullivan found the relative risk of an individual in the target population experiencing an osteoporosis-attributed fracture is reduced by 19.7% given the use of calcium and vitamin D at preventive intake levels. This translates to a potential of 36,783 avoidable osteoporosis-attributed fractures in 2015 given 100 per cent utilisation of calcium and vitamin D by the high risk population.

The report estimated that between 2015 and 2020 average annual hospitalisation costs of $922 million can be potentially saved and average annual productivity gains of $900 million can be realised for the same period if all women aged over 50 who were diagnosed with osteoporosis or osteopenia take a preventive dose of calcium and vitamin D.

“More than a half of the potential total benefits would go to the individual and over 42 per cent of potential total benefits can be realised by Federal and State governments. The average annual benefit/cost ratio between 2015 and 2020 is $22.34 for every dollar spent on this complementary medicine regimen,” he concluded.

The report also explored the burden of cardiovascular disease (CVD) on Australians and the potential health and economic benefits that can be realised if an omega-3 fatty acid regimen was used by all Australians aged 55 and over who are diagnosed with CVD.

It was estimated that the relative risk of hospitalisation due to a CVD event can be reduced by 4.9 per cent and 6,894 average annual medical events avoided between 2015-2020 if all Australians aged over 55 with CVD were to take omega-3 fatty acids at a preventive level. The average annual benefit cost ratio from 2015 to 2020 would be $8.49 for every dollar spent on the omega-3 fatty acids.

“This study followed a ‘health to wealth’ methodology,” according to Christopher Shanahan, global program manager, food and agriculture at Frost and Sullivan. “We wanted the science to guide us to what the cost savings and the productivity gains could be for Federal and State governments, individuals and enterprises such as private health insurers.”

About the study

The Frost and Sullivan researchers conducted a review of peer-reviewed scientific literature, focusing on studies that quantified the effect of certain complementary medicines on the occurrence of disease-related events among targeted populations. From this review, an overall change in the relative risk of a given disease-related event resulting from the use of each of the complementary regimens was derived. Then, these relative risk reduction statistics were used as an input into a cost-benefit scenario analysis to determine the potential change in hospital utilisation costs and wage income gains that could be realised if people in a specified high-risk population were to use each of the complementary medicine regimens.

About ASMI: The Australian Self Medication Industry (ASMI) is the peak body representing sponsors of non-prescription medicines – over-the-counter (OTC) and complementary medicines (CM). ASMI members make up 85 per cent of the $4bn Non-Prescription Medicines market. Membership totals 50 companies and ASMI members employ approximately 18,000 people with exports estimated at $1.2 billion annually. ASMI’s mission is to advance consumer health through responsible self-care. This means driving a viable and responsible industry and empowering the consumer with evidence-based products and information with the aim of improving health and wellbeing. To find out more about ASMI or how to become an ASMI member, please visit (www.asmi.com.au).
Targeted use of complementary medicines

A new economic report in Australia shows that taking specific complementary medicines (CM) can provide significant positive health outcomes and cost savings, by reducing hospitalisations and increasing productivity. The report looks at six complementary medicines regimens across four conditions in a targeted population of Australian adults who have the specific conditions or are at high risk for the disease.

### Condition
- **Osteoporosis**
- **Cardiovascular Disease**
- **AMD (Age-Related Macular Degeneration)**
- **Major Depression**

### Event Rate
- **Osteoporosis**: 10%
- **Cardiovascular Disease**: 16%
- **AMD**: 3%
- **Major Depression**: 20%

### CM as Interventions
- **Osteoporosis**: Magnesium, Calcium & Vitamin D, Folic acid, B6 & B12, Omega-3
- **Cardiovascular Disease**: Lutein & Zeaxanthin
- **AMD**: St John's Wort

### Relative risk reduction
- **Osteoporosis**: 5.2%
- **Cardiovascular Disease**: 3.3%
- **AMD**: 4.9%
- **Major Depression**: 22.4%

### 2015-2020 Average Annual Statistics
- **Medical events avoided**:
  - Osteoporosis: 7,815
  - Cardiovascular Disease: 37,715
  - AMD: 4,905
  - Major Depression: 1,095
- **Avoided hospital costs**:
  - Osteoporosis: $212 million
  - Cardiovascular Disease: $922 million
  - AMD: $150 million
  - Major Depression: $194 million
  - Total: $27 million
- **Total productivity gains**:
  - Osteoporosis: $187 million
  - Cardiovascular Disease: $900 million
  - AMD: $68 million
  - Major Depression: $405 million
  - Total: $27 million
- **Net economic benefit after cost of these CM is deducted**:
  - Osteoporosis: $249 million
  - Cardiovascular Disease: $1.8 billion
  - AMD: $176 million
  - Major Depression: $530 million
  - Total: $36 million
- **Net economic benefit after cost of these CM is deducted**:
  - Osteoporosis: $340 million
  - Cardiovascular Disease: $300 million

### Benefit/Cost Ratio
- **Osteoporosis**: $2.50
- **Cardiovascular Disease**: $22.34
- **AMD**: $4.57
- **Major Depression**: $8.49

### Notes:
- *Hospital Separations, Attributed deaths, Successful Diagnostic Transitions.

### References
Buying herbal supplements online or in store is big business in Australia. But do weight loss remedies and natural cancer cures really work, are they a waste of money – or worse, a danger to your health?

In this article we look at:
• Why ‘natural’ doesn’t mean ‘safe’
• Do complementary medicines work?
• Dangerous supplements
• Potentially useful supplements.

BUT IT’S NATURAL
You’d be forgiven for thinking that herbal supplements are harmless, but just because it’s a ‘herbal’ concoction, doesn’t mean it’s safe to take. Meanwhile, ‘safe’ products can also be dangerous when taken in combination with certain medications or other herbal supplements, or if taken by people with certain conditions.

Supplements containing garcinia cambogia and green tea extract have recently been linked with liver and kidney damage requiring organ transplants. Other widely available natural supplements with potentially toxic effects include colloidal silver, kava and bitter orange.

It’s concerning that products considered unsafe are still being manufactured and sold here and overseas. While some have been banned or restricted (with labelling requirements, dosage specifications or import restrictions), some banned products have slipped through the net and others remain unrestricted.

In Australia, the Therapeutic Goods Administration (TGA) is charged with making sure the complementary medicine products for sale are safe. The TGA also maintains a list of relatively safe complementary medicines.

DO COMPLEMENTARY MEDICINES WORK?
There are plenty of complementary treatments that may be safe to take but which have no proven benefit, and consumers could be wasting their money and bypassing more effective treatments by relying on them. The TGA requires companies to hold evidence of the effectiveness of products, but that evidence is rarely audited and products can be sold simply on the basis of historical precedent for use with certain conditions.

CHOICE wants a system introduced that allows a manufacturer to have the effectiveness of their product independently evaluated. If proven effective, a supplement would be awarded a Green Tick, similar to the Heart Foundation’s Red Tick.

You should always talk to your doctor or pharmacist before starting any supplement; also, be aware that most have not been studied for use by pregnant or breastfeeding women. The list of interactions and side effects in the table is not all-inclusive.

DANGEROUS SUPPLEMENTS
These are potentially dangerous supplements and alternative treatments.

Aconite (ACONITUM, RADIX ACONITI)
Used for: Inflammation, joint pain, wounds and gout.
Possible risks: Toxicity, nausea, vomiting, low blood pressure, respiratory-system paralysis, heart-rhythm disorders and death.
Comments: Unsafe. Commonly used in traditional Chinese medicine, aconite (or aconitum) poisoning has occurred many times in Australia (and overseas). It’s a neurotoxin and cardiotoxin, causing arrhythmia and ventricular fibrillation.

Bitter orange (CITRUS AURANTIUM, AURANTII FRUCTUS, ZHI SHI)
Used for: Weight loss, nasal congestion, allergies and indigestion.
Possible risks: Fainting, heart-rhythm disorders, heart attack and stroke.
Comments: Possibly unsafe. It contains a compound called synephrine, similar to ephedrine, which is not permitted for sale in Australia. Risks may be higher when taken with supplements...
that contain caffeine. Many weight-loss products contain bitter orange; alarmingly, these products also often contain caffeine and caffeine-like substances, which work with bitter orange to increase its cardiovascular effects. Bitter orange essential oils are also available.

Chaparral
(CREOSOTE BUSH, LARREA TRIDENTATA)
Used for: Colds, weight loss, infections, inflammation, cancer and detoxification.
Possible risks: Liver damage and kidney problems.
Comments: Likely unsafe. The product requires a warning label.

Colloidal silver
(IONIC SILVER, NATIVE SILVER, SILVER IN SUSPENDING AGENT)
Used for: Fungal and other infections, Lyme disease, rosacea, psoriasis, food poisoning, chronic fatigue syndrome and HIV/AIDS.
Possible risks: Blush skin, mucous membrane discoloration, neurological problems and kidney damage.
Comments: Likely unsafe. Colloidal silver is not permitted to be sold for therapeutic use, but it is permitted for sale in Australia as a water purifier. However, that hasn’t stopped enthusiastic retailing – especially online – of large quantities of this product for therapeutic use.
Companies aren’t allowed to make therapeutic claims about colloidal silver products because they are not able to be listed on the Australian Register of Therapeutic Goods (ARTG). Many attempts have been made to circumvent this restriction by pointing out that the TGA forbids them explaining all the alleged benefits of the product, and publishing ‘testimonials’ from customers extolling its virtues.

The TGA has taken several such companies to task, but our own research found more still flouting the regulations. One company was cheeky enough to insinuate the government is in cahoots with pharmaceutical companies to protect the antibiotics industry from this powerful competitor!

Comfrey
(BLACKWORT, COMMON COMFREY, SLIPPERY ROOT)
Used for: Cough, heavy menstrual periods, chest pain and cancer.
Possible risks: Liver damage and cancer.
Comments: Likely unsafe when consumed as a tea, however, when used as an ointment it isn’t dangerous. Comfrey has been used as a healing herb for centuries. It was once known as ‘knit-bone’ for its reputed bone-healing properties. It’s easy to grow and these days it’s usually used as a tea made from home-grown plants, which can cause liver damage if taken in excessive amounts over long periods.

Garcinia cambogia
(GARCINIA GUMMI-GUTTA)
Used for: Weight loss.
Possible risks: Linked with liver damage. Dizziness, dry mouth, headache, gastrointestinal upset.
Comment: The TGA considers this ingredient safe to use.

Germanium
(GE, GERMANIUM SESQUIOXIDE, GE-132, GERMANIUM-132)
Used for: Pain, infections, glaucoma, liver problems, arthritis, osteoporosis, heart disease, HIV/AIDS and cancer.
Possible risks: Kidney damage and death.
Comments: Likely unsafe. This doesn’t appear to be sold in Australia, and is not on the list of ingredients permitted for listing with TGA.

Greater celandine
(CHELIDONIUM MAJUS, CELANDINE)
Used for: Upset stomach, irritable bowel syndrome, liver disorders, detoxification and cancer.
Possible risks: Liver damage.
Comments: Possibly unsafe. The product requires a warning label.

Green tea extract
Used for: Weight loss, various cancers, high cholesterol, mental alertness.
Possible risks: Liver damage.
Comments: Green tea extracts are currently permitted in herbal medicines and food supplements (such as protein powders). Regular green tea is safe to drink in moderation; it’s the concentrated extract that has been linked with liver damage.

Kava
(PIPER METHYSTICUM, KAVA-KAVA)
Used for: Anxiety (possibly effective).
Possible risk: Liver damage.
Comments: Possibly unsafe. The product requires a warning label. Kava is permitted for therapeutic use as an anti-anxiety supplement, provided the maximum daily dose is 250mg of the active constituent, kavalactones. It’s also a restricted import; these changes followed a voluntary recall of kava products in 2002 after an Australian fatality due to acute liver failure was reported.

Lobelia
(LOBELIA INFLATE, ASTHMA WEED)
Used for: Coughing, bronchitis, asthma, smoking cessation (possibly ineffective).
Possible risks: Toxicity; overdose can cause fast heartbeat, very low blood pressure, coma and death.
Comments: Likely unsafe. There are restrictions on concentrations.

Yohimbe
(CORYNANTHE YOHIMBE, YOHIMBINE, JOHIMBI)
Used for: Aphrodisiac, chest pain, diabetic complications, depression; erectile dysfunction (possibly effective).
Possible risks: Usual doses can cause high blood pressure, rapid heart rate; high doses can cause severe low blood pressure and heart problems.
Comments: Possibly unsafe for use without medical supervision. It’s not approved by the TGA for sale in Australia, and is a restricted import.

TOP 10 POTENTIALLY USEFUL SUPPLEMENTS
With a huge complementary medicines market estimated to be worth up to $3.5 billion annually, Australians have the dubious honour of having some of the most expensive urine in the world – most supplements have not been proven to work. The TGA requires companies to hold evidence of the effectiveness of products, but that evidence is rarely audited and products can be sold simply on the basis of historical precedent for use.
with certain conditions. The popular supplements listed in the table below have been shown to be probably safe for most people, and possibly or probably effective in appropriate doses for certain conditions. One problem with the current regulatory system is that products with potentially useful ingredients, such as St John’s wort, contain active components that are known to be variable – or are not precisely known at all. So different products, supposedly containing the same ingredients and at the same dose, are unlikely to be equally effective.

**Calcium**  
(CALCIUM CARBONATE, CALCIUM CITRATE, CALCIUM GLUCONATE)  
**Efficacy:** Likely effective in combination with vitamin D in preventing and treating bone loss and osteoporosis. Taken daily, calcium appears to reduce some PMS symptoms.  
**Possible side effects:** Belching and gas. A recent study suggested high dose calcium supplements may increase the risk of heart disease.  
**Possible drug interactions:** Calcium can decrease the effectiveness of certain antibiotics, osteoporosis drugs and thyroid drugs.

**Cranberry**  
(AMERICAN CRANBERRY, LARGE CRANBERRY, CRANBERRY EXTRACT)  
**Efficacy:** Possibly effective for preventing recurrent urinary tract infections.  
**Possible side effects:** Large amounts can cause stomach upset and diarrhea.  
**Possible drug interactions:** May increase the effects of warfarin, a blood thinner.

**Fish oil**  
(EPA/DHA, LONG CHAIN OMEGA-3 FATTY ACIDS)  
**Efficacy:** This is effective for reducing triglyceride levels, and is likely effective for decreasing the risk of heart attack, stroke and progression of hardening of the arteries in people with existing heart disease.  
**Possible side effects:** Fishy aftertaste, upset stomach, nausea and loose stools. High doses can increase levels of LDL (bad) cholesterol in some people or increase the chance of bleeding.  
**Possible drug interactions:** May increase the effect of blood-thinning drugs and high blood pressure medications.

**Lactose**  
(BETA-GALACTOSIDASE)  
**Efficacy:** Likely effective for reducing gastrointestinal symptoms in lactose-intolerant people, when used before consuming lactose or when added to milk.  
**Possible side effects:** No reported side effects.  
**Possible drug interactions:** None known.

**Lactobacillus**  
(ACIDOPHILUS, PROBIOTICS)  
**Efficacy:** Likely effective for preventing diarrhoea while taking antibiotics.  
**Possible side effects:** Gas. People with poor immune function should check with their doctor before use.  
**Possible drug interactions:** May cause infection in people taking immunosuppressant drugs.

**Psyllium**  
(BLOND PLANTAGO, BLONDE PSYLLIUM)  
**Efficacy:** Effective as a bulk laxative for reducing constipation or softening stools. It’s also likely effective for lowering cholesterol in people with mild to moderately high cholesterol.  
**Possible side effects:** Gas, stomach pain, diarrhea, constipation and nausea. Some people can have a serious allergic response that requires immediate medical attention.  
**Possible drug interactions:** May decrease the effectiveness of carbamazepine, an anti-seizure drug; digoxin, a heart drug; and lithium, for bipolar disorder. It may also cause low blood sugar when taken with some diabetes drugs.

**Pygeum**  
(PRUNUS AFRICANA, AFRICAN PLUM TREE, AFRICAN PRUNE)  
**Efficacy:** Likely effective for reducing symptoms of an enlarged prostate.  
**Possible side effects:** Nausea and abdominal pain.  
**Possible drug interactions:** None known.

**SAMe**  
(ADEMETIONINE, ADENOSYLMETHIONINE, S-ADENOSYL-L-METHIONINE, SAMMY)  
**Efficacy:** Likely effective in reducing symptoms of depression, reducing pain and improving functioning in people with osteoarthritis.  
**Possible side effects:** GI symptoms, dry mouth, headache, mild insomnia, anorexia, sweating, dizziness, and nervousness, especially at higher doses. It can make some people with depression feel anxious.  
**Possible drug interactions:** May lead to a toxic reaction when taken with the cough suppressant dextromethorphan, certain antidepressants, or narcotic pain relievers. It may also worsen symptoms when taken with the Parkinson’s drug levodopa.

**St John’s wort**  
(HYPERICUM PERFORATUM, SJW)  
**Efficacy:** Likely effective for improving symptoms of some forms of depression.  
**Possible side effects:** Insomnia, vivid dreams, anxiety, dizziness, headache, skin rash, and tingling. It can cause skin to become extra-sensitive to the sun.  
**Possible drug interactions:** May decrease the effectiveness of a wide range of drugs, including birth-control pills, heart medications, HIV/AIDS drugs, and warfarin. It may also increase the effects or side effects of certain antidepressants.

**Vitamin D**  
(CHOLECALCIFEROL, VITAMIN D3, ERGOCALCIFEROL, VITAMIN D2)  
**Efficacy:** Likely effective when taken with calcium to help prevent osteoporosis. It may help reduce falls in people with vitamin D deficiency and bone loss in people taking corticosteroids.  
**Possible side effects:** Extremely large amounts might cause weakness, fatigue, headache and nausea, though side effects are rare.  
**Possible drug interactions:** May reduce the effectiveness of some medications, such as atorvastatin (Lipitor), other heart medications, birth-control pills and HIV/AIDS drugs.

---

Reproduced with permission from consumer group CHOICE.


This e-book is subject to the terms and conditions of a non-exclusive and non-transferable SITE LICENCE AGREEMENT between THE SPINNEY PRESS and: Trinity College, East Perth, library@trinity.wa.edu.au
Be wise with complementary medicines: interactions and side effects can happen

**NPS MedicineWise** reminds consumers that complementary medicines can cause side effects and interact with other over-the-counter and prescription medicines.

With new information from the Peter MacCallum Cancer Centre in Melbourne revealing that some complementary medicines can interact with cancer treatment, NPS MedicineWise reminds all Australians that complementary medicines can cause side effects, and interact with other over-the-counter and prescription medicines.

NPS Medicines Line Manager and pharmacist, Sarah Spagnardi, says that people may not think about complementary medicines in the same way as other medicines. Complementary medicines can have benefits, but they can also cause side effects, adverse reactions and interactions with other medicines, so they still need to be used with care.

“As with all medicines, tell your health professional about any multivitamin, herbal or mineral supplements you are taking to help avoid potentially harmful interactions. People may not always think to tell their health professional they are taking complementary medicines and this can become a problem if medicines have the potential to interact,” says Ms Spagnardi.

Complementary medicines do not go through testing processes in the same way that prescription and pharmacy medicines do before they can be sold in Australia, so often less is known about their effectiveness, possible side effects and interactions. Ms Spagnardi says the NPS Medicines Line fields numerous calls from Australians with questions about complementary medicines and interactions with complementary medicines.

“Over 50% of all calls to Medicines Line about complementary medicines are questions about drug interactions,” says Ms Spagnardi. “The complementary medicines that generate the most enquiries are Vitamin D and calcium preparations, multivitamin products, fish oil preparations, glucosamine products and St John’s wort.”

It is important to understand that certain complementary medicines may interact with prescription medicines. For example, St John’s wort is often used to alleviate depression, but can interact with several commonly used prescription medicines by making them less effective or by increasing their side effects. These prescription medicines include antidepressants, the oral contraceptive pill, digoxin, blood-thinning medicines, some cholesterol-lowering medicines, epilepsy medicines, HIV medicines, pain medicines, chemotherapy medicines and medicines used to prevent rejection after an organ transplant.

“Your doctor and pharmacist need to know about all your medicines so they can consider any possible interactions when recommending other medicines for you,” says Ms Spagnardi.

“It’s also really important to include your complementary medicines on your Medicines List so you have a record at hand. NPS MedicineWise has developed a handy smartphone app – MedicineList+ – that you can use to record all the medicines you or people you care for are taking, and easily share this with your health care team,” says Ms Spagnardi.

For more information on prescription, over-the-counter and complementary medicines (herbal, ‘natural’, vitamins and minerals) from a health professional, call NPS Medicines Line on 1300 MEDICINE (1300 633 424). Hours of operation are Monday-Friday, 9am-5pm AEST (excluding public holidays).

**MedicineList+** is a free smartphone app (android and iPhone). To find out more and to download the apps go to [www.nps.org.au/medicinelist-plus](http://www.nps.org.au/medicinelist-plus)

Healing cancer through diet: patients urged to be wary of ‘wellness’ bloggers

There are warnings against using alternative therapies to treat cancer amid the growing popularity of wellness bloggers, according to this SBS News report by Sylvia Varnham O’Regan

When Chris Wark was diagnosed with stage-three colon cancer at 26, he was told his best chance of survival was surgery followed by chemotherapy.

A course of ‘adjuvant’ chemotherapy is a standard response to a cancer diagnosis and one endorsed by mainstream medicine. But Mr Wark wasn’t convinced. He had surgery to remove a tumour from his large intestine but decided to forgo chemotherapy in favour of a ‘hardcore nutrition plan,’ which saw him swap meat, dairy and processed foods for salads and vegetable juices.

He claims nutrition helped his body heal the cancer expected to claim his life.

But Sydney oncologist Professor Martin Tattersall says science doesn’t back that up.

“I think the notion that a cancer patient can be cured by a change in nutrition is not something for which there is much evidence,” he says.

Professor Tattersall says that if cancer is removed by surgery before it has spread to the blood stream or lymph nodes, that cancer is cured. He says in such cases, chemotherapy afterward is an ‘insurance policy’ to reduce that chance of cancer cells regrowing.

Seven years later, cancer free and convinced it wasn’t all a fluke, Chris Wark launched a website called ‘Chris beat cancer: A chemo-free survivor’s health blog’ in 2010. On his website he offers information about nutrition, testimonials from other cancer patients and a personal ‘Health and Cancer Coaching’ service. A one-hour coaching call costs $125 and a two-hour call costs $195. He notes on the site that he is not a doctor and has no medical training.

Mr Wark is one of many ‘wellness bloggers’ around the world who share their experiences online, often rejecting traditional medicine in favour of natural therapies, diet, lifestyle and spirituality. The wellness movement has grown dramatically in the past decade, fuelled by social media and a growing number of people using the internet to discuss ‘natural’ health alternatives.

Other high-profile bloggers include Australia’s Belle Gibson, whose claim that she beat terminal brain cancer using natural therapies was later discredited, and Jess Ainscough, whose Wellness Warrior blog amassed legions of devotees before her death earlier this year after a seven-year battle with cancer.

Critics say wellness bloggers pose a risk to vulnerable patients who might choose untested natural therapies over evidence-based medicine at the expense of their health.

The wellness movement has grown dramatically in the past decade, fuelled by social media and a growing number of people using the internet to discuss ‘natural’ health alternatives.
health. But bloggers like Mr Wark say they are simply offering information to people who are looking for options outside mainstream medicine.

**‘Traditional treatments aren’t working’**

Cancer is the second leading cause of death in Australia after heart disease.

In 2010, 42,844 people died of cancer, according to the Australian Institute of Health and Welfare. Of that number, 24,328 were male and 18,516 female.

Treatments that come under the ‘wellness’ bracket include complementary – which work alongside conventional therapies – and alternative, which are used instead of conventional medicine.

Professor Tattersall says he has seen a huge shift in patient expectations since he started out in the 1970s, and he now spends a lot of time discussing with patients treatments they have seen on TV or the internet.

He says he doesn’t advocate for alternative therapies because most haven’t been scientifically investigated and says while it is possible to heal cancer with non-drug therapies – “surgery is the obvious example” – he says people should be wary of putting their faith in untested treatments.

But Professor Tattersall does see a place for complementary therapies.

“I’ve seen patients in whom the addition of complementary-style medicines might have been helpful to their wellbeing,” he says. “I have no doubt that acupuncture and relaxation therapy can help patients to cope with the side effects of traditional medicine.”

Professor Tattersall says he believes people put their faith in natural therapies and incredible stories of survival because it gives them a sense of control over their bodies and their treatment.

Dr Helen Zorbas, CEO of Cancer Australia, has a similar view. She says patients often feel empowered by making decisions around their treatment rather than taking direction from medical staff.

“It’s quite a disempowering position to be in so the search for or use of alternative therapies may be a way of gaining control over the treatment of their disease,” she says. “There’s also the perception out there that natural therapies may be safer. There are lots of different reasons.”

She says Cancer Australia encourages patients to speak openly with their doctors about alternative and complementary treatments.

“I think doctors today are really open to the conversation and in fact encourage the conversation and are sensitive to the needs of patients around taking some control of their situation.”

But Chris Wark found doctors he talked to were reluctant to advocate for treatments outside their discipline.

“The oncologist I saw first told me I was insane if I didn’t do chemotherapy,” he says. “I never went back to him.”

And he questions why some doctors don’t look beyond chemotherapy.

“The traditional treatments aren’t working for most patients,” he says. “[Doctors in the US] are trapped in a system that pays them really well to do what they’re doing, regardless of the results.”

**Dr internet**

For some of the most popular wellness bloggers, stories of survival and the promotion of natural therapies can translate into celebrity status and big money.

Queensland blogger Belle Gibson, once hailed as a champion of the wellness movement, took a supreme fall from grace this year after she admitted lying about having
terminal cancer and curing it with natural therapies and diet. The ‘Whole Pantry’ app creator said in March that she may have been misdiagnosed by doctors after questions were raised about the veracity of her story. That same month, allegations surfaced that she had withheld money made through her organisation that had been pledged to charities. But in April she admitted to making the cancer claims up, telling The Australian Women’s Weekly, “None of it is true.”

“I don’t want forgiveness. I just think [speaking out] was the responsible thing to do,” Ms Gibson told The Australian Women’s Weekly.

In the US, Chris Wark says his blog gets thousands of hits each week and he is constantly inundated with messages from readers.

The sheer reach of the internet and the fact that bloggers like he and Ms Gibson are able to influence so many people concerns medical experts.

“(On the internet), so many statements are made as statements of fact, which are very hard to discern from opinion,” Dr Zorbas says.

“The person who’s reading the information or subject to that information is in a very difficult position to try and understand the validity of it and what confidence they should place in the information.”

“So many statements are made as statements of fact, which are very hard to discern from opinion.”

Professor Tattersall says the other risk is that people adopting complementary treatments without telling their doctor might be unaware that some can interfere with chemotherapy.

“There is evidence that large doses of vitamin C can interfere with the effectiveness of some components of conventional cancer treatments,” he says.

“So many statements are made as statements of fact, which are very hard to discern from opinion.”

But Mr Wark says his blog is for information, not medical advice.

“I’m not a doctor. I don’t claim to give medical advice. My site is for information and education,” he says. “There are disclaimers all over it.”

Research

Mr Wark is critical of the funding allocated to cancer research and claims that there is no push to research nutrition as a treatment for cancer because there’s no money in it. But Helen Zorbas says that is not true in Australia where funding for cancer research is largely independent.

A spokesman for the National Health and Medical Research Council – Australia’s biggest funding provider for cancer research – told SBS that in the last 10 years it has awarded 17 grants for research into complementary/alternative cancer treatments totalling over $10 million and 22 grants for cancer/nutrition research totalling over $18 million.

According to NHMRC records, there are five active grants for research into complementary/alternative cancer treatments and five active grants for research into cancer/nutrition currently under way in Australia.

A public divided

The wellness movement made headlines this year after the death of popular blogger Jessica Ainscough, who battled a rare form of cancer called epithelioid sarcoma for seven years and favoured Gerson therapy – which involves eating large volumes of fruit and vegetables and having regular coffee enemas – for treatment.

Ms Ainscough reportedly worked with both conventional and non-conventional medical practitioners over the years. However, her stance when she first launched her blog in 2010 was strongly natural, and she outlined how and why she chose to go with Gerson therapy over conventional medicine to treat her cancer.

After her death, some members of the medical community spoke out against Ms Ainscough’s decision to use natural treatments.

Surgical oncologist and blogger David Gorski wrote on his website that Jess had “one shot” and didn’t take it.

“What saddens me even more is that I can understand why she didn’t take it, as, through a horrible quirk of fate, her one shot involved incredibly disfiguring surgery and the loss of her arm,” he wrote.

However Ms Ainscough’s family rejected this claim in a statement released after her death.

“It has been speculated by people who have never met or treated Jess that, had she chosen to amputate her arm or undergo further conventional treatment, her chances of survival would have increased,” the statement read. “Her treating oncologists do not agree with this uninformed view.”

Chris Wark says he had communicated with Ms Ainscough over the years and was upset by the comments surrounding her death.

“People have this flawed logic where they look at her and they say, ‘Wow, alternative therapy doesn’t work; nutrition doesn’t work. Because if it worked she would not have died’,” he says.

“If one person is proof that that nutrition and alternative therapies don’t work, then the 580,000 people who die of cancer each year in the US alone certainly proves that conventional therapies don’t work.”

Professor Tattersall says he still believes in miracles and has seen some incredible turnarounds in patients over the years, but is cautious of attributing those instances to any one thing.

“The cause of miracles is unknown but divine intervention is one, misdiagnosis another one,” he says.

“Why do some patients do vastly better than other patients? I think it’s fair to say we don’t know.”

© SBS 2015.


This e-book is subject to the terms and conditions of a non-exclusive and non-transferable SITE LICENCE AGREEMENT between THE SPINNEY PRESS and: Trinity College, East Perth, library@trinity.wa.edu.au

Issues in Society | Volume 412

Complementary and Alternative Medicine 35
HERBAL SUPPLEMENTS LINKED TO ORGAN TRANSPLANTS, DATA SHOWS

At least six Australians needed organ transplants in the past five years after taking herbal supplements. An ABC News report by Sophie Scott and Alison Branley

Data obtained from national organ donation registries shows, since 2011, three liver transplants and three kidney transplants have been given to people who got sick after taking some kind of herbal supplement.

It comes after West Australian man Matthew Whitby spoke to the ABC after losing his liver – most likely as a result of taking a protein powder with green tea extract and a supplement containing garcinia cambogia.

Registry representatives have told the ABC the figures only relate to cases where doctors were able to identify, and actually documented, the probable cause of the illnesses that led to the transplant.

The data does not indicate what kind of herbal supplement caused the organ failure or whether it was a definitive cause.

Liver transplant specialist Dr Nick Shackel from Sydney’s Royal Prince Alfred Hospital said he had dealt with multiple cases of liver failure and transplants associated with herbal supplements.

In many cases, the patients had consumed green tea extract.

“There are compounds in green tea which if taken in excess give you predictable liver failure,” he said.

“We simply represent a tip on an iceberg of disease.”

His comments counter those of some pharmacologists, who suggest people can only get sick from green tea extract if they have an unpredictable ‘idiosyncratic’ reaction.

There is research that suggests green tea extract can become toxic at median level at the equivalent of 24 cups in a day.

Dr Shackel, who is also a representative of Transplant Australia, said there were only a limited number of organs available to transplant.

“Clearly, this is an avoidable liver injury,” he said.

The data does not indicate what kind of herbal supplement caused the organ failure or whether it was a definitive cause ...

In many cases, the patients had consumed green tea extract.

“Given we always have deaths on the waiting list and we have patients who can’t be transplanted simply because we don’t have enough organs, we’d clearly like these organs to go to people where there’s unavoidable causes of liver failure.”

Figures suggest there are currently about 1,200 people waiting for a liver or kidney transplant in Australia.

SUPPLEMENT REGULATIONS UP TO GOVERNMENT: INDUSTRY

Steve Scarff from the Australian Self Medication Industry said it was up to the Federal Government to determine whether warnings or more regulations were needed.

“Australia already has one of the most rigorous regulatory systems in the world for complementary medicines,” Mr Scarff said.

“There are strict controls over the ingredients that can be used, the manufacturing sites that can be used, the labelling content as well as an obligation to report adverse events.”

The Therapeutic Goods Administration said it was investigating reports of liver failure as a part of a wider review.

How many transplants were done in Australia in 2015?

<table>
<thead>
<tr>
<th>Organ</th>
<th>Transplants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart</td>
<td>95</td>
</tr>
<tr>
<td>Liver</td>
<td>264</td>
</tr>
<tr>
<td>Pancreas</td>
<td>47</td>
</tr>
<tr>
<td>Kidney</td>
<td>703</td>
</tr>
<tr>
<td>Lung</td>
<td>193</td>
</tr>
</tbody>
</table>

Kidneys made up the majority of the organ transplants in 2015.
Following inquiries from the ABC, a spokeswoman said it would liaise with organ donation registries to "obtain more information" and decide on any regulatory action.

"This action could potentially include reducing the allowable limits of particular herbal extracts in complementary medicines," she said.

She said there were 11,000 complementary medicines listed on the Australian Register of Therapeutic Goods "and that there are significant sales of these products".

**Another victim in Western Australia**

When his optometrist told him he had macular degeneration, West Australian man Roger wanted to do all he could to retain his vision.

"He recommended that I take a herbal supplement to minimise the risk of it spreading and getting worse," he said.

When the Australian product he had been taking was no longer available, Roger found a similar multivitamin on an overseas website.

"I’m an industrial chemist so I investigated those ingredients to make sure there wasn’t anything I was unhappy to take," he said.

"I thought at worst they would do nothing."

Within months, Roger was in hospital and being told devastating news.

"I was told that I’d lost 90 per cent of my liver function and that while there was a remote chance it could regenerate, they started preparing me for a liver transplant."

Roger had the transplant in October last year. He is still recovering and has asked not to be further identified.

His doctors found the most likely culprit for his illness was the multivitamin which contained bark extract and green tea extract.

"I feel rather stupid because I had no idea that such a thing could happen," he said.

"I think there should be warnings."

**Action promised on links between herbal supplements and organ transplants**

- Health Minister Sussan Ley has promised to act on concerns about the number of people needing organ transplants after taking herbal supplements.
- Organ donation data shows six organ transplants have been linked to supplement use.
- Federal Health Minister Sussan Ley says she will speak to the Therapeutic Goods Administration about the figures.
- She wants to ensure any harmful ingredients are indentified and to make sure that cause and effect is indeed present.
- The Therapeutic Goods Administration (TGA) is investigating the issue as part of a wider review.

Herbal medicine and vitamin supplements

Herbal medicine and vitamin supplements are referred to as ‘complementary medicines’ in this brief guide from the Queensland Government.

**Herbal medicine**

Herbal medicine is the use of plants to treat disease and improve wellbeing. Herbs can be just as powerful as pharmaceutical drugs and need to be treated with care.

Herbal medications should be administered by an herbalist or herbal therapist and you should always let your doctor and pharmacist know what herbal medicines you are taking.

When taking herbal medicines:
- Do not self-diagnose any health conditions
- Never stop taking conventional drugs without the approval of your doctor

**Vitamin supplements**

Vitamin supplements can be used when dietary intake of a particular vitamin is not practical or possible. We can get vitamins naturally by eating healthy foods or by taking vitamin supplements.

It is always best to seek advice from your doctor on what vitamin supplements and minerals may be suited to your specific needs before you start taking them. Some vitamins can be harmful in high doses or may interact with prescribed drugs.

People who may benefit from vitamin and mineral supplements include:
- Pregnant or breastfeeding women
- The elderly (especially those who are disabled or chronically ill)
- Some vegetarians and vegans
- Women with excessive bleeding during menstruation
- People with allergies to particular foods
- People who have problems with absorbing vitamins, such as coeliac disease or pancreatitis.

Remember:
- Vitamins and minerals from food are usually absorbed by the body better than those contained in pills
- Folic acid supplements are better absorbed by the body.

Herbal medicine is the use of plants to treat disease and improve wellbeing. Herbs can be just as powerful as pharmaceutical drugs and need to be treated with care.
than folate from food sources
• Vitamin and mineral pills taken as a form of medicine to cure or prevent certain ailments is a misconception
• Vitamin and mineral supplements taken in high dosages can be harmful
• Vitamin supplements won’t necessarily make stressful feelings or tiredness go away.

Before taking any herbal medicines or vitamin supplements
Herbal medicines can improve your health, especially if they’re combined with a healthy diet and lifestyle.

But some may have unwanted effects especially if you:
• Are pregnant or trying to become pregnant
• Are breastfeeding
• Drink alcohol
• Have kidney, liver or serious stomach problems
• Are allergic to any of the substances in the medicines
• Don’t take the medicine as directed
• Take a combination of prescribed medications and herbal medicines that interact with each other
• Use medicine prescribed for someone else.

It is always best to seek advice from your doctor on what vitamin supplements and minerals may be suited to your specific needs before you start taking them. Some vitamins can be harmful in high doses or may interact with prescribed drugs.

1 in 5 take multivitamins for the placebo effect
Health-conscious Aussies are happily taking multivitamins, even if they are unsure about the benefits of them. Simon Downes reports for customer satisfaction ratings company, Canstar Blue

In a survey of 1,600 adults who take multivitamins, around three-quarters of respondents said they feel better about themselves after taking them, while 52% admitted that they are not sure if multivitamins work for them — but they enjoy taking them anyway.

Just over half of adults surveyed cited the perceived health benefits of multivitamins as their motivation for taking them, while 34% pointed to their mental wellbeing.

And one in five claimed to take multivitamins for the placebo effect. For Gen Y respondents, that number rose to 30%.
“Don’t underestimate the placebo effect – it’s one of the most powerful medicines in medicine,” said Dr Trent Watson, spokesperson for the Dietitians Association of Australia. “People who take these supplements are often the ‘worried well’ who take the ‘just in case’ approach.”

One in 10 survey respondents said their family or friends recommended multivitamins to them and one in five said they were prescribed to them by a health professional.

The choice of multivitamins on offer is confusing to half of adults, while 35% admitted that taking multivitamins makes them feel less guilty about their food choices.

“People may take multivitamins to counter their bad decisions on food or alcohol, but there’s really no substitute for a good diet,” added Dr Watson.

The survey found that consumers spend an average of $27.85 each month on multivitamins and effectiveness was the biggest driver of customer satisfaction, followed by value for money and taste. And one in three adults who take multivitamins said they also give them to their children.

Blackmores has received Canstar Blue’s Most Satisfied Customers Award for multivitamins, scoring five-star ratings in five out of eight research categories, including overall satisfaction.
Forget an apple a day, vitamin manufacturers would have you believe it’s important to take daily vitamins to boost your health.

And a surprising proportion of Australians do. Data from the last National Health Survey (back in 1995) showed that up to 30% of Australians had recently taken vitamin or mineral supplements – mostly for preventive health reasons.

More recently, the 45 and Up study of more than 100,000 Australian adults found that 19% of men and 29% of women reported taking vitamin or mineral supplements.

But most healthy people don’t need to take vitamins. A better safeguard for your health would be to spend the money you save from not buying supplements, on buying more vegetables and fruit.

The Australian Guide to Healthy Eating (AGHE) translates the national dietary guidelines into recommended daily food serves to help Australians eat better, without the need for vitamins or mineral supplements.

In a nutshell, the aim is for adults to have a minimum daily intake of:

- Four to six serves of wholemeal or wholegrain breads and cereals
- Two serves of reduced fat dairy products
- One serve of lean protein
- A small amount of healthy fats.

The problem is, we just don’t follow the advice in the dietary guidelines, or eat like the patterns suggested in the AGHE.

The last National Nutrition Survey of dietary intakes in adults (from 1995 – this is currently being updated) found that we had inadequate intakes of vegetables, fruit, wholegrain cereals and dairy products. We also consumed too much fat, especially saturated fat and over a third of our daily energy intake came from energy-dense nutrient-poor foods, aka ‘junk’ foods.

So what do we do: turn to vitamin and mineral supplements to make up the shortfall? Or try harder to encourage Australians to eat better?

I vote for the second approach because taking supplement is not without risks.

Take lung cancer, for example. Epidemiological research indicated that eating more fruit and vegetables was associated with a reduced risk of lung cancer. After this relationship was recognised, a number of clinical trials then gave people supplements of beta-carotene, given it’s a major carotenoid (pigment) in vegetables and fruit.

But the supplements had the opposite effect and actually increased the risk of lung cancer in smokers.

Medical problems that arise due to excessive intakes of vitamins and minerals are almost always due to intakes of supplements. To develop toxicity from vitamins in food you’d have to eat excessive amounts of specific foods such as carrots (which could make your skin turn yellow) or liver (vitamin A toxicity would leave you with blurred vision, dizziness, nausea and headaches).

There are, however, people with health conditions or in a particular life stage when they really need vitamins. This includes people with chronic medical problems (such as cystic fibrosis, coeliac disease, pancreatitis), people on restrictive diets to achieve rapid weight loss, those with conditions that interfere with their ability to eat properly.

Women planning a pregnancy also require additional nutrients. Folic acid supplements are strongly recommended in early pregnancy to reduce the risk of having a baby with neural-tube defects such as spina bifida.

Let’s leave vitamin supplements to those who need them, and call this myth busted.

**Are you getting enough vitamins and minerals in your diet?**


Developed by my colleagues and I at the University of Newcastle, the quiz compares your current eating habits against the Australian Dietary Guidelines. It also provides advice on how to improve the variety and nutritional quality of your usual diet.

Clare Collins is Professor in Nutrition and Dietetics, University of Newcastle.
MULTIVITAMINS: LOOKING FOR A QUICK FIX TO A POOR DIET?

Do we need multivitamins and minerals tailored to our age and gender? Do we need supplements at all? Rachel Clemons from CHOICE investigates

After a few too many days of missed breakfasts, rushed lunches or take-away dinners, there’s something appealing about the idea that you can pop a multivitamin and boost your depleted stores of nutrients.

Should you be looking for a multivitamin that’s tailored to your age and gender, or is that kind of product segmentation just a marketing ploy? And do you really need to take multivitamins in the first place?

The ‘worried well’

A young woman consults a dietitian, concerned her diet is inadequate. She says she takes a number of different multivitamin products each day because she feels they help. On closer inspection, the dietitian discovers three of the products contain B vitamin complexes, and that they are delivering 17 times the recommended dietary intake (RDI) of vitamin C.

The dietitian determines she has a perfectly adequate diet – she doesn’t need to take pills as well. She’s a typical example of the ‘worried well’, and this group – indeed Australians in general – are enthusiastic consumers of multivitamins.

Pills vs produce

“There’s good evidence to suggest that if a vitamin or mineral supplement replaces a deficiency, it will be beneficial,” says Dr Trent Watson, accredited practising dietitian (APD) and spokesperson for the Dietitians Association of Australia. But aside from a few specific situations or groups of people, most people who have a balanced diet have no need for supplementation.

“In the western world, even those not following such great diets are usually getting adequate nutrition, and it’s not necessary to take multivitamins for general health,” says Watson.

Associate Professor Tim Crowe of Deakin University’s School of Exercise and Nutrition Sciences agrees: “Most people don’t need multivitamins – particularly the ‘worried well’ of the population who eat reasonably well most of the time – and their money is better off spent on good food”.

Taking multivitamins as a nutritional insurance policy may impact more than just your wallet. According to nutritionist Rosemary Stanton, “it may contribute to neglecting healthy food choices”, and this has consequences for long-term health.

Real food has several big advantages over supplements. Whole foods contain:

• Fibre and polyphenols, which can help protect against conditions such as cancer, diabetes and heart disease
• Vitamins and minerals in different forms, all of which range in their ability to be absorbed by the body (known as their bioavailability). Vitamin E occurs in nature in eight different forms, for example, but supplements usually contain just one
• A host of other substances that help vitamins and minerals be absorbed by the body and do their job inside cells.

Supplements: who needs them?

Specific vitamin and mineral supplements may be beneficial for the following groups of people, but bear in mind that individual requirements vary and it’s best to get advice from a health professional before self-prescribing.

• Pregnant women and those trying to conceive (one month prior to conception and three months after): Folate (see ‘pregnancy supplements’ on the Choice website for more information)
• People with limited exposure to sunlight such as institutionalised or bedbound elderly, dark-skinned people and veiled women: Vitamin D
• People on a strict vegan diet and the frail aged who may be eating poorly and/or absorbing less from their food: Vitamin B12
• People on restrictive diets (including those with eating disorders, food allergies or intolerances and those on low-kilojoule weight-loss diets): supplement depends on the nature of the diet.
Complementary and Alternative Medicine

Confusing labels

To complicate matters, it’s very difficult for a layperson to know what they’re getting in a multivitamin and to compare products.

Names

Vitamins are listed under their vitamin name on some bottles (e.g. vitamin B3) and their chemical name (e.g. niacin) on others. Different brands produce the same basic supplement from different compounds, any of which may appear on the bottle. For instance, calcium can be derived from calcium phosphate, calcium pantothenate, calcium ascorbate, calcium carbonate or calcium orotate (amongst others).

Quantities

Some companies list the weight of the ingredient (which could be a compound), while others state the vitamin or mineral equivalent of that ingredient. And manufacturers of products sold in Australia don’t need to list how much of each ingredient relates to a recommended dietary intake (RDI).

Vitamins and minerals: how much and which foods?

Aside from a few specific situations or groups of people, most people can fulfill their vitamin and mineral requirements by eating a healthy, balanced diet.

To check the RDI of all macronutrients (protein, fat, carbohydrate, fibre) and micronutrients (vitamins and minerals) for your gender and age, use the NHMRC’s Nutrients and Dietary Energy Calculator (www.nrv.gov.au).

For a summary of key vitamins and minerals, their function in the human body and the best dietary sources, see this table at www.bupa.com.au/health-and-wellness/health-information/healthy-living/nutrition/eating/doc/vitamins-and-minerals

Multivitamins for kids

It’s particularly important for parents to provide a healthy selection of foods for their children rather than give them a multivitamin to cover up for possible nutritional shortfalls. Stanton stresses that it’s not OK for kids to eat junk just because they’re getting multivitamins: “A recent study of Australian preschoolers found that 31% were overweight or obese, and their diets lacked fibre and had too much saturated fat – problems that a multivitamin won’t fix.”

“Don’t offer something that will distract from consumption of real food,” says Watson. “Children become consumers of everything you serve them eventually, so it’s worth persists with good food.”

Little pill, big promises

Although over-consumption of certain vitamins or minerals can be dangerous, ingredients are generally at such low doses in a multivitamin it’s harder for them to be over-consumed and cause damage.

“There’s only so much of each nutrient you can pack into a multivitamin pill – in that way they’re self-limiting – and often it’s not even close to the recommended dietary intake (RDI),” says Crowe. “Taken as directed there’s little chance of harm as a dose is unlikely to contain levels of nutrients above the recommended upper level of intake.”

In fact, the dose of an individual vitamin or mineral in a multivitamin may be so low as to render it useless. For example, a dose of glucosamine sulfate – a substance thought by some to help relieve the pain of osteoarthritis – is typically 1,500mg in clinical trials. Nature’s Own Mega Potency 50+ Years Multivitamin contains just 100mg.

Can you overdose on vitamins?

There are situations when multivitamins might not always be safe. There’s some evidence that high levels of iron supplements prescribed to pregnant and lactating women may decrease zinc absorption.

“Leading cause of poisoning in children is iron poisoning,” says Crowe. “While the quantity in one multivitamin tablet is perfectly safe, if a kid thinks they’re lollies and eats the whole packet then there’s the potential for harm.”

According to Watson, “The law of toxicology suggests that anything in the right doses can be toxic. There’s an increasing body of evidence that suggests large doses of vitamin A increases the risk of lung cancer, for example.”

If you’re taking vitamin or mineral supplements or natural or herbal remedies along with prescribed medicine, it’s also important to be aware of possible interactive effects.

Product segmentation

People of different genders and ages do require more or less of certain nutrients according to their varying body sizes, metabolism rates, activity levels and food intake levels. Adult women, for example, require more iron than men up to the age of 50, and as both men and women get older their vitamin D needs tend to increase.

“The government’s RDIs for each vitamin and mineral are set out by gender and age, and manufacturers are mirroring these RDIs in their formulations. This is a good thing,” says Crowe.

But in some cases, the fragmentation is more about marketing than genuine need. For example, there are numerous small differences in nutrient levels between Swisse Women’s Ultivite 50+ and 65+ formulas, but in reality the RDIs for most nutrients are the same for women at both ages. And both the boys’ and girls’ Bioglan Kids Gummies Multivitamins products are identical – it just depends on whether you want packaging featuring Disney princesses or characters from the movie, Cars.

This e-book is subject to the terms and conditions of a non-exclusive and non-transferable SITE LICENCE AGREEMENT between THE SPINNEY PRESS and: Trinity College, East Perth, library@trinity.wa.edu.au

Reproduced with permission from consumer group CHOICE.
Don’t believe the hype – your complementary medicines are unlikely to deliver

It can take years before misleading and deceptive claims are removed, write sceptical health academics Ken Harvey, Amy Yan and Ned Latham

We recently submitted a complaint about the promotion of Ease-a-Cold products, which claim to be ‘clinically proven’ to shorten your cold. The complaint highlights a number of long-standing problems with the regulation of complementary medicines.

The results of the Ease-a-Cold trial mentioned in the ads are unpublished and unavailable. And the ingredients used in the trial also appear to be different to those in the products promoted. This casts doubt on the relevance of the trial to the claims made, regardless of the results.

Even if our complaint is upheld, it can take years before misleading and deceptive claims are removed. The Federal Court finally ordered Reckitt Benckiser to remove its pain-specific Nurofen products from the shelves because of misleading claims. But this occurred four years after the first complaint.

WHAT’S WRONG WITH THE CURRENT SYSTEM?
The current system is based on trust. Australia’s medicines regulator, the Therapeutic Goods Administration (TGA), does not assess the claims of the vast majority of complementary medicines (labelled AUST L) before they go to market. Rather, the company simply promises that it holds evidence to support any health claims it makes.

Companies also promise that the product only contains ingredients the TGA regards as relatively safe and that production follows good manufacturing practice. The TGA only occasionally checks if the companies’ promises can be confirmed by post-marketing reviews. In the last six months of 2014, the TGA listed 1,022 new products but only initiated 72 post-marketing reviews. In the same period, 60% of reviews found manufacturers weren’t compliant.

The Therapeutic Goods Administration does not assess the claims of the vast majority of complementary medicines before they go to market. Rather, the company simply promises that it holds evidence to support any health claims it makes ...

Each year, more than 100 complaints sent to the Therapeutic Goods Advertising Complaint Resolution Panel (TGACRP) are upheld. But the TGACRP and the TGA lack the power to adequately respond: they can’t issue substantial fines or order manufacturers to take out corrective advertisements. So there is little to deter companies from making misleading claims.

BLUEPRINT FOR CHANGE
Last week, industry, consumers and health care professionals met to respond to an independent review of the current regulatory system.

There was general agreement that the current system is broken. The market is flooded with more than 12,000 products for which the claims made are rarely supported by the evidence available.

... Companies also promise that the product only contains ingredients the TGA regards as relatively safe and that production follows good manufacturing practice.

Consumers are put at risk because they are unable to make an informed choice about the benefits and risks of complementary medicines.

Companies currently get a better return from investing in promotional hype and celebrity endorsement, rather than research aimed at new innovative products.

The review panel proposed an integrated package of measures to fix these problems.
There was general agreement that the current system is broken. The market is flooded with more than 12,000 products for which the claims made are rarely supported by the evidence available. Consumers are put at risk because they are unable to make an informed choice about the benefits and risks of complementary medicines.

First, it recommends eliminating the free text option in the listing process that allows companies to creatively add their own product indications such as CoQ10, “supports a healthy cardiovascular system”, and probiotics, “help improve general wellbeing”.

Instead, the TGA should establish a limited list of evidence-based “permitted indications” which companies can use. An example might be, “glucosamine sulphate may relieve joint pain”.

Second, the review panel wants companies to publish the evidence they hold to support the indications made. And where the company has made its own assessment of the evidence for their product, the panel wants a prominent disclaimer to be added to all promotional materials that states: “efficacy claims for the product have not been independently assessed”.

Third, the panel recommends increasing the number of post-marketing reviews and making them more transparent; and that the complaint process be revamped and current investigative and enforcement powers be broadened.

To encourage research and innovation, the review panel recommends the TGA provide a new listing pathway, which would allow companies to submit clinical trial data to the TGA to get a higher level claim approved. An example might be, “clinical trials show that DONA® glucosamine sulphate provides symptomatic relief of osteoarthritis”.

This would be a less rigorous path than product registration. It would also allow a company to claim that the efficacy of its product had been independently assessed for that particular use.

HURDLES TO OVERCOME
The industry is concerned that eliminating the free text option will limit its ability to differentiate competing products in the marketplace. It is also concerned that requiring companies to publish the evidence supporting an indication would allow free-loading by copy-cat competitors.

However, we agree with the World Health Organisation and others that all clinical trial results should be in the public domain.

Finally, a number of the failings of the current system have resulted from inadequate resourcing of the TGA and the TGA. This has been noted in most of the 16 consultations and inquiries since 2002. The benefits from revamping the system will only eventuate if greater resources are committed.

SO WHAT HAPPENS NEXT?
The Department of Health will soon deliver its recommendations to health ministers Sussan Ley and Fiona Nash. Their response presents an historic opportunity for the government to show that Australia leads the world in complementary medicine regulation and consumer protection, industry innovation and export opportunities.

Ken Harvey is Adjunct Associate Professor, School of Public Health and Preventive Medicine, Monash University.
Amy Yan is a Health Science and Business Student, Monash University.
Ned Latham is a Public Health Summer Research Student, Monash University.

THE CONVERSATION

Panacea or placebo: doctors should only practise evidence-based medicine

Some alternative medicine practices, such as homeopathy, have been proven to lack efficacy but remain in demand, cautions Professor John Dwyer

The question of whether doctors should provide ‘complementary or alternative’ medicines and procedures for which there is no scientific proof of effectiveness to their patients was recently put to me by the Medical Journal of Australia.

My response – no, they should not – is published today alongside an alternative view, opening the subject up to professional and public debate.

I have good reason to be confident in my stance – consumers looking for tactics to help them avoid illness and enhance good health are often bombarded with fraudulent misinformation.

The most recent highly-publicised example of this is the SensaSlim affair. The company marketed a solution, which, when sprayed on the tongue, had purportedly helped thousands lose weight.

Even more sadly, patients battling illness, particularly one that is chronic or incurable, are easy prey for peddlers of false hope. Extreme examples of this have ended with serious charges being brought against ‘alternative’ practitioners.

Since current regulations are inadequate for protecting health consumers, I think doctors – men and women trained in science – should be the bastions of evidence-based approaches to health care.

Over 80% of Australians visit a doctor a number of times every year. These visits provide the perfect opportunity to educate patients about the uselessness of most alternative approaches – some of which can be dangerous and many of which are expensive.

Parallel worlds

In this, the most scientific of ages, it is surely unnecessary to accept two parallel but different approaches to prevention and treatment.

We need to abandon the dichotomy of orthodox medicine versus alternative and complementary medicines: there are, in fact, only two types of medicine – good and bad.

Good medicine is based on evidence, strives to be rigorously tested, does not accept as legitimate the deliberate use of the placebo effect and understands the realities of psychological factors in producing physical symptoms.

Bad medicine ignores scientific methodology, relies on anecdotal and ‘traditional’ evidence, exploits the placebo effect and does not accommodate psychosomatic illness. In our community, bad medicine often equates to alternative medicine.

False legitimacy?

Many universities now study complementary and alternative modalities. Using the scientific method to examine these allows scientists to declare something to be ineffective or not. Studying alternative medicines also allows those found to be effective, which fill a therapeutic vacuum, to move into the good medicine category.

There are, however, precious few of the latter.

Good medicine is based on evidence, strives to be rigorously tested, does not accept as legitimate the deliberate use of the placebo effect and understands the realities of psychological factors in producing physical symptoms.
Colloidal silver, for instance, may kill bacteria but you wouldn’t use it in preference to an antibiotic.

And there are also a number of alternative practices that aren’t worthy of careful study because they’re an affront to certain knowledge of how bodies work as well as the laws of physics and chemistry.

Homeopathy, which was subject to intense study (even though its underlying premise is ridiculous) and shown to be useless; iridology; reflexology; ‘healing touch’ techniques and; a number of claims made for chiropractic, all fall into this category.

Chiropractic practices are under the spotlight at the moment as claims that defects in the spine are responsible for numerous illnesses has some chiropractors treating asthma, migraine headaches, attention deficit syndrome and a host of other diseases, with spinal manipulation.

It is particularly disturbing that chiropractors make up the largest professional group affiliated with the anti-vaccination group known as the Australian Vaccination Network.

**Seeking comfort**

Consumers are confused by competing assertions but are understandably drawn to the claims made for alternative medicines.

A reporter from the *New Yorker* magazine explained to me that people in this postmodern world long for simple, and somewhat, magical panaceas.

But it is surely unacceptable that taxpayer dollars supporting private health insurers end up paying for alternative, unproven or indeed discredited treatments.

In fact, such payments give them an imprimatur from insurers and provide them with undeserved credibility.

Doctors billing Medicare for complementary unscientific care are providing similar endorsement while misusing taxpayer dollars.

Pharmacists should protect consumers from much that is fraudulent and unscientific. But a majority of pharmacists, though trained in scientific method, have abandoned the need for evidence and stock their shelves with preparations known to be ineffective.

They’re almost always embarrassed when engaged in a conversation about this practice. Perhaps many have taken the advice I once heard Marcus Blackmore give at a pharmacy guild conference to “capitalise on consumer sentiment”.

Increasing numbers of doctors are advertising that they practice integrative medicine, offering patients “the best of both worlds”.

Some are no doubt exploiting “consumer sentiment”, some may believe they are offering better care but all have an ethical responsibility to concentrate on practising efficacious medicine.

This is expected of them by the majority of their peers, the Medical Board with which they are registered and the patients who trust them with their health.

**John Dwyer** is Founder of the Australian Health Care Reform Alliance and Emeritus Professor, UNSW Australia.

---


Bad medicine ignores scientific methodology, relies on anecdotal and ‘traditional’ evidence, exploits the placebo effect and does not accommodate psychosomatic illness.
Doctors should focus on providing the best care, alternative or otherwise

THE LACK OF A STRONG EVIDENCE BASE IS NOT UNIQUE TO COMPLEMENTARY MEDICINES, OBSERVES MARIE PIROTTA

Over half of Australians use complementary therapies, at a cost of about $AUD1.8 billion a year, to either prevent or treat health problems.

The Australian Bureau of Statistics (ABS) estimates that three-quarters of million people see complementary therapists each year.

Most of these people don’t reject orthodox medicine – they are looking for answers for health problems that orthodox medicines don’t relieve or adequately address.

In fact, orthodox and complementary medicines are often used at the same time to treatment the same health issue.

WHAT ARE COMPLEMENTARY MEDICINES?

Some people talk about complementary therapies as if they were a singular thing: a creed to be either adhered to or not.

But complementary therapies can include anything from medicines made from plants through to crystals and other exotic practices.

Detractors of complementary therapies generally focus on the more unusual types of therapies. In particular, they highlight the downright scandalous schemes that pedal ineffective and expensive therapies to vulnerable people.

And they generally tend to overlook the many complementary therapies that share the same origins as our early pharmaceuticals. Or therapies from well outside our medical paradigm for which there’s a growing body of good scientific evidence.

[Detractors] generally tend to overlook the many complementary therapies that share the same origins as our early pharmaceuticals. Or therapies from well outside our medical paradigm for which there’s a growing body of good scientific evidence.

GROWING BODY OF EVIDENCE

It’s not surprising that evidence is now building for other herbal medicines, such as St John’s wort for depression.

Perhaps less expected is that acupuncture, a traditional Chinese therapy with thousands of years of history, now has scientific evidence to support its use in certain health problems, for example in migraines and for tension headaches.
What’s more, a lack of evidence doesn’t necessarily mean that some complementary therapies don’t have a genuine therapeutic effect.

Many complementary therapies currently lack evidence because of a perceived lack of need for research (as these therapies are already marketed freely in Australia); lack of capacity in the sector to undertake good independent research; and lack of dedicated funding.

Rigorous trials can cost millions of dollars. Developers of pharmaceuticals undertake these risky, expensive trials and derive potential profits from patents. The same degree of pecuniary benefit doesn’t exist for complementary products.

Fortunately, the National Health and Medical Research Council (NHMRC) has recently recognised the importance of developing evidence for complementary therapies.

And while every health professional’s goal should be the practice of evidence-based, ethical and safe medicine, the Cochrane Collaboration’s website notes that as little as one quarter of what we practise in orthodox medicine may be firmly based on evidence.

ETHICAL MEDICAL PRACTICE

In every medical consultation, after making a diagnosis (or at least a list of possibilities, or excluding serious illness), there is a balancing of risks and benefits in the treatment options.

Evidence is, of course, an extremely important factor in this balancing act, as is the potential for harm.

Doctors and patients together balance priorities, urgency, costs (to the individual and the community), patients’ values and preferences, other illnesses and other treatments being used.

Where an evidence-based orthodox therapy is an option, it will be discussed. But when no such option exists or when it has been used without benefit (or resulted in harm), then complementary medicine options may reasonably enter the discussion.

In fact, some have suggested that it may be unethical to not offer complementary therapy options where there’s evidence that they’re useful and safe.

Fortunately, on the knowledge we have so far, complementary therapies are generally safer than pharmaceuticals, although side effects and interactions with other treatments do occur.

So like all therapies used in the practice of medicine and the management of health, the use of complementary therapies needs to be done with knowledge of the risks and alongside monitoring of side effects over time.

What then are doctors to do while waiting for evidence about the complementary therapies so many of their patients are already using?

I think we need to develop an ethical way of practising the best medicine we can. This includes good two-way communication and respecting patients’ autonomy and preferences. It is up to us to help them make the best and safest choices for their health.

Marie Pirotta is Senior Research Fellow in General Practice and Primary Health Care, University of Melbourne.

La Trobe University’s decision to accept funding from Swisse for a new centre to research alternative medicines has sparked controversy about the ethics of assessing alternative medicines using links between industry and research institutions. Public health professor Jon Adams calls for evidence-based assessments to include consideration of all health treatments, including the testing of alternative therapies.

A cupuncture, chiropractic, herbal medicines, massage, and other therapies known collectively as complementary and alternative medicine, are big business in Australia, as elsewhere. About two-thirds of Australians use such products and practices over the course of a year. Nonetheless, the debate around these therapies remains dominated by emotive and political commentary – on both sides.

Doing the right kind of research
Like all other areas of health care practice and consumption, complementary therapies need to be underwritten by rigorous scientific investigation. The gold standard of such work is the randomised controlled trial, which aims to establish whether a treatment or medicine is clinically efficacious.

This type of research is to be applauded and encouraged. But the current popularity of alternative therapies highlights the immediate need for parallel public health and health-services research.

What we need is a broad range and mix of methods and approaches that are essential to understanding the place and use of complementary therapies within contemporary health care. Such an approach provides findings of direct benefit to practice and policy. It would be in the interest of patients, practitioners, and those managing and directing health policy to address critical questions such as why, when, and how alternative therapies are currently consumed and practised.

Studies along these lines help provide a factual platform for ensuring safe, effective health care. And it’s important to note that such investigations are neither for complementary medicine nor against it. Rather, the work is undertaken in the spirit of critical and rigorous empirical study that charts a path free from the emotion we have become accustomed to on this topic.

A burgeoning body of work
A number of recent Australian projects have started to do just this kind of research, to explore the use and practice of alternative therapies from a critical public health and health-services research perspective. Research drawing on a large, nationally representative sample of 1,835 pregnant Australian women, for instance, has shown that complementary therapies are popular for pregnancy-related conditions. The researchers found nearly half (49.4%) of the women they studied had consulted an alternative-therapy practitioner at the same time as a maternity-care provider for a pregnancy-related condition.

Similarly, another study found 40% of Australian women with back pain who were surveyed had consulted a complementary-therapy practitioner, as well as a health provider for back pain. Other Australian research has found that women in rural areas are statistically more likely to use alternative medicine than their counterparts in urban Australia. And use has been identified as high among older Australian men and women as well as among people with depression, cancer, and a range of chronic conditions.

In these and other areas of health-seeking behaviour and utilisation, the core issues requiring further examination include how people make the decision to use complementary therapies, and how they seek information and engage with them.

Uncovering use
The use of alternative therapies is often a hidden activity within the community and, in many cases, distanced from both formal care and health care providers (and, in some cases, divorced from complementary therapists as well). This raises a number of potential risks around safety, efficiency, and coordination of care.

While many people condemn complementary and alternative therapies because of a lack of clinical evidence, this doesn’t constitute a scientific platform for ignoring or denying research on the subject.

In fact, it’s the opposite case. If we accept that most complementary therapies have at best emerging, weak, or no clinical evidence, then it surely becomes necessary to try and more fully understand what drives people to use them, in what manner and setting they use them, and what information they draw upon to decide whether they’ll use them.

At a time when health care funding is stretched by our ageing population and rise of chronic illnesses, it’s imperative that research-based assessments of future practice, policy and financial planning include consideration of all health treatments.

Such research will not only help produce a critical, non-partisan platform for better understanding complementary and alternative therapies, it will also provide a rigorous and broad evidence-base with which to help people, practitioners, and policymakers on this significant component of Australians’ health care.

Jon Adams is Professor of Public Health, University of Technology Sydney.

Viewpoints: should universities accept funding from industry?

Direct links between universities and industry funders pose significant risks – but can they be managed? Paul Komesaroff argues working with industry doesn’t have to be a problem for universities while Ken Harvey says there’s a better way.

The University of Sydney has just announced it’s establishing a new research position in integrative medicine funded by a A$1.3 million donation from the Blackmores Institute. It says the Maurice Blackmore Chair in Integrative Medicine (a blending of evidence-based conventional and complementary medicine) will add to the university’s current research in the field.

But does the move give rise to questions about whether research linked to industry will be compromised? In this Viewpoints, Paul Komesaroff argues working with industry doesn’t have to be a problem for universities while Ken Harvey says there’s a better way.

Paul Komesaroff: The propriety of industry support for research in universities has long been debated. During the Vietnam War, for instance, controversy was generated in the United States about the role of universities in developing chemical and anti-personnel weapons. And, more recently, relationships with pharmaceutical companies have come under close scrutiny.

The issue has become still more complicated by the transformations universities have been forced to undergo over the last few decades.

For better or for worse, universities are not ivory towers and researchers are not disinterested searchers after truth. Scientists are motivated as much by personal ambition and advancement as they are by the pursuit of knowledge and derive their incomes from ever-shrinking grant sources that are themselves controlled by government and subject to partisan social policies.

Universities now operate as businesses and have limited commitment to the traditions of radical critique. And there’s no doubt direct links between universities and industry funders pose significant risks. These include the possibility of the research agenda being distorted in favour of commercial interests, of unpopular viewpoints being suppressed for fear of offending benefactors, and of the very concept of free inquiry and possibility of independent scholarship being placed under challenge from crudely commercial managerial imperatives.

Indeed, there’s ample evidence that all of these possibilities have to some extent been realised. But this doesn’t amount to an argument that all relationships between industry and universities should be proscribed.

What it means is that such relationships must be carefully regulated according to clearly defined values. There must be irrefragable guarantees of independence, both from industry funders and from university management themselves. There must be vigorous debate about where the limits to external support should be set and which industries should be excluded altogether.

Universities should adopt clear charters and codes of ethics that guarantee their founding ethos, which should be genuinely enforceable.

The case of complementary medicine raises special issues. Mainstream medicine remains well represented in the universities while only limited research funds are made available for complementary medicines, in spite of the fact that a high proportion of Australians use these products on a daily basis. The conduct of high-quality research in this area is undoubtedly in the public interest. Risks can be mitigated if the guidelines suggested here are followed.

Universities are not pure centres of thought, and nor should they be. Constructive engagement between educational institutions and industry is desirable, but it needs to be subject to rigorous controls. This applies to all research partnerships, including those with the pharmaceutical and complementary medicine industries, and other commercial entities.

Regulatory processes should include clearly articulated principles that define what is acceptable and what is not, along with mechanisms for public scrutiny and effective enforcement. The task may be a complex one, but there is no reason why it’s unachievable.

Ken Harvey: It’s my view that this question cannot be answered without first addressing fundamental problems in the Australian regulatory system of complementary medicines, which is what is at stake in this instance. The vast majority of complementary medicines on the Australian market are listed by the Therapeutic Goods Administration (TGA) rather than registered. Listed products are not evaluated by the TGA to see if they work.

While the product’s sponsors, which are usually its manufacturers or licensed local distributors, are meant to hold evidence of efficacy, this is often found to be unsatisfactory when complaints are made. Or when the TGA conducts limited post-marketing reviews. In addition, there are no effective sanctions to deter such behaviour.

The end result is a market flooded with products of dubious efficacy promoted with hype and celebrity endorsement rather than scientific research. Indeed, a company that has financed the research necessary to produce evidence-based (TGA registered) complementary medicines complain they haven’t garnered a useful return on their investment as the
public doesn’t understand the difference between listed and registered products.

But what does this mean for the incumbent of the Maurice Blackmore Chair in Integrative Medicine? First of all, she will need to be aware that the majority of complementary medicine products in the Australian marketplace are not evidence-based. And that includes those of the company funding her chair.

This could cause a number of potential conflicts of interest. The company concerned may have expectations that the research conducted will validate its products, which it may not do; there may be subtle pressures on researchers from vice chancellors and university business managers to not be critical of complementary and alternative medicine products so as not to upset the funder; researchers may be tempted to game their work to produce pleasing results by, for instance, testing the effect of multivitamins on cognition by performing numerous psychometric tests on small numbers of subjects. This increases the likelihood that one or two will prove “statistically significant” by random chance.

And then there’s the danger that the funder may magnify or cherry-pick positive results – or both – without waiting to see if these can be replicated.

Companies may also refuse permission to publish negative results. They will almost certainly use their association with the university for marketing purposes. And this may cause problems for the university if the company’s views on marketing differ from those of regulators.

Most of these potential problems can be minimised by clear agreement that the university will be in complete control of the research questions, the methodology, and ethics approval and publication rights. But Professor Edward Ernst’s experience at Exeter University provides a cautionary tale of the problems that can emerge.

From 1993, Ernst held the first chair of complementary medicine in the United Kingdom. His research showed that while some complementary modalities worked, many more didn’t. In 2005, Ernst dismissed as “complete misleading rubbish” a report commissioned by the Prince of Wales, which claimed complementary and alternative medicine was cost-effective. His university investigated him after a complaint about his early disclosure of the report’s contents and his funding dried up despite the lack of findings against him. He retired early and his department was closed.

Paul Komesaroff: I agree with many of the concerns about the regulation of complementary medicines expressed by Ken Harvey. The current system encourages the sale of products that have been subjected to inadequate testing and tolerates inaccurate or even false promotional claims about them. And the distinction between listing and regulation of medicinal products has generated perverse incentives that operate against public interest.

But surely this is an argument for more research, not less – for increased support for the generation of high-quality data, and for open, critical reflection and debate. It’s an argument in favour of bringing complementary medicines in from the cold so they can be subject to the same standards and scrutiny as pharmaceuticals and other fully regulated medicinal products.

I also agree that research funding poses risks, including those associated with conflicts of interests, pressure on researchers and the institutions themselves. And there’s the risk that funders may use their support to bolster commercial activities, and may even seek to suppress unfavourable research outcomes.

These risks are real but they are all also foreseeable. And in each case, it is possible to devise effective strategies to avert them.

It’s in the public interest for complementary medicines...
The best way for a company to sponsor high-quality research into complementary medicine without any possible conflict of interest is for them to provide a hands-off, anonymous donation to the National Health and Medical Research Council that would add to the existing (small) pool of money provided for competitive, peer-reviewed research grants in this area.

to be subjected to rigorous research and for reliable, trustworthy information to take the place of exaggerated and unsubstantiated claims. One of the most effective ways in which this can be achieved is through careful, properly regulated, fully transparent relationships between industry and academia.

If the chair at the University of Sydney satisfies these criteria it should receive our full support.

Ken Harvey: The best way for a company to sponsor high-quality research into complementary medicine without any possible conflict of interest is for them to provide a hands-off, anonymous donation to the National Health and Medical Research Council (NHMRC) that would add to the existing (small) pool of money provided for competitive, peer-reviewed research grants in this area.

The NHMRC has already researched some complementary medicine modalities and has also provided educative material for medical students and practitioners.

And the report of the Review of the Australian Government Rebate on Private Health Insurance for Natural Therapies (currently with the health minister) will provide additional information on the evidence base of many more complementary or natural therapies.

Hands-off industry support to the NHMRC is a better way to proceed than financing an eponymous chair because it still ensures we’re researching complementary medicines but mitigates all the risk that the latter entails.

Paul Komesaroff is Professor of Medicine, Monash University.

Ken Harvey is Adjunct Associate Professor, School of Public Health and Preventive Medicine, Monash University.

Disclosure statement
Paul Komesaroff is a former colleague of Dr Lesley Braun who is now Director of the Blackmore Institute.

Dr Harvey has accepted travel expenses only to talk about problems of complementary medicine regulation to pharmaceutical companies and industry associations. He has also been paid travel expenses and sitting fees for his involvement with government inquiries and working groups concerning the promotion and regulation of complementary medicines. He is regarded by some sections of industry as a serial complainant.

THE CONVERSATION

WORKSHEETS AND ACTIVITIES

The Exploring Issues section comprises a range of ready-to-use worksheets featuring activities which relate to facts and views raised in this book.

The exercises presented in these worksheets are suitable for use by students at middle secondary school level and beyond. Some of the activities may be explored either individually or as a group.

As the information in this book is compiled from a number of different sources, readers are prompted to consider the origin of the text and to critically evaluate the questions presented.

Is the information cited from a primary or secondary source? Are you being presented with facts or opinions?

Is there any evidence of a particular bias or agenda? What are your own views after having explored the issues?

CONTENTS

BRAINSTORM 54
WRITTEN ACTIVITIES 55
MULTIPLE CHOICE 56
Brainstorm, individually or as a group, to find out what you know about complementary and alternative medicine.

1. What is complementary medicine, and what are some examples?

2. What is conventional medicine, and what are some examples?

3. What does the term ‘placebo effect’ mean, and what is an example?

4. What is homeopathy, and how is it used?
Complete the following activity on a separate sheet of paper if more space is required.

The ‘Australian Guide to Healthy Eating’ translates the national dietary guidelines into recommended daily food serves to help Australians eat better, without the need for vitamins or mineral supplements. The aim is for adults to have a minimum daily intake of: two serves of fruit; four to five serves of vegetables; four to six serves of wholemeal or wholegrain breads and cereals; two serves of reduced fat dairy products; one serve of lean protein; and a small amount of healthy fats. The problem is, we just don’t follow the advice in the dietary guidelines. Z

Collins, C, *Monday’s medical myth: take a vitamin a day for better health.*

Consider the above statement. Using the space below, write a few paragraphs explaining whether you believe people need to take supplements to maintain general health, and why. In your answer, include a discussion about real food versus supplements, and what groups of people could benefit the most from supplements (include examples).
Complete the following multiple choice questionnaire by circling or matching your preferred responses. The answers are at the end of this page.

1. Respond to the following statements by circling either ‘True’ or ‘False’:
   a. Aspirin is derived from willow bark. True False
   b. Up to 2,500 years ago, the Chinese treated infections with mouldy soybean curd. True False
   c. Colloidal silver is listed as a safe product for therapeutic use. True False
   d. Howard Florey and Ernst Chain developed the manufacturing process for penicillin in 1942. True False
   e. Concentrated green tea extract has been linked to liver damage. True False
   f. If it is labelled natural it must be good for you. True False

2. Match the following terms to their correct definition:
   a. Chiropractic 1. A system that aims to support the body’s ability to heal itself through the use of dietary and lifestyle choices, together with the use of herbs, massage and joint manipulation.
   b. Qi gong 2. The combination of movement, meditation and controlled breathing, with the intent to improve blood flow and the flow of qi.
   c. Homeopathy 3. A treatment based on the belief that the universal innate intelligence flows along the spine.
   d. Reiki 4. A system that seeks to stimulate the body’s ability to heal itself by giving very small doses of highly diluted substances that in larger doses would produce illness or symptoms.
   e. Naturopathy 5. A treatment based on the reasoning that the bone is the starting point from which it is possible to establish the causes of disease states.
   f. Ayurveda 6. A whole medical system that originated in India, which aims to integrate the body, mind and spirit to prevent and treat disease.
   g. Osteopathy 7. A therapy where one person transmits a universal energy to another person, either from a distance, or by placing their hands on, or near that person.

3. Which of the following are not examples of complementary therapies:
   a. Acupuncture
   b. Alexander technique
   c. Aromatherapy
   d. Chemotherapy
   e. Dialysis
   f. Herbal medicine
   g. Homeopathy
   h. Naturopathy
   i. Physiotherapy
   j. Reiki
   k. Yoga

MULTIPLE CHOICE ANSWERS

1 = a = T, b = T, c = F (it is listed as ‘likely unsafe’ and is not permitted to be sold for therapeutic use), d = T, e = T, f = F (natural does not necessarily mean it is good for you as many natural substances can be highly poisonous).
Issues in Society | Volume 412

Complementary and Alternative Medicine

• Studies show that the most frequent users of complementary therapies include well-educated women, high-income earners and people with chronic conditions (Better Health Channel, Complementary therapies). (p.2)

• In Australia, medicinal products containing such ingredients as herbs, vitamins, minerals, nutritional supplements, homeopathic and certain aromatherapy preparations are referred to as ‘complementary medicines’ and are regulated as medicines under the Therapeutic Goods Act 1989 (the Act) (NICM, Understanding Complementary Medicine). (p.3)

• Systems that have developed in non-Western cultures include traditional Chinese medicine and Ayurvedic medicine (ibid). (p.4)

• Some 2,500 years ago, the Chinese were using treatments made of mouldy soybean curd to treat infections. Only in 1942 did Howard Florey and Ernst Chain develop the manufacturing process for penicillin, enabling the first antibiotics to be sold as drugs (ibid). (p.5)

• Australians spent $2 billion in out of pocket expenses on complementary medicines in 2010-11. This is more than the out of pocket contribution to pharmaceuticals of $1.6 billion (ibid). (p.5)

• Herbal remedies are the foundation of most pre-scientific traditional medicine (Friends of Science in Medicine, What is the position of FSM on the principles claimed to underly CAM interventions?). (p.8)

• There are over 10,000 complementary medicines available on the Australian market (Complementary Medicines Australia, Complementary Medicines Retailer Industry Update). (p.9)

• Only 6% of Australian adults regularly meet the required daily intake of vegetables despite government’ advocacy for nutrition through food. They are filling their nutritional deficit with vitamins and dietary supplements (ibid). (p.9)

• Calming and sleeping products such as passion flower, valerian, and hops remain popular (15.8% value growth 2008-2013) – related to demand by ageing population (ibid). (p.10)

• In July 2010, a National Registration and Accreditation Scheme for health practitioners was established. The National Scheme initially applied to ten health disciplines – medical, nursing and midwifery, pharmacy, physiotherapy, dental, psychology, optometry, osteopathy, chiropractic and podiatry. From 1 July 2012 the practice of Chinese medicine was included (NICM, Highlighting Complementary Medicine Research: Choosing a complementary medicine practitioner). (p.12)

• The Therapeutic Goods Administration maintains the Australian Register of Therapeutic Goods (ARTG), a database that includes details of all therapeutic goods, including complementary medicines that may be legally supplied in Australia (NICM, Highlighting Complementary Medicine Research: The safety of complementary medicines). (p.17)

• Australia’s system of regulating complementary medicines is one of the most rigorous in the world. There are strict controls over manufacturing standards for complementary medicines to assure the safety and quality of the medicines (Australian Self Medication Industry, Complementary Medicines highly regulated in Australia). (p.22)

• Supplements containing garcinia cambogia and green tea extract have recently been linked with liver and kidney damage requiring organ transplants. Other widely available natural supplements with potentially toxic effects include colloidal silver, kava and bitter orange (Bray, K, Complementary medicines and supplements – are they safe?). (p.29)

• With a huge complementary medicines market estimated to be worth up to $3.5 billion annually, Australians have the dubious honour of having some of the most expensive urine in the world (ibid). (p.30)

• St John’s wort is often used to alleviate depression, but can interact with several commonly used prescription medicines by making them less effective or by increasing their side effects (NPS MedicineWise, Be wise with complementary medicines: Interactions and side effects can happen). (p.32)

• Data obtained from national organ donation registries shows, since 2011, three liver transplants and three kidney transplants have been given to people who got sick after taking some kind of herbal supplement (Scott, S and Branley, A, Herbal supplements linked to at least six Australian organ transplants since 2011, data shows) (p.36)

• Vitamin supplements can be used when dietary intake of a particular vitamin is not practical or possible. We can get vitamins naturally by eating healthy foods or by taking vitamin supplements (Queensland Government, Herbal medicine and vitamin supplements). (p.38)

• In a survey of 1,600 adults who take multivitamins, around three-quarters of respondents said they feel better about themselves after taking them, while 52% admitted that they are not sure if multivitamins work for them – but they enjoy taking them anyway (Downes, S, 1 in 5 take multivitamins for the placebo effect). (p.39)

• The last National Nutrition Survey of dietary intakes in adults found that we had inadequate intakes of vegetables, fruit, wholegrain cereals and dairy products. We also consumed too much fat, especially saturated fat and over a third of our daily energy intake came from energy-dense nutrient-poor foods, aka ‘junk’ foods (Collins, C, Monday’s medical myth: take a vitamin a day for better health). (p.40)

• Many important orthodox medicines derive from plants, such as aspirin for pain, quinine for malaria and digitalis for heart failure (Pirotta, M, Doctors should focus on providing the best care, alternative or otherwise). (p.47)

• A study found 40% of Australian women with back pain had consulted a complementary therapy practitioner, as well as a health provider for back pain (Adams, J, Here’s why we should research alternative therapies). (p.49)

This e-book is subject to the terms and conditions of a non-exclusive and non-transferable SITE LICENCE AGREEMENT between THE SPINNEY PRESS and: Trinity College, East Perth, library@trinity.wa.edu.au
Acupuncture
An ancient practice which involves inserting sterile needles into strategic points on the human body with the aim of relieving pain and other negative symptoms.

Alternative medicine
Alternative medicine includes treatments that are not currently considered part of evidence-based Western medicine but are put forward as having the same healing effects as conventional treatment.

Aromatherapy
Aromatherapy utilises scented ‘essential oils’, which practitioners claim will induce certain moods or promote good health.

Ayurveda
A whole medical system that originated in India. It aims to integrate the body, mind, and spirit to prevent and treat disease. Therapies used include herbs, massage and yoga.

Chiropractic
Chiropractors are complementary medicine practitioners and also legally-recognised professionals just like doctors and nurses. Chiropractic teaches that spinal disorders can affect the health of the body generally, and seeks to treat these through a combination of methods, including spinal adjustment and manipulation, massage, exercises and lifestyle counselling.

Complementary medicine
Complementary medicine uses therapies that work alongside conventional medicine. It can include a wide range of therapies and practices that are outside the mainstream of medicine: for example, homeopathy, herbal remedies, acupuncture, reflexology, reiki and traditional Chinese medicine.

Complementary medicines
Medicinal products which contain ingredients such as herbs, vitamins, minerals, nutritional supplements, homoeopathic and certain aromatherapy preparations. They are used in a range of complementary medicine therapies. For example, herbal preparations in a medicinal form are used in Western herbal medicine, traditional Chinese medicine, naturopathy, homeopathy and Ayurvedic medicine. They are regulated as medicines under the Therapeutic Goods Act 1989.

Conventional medicine
A system in which medical doctors and other health care professionals (such as nurses, pharmacists and therapists) treat symptoms and diseases using drugs, radiation or surgery.

Evidence-based medicine
Approach to forming medical knowledge based on systematic and unbiased methods of appraising scientific evidence.

Herbal medicine
The use of plants to treat disease and improve wellbeing. Herbs can be just as powerful as pharmaceutical drugs and need to be treated with care.

Homeopathy
A form of alternative medicine in which practitioners use highly diluted substances to treat patients. The thinking behind this practice is that when substances known to cause certain symptoms are delivered to patients exhibiting those same symptoms in a highly diluted form, the substances will be effective as a treatment. While practitioners and patients are vocal supporters of the benefits of homeopathy, critics claim there is a lack of supporting scientific and clinical evidence and that it offers little more than a placebo effect.

Integrative medicine
The blending of conventional and complementary medicines and/or therapies along with lifestyle interventions and a holistic approach – taking into account the physical, psychological, social and spiritual wellbeing of the person – with the aim of using the most appropriate, safe and evidence-based modalities available.

Naturopathic medicine
Naturopathy is based on a belief that the body heals itself using an energy that guides bodily processes, a view in conflict with evidence-based medicine.

Osteopathy
Osteopaths are practitioners of complementary medicine, and are legally-recognised professionals, like doctors and nurses. Osteopathic principles teach that treating bones, muscles and joints can aid the body in repairing itself.

Placebo
A substance administered to patients which contains no active ingredients: for example, a sugar pill or saline solution. However, the patient taking the placebo is led to believe that it is a medicine which will have a positive effect on certain symptoms they are displaying. The ‘placebo effect’ refers to an improvement in symptoms brought about by a patient’s belief that the inactive substance they are taking will cure or improve their illness.

Placebo effect
The effect observed whereby people who receive an inactive ‘placebo’ treatment (believing the treatment to be efficacious) will experience a perceived or actual improvement in health outcomes.

Traditional Chinese medicine
TCM is based on the concept that disease results from disruption in the flow of qi and imbalance in the forces of yin and yang. Practices such as herbal treatments, meditation, massage, and acupuncture seek to aid healing by restoring the yin-yang balance and the flow of qi.

Traditional medicine
Traditional medicine can be defined as the sum total of the knowledge, skill and practices based on the theories, beliefs and experiences from different cultures. In spite of certain traditional practices not always being explicable, it is commonly used to maintain health as well as in the prevention, diagnosis, improvement and treatment of physical and mental illness.
Websites with further information on the topic

Australasian Integrative Medicine Association  www.aima.net.au
Australian Medical Association  www.ama.com.au
Australian Self Medication Industry  www.asmi.com.au
Better Health Channel  www.betterhealth.vic.gov.au
CHOICE  www.choice.com.au
Complementary Medicines Australia  www.cmaustralia.org.au
Department of Health  www.health.gov.au
Friends of Science in Medicine  www.scienceinmedicine.org.au
myDr  www.mydr.com.au
National Institute of Complementary Medicine  http://nicm.edu.au
NPS MedicineWise  www.nps.org.au
The Conversation  www.theconversation.com/au
Therapeutic Goods Administration  www.tga.gov.au

ACKNOWLEDGEMENTS
The publisher is grateful to all the contributors to this book for granting permission to reproduce their works.

COPYRIGHT DISCLAIMER
While every care has been taken to trace and acknowledge copyright the publisher tenders its apology for any accidental infringements or where copyright has proved untraceable. The publisher would be pleased to come to a suitable arrangement with the rightful owner.

ILLUSTRATIONS AND PHOTOGRAPHS
Photographs and illustrations courtesy of iStock, except pages 4 and 32 © Don Hatcher; pages 6, 8, 12 and 21 © Simon Kneebone; and pages 24, 25 and 29 © Angelo Madrid.

THANK YOU
▸ Friends of Science in Medicine
▸ Australian Self Medication Industry
▸ National Institute of Complementary Medicine.

DISCLAIMER
The Spinney Press is an independent educational publisher and has no political affiliations or vested interests with any persons or organisations whose information appears in the Issues in Society series. The Spinney Press seeks at all times to present variety and balance in the opinions expressed in its publications. Any views quoted in this book are not necessarily those of the publisher or its staff.

Advice in this publication is of a general nature and is not a substitute for independent professional advice. Information contained in this publication is for educational purposes only and is not intended as specific legal advice or to be used to diagnose, treat, cure or prevent any disease. Further, the accuracy, currency and completeness of the information available in this publication cannot be guaranteed. The Spinney Press, its affiliates and their respective servants and agents do not accept any liability for any injury, loss or damage incurred by use of or reliance on the information made available via or through its publications, whether arising from negligence or otherwise.

This e-book is subject to the terms and conditions of a non-exclusive and non-transferable SITE LICENCE AGREEMENT between THE SPINNEY PRESS and: Trinity College, East Perth, library@trinity.wa.edu.au