

The Gawler Foundation

PO Box 77, Yarra Junction VIC 3797
Ph 03 59671730

16 March 2005

The Secretary
Senate Community Affairs References Committee
Suite S1 59
Parliament House
Canberra ACT 2600

THE GAWLER FOUNDATION'S SUBMISSION FOR THE INQUIRY INTO SERVICES AND TREATMENT OPTIONS FOR PERSONS WITH CANCER

Table of Contents

	Page No
1. Introduction	2
2. Background material and context	3
i) The aims of cancer treatment and management (We understand that prevention is not within the Enquiry's charter)	4
ii) Definition of key terms	4
iii) The current status of Integrative and Complementary Medicine in relation to Australian cancer services and options	6
iv) The importance of evidence—evaluating the options available to people affected by cancer	7
v) The Gawler Foundation's cancer services—a short history and current summary offered as an example of a pre eminent and long standing integrated, multi disciplinary approach	9
vi) Relevant research—a summary of key evidence	13
3. Addressing the terms of enquiry—an essentialised response	28
4. Recommendations—a summary relevant to the enquiry's terms	37
5. Executive summary	39
6. Acknowledgements and contributor's details	43
7. References. (The relevant literature is vast. We have aimed to essentialise and have included key references that support the thrust of The Foundation's submission.)	44

1. INTRODUCTION

The Gawler Foundation (TGF) is one of oldest organizations in Australia whose specific charter focuses upon the needs, health and wellbeing of people affected by cancer.

TGF is a pre eminent body in the integrated management of cancer, having started Australia's first active cancer self help group in 1981. Since inception The Foundation has worked within a multidisciplinary context, being both a pioneer and ongoing innovator in this field.

TGF established and continues to develop close ties with medical staff and bodies as well as with allied health professionals. A number of doctors, including 2 professors regularly lead sessions in our programs.

TGF's wider charter focuses upon its commitment to improving the health, body, emotion, mind and spirit of the Australian community. The Foundation also aims to cater for our wider region, specifically New Zealand and South East Asia.

In reality, the burden of cancer on the Australian community is high and rising.

Therefore, as a patient focused, community based organization, TGF welcomes the opportunity to make a submission to this Senate Enquiry.

The wish of The Foundation and its constituents is that this enquiry actually does make a difference.

Cancer services in Australia are certainly at a rather poignant point in their ongoing development.

It is not so long ago that the medical management of cancer seemed to focus on the mechanical model. Patients were treated first and foremost on a physical level; the emotions, mind, psychosocial and spiritual aspects of the patients, family and even health professionals were sadly neglected.

The pressure for changes to this model have been gathering momentum rapidly in recent years. These changes have been driven by the public and many patients we serve feel that the authorities, both medical and governmental, have been responding slowly at best and often actively resisting a more integrated, multidisciplinary approach.

The Senate Enquiry has the potential to play a major part in progressing a more comprehensive, and in our view, more satisfactory cancer management model. TGF's hope is that this will close something of the perceived gap between the medical system and the people they aim to help, and lead to an approach that serves everyone well.

What follows is TGF's written submission to the Enquiry. In support of our written submission, we would welcome the opportunity to address the enquiry personally, when as we understand the enquiry will hear submissions in Melbourne.

2. BACKGROUND MATERIAL AND CONTEXT

i) The aims of cancer treatment and management

For the purposes of this discussion paper, the term Integrated Medicine covers a medical paradigm which includes the prevention of illness and the total care of a patient with an illness. Integrated medicine is an inclusive approach which aims to bring together the best of what is available to people affected by cancer.

Integrated Medicine incorporates:

- attention to the mental, emotional, social, spiritual health of a person;
- access to a well coordinated multi disciplinary team of health professionals;
- the humane, efficient and compassionate delivery of healthcare services;
- access to quality information to inform decision-making;
- availability of safe but evidence-based conventional and complementary therapies;
- a quality therapist-patient relationship based on openness, mutual respect and full communication;
- access to quality cancer support programs;
- patient empowerment and involvement in their own management;
- lifestyle and behaviour-change strategies.

Cancer is a disease which affects all levels of a human being: physical, emotional, mental, social and spiritual. As such it demands a therapeutic approach, which is both multidisciplinary and integrated. In TGF's view, a wise and informed patient would approach the management of their cancer with an integrated combination of:

- **primary therapies** designed to remove or destroy the cancer. They would be advised on considering and utilizing relevant conventional, complementary and unconventional therapies
- **supportive therapies** which aim to enhance the function of their metabolic, hormonal and immune systems—designed to restore, as much as possible, healthy functioning to all aspects of the physical body. This would involve consideration of a wide range of complementary therapies.
- **psycho-spiritual therapies**—with a dual aim, firstly to reverse any emotional, psychological or spiritual factors that may inhibit recovery from cancer. Secondly to enhance wellbeing, quality of life and to provide meaning, fulfillment, joy, ease and peace in life, irrespective of the outcome of the disease.

TGF is of the view that Integrated Medicine is the best paradigm for the treatment and management of cancer. The community in general, and cancer patients specifically, are becoming more aware of treating cancer with an integrated approach that embraces all three of the above treatment needs. This integrated approach has been shown by extensive research to make the tumour destructive therapies more potent and more effective than if they are used on their own. Unfortunately, many of the providers and prescribers of the conventional medical tumour destructive therapies still do not inform their patients of the areas of metabolic, hormonal and immune system support and psycho-spiritual support. It is reported to TGF regularly that while more and more doctors do support an integrated approach, some, particularly oncologists, actively discourage people from even examining, let alone utilizing these additional possibilities.

Unfortunately, the approach to cancer, in its philosophy, research and delivery in recent times, has tended to be overly focused on procedural and pharmacological treatments and under-focused on complementary and lifestyle interventions. This has left many patients and their carers under-informed about potentially simple but effective approaches to therapy which they could integrate into their cancer management for the enhancement of their quality of life and survival chances. The origins of this problem may lie in many factors such as some parts of the cancer therapeutic community being under-informed themselves with regard to these complementary and/or holistic therapies, the undue but subtle influence of the pharmaceutical industry, as well as a prejudicial attitude.

Undoubtedly, a balanced and cautious approach needs to be taken to claims regarding cancer treatments especially where the potential for patients to forgo effective cancer treatments and significant financial outlay are concerned. The best available evidence needs to guide cancer care and patients need to appreciate that the most effective approach to cancer will involve incorporating non-medical therapies with the medical.

ii) **Definition of key terms**

The definition of key terms as they apply to cancer medicine has been the subject of some debate. There are many terms that are used to describe this area and there is a pressing need for agreement on what these terms actually mean. TGF, with particular thanks to Dr Vicki Kotsirilos' for input into this section, and sections 2 iii) & 2 iv), offers the following:

As defined by the NCCAM¹, **complementary and alternative medicine (CAM)** is a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine.

The diversity of these therapies makes them difficult to categorise as a group, yet they are often collectively referred to as 'complementary', 'alternative', 'integrative', 'unorthodox', 'unconventional', 'natural', 'traditional' and 'holistic' medicine, and are contrasted with 'conventional', 'mainstream', 'orthodox', 'conventional' and 'scientific' medicine.

To help clarify some of these terms, the NCCAM best describes them as:

1. **Complementary medicine or therapy** is used together with conventional medicine.

Another interpretation is a medicine or therapy that is used in "addition" to mainstream medicine or "**complements**" health or specific therapies or treatment.

2. The term **Alternative** medicine is used in place of conventional medicine.
3. **Integrative medicine** combines mainstream medical therapies and complementary and alternative therapies for which there is some high-quality scientific evidence of safety and effectiveness.

Using these definitions, integrative medicine can be understood as an umbrella term which includes current Western orthodox and complementary medicine. Alternative medicine is posed as a choice to integrative medicine. This may be a well founded, **proven alternative therapy** such as whether to use Western medicine or traditional Chinese medicine to treat a specific condition (where two quite different approaches are established as having good results) via different and therefore alternative methodologies; or an **unproven alternative therapy** such as using wing of bat to treat primary cancer!

It would seem that concern for the inappropriate use of unproven alternative therapies has coloured and antagonised the view of some mainstream practitioners to many aspects of complementary medicine, generally, there being a lack of discrimination between reasonable and unreasonable alternative therapies and other non orthodox interventions.

The other terms can best be described as:

Natural medicine or therapies -substances or therapies which work with the natural processes of the body by restoring or correcting organic functions in humans; or modifying organic functions in humans, such as modifying those functions in a manner that maintains or promotes health. They generally support the body's healing mechanisms, rather than take over the body's processes.

Traditional medicine or therapies—well documented or otherwise established medicine or therapies, according to the accumulated experience of many traditional health-care practitioners over an extended period of time². The Therapeutic Goods Administration specifically define traditional medicines as

“Traditional use refers to documentary evidence that a substance has been used over three or more generations of recorded use for a specific health related or medicinal purpose”.

Traditional therapies include Traditional Chinese Medicine, traditional Ayurvedic medicine, western herbal medicine, homoeopathic medicine, Indigenous medicines and aromatherapy.

Holistic medicine &/or therapies—combine complementary and conventional approaches that supports the physical, social, psychological, emotional and spiritual well-being to help achieve optimal health. The holistic or health model looks at maximising or supporting all aspects of a person's health that may lead to the disease being healed by the body. Health promoting and lifestyle advice, such as, advice in dietary changes, stress management, exercise and the environment are integral to holistic medicine.

The holistic model is traced back to the Hippocratic school of medicine (circa 400 BC)³. They viewed disease as an effect and looked for its cause in such natural phenomena as air, water, and food. They first used the term *vis medicatrix naturae*, meaning the healing power of nature, to denote the body's ability and drive to heal itself.

Orthodox or conventional medicine &/or therapies generally describes medical interventions that are taught at medical schools, are generally provided at hospitals and meet the requirement of peer accepted mainstream medicine and standard of care.

Unorthodox or unconventional medicine &/or therapies generally describes medical interventions that are not taught at medical schools, not generally provided at hospitals and are outside of peer accepted mainstream medicine and standard of care.

According to the NCCAM, examples of complementary medicine or therapies can be grouped as:

1. Alternative Medical Systems: include naturopathy, Traditional Chinese Medicine, Ayurveda and homoeopathy.

2. Mind-Body Interventions: include patient support groups, cognitive-behavioural therapy, meditation, prayer, mental healing, and therapies that use creative outlets such as art, music, or dance.

3. Biologically Based Therapies: include herbs, foods, vitamins, minerals, and dietary supplements.

4. Manipulative and Body-Based Methods: include therapeutic massage, chiropractic, and osteopathy.

5. Energy Therapies: include acupuncture, therapeutic touch, reiki, qi gong, therapeutic touch, electromagnetic fields, magnetic fields.

iii) The current status of integrative and complementary medicine in relation to Australian cancer services and options

A South Australian Survey⁴ in 2000, estimated that approximately 52% of the Australian population used complementary medicines and 23% consulted practitioners of complementary medicine. This represents an estimated out of pocket spending of \$2.3 billion which is a 62% increase since 1993 and four times the out of pocket spending on pharmaceutical drugs.

“Complementary Medicine” (CM) contains a large and diverse group of modalities which often have widely varying origins, philosophies and evidence-bases. In some ways it can be unhelpful to lump all these together. This section will not attempt to summarise current evidence of the use of individual CM modalities with cancer but will make some more general statements which might help to provide a context for the exploration and application of CM in cancer care. The specific research evidence is presented in section 2 vi).

CM is often synonymous with “natural medicine,” because it relies more upon an ethos of “working with nature” and using naturally occurring products. These modalities include mind-body medicine, meditation and relaxation therapies, herbal medicine, nutritional and environmental medicine, homoeopathy, chiropractic and osteopathy, acupuncture, Traditional Chinese Medicine (TCM), Ayurveda and many others. As discussed under “definitions” trying to define what constitutes “orthodox” or “conventional” medicine is just as challenging as trying to determine what is CM; but definitions of “evidence-based” versus “not evidence-based” often break down because many evidence-based CMs are not widely used by doctors and many treatments commonly used by doctors are not supported by a convincing evidence-base as can be illustrated by widely used treatments for prostate disease, hypertension or breast cancer which are outside guidelines.^{5 6 7}

Modern medicine cannot afford to ignore the presence of CM or deny that the general public are becoming increasingly interested in it. The public may be aware of new scientific research but more often the evidence they regard first and foremost is their own experience; “does it work for me or not?”

Patients who choose CM are more likely to be better educated, wealthier, younger and female. In the US it has been demonstrated that 64% of medical courses have content on CM.⁸ In Australia, at Monash University for example, it is core curriculum in the year of the medical course and is integrated with case learning, evidence-based medicine and biomedical sciences.

What are the reasons that the public are turning to CM? One study concluded that most patients are not wanting to reject conventional medicine but do not feel that conventional healthcare is sufficient to meet their diverse needs.⁹ People wanted to explore CM because conventional care had not been effective, there were unwanted side-effects, they had had a

‘transformational experience’, or that they had a ‘natural’ or ‘holistic’ philosophy and cultural perspective.

Gathering evidence is suggesting, as many patients report to their clinicians, that an increasing number of CM approaches can provide significant symptomatic relief.¹⁰ There is a relative paucity of research on most CM modalities to be able to say anything about their effects on survival although many patients perceive that CM will or does help with survival.¹¹

There is an urgent need to perform more research in CM and the management of cancer to help identify potentially effective new treatments, to help alleviate symptoms, to assist with informing treatment decisions and to help protect patients and doctors from expensive and possibly harmful treatments and unrealistic expectations.

iv) The importance of evidence—evaluating the options available to people affected by cancer

Evidence based medicine is a common key term that has been described in the British Medical Journal as

“the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research. By individual clinical expertise we mean the proficiency and judgment that individual clinicians acquire through clinical experience and clinical practice”.

This definition emphasizes that whilst scientific evidence is important in clinical judgment, clinical experience and expertise also plays a major role in the care and choice of treatment for a patient.

However, in practice, many cancer patients report that the different emphasis given by different practitioners to the validity of human experience as compared to scientific research, creates confusion and distress in the patients, their families and friends. Specifically, many specialists appear to devalue experience and overly emphasise clinical research. CM often is not supported by research, or where there is research it may be unknown to the specialist, as it is not featured in the journals that they do read or are interested in. Many patients have heard of positive CM results or have had their own positive results. If CM is then decried, this often creates a perceived gulf between the medical system and the public. This leads to many patients feeling they need to keep “secrets” and not tell their doctors of the full range of what they are utilizing. This has the potential for unsatisfactory risk. This gulf often centres on a perceived variance in terms of what practical human experience has to offer someone affected by cancer, compared with medically validated research. There is a common perception that these two ways of evaluating and validating treatment and management options are different and at loggerheads.

In part, this is compounded by many doctors believing that evidence based medicine relies entirely on scientific research. Many are unaware that accumulated experience is valued by definition and in fact. This is a challenge even when there are good guidelines as to levels of evidence.

Since 1999, the National and Health Medical Research Council (NHMRC) have created useful guidelines to identify the varying levels of scientific evidence using a scale from I-IV.

These guidelines help to identify which medicines or therapies carry greater weight in research, with Level I considered as superior research to the least Level IV.

NHMRC Levels of Evidence

- Level I Evidence obtained from a systematic review of all relevant randomized-controlled trials (includes Cochrane reviews, and other systematic reviews and meta-analyses)
- Level II Evidence obtained from at least one properly designed randomized-controlled trial
- Level III Evidence obtained from well designed controlled trials without randomization; or from well designed cohort or case controlled analytic studies preferably from more than one centre or research group; or from multiple time series with or without intervention
- Level IV Evidence obtained from case series, either post-test or pre-test and post-test

A world-wide network of researchers called the Cochrane Collaboration, prepare, disseminate and continuously update systematic reviews of randomized clinical trials in all areas of health care. A complementary medicine field is now set up and is bringing together evidence for complementary medicine. This involves a conjoint effort of many people and centres throughout the world.

To date, there is a growing body of clinical studies ranging from Level I-IV scientific evidence (NHMRC guidelines) for complementary medicines. These can be accessed through the Cochrane library, verifying the use of stress management techniques (such as meditation), mind body medicine techniques (such as counselling, hypnosis), dietary modification, nutrient supplementation, and manipulative therapy. A reasonable extensive summary of relevant Integrative Medicine research is featured in Part 7 of this submission.

Evidence based medicine encourages doctors to look for well structured, randomised placebo-controlled prospective studies (Level II evidence) and systematic reviews of such studies (Level I evidence) to support clinical practice, but as yet there are few of these for the majority of CMs.

Also, it is necessary to appreciate that "Outcome studies" are more appropriate for holistic models of health, such as, Traditional Chinese Medicine and traditional Ayurvedic medicine, where a more individualised and holistic approach to treatment occurs. Randomised control trials are not suitable and very little good quality research exists for these therapies. Whilst some solid evidence, including systematic reviews and randomised control trials currently exists for herbal, acupuncture and nutritional medicine, TGF welcomes more research in these fields.

Funding for research into CM is a problem as often the medicines and therapies cannot be patented and so there is a limit in the amount of profits that can be made. However, no research for a particular complementary medicine or therapy does not mean it does not work. It may mean that it is difficult to test using the current guidelines for scientific evidence such as a randomised control trial and also, to date, may not have yet been tested. Until the appropriate research is done, only then can we confidently say whether it does or does not work. Furthermore, the resources for promoting and disseminating existing knowledge in complementary medicine is minimal compared with those used to promote pharmaceutical medication, such as employing representatives. It is TGF's view that many doctors engaged in cancer medicine are unaware of what is in fact a vast array of research supporting the integrative approach in general and CM in particular (see 2 vi & Part 7—Research).

Considering the widespread use of CM, especially amongst people affected by cancer, there is an urgent need for funding from the Government, NHMRC and industry to help support research to assess safety and efficacy of their use, and dissemination of knowledge of research in CM to the wider public and medical profession.

TGF is committed to raising funds to build on its own internal research projects, as well as becoming a funding source for researchers engaged in Integrative Medicine. TGF will seek support for this research from Government, Industry and the wider community.

v) **The Gawler Foundation’s cancer services—a short history and current summary offered as an example of pre eminent and long standing integrated, multi disciplinary approach**

a) *Brief history*

1975 – Therapeutic Director Dr Ian Gawler, a young veterinarian, developed bone cancer and had his right leg amputated. Later that year the cancer returned with widespread metastases. Ian developed and followed an effective self-help program with key principles—good food, positive attitudes, meditation and loving support. Despite an initial medical prognosis of just a few months, Ian completed a remarkable recovery in 1978.

1981 – Based upon Ian’s remarkable recovery, Australia’s first active Cancer Support Group was established. Dr Gawler developed a 12 week program based upon an integrated approach. Once a week participants gathered to share their experiences and to learn how to increase their chances of survival from cancer and to develop and sustain peace of mind.

1983 – The Gawler Foundation (TGF) was established as a non-profit, non-denominational, charitable organization to further Ian Gawler’s work. Over the years, TGF has blossomed into a dynamic, thriving and leading life-force in health, healing and well-being. Over 12,000 people have used the cancer support services directly, and more than 75,000 people have attended healthy lifestyle, disease prevention and meditation programs conducted by Ian Gawler and The Foundation.

1984 – Dr Gawler’s first book “*You Can Conquer Cancer*” was published. It has been revised and remains in print as a well established classic. Dr Gawler has written three other books and edited seven.

– TGF’s first Annual Conference “Cancer Options”—a Melbourne landmark event in presenting the multi disciplinary, integrated approach to cancer.

1985 – TGF’s first residential program offered to people affected by cancer.

1988 – Dr Gawler conducts the first of regular trainings for people and groups seeking to lead active cancer self-help programs.

1991 – TGF’s Melbourne Centre was closed to concentrate on developing the residential programs and Centre.

1991-92 – In two stages, TGF’s Yarra Valley residential centre is opened and can now accommodate 38 people.

1995 – Groups recommenced in Melbourne, using rental premises, which continues currently. A capital appeal is proposed for 2005 to raise funds for a designated Melbourne Centre.

1995-99 – TGF with Dr Gawler convenes the “Mind, Immunity & Health” Conferences—the first conferences in Australia addressing the learning needs of multi disciplinary health professionals engaged in Integrative Medicine.

This Conference continues as “The Holistic Health Conference” now convened by The Australasian Integrative Medical Association (AIMA).

2002 – TGF’s programs expand to include programs for people living with MS, lead by Prof George Jellinek, Professor of Emergency Medicine in WA and author of “*Taking Control of MS*”.

2004 – TGF combines with Monash Medical School, Swinburne University and RMIT to present the “Wellness Conference” for doctors and other health practitioners.

– 6000th person attends the residential cancer program at Yarra Junction.

b) *Development of the cancer program—challenges, obstacles and successes*

To put this submission into some context, TGF’s active support groups began in 1981. The groups had two specific aims—to enhance quality of life and to extend survival times. In 1981 the notion that a support group could lead to extended cancer survival times was innovative to say the least, some preferred to describe it as radical!

The groups worked with three main principles:

1. **Keep hope alive** – and develop strategies to make hope realistic
2. **Provide access to informed choice** – help participants to discriminate, make suitable, personally effective choices and to provide active support to help these people carry through in their choices
3. **Experience inner peace** – TGF has always had a strong focus upon spiritual values including finding meaning and purpose in life. Participants are introduced to the very real possibility of finding their own inner peace which is independent of their external circumstances, and are supported in learning and practising techniques (eg meditation) which reliably lead to this state.

What is relevant to the practice/theory discussion is that the 1981 groups were largely based upon experience—primarily that of TGF’s founder, Dr Ian Gawler, and what he learnt in recovering from widespread secondary osteogenic sarcoma (bone cancer). Of course his learning involved the direct experiences of a cancer patient who tried virtually every modality of the day in his attempt to recover. As a young veterinarian, he had a medically/scientifically based training that assisted reading across a variety of disciplines and evaluating the efficacy of what was on offer. His clear commitment was to what worked. His own health was the bench mark. In the first instance his health was so fragile that the impact of trying different modalities was rapidly evident.

Having recovered, Dr Gawler’s impulse was to share what had led to his own remarkable recovery—particularly the benefit of complementary approaches. Over the years, upon

internal research and clinical experience, it is clear that there are five major modalities that help most people most reliably.

The five major self help and support modalities are:
nutrition, a positive state of mind (which includes positive thinking & healthy emotions), psycho social support, meditation and spirituality.

Many people responded to the offer of hope and the groups that begun in 1981 were well attended. Soon a collective experience began to gather. In 1984 Dr Gawler published the first edition of his book “*You Can Conquer Cancer*” which set out the program.

As this work became better known, there was a mixed medical response. Some enthusiasm, some neutrality, some real opposition. Not unlike when AA first began.

However, many patients felt this approach was plain common sense. Further when they tried the recommendations; changed their diet, learnt positive thinking skills, developed healthy emotions and good communication skills, practised meditation, etc; firstly they felt better and many reported responding physically. There have been many remarkable recoveries comparable to that of Dr Gawler.

Importantly most of these remarkable recoveries have been based on utilizing an integrated approach. Using the best of what is available. This is surely what good medicine has always been and will continue to be. Perhaps this focus was just lost for a while amidst the excitement of the possibility of a “magic bullet” treatment of complex problems. Antibiotics were so dramatic in countering the scourge of infection that the appeal of a simple drug that treats cancer has great allure and offers great financial reward to any drug company that finds it. Unfortunately most in the medical community doubt that this simple cure is possible.¹² Most are of the view that an integrated approach offers the best prospects.

TGF has been providing a fully integrated approach for 24 years and welcomes the opportunity to continue to share what it has learnt.

More complete details of the range of services and programs are available on The Gawler Foundation’s website www.gawler.org.

c) *The Gawler Foundation’s strategy*

Vision

TGF has as its vision – *Profound Healing – Sustainable Wellbeing.*

Mission

TGF is committed to an integrated approach to health, healing and wellbeing that includes the body, emotions, mind and spirit. We call this integrative medicine.

What we believe in

- We believe that every person is worthy of great respect.
- We believe that while in our hearts each person has the same pure essence, each person does need to be treated as a unique individual.
- While we respect all valid forms of external treatment, we believe that true healing comes from within.
- Our deepest aspiration is to support each individual to seek his or her own inner truth, to realise it and to live by it.

- As pioneers, innovators and recognised world leaders in mind/body medicine and self-help techniques, we can make a major contribution to health, healing and wellbeing throughout the community.
- This is a cooperative venture. While we do have doctors on our staff, we do not function as a medical facility. We have worked for over 20 years in the integrated medical model, concentrating our efforts upon the individual's role in the healing equation.

Aims

Through our team of staff, trained volunteers and members we will achieve our mission by:

- Enhancing quality of life through strategies to prevent, reduce and manage cancer, MS and other serious conditions.
- Raising awareness of the growing burden of cancer, MS and other serious conditions on the community.
- Promoting and influencing health behaviour which prevents and improves cancer health through programs targeted to health professionals, all people affected with cancer, MS and other serious conditions and those at risk in the community generally.
- Advancing understanding of integrated health through promoting, sponsoring and funding research to improve prevention, management and treatment.

Philosophy and values

TGF believes that the best way to improve cancer, MS and other serious health conditions for all Australians is to work within an integrated social model of health. Giving particular emphasis to teaching self help techniques and supporting people as they implement them. As a health leader, our prevention and wellness programs are in accord with the guiding principles of public health which recognises that “*Public health is the art and science of preventing illness and promoting health through the organised efforts of society*”.

Furthermore, our services and programs are developed, planned and evaluated around the following six areas which demonstrates our position as a public health leader:

- Intervention strategies
- Policy and advocacy
- Research and evaluation
- Building partnerships and coalitions
- Professional education and workforce development
- Infrastructure development

The challenges of the future require TGF to be a responsive and flexible health leader, which ensures that individuals have equity of access, for specific target populations, offers high quality services and programs which are supported, where possible, by academic and scientific developments in this area.

Underpinning our vision and philosophy are five key values:

Health promotion and prevention of disease

TGF values increasing the understanding of individuals, organisations and communities to assist them to achieve, maintain or improve their physical, mental, emotional and spiritual health and work towards the management and prevention of cancer, MS and other serious conditions.

Autonomy and self management

TGF values empowering people to manage their own health and enhance their quality of life.

Access and Equity

TGF values the development of active and effective representation and services for people who are experiencing particular disadvantage.

Leadership

TGF values being a responsive, progressive, knowledgeable and independent integrated health promotion organisation.

Partnership

TGF values forging strong partnerships to assist and coordinate efforts to successfully address cancer, MS and other serious health issues.

Stewardship

TGF values acting with integrity, protecting TGF's reputation and managing with the highest standards of financial responsibility to meet TGF's long term priorities.

Complementing our values are four key principles:

1. Commitment to learning, innovation and open mindedness
2. Ensuring continuous quality improvement
3. Supporting research based in science and social science to inform practice and policy
4. Commitment to cooperation and respect for those we work with.

vi) Relevant research—a summary of key evidence

This section brings together selected, recent research that supports Integrative Medicine and Complementary therapies. It will appeal to those who like “the evidence”. While fully documented and based upon research published in medical and scientific journals, it is readily accessible to the lay person. However, it is lengthy—perhaps in response to those who believe there is no evidence to support these approaches. Gratitude is expressed for the major contribution from Dr Craig Hassed and for the sections from Prof George Jelinek and Prof Ray Kearney.

a) TGF's residential cancer program—recent research findings

This research, funded by Veteran Affairs through Swinburne University's Post Graduate School of Integrative Medicine, has been studying the effects of psychosocial support on the psychological and physical wellbeing of a heterogeneous group of cancer patients. These Preliminary results, as summarised below, were published in *Psycho-Oncology*¹³. Final results have affirmed the preliminary findings and are being prepared for publication.

Summary of the Preliminary findings

Psychosocial treatment programs for cancer patients range from traditional approaches offered by mainstream medical institutions to less orthodox approaches. The Gawler Foundation in Melbourne, Australia provides active cancer support programs designed to improve quality of life and if possible, to impact on length of life. The programs are complementary to mainstream medical treatment and focus on relaxation and meditation, a low-fat vegetarian diet, positive thinking and drawing on effective support.

In this paper we report preliminary findings on the efficacy of The Gawler Foundation programs. The results show a significant reduction in Profile of Mood States (POMS) total mood disturbance, tension-anxiety, depression-dejection, anger-

hostility, fatigue and confusion-bewilderment scores and an increase in vigor score (all $p < 0.01$). Total scores on the Functional Assessment of Chronic Illness Therapy—Spirituality (FACIT-Sp) scale were significantly increased as were scores on the physical, emotional, functional and spiritual subscales (all $p < 0.01$). Salivary cortisol levels were significantly decreased ($p < 0.05$).

These results suggest that the 10-day residential program run by The Gawler Foundation has beneficial effects on mood, mental adjustment to cancer, quality of life and salivary cortisol levels in cancer patients. This is a preliminary report of results from an on-going, controlled, prospective study.

In conclusion, this preliminary data provides support for the effectiveness of this psychosocial treatment program in a heterogeneous group of cancer patients.

b) *Mind-Body and cancer*

There has been much debate over the years about the role of psychosocial factors in the etiology and progression of cancer and whether psychosocial interventions have a role in improving quality of life and/or survival time. A number of studies have suggested a link between them and some of the mechanisms explaining such a link will be discussed later.

Poor coping, distress and depression have been linked to poor survival for a number of cancers including lung cancer¹⁴, breast cancer¹⁵, malignant melanoma¹⁶, and bowel cancer among others. Depression, even when controlled for other cancer risk factors, seems to be associated with a near doubling of cancer risk in elderly persons.¹⁷ Some studies have not thrown doubt upon the link of cancer with psychosocial factors.¹⁸ Poor global quality of life has also been linked to survival for a variety of cancers.^{19 20 21} One study, as an example, showed that a number of factors including the perceived aim of treatment, minimisation, quality of life and anger all influenced survival.²² Interestingly, patients who were married also lived longer, confirming findings from other studies that supportive relationships have a profound effect upon a range of health variables. It would be true to say that most, but not all, studies have confirmed a relationship between psychological factors and cancer but there are many research methodological issues which still need to be resolved.

c) *Psychosocial intervention for cancer*

If psychosocial factors are important in the etiology and prognosis of cancer then the question which most often raises itself is whether psychosocial interventions such as group support, relaxation and meditation, CBT etc will produce better prognosis. That a well run support group improves quality of life is clear but there are very few completed controlled trials examining psychological interventions and survival for cancer patients. It should be noted that not all support groups are associated with improved quality of life or mental health which may be because of less skilful facilitation, undertaking ineffective strategies and possibly omission of core elements such as meditation or relaxation techniques. Those survival trials which have been done have tended to show a significant improvement in both quality of life and survival time but one must elucidate why others have not.

The most noted and first major study of its type was done by Professor David Spiegel. He studied women with metastatic breast cancer and showed an average doubling of survival time from 18.9 months to 36.6 months from the time of entry into the study for women who had a support group provided as a part of their management. The intervention also included some simple relaxation and self-hypnosis techniques plus the usual medical management.²³ Ten years after the study three women in the intervention group were still alive but none in the control group who had the usual medical management alone. Importantly, divergence between the survival curves of the two groups did not take place until some 20 months after entry into the trial.

A more comprehensive trial was performed by Professor Fawzy with sixty-eight patients with early stage malignant melanoma.²⁴ They were divided into two groups; one receiving a stress management intervention plus usual medical care and the other only receiving usual medical care. At six-year follow-up those who had usual care plus stress management showed a halving of recurrence (7/34 vs. 13/34) and much lower death rate (3/34 vs. 10/34; $p=0.03$) than the group with only the usual surgical management. The intervention was only six weeks of stress management early after the diagnosis and surgery. Both groups also had their immune function monitored which showed that after being originally comparable the stress management group had significantly better immune function six months into the study. We know that melanoma is one of the tumours aggressively attacked by the NK cells of the immune system. It seems likely that the immune cells were identifying and destroying melanoma cells which might have seeded themselves around the body before they could form significant metastatic disease. This probably contributed to a major difference in survival rates.

It would seem that both the Spiegel and Fawzy studies suggest a lag-time between the intervention and improving clinical outcomes. Ten year follow-up on the Fawzy program has still shown a positive effect although this effect has weakened a little over time possibly because maintenance of the strategies may have lessened.²⁵ With the relatively little amount of research in the field we do not know if, by analogy, the 'dose-response' is not similar to immunization in that 'boosters' may be required to maintain the therapeutic effect. It seems more than a little strange that considering these findings that a similar support program based upon Fawzy's is not suggested as a part of standard management for melanoma patients. One could easily envisage that if a technological or pharmacological intervention had shown even a fraction of the improvement in outcome it would have been hailed as a major breakthrough in the management of melanoma and have been widely promoted by the oncologist community.

Other studies, for example with gastrointestinal malignancies, have also yielded promising results in terms of longer survival for liver,²⁶ gastrointestinal malignancies,²⁷ lymphoma²⁸ but others have shown equivocal or negative results.^{29 30 31 32 33} The last of these trials was a large-scale attempt to replicate the findings of David Spiegel some years before. The results of this trial were negative despite the fact that the effects of the intervention had a positive effect on quality of life and mental health.

Of the five negative or equivocal trials mentioned above only two have shown a positive effect on mental health and quality of life but no significant positive effect on survival. Of those that showed a positive effect on survival they all showed improved mental health and quality of life as a result of the intervention. Therefore, the trend seems to be similar to the findings in heart disease; where the psychosocial intervention has marginal or no long-term benefit on mood or quality of life it does not seem to

translate into longer survival. But where a psychosocial intervention, like a support group, does produce significant quality of life and mental health benefits it has the 'side-effect' of prolonging survival. Eight out of ten cancer studies have followed this rule.

So not all psychosocial interventions or support groups are equal. Effective programs have skilled, committed and empathic facilitators, sound theoretical underpinnings, provide self-help strategies like meditation or relaxation therapies, are informative and educative, often have humour, and build supportive relationships among the group members.

It is important to note here that TGF's programs meet all these criteria. Also the ongoing Swinburne study clearly demonstrates TGF's residential program has a major, positive impact on quality of life and mental health. It is a reasonable extrapolation therefore, to propose that TGF's programs do extend survival times—a proposition that is in accord with TGF's 24 years of accumulated experience. TGF believes that on average a doubling of conventional life expectancy is a reasonable expectation when cancer patients commit to its integrative approach. On top of this, it is clear that some people will go on to have what is well described as a remarkable recovery, eg an unexpected and dramatic extension of life, even a full cure^{34 35 36}

Although there are some further trials coming out there are still questions left open in the area of psychosocial support and cancer survival. Such questions can only be answered by judicious and insightful research.³⁷ Unfortunately, funding for these sorts of trials is difficult to attract from mainstream funding bodies.

Key psychosocial questions enquiring urgent research are:

- Does psychosocial support work in terms of improved survival and if so why do some studies show the positive results and not others?
- Does it help all forms of cancer or only some such as those against which a more vigorous immune response is mounted like melanoma?
- Does it help all patients or only those who really need it or only those who comply with the program's objectives which is what Ornish found for heart disease?
- Are positive findings only found with the best targeted and run programs?
- What should a doctor tell their patients on the basis of the presently available data?
- What are the effects of a cancer patient's doctors undermining their legitimate desire to engage in their management and self-help strategies?

It would seem that it is not just being in a program which is protective, but the level to which the person participates or lives by it. This was demonstrated by one of the studies which did not find significantly longer survival overall but did find that high involvement in the program was associated with better survival.³⁸ It is not just doing a program but also compliance which is important. If studies do not control for this factor they may find ambiguous results.

Also important is the fact that different interventions use different styles of group support, meditation etc. Those which use the most validated forms of meditation and also foster positive emotional responses including humour and hope, for example, are far more likely to be successful. Not all interventions are equal. A lot of work needs to take place in determining what sort of interventions work and what is the best way of

administering them, either by residential programs, regular support groups or in some other way. Programs attempting to deal with psychological factors need to take into account that personality traits and coping styles such as ‘helplessness’³⁹ and ‘optimism’⁴⁰ are probably both inherited and conditioned.

d) *Biological mechanisms linking mind and cancer*

The potential mechanisms for longer survival in those with better mental health and social support and less stress will now be briefly discussed. In summary mechanisms largely fall into a number of categories.

1. Via the HPA axis, cortisol and other stress hormones
2. Genetic mutation and expression
3. The suppression of immune cells (NK cells) leading to reduced host defences
4. Induction of protective ‘anti-cancer’ hormones such as melatonin
5. Angiogenesis; i.e. the ability of cancers to make their own blood supply
6. Better compliance with treatment
7. Improved lifestyle (e.g. exercise, nutrition)
8. Others?

The stress response, via networks such as the hypothalamic-pituitary axis (HPA), has many far-reaching physiological effects. These mechanisms, built into the physiology to protect life, can be harmful if switched on inappropriately over a prolonged period. Recent research has demonstrated that poor social support, chronic stress and depression are associated with higher cortisol levels and a flattening of the natural diurnal rhythm.^{41 42} In women with breast cancer these studies suggest that this ‘stress pattern’ is highly predictive of poor survival up to seven years later. These patterns of cortisol secretion were also associated with low counts and suppressed activity of NK cells. Interestingly, studies on mindfulness meditation for stress reduction in cancer patients have shown improvements in quality of life which were associated with decreases in afternoon cortisol levels, but not with morning or evening levels indicating a restoration of the natural diurnal rhythm. Approximately 40% of the patient sample demonstrated abnormal cortisol secretion patterns both pre- and post-intervention, but within that group patterns shifted from "inverted-V-shaped" patterns towards more healthy "V-shaped" patterns of secretion.⁴³

It is well known that chronic stress produces immuno-suppression and/or inefficient immune function.⁴⁴ It has commonly been thought, however, that the body’s main defense against cancer is a tumour ‘rejection’ response mediated through the NK-cells of the immune system. The original hypothesis was that immuno-enhancement through better stress managing potentiated this effect. This mechanism may well explain some of the beneficial effects of improved mental health for some tumours but not all. In some cases, like malignant melanoma, the immune system has been shown to recognise and aggressively attack the tumour but it has also been noted that many other tumours, such as bowel cancer, do not always wear their antigens on their surface and therefore the immune system cannot recognise them.⁴⁵

Other potential mechanisms whereby stress can aggravate cancer include the chemical mediators of the stress response which can stimulate tumour growth, almost like a ‘fertiliser’. These mediators or ‘stress hormones’ which are secreted to help the body repair itself when it has met a major threat are often chronically and inappropriately secreted in high amounts for people who deal with stress poorly. Some of these mediators can also suppress cancer or even induce apoptosis (cell

suicide). Many stress mediators facilitate wound healing (which requires rapid cell replication) but when induced inappropriately they move around the body and can act on already rapidly replicating cells, like cancer cells, and accelerate their multiplication. Even the physiological stress associated with surgery has been shown to increase the growth of tumour metastases at distant sites via these hormones.⁴⁶ Therefore it is being increasingly postulated that our approach to cancer has focused far too much on the cell types and has ignored the body's signaling and regulating mechanisms which can help or hinder cancer depending on how they are used.⁴⁷ Reducing stress hormones (such as cytokines, mitogens, PAF and PDGF)⁴⁸ and inducing hormones associated with well-being and relaxation (such as melatonin) may be part of the reason why stress reduction and psychosocial interventions help cancer survival.⁴⁹

Immune mediators like TNF-alpha can kill tumour cells and have anti-tumour effects. It has been demonstrated that many tumours are held 'dormant' by a balance between cell division, cell death and the body's defenses.⁵⁰ Upsetting this balance may explain why it has been consistently noted that the occurrence and recurrence of cancer often follow recent traumatic events that the person did not deal with well.⁵¹ In this case it would be more accurate to say that the stress is a contributing or precipitating factor rather than a cause of the cancer.

Again, psychological interventions which modify the stress response, like meditation, also modulate immunity. A trial on the effects on brain and immune function of an 8-week training program in mindfulness demonstrated significant increases in left-sided anterior (prefrontal) activation (associated with positive mood) and associated significant improvements in immunity.⁵² Specifically in cancer patients, mindfulness was found to produce significant improvements in overall quality of life, symptoms of stress, and sleep quality. There were changes on a range of 'stress hormones' consistent with a shift in immune profile from one associated with depressive symptoms to a more normal profile.⁵³ These findings are further supported by other studies showing a powerful induction of the relaxation response and effects on various parameters like Sympathetic Nervous System reactivity, cerebral activity, anxiety and depression with corresponding changes in TNF alpha, melatonin and other immune modulators, inflammatory markers and NK cell activity. The enormous therapeutic potential is still largely untapped and underused in therapy.^{54 55}

One particular immune mediator which is generating a lot of interest is melatonin. Melatonin, apart from having significant immuno-modulatory⁵⁷ and anti-aging effects,⁵⁸ has a number of anti-tumour effects. It is anti-proliferative, an intra-nuclear down-regulator of cancer gene expression, and an inhibitor of the release and activity of growth factors for cancer.^{59 60} Because of the biological activity of melatonin, these studies also have a number of implications for cancer therapies.⁶¹ Melatonin stimulated endogenously, such as through lifestyle and behavioural approaches in the table below, has many beneficial effects. At the much higher pharmacological doses, such as with the overuse of supplements, melatonin can actually have very negative effects, such as immuno-suppression. Hence there is a risk when people self-medicate. More is not necessarily better. If one looks at the things which stimulate melatonin endogenously we find many of the interventions which form a part of holistic cancer support programs.

Table 1: The mediation of melatonin ^{62 63 64 65 66}	
<p>Enhanced by:</p> <ul style="list-style-type: none"> • Meditation^{67 68} • Subdued lighting after sunset • Calorie restriction (not eating excess calories) • Exercise • Diet: foods rich in Ca, Mg, B6, tryptophane rich foods (e.g. spirulina seaweed) • Relaxing music 	<p>Inhibited by:</p> <ul style="list-style-type: none"> • Stress • Drugs especially before bed (e.g. caffeine, β-blockers, alcohol, sedatives) • Inactivity • Electromagnetic radiation • Night shift • Jet lag • Excessive calories

The effect of stress on genetic expression has already been mentioned but the evidence is more circumstantial than definitive that stress triggers cancer genes. We do know that we can have genetic dispositions to cancer and that there are protective genes such as ‘cancer suppressor genes.’ It has also been shown that stress impairs repair of genetic mutations, for example, lymphocytes taken from distressed patients had significantly poorer DNA repair than controls.⁶⁹ Stress has been well shown to cause oxidative damage to DNA.

Another major defense the body has against cancer is the ability to switch on apoptosis (cell death). In one series of experiments it was noted that psychological stress affected the ability of immune cells to initiate genetically programmed apoptosis.⁷⁰ This has implications not only for genetics but also for cancer because a switching off of apoptosis is one of the mechanisms behind the unrestricted growth of cancer cells.

Other markers of DNA repair are noted to be suppressed in cancer patients and are potential markers of cancer susceptibility.⁷¹ Thus oxidative stress due to psychological stress and a low intake of antioxidants may both be crucial factors in the evolution and progression of cancer.

In a series of experiments perceived workload, perceived psychological stress and the impossibility of alleviating stress were all associated with DNA damage.^{72 73} Further analysis revealed that personality factors were linked to measures of oxidative DNA damage. High measures of ‘Tension-Anxiety’ particularly for males or ‘Depression-Rejection’ for females were correlated with DNA damage as were low levels of ‘Vigor’.⁷⁴ Even more interesting was the fact that a low level of closeness to parents in childhood and bereavement in the previous three years were also associated with greater DNA damage. The papers therefore hypothesise that perceived workload, ability to alleviate stress, psychological distress, gender, coping style, poor interpersonal relationships and family loss might have implications for the pathogenesis of cancer via genetic mechanisms. There is even evidence in animal studies that oxidative DNA damage can be classically conditioned.⁷⁵ The implications for all these findings are significant but, as yet, barely explored in our programs.

Another area just beginning to be explored involves angiogenesis which is the process of blood vessel formation, a vital process for the growth of tumours. This blood vessel growth is mediated via many chemicals, principally cytokines. One particularly important cytokine (vascular endothelial growth factor - VEGF) was examined in patients with ovarian carcinoma. High levels of this cytokine have been associated with poor prognosis. It has been known that VEGF is also mediated

through sympathetic nervous system activation, a vital part of the stress response, but until recently researchers had not looked for more than a circumstantial link until recently when a study clearly showed that women who reported higher levels of social well being had lower levels of VEGF, a good prognostic sign. ‘Helplessness’ and ‘worthlessness’ were both associated with higher levels of VEGF but, inexplicably, depression was not related to VEGF.⁷⁶ Other studies have also emphasized the importance of other mediators of angiogenesis in tumour progression and found a link with depression.⁷⁷ Much more work needs to be done and as yet it has not been studied to know if these poor prognostic signs can be reversed by psychosocial interventions.

Meditative techniques are finding increasing use in clinical practice for both groups and individuals.⁷⁸ Unlike many pharmacological and surgical treatments, the side-effects tend to be beneficial. Of the various forms of meditation the most researched and used in the contemporary scientific and therapeutic contexts are mindfulness and mantra meditation. It may be that not everything that goes by the name of meditation may as effective as the forms with the longer tradition and research base. As a stress reduction technique mindfulness meditation has also been clearly shown to be powerfully therapeutic including for the medical profession and medical students.⁷⁹

Unfortunately there is not nearly enough literature on stress management for medical students and doctors.⁸⁰ Some of the advantages demonstrated are found in table 2.

Table 2: some conditions found to be responsive to mindfulness therapy

- improved immunologic functioning⁸¹
- reduced anxiety⁸², distress and depression
- increased empathy and spiritual experiences⁸³
- enhanced knowledge of alternative therapies⁸⁴
- improved knowledge about stress⁸⁵
- improved sensitivity towards themselves, their peers and patients and reduced perception of isolation⁸⁶
- greater use of positive coping skills and less use of negative coping skills⁸⁷
- resolution of professional role conflicts⁸⁸
- coping with cancer⁸⁹
- as a treatment for fibromyalgia⁹⁰
- reduction of chronic pain⁹¹
- as an adjunct to the management of eating disorders⁹²

A meta-analysis of empirical studies on mindfulness found therapeutic effects covered a wide spectrum of clinical populations (e.g., pain, cancer, heart disease, depression, and anxiety).⁹³ Other reviews of both controlled and uncontrolled studies showed similar significant therapeutic effects. Although derived from still a relatively small number of studies, these results suggest that mindfulness may help a broad range of individuals to cope with their illness.⁹⁴

More specifically, mindfulness has been trialed for use in depression. It was used to train recovered recurrently depressed patients to disengage from mood-related depressive thinking that may mediate relapse/recurrence. Over the follow-up period patients with 3 or more previous episodes of depression MBCT significantly reduced (halved) the risk of relapse/recurrence.^{95 96 97} Mindfulness may reduce relapse by

changing relationships to negative thoughts rather than by changing belief in thought content.⁹⁸

Mindfulness for cancer patients has demonstrated significantly lower scores on total mood disturbance and subscales of depression, anxiety, anger, and confusion but more vigour. There were fewer overall symptoms of stress and cardiopulmonary and gastrointestinal symptoms, less emotional irritability, depression, and cognitive disorganization. They had fewer habitual patterns of stress. Overall reduction in total mood disturbance was 65%, with a 31% reduction in symptoms of stress.⁹⁹

For other patients with serious illness mindfulness was found to positively affect coping and control.¹⁰⁰ There have also been demonstrated increases in overall sense of control and utilization of an accepting or yielding mode of control in their lives with higher scores on a measure of spiritual experiences.¹⁰¹

In the management of chronic pain mindfulness therapy showed significant reduction in pain, fatigue, and sleeplessness as well as and improved function, mood state, and general health.^{102 103 104}

In a trial on patients with lymphoma, mindfulness was associated with significantly lower sleep disturbance scores. Findings included better subjective sleep quality, faster sleep latency, longer sleep duration and less use of sleep medications.¹⁰⁵

At Monash University mindfulness-based stress management is in the core curriculum. It aims to enhance the healthcare students own self-care abilities as well as lay the foundation for later clinical skills and a more holistic and integrated approach to clinical practice.¹⁰⁶

e) ***The Ornish studies***

David Spiegel made the following quote in relation to cancer but it is just as relevant for other diseases. When the emphasis is given to quality of life, mental and social, there is a 'side-effect' that the physical condition improves.

“Living better also seems to mean living longer.” David Spiegel

Controlled trials looking at the effects of a holistic approach to treating coronary heart disease (CHD) have yielded remarkable results. The fact that such studies are not more often funded and the results not more widely promoted raises some interesting and controversial questions in itself. One such study, looking at the progression of CHD, demonstrated significant improvement in both the disease and quality of life.¹⁰⁷ In this study of people with already well established CHD the control group had conventional medical management only. The intervention group also had a comprehensive lifestyle program. The logic is that because risk factors are synergistic so too should be the positive interventions.

The Ornish program is extremely similar to TGF Programs for cancer patients and consisted of:

1. group support
2. stress management, including meditation and yoga
3. a low fat, vegetarian diet
4. moderate exercise
5. stopping smoking

His main findings were listed below and was the first demonstration that CHD is a reversibly process. However, it seems, that these penetrable and highly significant changes in outcome are only achieved if a holistic approach is taken, behaviour-change strategies are provided to help maintain lifestyle change, and considerable focus is given to mental health and stress.

	Intervention	Control
Progression	82% regressed	53% progressed
Symptom frequency	91% ↓↓	165% ↑↑
Duration	42% ↓↓	95% ↑↑
Severity	28% ↓↓	39% ↑↑

Interestingly, only a few patients in the control group improved but most deteriorated. What was notable about those in the control group who improved was that they also made significant lifestyle changes of their own accord similar to the ones made in the intervention group. In both groups improvement was related to lifestyle change in a ‘dose response’ manner, i.e. the more change the greater the improvement.

Another important point is that the costs of the lifestyle program were vastly less than for bypass surgery despite the results being so much superior. In the US at the time the comparative costs are around \$3,900 for the Ornish program compared to \$40,000 for bypass surgery. Average cost savings were \$58,000 per patient.¹⁰⁸

The observation that better mental health was a great facilitator towards healthy lifestyle change is not surprising. It has been well known that the presence of high stress and depression is a significant predictor of relapse to unhealthy lifestyle as well as an independent risk factor for heart disease.¹⁰⁹

Strangely, the program was not widely embraced by the medical community and significant resistance to the program was expressed. The wider community and insurance industries were somewhat more enthusiastic in welcoming an approach to heart disease which might actually be clinically powerful, enhance quality of life and also be cost-effective.

Recently published five-year follow-up shows that the divergence between the two groups has widened¹¹⁰ with the intervention group continuing to reverse their disease angiographically. Furthermore, the usual-care group has had nearly 2.5 times as many major cardiac events over the follow-up period. Needless to say the insurance companies are very interested in promoting it but, unfortunately the medical profession has been a little slower in some quarters which raises some interesting potential medico-legal dilemmas if medically valid and effective treatment option are not offered.

The Ornish program is important for cancer management for other reasons. Comprehensive lifestyle strategies for cancer management have not been thus far studied. Ornish has recently trialed his program in a randomized controlled trial for men with early stage prostate cancer who have high PSAs but are in the ‘watchful waiting’ group to see if their disease progresses and they need to have more aggressive treatment. Early findings showed compliance was high and patients in the lifestyle group were progressing well.¹¹¹ Data presented at a recent American Urological Society Conference is showing that a significant number of patients in the lifestyle

group are having their PSAs return back to the normal range and very few showing progression. This data is still preliminary and is in press and awaiting to be published in a refereed journal soon. Again, note that the Ornish and TGF programs are very similar.

f) Exercise and cancer

Over thirty studies have shown a protective relationship between physical activity and colon cancer mortality^{112 113} and precancerous polyps. The reductions have been up to 50%. Mechanisms might include some of those mentioned previously as well as effect on bowel function, antioxidant effects and shifts in overall energy balance. Similar findings are also found with other cancers like breast cancer. A Norwegian study showed a 30% reduction in the risk of breast cancer in women who exercise regularly, particularly in those less than 45 years of age.¹¹⁴ A recent analysis of the Nurses' Health Study has shown that an 18% reduction in breast cancer risk occurs with 7hrs or greater per week of moderate activity.¹¹⁵ In post-menopausal women, brisk walking has been shown to reduce breast cancer risk. The Women's Health Initiative Cohort Study¹¹⁶ looked at some 75,000 post menopausal women between 50 and 79 years of age and collected data regarding their life long activity levels. Those that exercised at a level equivalent to brisk walking for 1 ¼ to 2 ½ hours per week had a significant breast cancer reduction of 18%. This increased to 22% in those exercising up to 10 hrs per week. A past history of strenuous exercise at age 35 or 50 was associated with a breast cancer risk reduction. Independent of smoking and nutritional status, studies have also shown a reduced risk of lung cancer in those who exercise.¹¹⁷

g) Nutrition and cancer

Studies of prevention programs shows that an investment into evidence-based health promotion programs will prevent up to 25% of cancers in the future. A review of over 200 studies worldwide found overwhelming evidence indicating that just by having a high intake of fruit and vegetables the risk of developing cancer is halved.¹¹⁸

Sir Richard Doll, who first pointed out the links between smoking and cancer, published a paper in 1998 titled "The Causes of Cancer"¹¹⁹. In this paper the major contributions to cancer were identified and nutrition figured prominently.

Calorie restriction (CR), a diet not full of 'empty calories', is a major problem for the developed world. A review concluded that "CR is the most effective and reproducible intervention for increasing lifespan in a variety of animal species, including mammals. CR is also the most potent, broadly acting cancer-prevention regimen in experimental carcinogenesis models."^{120 121}

Table 3: Checklist of Cancer Protective Foods

Fruits	Vegetables	Breads & Cereals	Other
Red grapes	Spinach	Rye bread	Green and /or black tea
Oranges, grapefruit	Brussels sprouts	Wholegrain cereals such as wheat bix	Apple juice
Berries	Broccoli	Wheat bran	Black currant juice
Plums, nectarines, peaches, apricots	Tomato paste	Corn, maize	Parsley
Kiwi fruit, paw paw, pineapple, mango, pears, melons	Onions	Oats	Soy foods and drinks
Red & black currants	Carrots, pumpkin, squash, corn	Rice	Herbs/spices such as tumeric, basil, cumin, dill, coriander
Guava	Green beans, capsicum	Millet	Garlic
Apples	Rocket, lettuce, silver beet, asparagus, artichoke, leeks		Legumes such as soy beans, lentils, chickpeas
			Flaxseed oil, nuts, seeds

In Shekelles' study published in The Lancet in 1981¹²² a 19 year study of 1954 middle-aged men concludes that the incidence of lung cancer is inversely related to the intake of dietary vitamin A in their diet. Vitamin A is found in liver, fish, cod liver oil, pumpkin, leafy green vegetables (eg spinach) and egg yolks. Like other studies, it may be that supplements in the context of a deficient diet may not be nearly so effective.

The connection between dietary fibre intake and colon cancer is well established, as Peters' 2003 study of 33,971 patients indicates.¹²³ However, when assessing studies it is important to distinguish between different types of fibre as results will vary accordingly. CSIRO scientists now think a type of starch — which for decades has been considered next to useless — may be more important than fibre in protecting against bowel cancer. Not all starch is digested in the small intestine. Resistant starch, the significant amount that escapes into the large bowel, is now known to be a key protector against bowel cancer. Resistant starch is found in undercooked vegetables, partly-cooked pasta, baked beans, white and brown bread, and brown rice. It has been found that undercooked starch foods which have not been "broken open" by cooking, escape digestion and pass into the colon where they release substances which protect against colorectal cancer.

Green tea is a widely consumed food as medicine in Japan where you can have green tea widely incorporated into the diet. There have been many studies conducted on green tea including one in 2003, which demonstrated that green tea extracts in a form of ointment and capsule are effective for treating cervical lesions.¹²⁴

Cabbage, broccoli and Brussels sprouts were shown to have a protective effect not only on the bowel, lung and pancreas but also on the breast and uterine tissue. This is

thought to be due to the components in these vegetables that increase the metabolism and excretion of oestrogens. More studies are required here.¹²⁵

This section does not pretend to be an extensive overview of the field of nutrition and cancer, but it is important to note that while nutrition is of great interest to many people affected by cancer, it is an uncommon subject of discussion between patients and their doctors and even then it is rarely in the context of how nutrition can be used as a therapeutic modality in itself. Nor is there enough research being funded into nutritional therapies for cancer.

h) Inflammation and cancer

Inflammation is the body's response to tissue injury and involves a complex interplay of cells and chemical mediators that stimulate the growth of different kinds of cells including those needed for new blood capillaries in wound healing. The links between cancer and inflammation have been established since 1863 when Rudolf Virchow noted leucocytes (white cells) in neoplastic tissue. He suggested that cancer may originate from sites of chronic inflammation¹²⁶.

During the past decade, our understanding of the inflammatory microenvironment of malignant tissue provides compelling evidence that the growth-stimulants generated in inflammation, both locally and distally, can act to accelerate (or retard) the growth of tumour cells¹²⁷. Therefore, once a normal cell is transformed into a tumour cell by a carcinogen, the presence of inflammation (e.g., by sunburn, surgery, infection, trauma, exhaust-pollutants) can usually have a profound influence on the subsequent growth of the tumour.

Research has established that greatest acceleration of tumour growth occurs during the acute 'up-regulation' phase of inflammation while inhibition of tumorigenesis occurs during 'down-regulation' i.e., when different mechanisms and mediators are activated to 'switch-off' inflammation¹²⁸. Thus, chronic and early acute inflammation are powerful stimulants of tumour growth at both primary and secondary (metastatic) stages of cancer. Reducing or preventing acute or chronic inflammation for a cancer patient is likely to have a significant effect in reducing tumour growth.

Studies have established that one of the 'up-regulators' of inflammation is prostaglandin E2 (PGE2) that is needed to cause the expression of receptors on normal cells and certain tumour cells to respond to growth factors e.g., epidermal growth factor (EGF). PGE2 can be moderated, with associated anti-tumour effects, by either low-dose aspirin or by dietary manipulation e.g., increasing omega fatty acids such as fish oil (eicosapentenoic acid) or linseed oil (alpha-linolenic acid).

i) Sunlight, Vitamin D and cancer

In recent years there has been a reappraisal of the prevailing strong public health message to avoid the sun. As evidence mounts of the increasing incidence of vitamin D deficiency due to sun avoidance, editorials in major international journals^{124, 125} and authorities in the area have argued that this is causing many illnesses to reach epidemic proportions, particularly autoimmune diseases and osteoporosis.^{126, 129, 130, 131} Indeed, there is intriguing epidemiological evidence which strongly suggests that a range of cancers, particularly of the reproductive system, is more common as exposure to sunlight decreases.¹³² It has been suggested, on a population basis, that

for every melanoma prevented by sun avoidance, up to 10 other cancers are incurred. And it was shown over 10 years ago that regular brief exposure to sunlight actually lowered the incidence of melanoma rather than raising it, presumably by the immunomodulatory effects of vitamin D.¹³³

Vitamin D cannot be adequately sourced from the diet; the major source is from exposure to ultraviolet B light in sunlight. Currently blood levels of less than 25nmol/L are considered to represent significant vitamin D deficiency, and 25-50nmol/L as mild deficiency. There is every reason to believe that these levels are too low, and that optimal immune function is achieved at above 100nmol/L.^{134, 135} This can be achieved with surprisingly little exposure to sunlight, or with large dose vitamin D supplementation. On a typical spring day, with a UV index of 7, 10-15 minutes of sun while wearing bathers would produce 10,000IU of vitamin D, the maximum which can be produced in a day.

Possibly the best documented evidence of the benefits of adequate sunlight relates to multiple sclerosis. There is a range of evidence, from epidemiological work showing an incidence gradient related to latitude¹³⁶, an inverse relationship between skin cancer and multiple sclerosis incidence¹³⁷, and reduced MS mortality in those with higher sun exposure¹³⁸, through documentation of seasonal variation in numbers of MS lesions on MRI related to vitamin D levels¹³⁹, to population data on vitamin D intake¹⁴⁰ and childhood sunlight exposure¹⁴¹ reducing the later incidence of MS.

Overall there is considerable evidence that increased vitamin D levels result in a variety of health benefits, including reductions in the incidence of multiple sclerosis, rheumatoid arthritis, systemic lupus erythematosus, type I diabetes, and inflammatory bowel disease¹⁴², as well as potentially a range of cancers. Regular exposure to small amounts of sunlight is the simplest, most inexpensive way of achieving this, and is associated with little risk.

j) Spirituality and cancer

For many years science and ethics have tended to become increasingly secular thus neglecting, deriding or pathologising spiritual issues which many patients bring to therapy. “Mainstream psychiatry in its theory, research and practice, as well as its diagnostic classification system, has tended to either ignore or pathologise the religious and spiritual issues that clients bring into treatment.”¹⁴³

Unfortunately the negative attitude in many quarters of contemporary medicine and psychiatry is out of keeping with the weight of evidence which clearly shows that religiosity has a beneficial effect on the mental and physical health.¹⁴⁴ The findings are consistent across prospective and retrospective studies whether they control for other lifestyle and socio-economic factors or not and whether they examine prevention of, coping with, or recovery from illness. Causal relationships between religiosity and health are sometimes hard to define although many of the studies controlled for other known physical and socio-economic risk-factors.

Many studies have linked a lack of religiosity to depression. Religious commitment is associated with a reduced incidence of depression¹⁴⁵ and a significantly quicker recovery from depressive illness for the elderly.¹⁴⁶ These findings are not isolated with two separate reviews of the literature supporting this. Those with high levels of “religious involvement”, “religious salience” and “intrinsic religious motivation” are at reduced risk¹⁴⁷ and religious commitment was inversely related to suicide risk in 13

of 16 studies reviewed.¹⁴⁸ One study showed a fourfold increased risk for suicide for non-churchgoers compared to regular attendees¹⁴⁹ and no study showed an increased risk.

Other data suggests that religiosity protects against drug and alcohol abuse, one of the most commonly used and maladaptive ways for dealing with depression. To illustrate, one study showed that 89% of alcoholics lost interest in religious issues in their teenage years whereas only 20% lost interest in the control group.¹⁵⁰ Doctors are a high-risk group for substance abuse. Religious commitment while in medical school was protective against development of an alcohol problem in later life.¹⁵¹ Religious affiliation even where alcohol abuse developed protected against heavy use or the associated extreme clinical and social consequences.

The significant role that mental health plays in the development and progression of physical illnesses goes part way to explaining why religious commitment is associated with reduced risk for conditions such as hypertension, heart disease and cancer.^{152 153 154 155} A population study over 9 years showed that all-cause mortality was significantly reduced and life expectancy increased (75 years c/w 82 years) for regular churchgoers. Again, the findings were not explainable by the accepted lifestyle and social variables.¹⁵⁶ This is consistent with other data.¹⁵⁷

Spiritual issues are not often discussed between doctors and patients, perhaps because doctors believe that it is not of high importance to the therapeutic relationship, or it is the role of someone else. Evidence, however, suggests that most patients wish to discuss spiritual issues with their doctors. “Eighty-three percent of respondents wanted physicians to ask about spiritual beliefs in at least some circumstances. The most acceptable scenarios for spiritual discussion were life-threatening illnesses (77%), serious medical conditions (74%) and loss of loved ones (70%). Among those who wanted to discuss spirituality, the most important reason for discussion was desire for physician-patient understanding (87%). Patients believed that information concerning their spiritual beliefs would affect physicians' ability to encourage realistic hope (67%), give medical advice (66%), and change medical treatment (62%).”¹⁵⁸

Gauging a patient's spiritual awareness should form an important part of a thorough history. One cannot really be said to know another without an understanding of their responses to these most important questions. Approaching treatment of especially sensitive conditions like depression, not to mention terminal illness, will of necessity take place in the dark without it. However, broaching philosophical and spiritual issues obviously requires considerable sensitivity, cultural tolerance and the ability to be non-dogmatic. When done effectively it can facilitate counseling and psychotherapy enormously¹⁵⁹ but each person needs to explore these issues in their own way. Even if we are not religious ourselves, we may still need to invite discussion in a respectful way taking care not to push a line of thought, whether it is religious or secular. Religious sensitivities and biases, like political ones, can make discussion divisive and difficult. More in depth questions about spirituality and religion should probably be referred to culturally appropriate ‘non-medical experts’.

Despite the large body of evidence referred to above, little if any reference is made to these issues in current medical education and practice. A physical factor of similar relevance to health would certainly not be ignored, but then science may not be comfortable with what it can not easily measure. It is reasonable for medical students and practitioners to be aware of this field of evidence so that they can provide a more holistic approach to information giving, psychotherapy and treatment. Unfortunately, a perceived lack of holism is a central reason why many look outside the biomedical model for their health care.¹⁶⁰

3. ADDRESSING THE TERMS OF ENQUIRY—AN ESSENTIALISED RESPONSE

(a) **The delivery of services and options for treatment for persons diagnosed with cancer, with particular reference to:**

i) *The efficacy of a multi disciplinary approach to cancer treatment*

TGF is of the view that the multi disciplinary approach is best described as Integrative Medicine (IM). This paradigm involves two key components.

Firstly, IM treats the patient as an integrated whole—body, emotions, mind and spirit, and involves taking account of their psychosocial and spiritual life.

Secondly, IM engages a wide range of therapies and a multi disciplinary team of therapists—medical and non medical. It aims to be aware of the full context of the patient’s life and disease, to focus on those aspects of the patient’s life that require attention and to draw upon the relevant therapists and modalities of therapy that will produce the best results for that individual.

TGF believes that Integrative Medicine constitutes best medical practice, is what good medicine has always aspired to and is what people affected by cancer require. We believe it is a challenging paradigm, requiring expertise and cooperation, but that it is possible and it is required.

Health professionals can be trained to develop expertise in this paradigm. Currently Monash Medical School offers an excellent undergraduate model, while Swinburne’s Post Graduate School of Integrative Medicine trains post graduate doctors in Integrative and Complementary Medicine.

All of the material below is integrated into the Monash Medical and Allied-health curricula as a part of a balanced, holistic and informed approach to the education of modern and progressive medical and allied-health practitioners.

Essence model of good health:¹⁶¹

This systematic and comprehensive model for holistic health stands for:

1. **Education:** education about the origin of illness and role of treatments, options, health behaviours, knowledge, skills and attitudes is crucial and at the heart of healthcare. It aids compliance, helps patients to feel more confident and helps them to make decisions.
2. **Stress management:** good mental health has flow-on effects on every other aspect of our health and lifestyle. It helps quality of life, has direct physiological benefits, and assists in healthy lifestyle change.
3. **Spirituality:** ‘spirituality’, more than merely ‘being religious’ can incorporate finding a sense of meaning and purpose, taking time to reflect on our life philosophy and direction, creativity or altruism. Evidence also suggests that over 80% of patients wish to discuss spiritual issues with their doctors such as when confronted by life-threatening illnesses.¹⁶²
4. **Exercise:** maintaining appropriate physical activity is helpful for almost any condition or symptom whether it be related to mental or physical health.
5. **Nutrition:** Food is medicinal in itself. Healthy nutrition is preventive and therapeutic for nearly every conceivable condition. Medical education has been sadly lacking in this area.

6. **Connectedness:** the role of social support and supportive relationships at work and home cannot be overstated. Learning how to build and maintain relationships and healthy communication is central to good health and happiness as is building in strategies into our workplaces.
7. **Environment:** healthy environment is more than air, water and soil. For better or worse, it includes the mental and emotional environment we create, what we put into our senses, the places we choose to go and the people we surround ourselves with.

Issues relating to the evaluation of efficacy and relevant research findings are addressed in detail under those headings in TGF's submission.

ii) The role and desirability of a case manager/case coordinator to assist patients and/or their primary care givers

TGF believes that the need for, and the role of coordinators will be heavily influenced by the culture in which they work. If an IM model is established as the way things are done in a hospital or other major medical facilities, then decisions regarding the need for case managers will be easy and obvious.

In TGF's view, GPs are currently ideally positioned to manage a cancer patient's integrated treatment. They have the obvious medical training required, the charter to be generalists and the capacity to be well informed regarding complementary, holistic and alternative approaches. They also commonly have the time and the capacity to communicate well.

Unfortunately, while many people first go to a GP with a cancer concern, following diagnosis they often remain under the care of specialists who do not always share the attributes above.

TGF recommends that currently, most cancer patients are well served to make a point of keeping in contact with a GP who has a specific interest in IM. Many of these doctors are members of AIMA which makes them easy to locate in any given area.

iii) Differing models and best practice for addressing psycho social factors in patient care

TGF believes that participation in an active cancer self help group program is the ideal way to address psychosocial factors. Evidence supporting this contention is detailed at length in the research section of our submission.

Currently Cancer Support Groups around Australia vary greatly in content and expertise. Little formal research has been carried out in this area but TGF is of the view, based on years of participant feedback, that some groups are very effective, while in fact some appear counter productive. The issue of quality control of cancer groups requires addressing.

TGF has 24 years continuous experience in group work, having started Australia's first active self help group in 1981.

TGF uses two models:

- a) Weekly meetings with two key components:
 - 1. an initial 12 week thematic support group
 - 2. ongoing weekly follow-up groups
- b) Residential programs with two key components:
 - 1. an initial 11-day “Life and Living” program
 - 2. regular 5-day follow up residential with other related residential program options (eg specific meditation retreats). There is also the option of follow up by attending the weekly group meetings.

All of these groups are supported by:

- a) the availability of trained counsellors to address individual needs
- b) availability of a resource centre that stocks relevant supportive material, eg books, CDs, DVDs, etc
- c) spiritual care for the dying
- d) access to telephone support during normal office hours.

Best practice involves an extensive, integrated system. This is challenging to establish and staff with qualified, expert staff (training is a major ongoing need). This approach is expensive to maintain, but is very cost effective compared to individual therapy.

TGF is happy to share more detail of its extensive experience in this field.

TGF urges the Enquiry to support direct funding of cancer groups—both for TGF directly and to other like minded groups.

iv) ***Differing models and best practice in delivering services and treatment options to regional Australia and Indigenous Australians***

TGF has only a little experience providing services to Indigenous Australians. While Dr Ruth Gawler, a GP on TGF staff has 5 years experience working at The Central Australian Aboriginal Congress (CAAC) in Aboriginal Health in Alice Springs. A small number of Indigenous Australians have attended our programs. They have fitted in well, as do people from a wide range of ethnic backgrounds, with the proviso that they have a reasonable command of the English language. We have had some non English speaking people attend programs with translators and while this is manageable, it is challenging and can detract from the group interaction.

Regional Australia faces multiple difficulties with service provision. There will be many submissions who we imagine will be capable of addressing these issues more fully than TGF.

What can be said is that many regional groups, in country towns ranging from small to large, have attempted to replicate TGF’s cancer support groups and services. Many have failed—primarily through lack of funding and the additional problem of sharing the work load amongst a limited pool of enthusiastic and trained staff.

TGF is of the view that Government funding would be well spent on supporting and extending these regional services.

v) *Current barriers to the implementation of best practice in the above fields*

TGF is grateful for Prof Avni Sali's input into this section. Prof Sali has been an Associate Professor of Surgery at Melbourne University, a long term Board member of TGF, and is currently Head of Department at Swinburne University's Post Graduate School of IM. He has extensive experience in the barriers to the implementation of Integrative Medicine, which he and TGF consider to constitute best practice in the management of cancer.

Swinburne University's Postgraduate Medical School was the first to be established anywhere with a mission to teach medical practitioners about health and CM, as well as to undertake research in this area of medicine. This Medical School is one of the few university institutions which is experienced in teaching qualified medical practitioners locally and internationally on the evidence and benefits of health and CM, and has the largest research team in CM in this country. Community health education has also been a key feature of our activities.

At a personal level, it is important to emphasise that the Department Head, Prof Avni Sali has been trained as a surgeon (a major component being cancer surgery), as well as having extensive training in oncology including clinical as well as research aspects.

Almost all medical schools in the United States have some form of complementary medicine/integrative medicine (CM/IM) presence, whereas in Australia medical schools are quite limited in this respect. Monash Medical School, as outlined elsewhere in this report, is a notable exception and a good model of what is possible and desirable.

As an example of the challenges IM faces in Australia, last year in February, the Graduate School of Integrative Medicine together with the Australasian Integrative Medicine Association and TGF supported Monash University in running a wellness conference. As a result of this conference, the Dean of Medicine at Monash University received numerous letters from staff members objecting to that University being involved with such a conference and perhaps with such a collaboration. This action is an example of the antagonism to a new idea such as CM/IM that exists in many Australian universities.

In the past 50 years, chronic disease such as cancer has replaced acute disease as the dominant health problem. Chronic disease has also transformed the role of the patient. The inadequacy of clinical education is a consequence of the failure of the health care and medical education systems to adopt to this change.

The Institute of Medicine in the USA, which is a key body reporting on health issues has stated that 'despite changes that have been made, the fundamental approach to medical education has not changed since 1910'. The result has been that medical education has remained with basic structures and practices designed for acute disease. With acute disease, the patient is usually passive, disease is episodic and commonly there is a cure of the presenting problem. With chronic disease, none of the latter applies and it requires a different kind of medical practice. The patient with chronic disease often becomes experienced and may even become more knowledgeable than their doctor regarding specifics of their condition, and ideally should have an integral role in the treatment process.

Undergraduate Education in CM/IM

There has been a slow introduction of basic teaching in CM either in lectures or seminars or as an elective, with some universities being more active than others. For some time, medical students have been aware of the deficiency of teaching in this area as demonstrated in the survey of final year students at Newcastle University where they expressed their need for more nutrition teaching.

With the majority of Australians using some form of CM/IM, students should be aware of what is available, which therapies have the most evidence and also understand the basic interactions between complementary medicines and drugs.

To overcome these perceived deficiencies in medical education, TGF believes that institutions such as Monash and Swinburne which have taken a lead, deserve acknowledgement and major support especially via funding. Other medical schools require encouragement and funding to incorporate CM/IM into their curriculum.

University Hospitals are primarily focused towards the concept of diagnosis and conventional treatment whereas the attention given to health promotion and CM/IM are commonly very limited.

There is no specific treatment to cure cancer, and many of the existing conventional cancer treatments are very hard on the patients, often carrying significant side effects. Therefore, the very least that should be done is to provide the patient with the very best care so that they are able to obtain the best possible health state in order to cope with their cancer better. An otherwise healthy cancer patient will surely cope better with their cancer. The need for an integrated approach is compelling on all levels.

Oncologists rarely take a dietary history mainly as they have received little or no nutritional education. Almost no cancer patient that I have seen has been told about the importance of mind/body medicine by their oncologist, despite its significance. A key reason for this is that they have almost no teaching in this important area of medicine. Unfortunately a major part of most orthodox oncologist's continuous education is to attend the usual oncology conference with a heavy influence on pharmacotherapy. Who will pay for the airfare and other expenses of those from overseas who have the expertise to speak about topics such as mind/body medicine, nutrition and nutritional medicine, herbal therapies, acupuncture and other therapies?

It is common for doctors working in many hospitals to find that it is difficult to even ask a psycho social question about the patient as a person or about details pertaining to their diet at the regular weekly hospital meetings, as it is not part of the hospital culture to embrace these aspects.

As medical students and oncology trainees are trained in these institutions, it is no wonder that the existing system is propagated. It is extraordinary that in a specialty that has the worst results, there is not only little interest in CM/IM but commonly, even deep resentment. For example, hyperthermia has been shown to have the potential of significantly improving survival in select groups of patients, and yet as far as is known, this helpful therapy is not available in any hospital in Australia. Although immunotherapy for cancer such as melanoma has been used by those working in CM/IM for many years, it is only recently that some oncology centres have shown some interest in this treatment modality.

In general, the emphasis in orthodox oncology is on the cancer rather than the person who has the cancer. Cancers are described as being aggressive, whereas a more accurate description may be that the patient has very poor defences, which have allowed the cancer to be aggressive. Measurement of the body's defences including immunity, growth factors, angiostatic agents etc, have received minimal attention compared to more details relating to the cancer. For example, there are almost no centres in Australia that can measure immune function on a routine basis.

Those medical practitioners working in CM/IM who see cancer patients have the ever-increasing problem of being investigated by the Health Insurance Commission and Medical Boards because of prolonged consultations as well as being accused of excessive investigations relating to nutritional, plus other parameters relating to the health of the patient. These doctors are challenged predominantly as they are focusing on the health of their patient rather than only on the cancer.

In general, there is only a very limited orientation in the undergraduate and postgraduate education of medical practitioners to do with why people are ill. The major emphasis is in the diagnosis and treatment of illness. Even leading general medical journals publish articles with a similar orientation to that of medical education with very few articles to do with health. The Government system for medical consultations is also heavily biased towards greater rewards for those who spend less time and see greater numbers of patients. Even if medical practitioners had skills to do with why their patient is ill and also how to advise about health medicine, there would be little financial incentive to do so.

The General Practice Representative Group (GPRG), comprising representation from the Australian Medical Association (AMA), Australian Divisions of General Practice (ADGP), the Royal Australian College of General Practitioners (RACGP), and the Rural Doctors Association of Australia (RDAA), have called upon the Government to restructure the Medicare Benefits Schedule (MBS), that commits to better health for all Australians by funding longer general practice (GP) consultations. Dr Sue Page, RDAA President, has stated: 'patients need to spend time with their GP to fully discuss their healthcare. International evidence clearly demonstrates that longer consultations improve health outcomes'. Another important issue is that large numbers of GPs are very unhappy with their job satisfaction and a key reason is the mainly superficial brief contact they have with their patients.

The Federal Government Expert Committee on complementary medicine (CM) from September 2003 recommended education and training of medical practitioners in CM, as well as education of the community about CM and health in general. The AMA in 2002 put out a position statement on complementary and alternative medicines, which was promulgated during the Presidency of Kerry Phelp. This position statement recommended:

- education in CM so that it could be incorporated into medical practices
- called on educational institutions and professional colleges to provide CM education
- recognised that evidence-based CM should be part of mainstream medicine
- encouraged public education in CM

In 2004, the RACGP and the Australasian Integrative Medicine Association (AIMA), established a joint working party responsible for a number of issues to do with how

aspects of CM can be introduced into general practice, as well as reviewing the AMA Position Statement and its implications to GPs and other issues.

CM/IM research has shown that there are a number of low-cost natural medicines, which have low toxicity and can be valuable in both the treatment and prevention of cancer. Examples include the use of mind/body medicine, nutritional therapies such as nutritional supplements in the treatment of bladder cancer and the use of selenium supplementation in cancer prevention. Most medical practitioners have little knowledge of these CM modalities. It is therefore imperative and essential to investigate why this is the case and to then implement strategies to address what can be done about it.

There should be funding available to carry out further research in CM/IM in order to investigate what role CM/IM may have in the treatment of cancer. As repeatedly confirmed in this paper, it is unfortunate that despite the huge popularity of CM/IM in Australia by the community, almost no funding has been made available for research in this area by the Federal Government. In contrast, in the U.S.A., approximately AUD\$400 million of research funding is made available for research in this area of medicine.

The majority of the Australian population are using CM with a 62 per cent increase in expenditure over a seven year period. In the U.S.A., there have been similar increases in CM popularity with a majority of the public going to CM practitioners rather than primary care doctors, who are unable to meet their needs. It was estimated that last year in Australia there was a three per cent decrease in consultations with medical practitioners at a time when there was an eight per cent increase with CM practitioners. Specific figures are not known for Australia in relation to who cancer patients see, however, it is estimated that approximately two thirds of them are using some form of CM/IM. (See documentation in Section 2 iii) & 2 vi)

To counteract and balance this, TGF recommends that it is necessary for the Federal Government to subsidise courses that provide CM/IM teaching. Regular continuous medical education seminars and lectures plus conferences are heavily subsidised by the Pharmaceutical Industry therefore providing major competition for courses available in CM/IM.

b) How less conventional and complementary cancer treatments can be assessed and judged, with particular reference to:

i) The extent to which less conventional and complementary treatments are researched, or are supported by research

The lack of Government support for research into less conventional and complementary treatments is, in the view of TGF, a disgrace and a real error of omission in addressing the needs of people affected by cancer.

It is a sad fact that there is already available a great deal of research that evaluates CM and leads to informed choice (see 2 iv and 2 vi), yet most of this research comes from overseas.

In America, the Federal Government provides around US\$400M for research into Complementary and Alternative Medicine. In Australia there is no such direct

funding. The existing research bodies are currently recognized as favouring research along conventional medical lines. Little funding is even provided for researching psychosocial aspects of cancer.

There are many treatments which come into the public's awareness. Some are truly traditional therapies, having been around for generations, only to be publicized and/or promoted in current time. A good example would be Hoxsey's Herbs. Others are new discoveries or theories—take shark cartilage as an example. Others are widely used and remain contentious, eg Vitamin C.

In theory, assessing any of these interesting possibilities is easy. But expensive. It would be a great public service if the Australian Government were to set up a specific body to clarify some of these fringe choices.

The argument is used that the promoters of these products need to fund their own research. In practice this may in some circumstances be reasonable, but often the “promoters” have no resources, just a good idea that warrants effective evaluation. Also, in a case like Vitamin C, sales make money for the people who supply it. Yet, being non patentable, no company seems willing to put funds into evaluating its use effectively. This is a good example where the public interest and need would be well served by a Government funded trial that was conducted in a way that gave all parties confidence in the research outcome. The contentious question of “how useful is Vitamin C to people affected by cancer?” would be solved and either clarify that it is a waste of time or support the public spending money on it.

Regarding research into IM, TGF began Australia's first active cancer self help and support group in 1981. It has regularly applied for research funding from the Cancer Council since 1984. Unfortunately objections, particularly in those early years expressed in an atmosphere of passive aggression from the Council, have always been found to justify no funding.

Happily, the Swinburne study to evaluate TGF's residential program has been running for several years. The positive findings are being prepared for publication; the early results as published appear on page 13.

The challenges of research findings, research models, levels of validity and what research is available currently on Integrative Medicine, are all addressed in this paper under 2 iv)—The importance of evidence, and 2vi)—Relevant research.

TGF strongly advocates the establishment of a specific research body to fill this glaring gap in Australia's research community. We propose to set up such a body under TGF's auspices and will seek Government funding to support this ongoing project.

ii) ***The efficacy of common but less conventional approaches either as primary treatments or as adjuvant/complementary therapies***

To answer this issue accurately and completely is a major task. In TGF's submission it is addressed under 2 iv), v), and vi).

However, in the time, and with the resources we have available, this is hard to answer definitively. It really requires dedicated research to collate the available information,

assess areas worthy of immediate research investigation and to dismiss some of the unwarranted claims that circulate.

TGF aspires to fund a staff researcher to assist in this process, but at present it is beyond our budget.

TGF believes this is a clear area where Government funding would be well placed.

iii) *The legitimate role of government in the field of less conventional cancer treatment*

TGF is of the view that Government has a legitimate role in setting the agenda on the delivery of cancer services and options for treatment.

The Government would be well advised to take account of the public's huge interest in IM and the clearly established usage of complementary therapies.

The Government needs to respond to this groundswell of public opinion and health service usage. In many areas the cost effectiveness is profound, especially when people learn and adopt lifestyle changes that greatly reduce demands on health costs and produce positive health benefits

TGF's groups were one of the first in the world. The opportunity was lost for the country's lead in this field to be recognized on the world stage. Still to this day it is very hard to attract funding for research in what is an area of vital interest to the public

The Government can have a positive benefit by

- a) acknowledging the Integrative Medicine paradigm
- b) supporting Integrative Medicine via direct funding.

For example, TGF has received only one minor (\$15,000) State Government grant in its 24 year history. Nothing from Federal Government, despite years of providing a service to thousands of citizens which has required major fundraising and relied on donations to supplement and keep viable. Finances are a major issue, particularly for group activities which are very expensive to establish and maintain.

Funding demonstrates support and meets the need.

4. RECOMMENDATIONS

Considering this submission put by TGF and other arguments, and examining the growing body of evidence, it would be reasonable to conclude that the modern approach to cancer has not been optimal. For these reasons the following recommendations are made in relation to cancer management in Australia.

A. General Recommendations:

1. Patients have a right to access quality and evidence-based information about a wide variety of conventional and non-conventional cancer therapies.
2. Doctors involved with treating cancer patients have an obligation to inform themselves and their patients about a wider range of approaches to cancer and know how to direct patients to find reliable information.
3. This obligation needs to be met by relevant educational opportunities in undergraduate and postgraduate education.
4. Doctors can be held accountable for not assisting or for discouraging patients with their inquiries into safe and evidence-based holistic approaches to cancer.
5. Ensure GPs are well trained in the three aspects of cancer medicine—orthodox, complementary and alternative. Encourage GPs to remain as a major point of reference in the integrated management of cancer.
6. Standardise key definitions in this field, eg IM, CM, Alternative, etc, to ensure correct usage.
7. Ensure that GPs are supported in their role with adequate training in communication and counselling skills, that Medicare rebates are increased to justify time spent in longer consultations and that such longer time spent with patients is actually encouraged.
8. Ensure Integrative Medicine Conferences for health professionals and the public are supported with funding to ensure accessibility to new information.
9. Survey medical cancer specialists to ascertain their awareness of the literature and modalities involved in CM and AM. Also research how they communicate this awareness to patients and the effect this communication has on those patients.
10. As a possibly contentious but important recommendation, ensure that cancer deaths resulting from orthodox treatments are recorded, eg from chemotherapy perhaps a Adverse Drug Reactions. At present no documentation on this aspect of cancer medicine is available.
11. Quality holistic cancer support group programs need to be widely available to patients and their families.
12. High quality research into the outcomes of holistic cancer management needs to be resourced by funds being specifically allocated to this work.
13. Relevant community support services need to be available and easily accessible to cancer patients.
14. To help guide this process a peak body drawn from a variety of interested stakeholders could be formed and advise Government on matters of policy and funding.

B. Specific Recommendations for The Gawler Foundation

TGF started the first Integrated cancer self help group in Australia. TGF has pioneered, established and proven the value of a multidisciplinary approach, has made a difference to the way cancer medicine is practised in Australia and actively supported thousands of people affected by cancer. All this as a self funded NGO with no Government funding to date.

TGF has been a pioneer and ongoing innovator in the provision of community based, active cancer self help and support groups. TGF has always made every effort to share its knowledge and expertise.

TGF as a pre eminent body in this field with a long track record of effectively servicing Australians affected by cancer, appeals for Government acknowledgement of its contribution and direct funding towards:

- i) subsidizing general costs so that participant fees for programs can be reduced
- ii) providing Medicare rebates for participants utilizing TGF's services, especially groups and counselling
- iii) encouraging Health Funds to provide cover for TGF groups and other services
- iv) capital funding for urgently needed TGF facilities in Melbourne
- v) research into TGF program outcomes
- vi) support for TGF's proposed research body to foster Australian research into IM and CM as they relate to cancer.

5. EXECUTIVE SUMMARY

Cancer is a unique illness. It holds a place of fear and dread amongst many in the community. Cancer affects the body, emotions, mind and spirit of the patient, their family, friends and health professionals.

There is no simple cure, and cancer holds a place of fear and dread amongst many in the community. Yet amazingly, many people who attend TGF's programs say that cancer transformed their lives for the better. Many in fact go on to say that cancer was the best thing that ever happened to them. How extraordinary!

The crucial questions

1. How can cancer transform lives?
2. Why do some patients recover when others with the same illness do not?

At TGF we are confident that there is more to these questions than just good luck. Finding out what makes the difference, what people can do to make a difference, is what TGF has been and is most interested in studying and what new patients are interested to learn about. TGF is passionately committed to alleviating the suffering of people affected by cancer and to transforming the significance and the course of the disease.

We suggest that it is possible to learn from successful patients, just as we could learn from successful sporting or business people.

The Gawler Foundation—A pre eminent body

After 24 years, and having helped well over 12,000 people affected by cancer through the groups and other services we provide directly, TGF has played a major role in changing the way cancer medicine is practised in Australia.

On this basis, TGF offers this submission, hoping that the Enquiry leads to positive changes in Australia's cancer services and treatment with an emphasis on the wide uptake of the Integrated Medical approach.

Integrative Medicine is Cost Effective

TGF believes that Integrative Medicine is highly cost effective and greater uptake following Government support, would be well repaid.

TGF believes that Integrative Medicine constitutes best medical practice, is what good medicine has always aspired to and is what people affected by cancer require. We believe it is a challenging paradigm, requiring expertise and cooperation, but that it is possible and it is required.

This paradigm involves treating the patient as an integrated whole—body, emotions, mind and spirit, and involves taking account of their psychosocial and spiritual life. Integrative medicine also involves a multi disciplinary team of therapists, medical and non medical, and utilise a wide range of treatment options.

The need for Caution

TGF acknowledges the need for caution in this field. The public needs protection from false hopes, claims that may delay or lead away from effective medical treatments and undue financial burdens,

especially from ineffective remedies or treatments. However, patients are better informed than ever. Many seek active medical partnerships based upon good communication, openness, honesty and wise counsel. In fact these patient's expectations are sometimes formidably high, verging on unreal.

Huge demand for Integrative Medicine

The evidence is clear—large numbers of cancer patients are dissatisfied with the scope of current, orthodox cancer medicine and are seeking more support and considering a wider range of management, treatment and service possibilities. There is huge interest in and utilisation of Integrative Medicine (IM) and Complementary Medicine (CM). The public believe a more multi disciplinary approach will increase their quality of life and survival chances.

Make a Difference

This Enquiry has the potential to make a real difference. With the time and resources available, TGF has collated and documented a detailed submission, summarised herewith.

Definitions Needed

Firstly, word usage in this area is confusing. TGF has offered key definitions.

Integrative Medicine (IM) is an umbrella term which includes Orthodox Medicine (OM) as taught in medical schools and practised in teaching hospitals, Complementary Medicine (CM), that which supports OM and Alternative Medicine (AM), which is an alternative to OM. There is a common confusion between CM and OM particularly; the major point being that CM supports OM while AM is often either a genuine choice or quite in opposition to OM.

There is a need for standardisation and widespread acceptance of correct definitions.

Why so much usage of IM/CM?

Many cancer patients believe that IM and CM therapies will increase their chances of survival. Research shows that the average user of IM/CM is in the higher socio economic brackets. They are well informed, pursue access to good information and seek active medical partnerships rather than submitting to some old style, patriarchal approach.

These people do not reject OM, but often they do regard it as insufficient on its own. They have concerns regarding OM's efficacy, side effects and escalating costs. Many are aware of the evidence that CM therapies can decrease cancer symptoms and the side effects of OM, improve quality of life and probably survival times. They also see IM/CM as cost effective and reliable.

Research and evidence base medicine supports IM/CM

Much is being made of the importance of the evidence base for current medical strategies and treatments.

The definition for evidence based medicine highlights the value of clinical experience and systematic research. Many patients believe personal experience is diminished and literature studies deified.

Secrets from Doctors

Many cancer patients believe that their doctors are antagonistic to IM/CM and so do not inform them of their choices in this field. This leads to a gulf with the potential for real risk and harm.

There is a need to close this gulf through medical education and better communication skills. Doctors need to be aware of the large body of research that validates many aspects of IM/CM. TGF has collated over 100 key research findings.

As well as recent positive research on TGF's programs, areas covered focus upon the researched benefits to the health and healing of people affected by cancer under the headings: Mind body medicine, psychosocial interventions, the Ornish studies, exercise, nutrition, inflammation, sunlight and Vit D, and spirituality.

Who is going to get sued?

Despite this massive evidence base, commonly little reference is made in current medical education and practice to IM and CM. The slow uptake of CM research compared with new drugs is alarming. For example, in 1989 reliable research showed that a new treatment for women with secondary breast cancer, doubled life expectancy and led to some very long term survivals. Was that treatment celebrated and taken up immediately? No, it was widely attacked in medical circles and many doctors still do not inform patients of its existence or potentials (at the genuine risk of being sued we suggest!) That treatment was attending a cancer support group.

Lack of equality in cancer funding—groups vs drugs

If the above results had been achieved via a new drug, TGF suggests that its uptake would have been rapid and widespread. Take the relatively new drug Herceptin. It offers modest benefits to women with secondary breast cancer, costs around \$1000 per week and can be taken quite passively. After extensive lobbying Herceptin is now available on the PBS. Yet women choosing to take initiative, attend a support group and actively work on their own health and healing, must pay to help themselves. They receive no Medicare rebate and generally no relief from Health Insurance funds. This needs equality.

Self help and support groups offer major benefits to participants and are very cost effective

Cancer self help groups are cost efficient and warrant Government funding. Remarkable transformations occur when people attend an active cancer support group. The hope, energy and vitality in these groups is truly amazing and quite inspiring. Remarkable results commonly follow.

However, groups vary widely in their effectiveness and require quality control. A governing body is required to coordinate training establishments, ongoing support and monitoring of these groups. Such a body needs patient input as a major component and TGF is keen to participate, offering its 24 years of expertise in this area.

It is reasonable to say that Australia is at the forefront in cancer group work and by supporting and extending these services, something quite remarkable could be achieved. The differences these services could make for regional Australians affected by cancer would be immense.

Key evidence—the Ornish studies

Research on the Ornish program showed it could reverse coronary heart disease for about 10% of the cost of a coronary bypass operation. More research awaits publication demonstrating (through CM and lifestyle changes) that the same program, very similar to that of TGF, has significantly reduced PSA levels for men with prostate cancer in the watchful waiting phase after initial diagnosis. Many participants say they know that TGF programs work. Research and support is vital.

Devisive, non inclusive attitudes—the main obstacles to better services and treatments

TGF repeatedly hears from distressed patients and families who have suffered from the impact of what they regard as reactionary doctors and professional bodies who appear divisive and territorial. These people often feel unheard, attacked, dismissed, devalued.

TGF advocates an inclusive approach and as patient advocate is keen to represent its members to have a voice in decision making.

TGF's role in implementation

With respect, TGF offers to be a part of the ongoing development and implementation of the Senate Enquiry's findings and recommendations. We recommend TGF as an advocacy body who can represent the practical needs of cancer patients and their families.

In brief TGF urges the increased utilization of Integrative and Complementary Medicine. This needs to be backed by funding, education for health professionals and the lay community, and research.

The public are already voting with their feet and utilizing this more comprehensive approach with enthusiasm. The Government needs to take the initiative and play a major role in directing and coordinating this groundswell.

The public have asked the question—does IM and CM work? They believe the simple answer is a resounding Yes! Doctors need to be made aware of the research supporting this field, more funding is required for Australian research. GPs are in an ideal position to play a key role in this multi disciplinary approach to cancer management and services.

TGF is keen to offer its services as part of the ongoing development and implementation of this Enquiry's findings and recommendations.

6. ACKNOWLEDGEMENTS AND CONTRIBUTOR'S DETAILS

TGF acknowledges the courage and sensibilities of those it serves—its members, group participants and the wider community. Much of the information presented here has been gathered through the learnings of people facing the major challenges cancer presents.

We trust that their voice will be listen to and taken account of.

Specific thanks are due to those who made specific contributions to this report. By doing so they made a comprehensive document possible within a very short time frame.

In alphabetical order:

Mr Paul Bedson, Senior Therapist (TGF)

Dr Ian Gawler, Therapeutic Director (TGF)

Dr Ruth Gawler, GP & Residential Therapist (TGF)

Dr Craig Hassed, GP & Senior Lecturer, Monash University, Dept of General Practice

Prof George Jelinek, Professor of Emergency Medicine, Sir Charles Gairdner Hospital, WA

Prof Ray Kearney, Associate Professor in Infectious Diseases, University of Sydney

Dr Vicki Kotsirilos, General Practitioner, Clayton, Victoria, Ex President AIMA

Prof Avni Sali, Foundation Head of the Graduate School of Integrative Medicine, Swinburne University of Technology

Ms Rudi Uriot, Assistant to Dr Ian Gawler (TGF)

7. REFERENCES

-
- ¹ National Center for Complementary and Alternative Medicine), National Institutes of Health Bethesda, Maryland 20892 USA. Web: nccam.nih.gov
E-mail: info@nccam.nih.gov
- ² Therapeutic Goods Administration, October 2001. Levels and Kinds of Evidence to Support Indication and Claims for Non-Registrable medicines, including Complementary Medicines and other Listable Medicines.
- ³ Marc S. Micozzi. Fundamentals of Complementary and Alternative Medicine. Churchill Livingstone Inc. 1996.
- ⁴ MacLennan AH, Wilson DH, Taylor, AW. The escalating cost and prevalence of alternative medicine. *Prev.Med.* 2002;35:166-173
- ⁵ National Center for Complementary and Alternative Medicine), National Institutes of Health Bethesda, Maryland 20892 USA. Web: nccam.nih.gov
E-mail: info@nccam.nih.gov
- ⁵ Therapeutic Goods Administration, October 2001. Levels and Kinds of Evidence to Support Indication and Claims for Non-Registrable medicines, including Complementary Medicines and other Listable Medicines.
- ⁵ Marc S. Micozzi. Fundamentals of Complementary and Alternative Medicine. Churchill Livingstone Inc. 1996.
- ⁵ Dr. G. Hirst NHMRC Australian guidelines for the management of prostate disease.
- ⁶ Berlowitz D. et al. Inadequate management of blood pressure in a hypertensive population. *NEJM* 1998;339:1957-63.
- ⁷ McKinlay J. Physician variability and uncertainty in the management of breast cancer. *Medical Care* 1998;36:385-9.
- ⁸ Wetzel M., Eisenberg D., Kaptchuk T. Courses involving complementary and alternative medicine at US medical schools. *JAMA* 1998;280(9):784-7.
- ⁹ Astin J. Why patients use alternative medicine: results of a national study. *JAMA* 1998;279(19):1548-53.
- ¹⁰ Vickers AJ, Cassileth BR. Unconventional therapies for cancer and cancer-related symptoms. *Lancet Oncol.* 2001;2(4):226-32.
- ¹¹ Hann D, Baker F, Denniston M, Entekin N. Long-term Breast Cancer Survivors' Use of Complementary Therapies: Perceived Impact on Recovery and Prevention of Recurrence. *Integr Cancer Ther.* 2005;4(1):14-20.
- ¹² Bailor, JC & Smith, EM. Progress Against Cancer? *N Eng JM* 1986;314:1226-32
- ¹³ Reavley N, Vitetta L, Cortizo F, Sali A, A preliminary report of the effect of positive thinking, diet, meditation and psychosocial support on the psychological and physical wellbeing of cancer patients. *Psycho-Oncology* 2004;13: S1-S75
- ¹⁴ Faller H. Bulzebruck H. Drings P. Lang H. Coping, distress, and survival among patients with lung cancer. *Archives of General Psychiatry.* 1999;56(8):756-62.
- ¹⁵ Greer S, Morris T, Pettingale KW, Haybittle JL. Psychological response to breast cancer and 15 year outcome. *Lancet.* 1990;1:49-50.
- ¹⁶ Rogentine GN, Van Kammen DP, Fox BH, et al. Psychological factors in the prognosis of malignant melanoma: a prospective study. *Psychosom Med.* 1979;41:647-655.
- ¹⁷ Penninx BW, Guralnik JM, Pahor M, et al. Chronically depressed mood and cancer risk in older persons. *J Natl Cancer Inst.* 1998;90(24):1888-93.
- ¹⁸ Richardson J, Zarnekar Z, Bisno B, Levine A. Psychosocial status at initiation of cancer treatment and survival. *J Psychosomatic Research* 1990;34(2):189-201.
- ¹⁹ Montazeri A, Gillis CR, McEwen J. Quality of life in patients with lung cancer: a review of literature from 1970 to 1995. *Chest.* 1998;113:467-481.
- ²⁰ Coates A, GebSKI V, Signorini D, et al. for the Australian New Zealand Breast Cancer Trials Group. Prognostic value of quality-of-life scores during chemotherapy for advanced breast cancer. *J Clin Oncol.* 1992;10:1833-1838.
- ²¹ Dancey J, Zee B, Osoba D, et al. Quality of life scores: an independent prognostic variable in a general population of cancer patients receiving chemotherapy. *Qual Life Res.* 1997;6:151-158.
- ²² Butow P, Coates A, Dunn S. Psychosocial predictors of survival in metastatic melanoma. *J Clinical Oncology* 1999;17(12):3856-63.
- ²³ Spiegel D. et al. Effect of psychosocial treatment on survival of patients with metastatic breast cancer. *Lancet* 1989;2:888-891.
- ²⁴ Fawzy F. et al. Malignant melanoma; Effects of an early structured psychiatric intervention, coping and affective state on recurrence and survival six years later. *Arch Gen Psych* 1993;50:681-89.
- ²⁵ Fawzy FI, Canada AL, Fawzy NW Malignant melanoma: effects of a brief, structured psychiatric intervention on survival and recurrence at 10-year follow-up. *Arch Gen Psychiatry* 2003;60(1):100-3.
- ²⁶ Richardson JL, Shelton DR, Krailo M, Levine AM. The effect of compliance with treatment on survival among patients with hematologic malignancies. *J Clin Oncol* 1990;8:356-64.
- ²⁷ Kuchler T, Henne-Bruns D, Rappat S. et al. Impact of psychotherapeutic support on gastrointestinal cancer patients undergoing surgery: survival results of a trial. *Hepato-Gastroenterology.* 1999;46(25):322-35.
- ²⁸ Ratcliffe MA, Dawson AA, Walker LG. Eysenck Personality Inventory L-scores in patients with Hodgkin's disease and non-Hodgkin's lymphoma. *Psychooncology* 1995;4:39-45.
- ²⁹ Cunningham AJ, Edmonds CV, Phillips C. et al. A prospective, longitudinal study of the relationship of psychological work to duration of survival in patients with metastatic cancer. *Psycho-Oncology.* 2000;9(4):323-39.
- ³⁰ Edelman S, Lemon J, Bell DR, Kidman AD. Effects of group CBT on the survival time of patients with metastatic breast cancer. *Psycho-Oncology.* 1999;8(6):474-81.

-
- ³¹ Illyckij A, Farber J, Cheang MC, Weinerman BH. A randomized controlled trial of psychotherapeutic intervention in cancer patients. *Ann R Coll Physicians Surg Can* 1994;27:93-6.
- ³² Linn MW, Linn BS, Harris R. Effects of counseling for late stage cancer patients. *Cancer* 1982;49:1048-55.
- ³³ Goodwin PJ, Leszcz M, Ennis M, et al. The effect of group psychosocial support on survival in metastatic breast cancer. *N Engl J Med* 2001;345:1719-26.
- ³⁴ Gawler Foundation publication, Ed Gawler IG. *Inspiring People*, 1995.
- ³⁵ O'Regan B, Hirshberg C. *Spontaneous Remission—an annotated bibliography*. Institute of Noetic Sciences, 1993.
- ³⁶ Hirshberg C, Basasch I. *Remarkable Recovery*. Riverhead Books, NY, 1995. (Out of print).
- ³⁷ Fawzy FI Psychosocial interventions for patients with cancer: what works and what doesn't. *Eur J Cancer* 1999;35(11):1559-64.
- ³⁸ Cunningham A, Phillips C, Lockwood G et al. Association of involvement in psychological self-regulation with longer survival in patients with metastatic cancer: an exploratory study. *Advances in Mind-Body Medicine* 2000;16(4):276-87.
- ³⁹ Visintainer MA, Volpicelli JR, Seligman ME. Tumor rejection in rats after inescapable or escapable shock. *Science*. 1982;216(4544):437-9.
- ⁴⁰ Schulman P, Keith D, Seligman ME. Is optimism heritable? A study of twins. *Behaviour Research & Therapy*. 1993;31(6):569-74.
- ⁴¹ Sephton SE, Sapolsky RM, Kraemer HC, Spiegel D. Diurnal cortisol rhythm as a predictor of breast cancer survival. *Journal of the National Cancer Institute*. 2000;92(12):994-1000.
- ⁴² Turner-Cobb JM, Sephton SE, Koopman C, et al. Social support and salivary cortisol in women with metastatic breast cancer. *Psychosomatic Medicine*. 2000;62(3):337-45.
- ⁴³ Carlson LE, Speca M, Patel KD, Goodey E. Mindfulness-based stress reduction in relation to quality of life, mood, symptoms of stress and levels of cortisol, dehydroepiandrosterone sulfate (DHEAS) and melatonin in breast and prostate cancer outpatients. *Psychoneuroendocrinology*. 2004;29(4):448-74.
- ⁴⁴ Ader R, et al. 'Psychoneuroimmunology, interactions between the nervous system and the immune system.' *Lancet* 1995;345:99-103.
- ⁴⁵ Rabbitts J Chromosomal translocations in human cancer. *Nature* 1994;372:143.
- ⁴⁶ Oliver R Does surgery disseminate or accelerate cancer? *Lancet* 1995;346:1506.
- ⁴⁷ Schipper H et al. A new biological framework for cancer research. *Lancet* 1996;348:1149.
- ⁴⁸ Chrousos G The HPA axis and immune mediated inflammation. *N Engl J Med* 1995;332:1351.
- ⁴⁹ Kearney R From theory to practice – The implications of the latest psychoneuroimmunology research and how to apply them. *MIH Conference Proceedings* 1998;171-88.
- ⁵⁰ Holmgren L et al. Dormancy of micrometastases; Balanced proliferation and apoptosis in the presence of angiogenesis suppression. *Nature Med* 1995;1:149.
- ⁵¹ Kune S et al. Recent life change and large bowel cancer. *Journal of Clinical Epidemiology* 1991;44:57-68.
- ⁵² Davidson RJ *Psychosom Med*. 2003;65(4):564-70.
- ⁵³ Carlson LE, Speca M, Patel KD, Goodey E. Mindfulness-based stress reduction in relation to quality of life, mood, symptoms of stress, and immune parameters in breast and prostate cancer outpatients. *Psychosomatic Medicine*. 2003;65(4):571-81.
- ⁵⁴ Smith JC. *Psychosom Med*. 2004;66(1):148-52.
- ⁵⁵ Robinson FP *J Altern Complement Med*. 2003;9(5):683-94
- ⁵⁶ Solberg EE *Br J Sports Med*. 1995 Dec;29(4):255-7. .
- ⁵⁷ Maestroni GJ, Conti A, Pierpaoli W. Role of the pineal gland in immunity. *J Neuroimmunol*. 1986;13:19–30.
- ⁵⁸ Pierpaoli W. Neuroimmunomodulation of aging. a program in the pineal gland. *Ann NY Acad Sci*. 1998;840:491–497.
- ⁵⁹ Reiter R and Robinson J In 'Melatonin' Bantam Books: New York, London 1995.
- ⁶⁰ Panzer A, Viljoen M. The validity of melatonin as an oncostatic agent. *J Pineal Res*. 1997;22(4):184–202.
- ⁶¹ Coker KH. Meditation and prostate cancer: integrating a mind/body intervention with traditional therapies. *Seminars in Urologic Oncology* 1999;17(2):111-8.
- ⁶² Kearney R From theory to practice – The implications of the latest psychoneuroimmunology research and how to apply them. *MIH Conference Proceedings* 1998;171-88.
- ⁶³ Brzezinski A Melatonin in humans. *N Engl J Med* 1997;336:186.
- ⁶⁴ Weindruch R et al. *N Engl J Med* 1997;337:986.
- ⁶⁵ Heuther G Melatonin synthesis in the GI tract and the impact on nutritional factors on circulating melatonin. *Annals NY Acad Sci* 1994;719:146.
- ⁶⁶ Cronin A, Keifer J, Davies M et al. *Lancet* 2000;356(9237):1244-5.
- ⁶⁷ Massion AO, Teas J, Hebert JR, Wertheimer MD, Kabat-Zinn J. Meditation, melatonin and breast/prostate cancer: hypothesis and preliminary data. *Medical Hypotheses* 1995;44(1):39-46.
- ⁶⁸ Tooley GA, Armstrong SM, Norman TR, Sali A. Acute increases in night-time plasma melatonin levels following a period of meditation. *Biological Psychology* 2000;53(1):69-78.
- ⁶⁹ Kiecolt-Glaser J., Stephens R., Lipetz P. et al. Distress and DNA repair in human lymphocytes. *J Behavioural Medicine* 1985;8(4):311-20.
- ⁷⁰ Tomei LD, Kiecolt-Glaser JK, Kennedy S, Glaser R. Psychological stress and phorbol ester inhibition of radiation-induced apoptosis in human peripheral blood leukocytes. *Psychiatry Research* 1990;33(1):59-71.

-
- ⁷¹ Pero RW, Roush GC, Markowitz MM, Miller DG. Oxidative stress, DNA repair, and cancer susceptibility. *Cancer Detect Prev* 1990;14(5):555-61.
- ⁷² Irie M, Asami S, Nagata S et al. Relationships between perceived workload, stress and oxidative DNA damage. *Int Arch Occup Environ Health* 2001;74(2):153-7.
- ⁷³ Irie M, Asami S, Nagata S et al. Psychological factors as a potential trigger of oxidative DNA damage in human leukocytes. *Jpn J Cancer Res* 2001;92(3):367-76.
- ⁷⁴ Irie M, Asami S, Nagata S et al. Psychological mediation of a type of oxidative DNA damage, 8-hydroxydeoxyguanosine, in peripheral blood leukocytes of non-smoking and non-drinking workers. *Psychother Psychosom* 2002;71(2):90-6.
- ⁷⁵ Irie M, Asami S, Nagata S et al. Classical conditioning of oxidative DNA damage in rats. *Neurosci Lett* 2000;288(1):13-6.
- ⁷⁶ Lutgendorf SK, Johnsen EL, Cooper B et al. Vascular endothelial growth factor and social support in patients with ovarian carcinoma. *Cancer* 2002;95(4):808-15.
- ⁷⁷ Onogawa S, Tanaka S, Oka S et al. Clinical significance of angiogenesis in rectal carcinoid tumors. *Oncol Rep* 2002;9(3):489-94.
- ⁷⁸ Hassed C. Meditation in general practice. *Australian Family Physician* August 1996;25(8):1257-60.
- ⁷⁹ Astin J. Stress reduction through mindfulness meditation. Effects on psychological symptomatology, sense of control, and spiritual experiences. *Psychotherapy and Psychosomatics* 1997;66(2):97-106.
- ⁸⁰ Shapiro S, Shapiro D, Schwartz G. Stress management in medical education: a review of the literature. *Academic Medicine* 2000;75(7):748-59.
- ⁸¹ Whitehouse WG, Dinges DF, Orne EC et al. Psychological and immune effects of self-hypnosis training for stress management through the first semester of medical school. *Psychosomatic Medicine* 1996;58:249-63.
- ⁸² Kabat-Zinn et al. Effectiveness of meditation based stress reduction program in the treatment of anxiety disorders. *Am J Psychiatry* 1992;149:936-943.
- ⁸³ Shapiro S., Schwartz G., Bonner G. Effects of mindfulness-based stress reduction on medical and pre-medical students. *J Behav Med* 1998;21(6):581-99.
- ⁸⁴ Soskis DA. Teaching meditation to medical students. *J Religion and Health* 1978;17:136-43.
- ⁸⁵ Kelly JA, Bradlyn AS, Dubbert PM et al. Stress management training in medical school. *Journal of Medical Education* 1982;57:91-9.
- ⁸⁶ Dashef SS, Espey WM, Lazarus JA. Time-limited sensitivity groups for medical students. *American Journal of Psychiatry* 1974;131:287-92.
- ⁸⁷ Palan BM, Chandwani S. Coping with examination stress through hypnosis: an experimental study. *American Journal of Clinical Hypnosis* 1989;31:173-80.
- ⁸⁸ Hilberman E, Konanc J, Perez-Reyes M et al. Support group for women in medical school: a first year program. *Journal of Medical Education* 1975;50:867-75.
- ⁸⁹ Specia M, Carlson L, Goodey E, Angen M. A randomized wait-list controlled trial: the effects of a mindfulness meditation based stress reduction program on mood and symptoms of stress in cancer patients. *Psychosomatic Medicine* 2000;62:613-22.
- ⁹⁰ Kaplan K, Goldenberg D, Galvin-Nadeau M. The impact of a meditation-based stress reduction program on fibromyalgia. *Gen Hosp Psychiatry* 1993;15:284-9.
- ⁹¹ Kabat-Zinn J. et al. Four-year follow-up of a meditation based program for the self-regulation of chronic pain: treatment outcomes and compliance. *Clin J Pain* 1987;2:159-173.
- ⁹² Kristeller J, Hallett C. An exploratory study of a meditation-based intervention for binge eating disorder. *J Health Psychol* 1999;4:357-63.
- ⁹³ *Journal of Psychosomatic Research*. 2004;57(1):35-43.
- ⁹⁴ Grossman P. Niemann L. Schmidt S. Walach H. Mindfulness-based stress reduction and health benefits; A meta-analysis. *Journal of Psychosomatic Research*. 2004;57(1):35-43.
- ⁹⁵ Teasdale JD, Segal ZV, Williams JM, et al. Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *J Consult Clin Psychol*. 2000;68(4):615-23.
- ⁹⁶ Ma SH, Teasdale JD. Mindfulness-based cognitive therapy for depression: replication and exploration of differential relapse prevention effects. *J Consult Clin Psychol*. 2004;72(1):31-40.
- ⁹⁷ Teasdale J, Segal Z, Williams J, Mark G. How does cognitive therapy prevent depressive relapse and why should attention control (mindfulness) training help? *Behav Res Ther* 1995;33:25-39.
- ⁹⁸ Teasdale JD, Moore RG, Hayhurst H, et al. Metacognitive awareness and prevention of relapse in depression: empirical evidence. *J Consult Clin Psychol*. 2002;70(2):275-87.
- ⁹⁹ Specia M, Carlson LE, Goodey E, Angen M. A randomized, wait-list controlled clinical trial: the effect of a mindfulness meditation-based stress reduction program on mood and symptoms of stress in cancer outpatients. *Psychosom Med*. 2000;62(5):613-22.
- ¹⁰⁰ Tacon AM, McComb J, Caldera Y, Randolph P. Mindfulness meditation, anxiety reduction, and heart disease: a pilot study. *Family & Community Health*. 2003;26(1):25-33.
- ¹⁰¹ Astin JA. Stress reduction through mindfulness meditation. Effects on psychological symptomatology, sense of control, and spiritual experiences. *Psychother Psychosom*. 1997;66(2):97-106.
- ¹⁰² Singh BB, Berman BM, Hadhazy VA, Creamer P. A pilot study of cognitive behavioral therapy in fibromyalgia. *Altern Ther Health Med*. 1998;4(2):67-70.

- ¹⁰³ Kabat-Zinn J, Lipworth L, Burney R. The clinical use of mindfulness meditation for the self-regulation of chronic pain. *J Behav Med.* 1985;8(2):163-90.
- ¹⁰⁴ Astin JA, Berman BM, Bausell B, et al. The efficacy of mindfulness meditation plus Qigong movement therapy in the treatment of fibromyalgia: a randomized controlled trial. *J Rheumatol.* 2003;30(10):2257-62.
- ¹⁰⁵ Cohen L, Warneke C, Fouladi RT, et al. Psychological adjustment and sleep quality in a randomized trial of the effects of a Tibetan yoga intervention in patients with lymphoma. *Cancer.* 2004;100(10):2253-60.
- ¹⁰⁶ Hassed CS. Bringing holism into mainstream biomedical education. *Journal of Alternative & Complementary Medicine.* 2004;10(2):405-7.
- ¹⁰⁷ Ornish D, et al. Can lifestyle changes reverse coronary heart disease? *Lancet* 1990;336:129-133.
- ¹⁰⁸ News. US insurance company covers lifestyle therapy. *BMJ.* 1993;307:465.
- ¹⁰⁹ Penninx BW, Beekman AT, Honig A, et al. Depression and cardiac mortality: results from a community-based longitudinal study. *Archives of General Psychiatry.* 2001;58(3):221-7.
- ¹¹⁰ Ornish D., Scherwitz L., Billings J., et al. Intensive lifestyle changes for reversal of coronary heart disease. *JAMA* 1998;280:2001-7.
- ¹¹¹ Ornish DM, Lee KL, Fair WR, Pettengill EB, Carroll PR. Dietary trial in prostate cancer: Early experience and implications for clinical trial design. *Urology.* 2001;57(4 Suppl 1):200-1.
- ¹¹² Slattery M, Potter J, Caan B et al. Energy balance and colon cancer – beyond physical activity. *Cancer Research.* 1997; 57: 75-80.
- ¹¹³ Colditz G, Cannuscio C, Grazier A. Physical activity and reduced risk of colon cancer. *Cancer Causes and Control.* 1997; 8: 649-667.
- ¹¹⁴ Thune I, Lund E. The influence of physical activity on lung cancer risk. *International Journal of Cancer.* 1997; 70: 57-62.
- ¹¹⁵ Rockhill B, Willett W, Hunter D et al. A prospective study of recreational activity and breast cancer risk. 1999; 159: 2290-6.
- ¹¹⁶ McTiernan et al. Recreational physical activity and the risk of breast cancer in post menopausal women: The Women's Health Initiative Cohort Study. *JAMA* 2003; 290: 1331-1336.
- ¹¹⁷ Thune I, Lund E. The influence of physical activity on lung cancer risk. *International Journal of Cancer.* 1997; 70: 57-62.
- ¹¹⁸ Block, G. et al. Fruit vegetables and cancer prevention : a review of the epidemiological data. *Nutr Cancer* 18 pp 1 – 29, 1992
- ¹¹⁹ Doll, R., The causes of cancer.,*Rev Epidemiol Sante Publique.* 2001 Apr;49(2):193-200.
- ¹²⁰ Hursting SD, Lavigne JA, Berrigan D, Perkins SN, Barrett JC. Calorie restriction, aging, and cancer prevention: mechanisms of action and applicability to humans. *Annu Rev Med.* 2003;54:131-52. Epub 2001 Dec 03.
- ¹²¹ Meydani M. Nutrition interventions in aging and age-associated disease. *Ann N Y Acad Sci.* 2001;928:226-35.
- ¹²² Shekelle, R.B. et al. Dietary vitamin A and the risk of cancer in the Western Electric study. *Lancet* 1981;2(8257):1186–90.
- ¹²³ Peters U, Sinha R, Chatterjee N, et al. Dietary fibre and colorectal adenoma in a colorectal cancer early detection programme. *Lancet* 2003;361(9368):1491-5.
- ¹²⁴ Ahn WS, Yoo J, et al. Protective effects of green tea extracts (polyphenon E and EGCG) on human cervical lesions. *European Journal of Cancer Prevention* 2003;12(5):383–90.
- ¹²⁵ Grubbs, C.J. et al. Chemoprevention of chemically induced mammary carcinogenesis by indole-3-carbinol, *Anticancer Res* 15 (3), pp. 709-16, 1995
- ¹²⁶ Ness AR, Frankel SJ, Gunnell DJ, et al. Are we really dying for a tan? *BMJ* 1999; 319:114-16.
- ¹²⁷ Lucas RM, Ponsonby AL. Ultraviolet radiation and health: friend and foe. *Med J Aust* 2002;177:594-8.
- ¹²⁸ Ponsonby AL, McMichael A, van der Mei I. Ultraviolet radiation and autoimmune disease: insights from epidemiological research. *Toxicology* 2002; 181-182:71-8.
- ¹²⁹ Holick MF. Vitamin D: A millenium perspective. *J Cell Biochem* 2003; 88:296-307.
- ¹³⁰ Zittermann A. Vitamin D in preventive medicine: are we ignoring the evidence? *Br J Nutr* 2003; 89:552-572.
- ¹³¹ Holick MF. Sunlight and vitamin D for bone health and prevention of autoimmune diseases, cancers, and cardiovascular disease. *Am J Clin Nutr* 2004; 80:1678S-88S.
- ¹³² Grant WB. Ecologic studies of solar UV-B radiation and cancer mortality rates. *Recent Results Cancer Res* 2003; 164:371-7.
- ¹³³ Garland FC, White MR, Garland CF, Shaw E, Gorham ED. Occupational sunlight exposure and melanoma in the U.S. Navy. *Arch Environ Health* 1990; 45:261-7.
- ¹³⁴ Vieth R. Vitamin D supplementation, 25-hydroxyvitamin D concentrations, and safety. *Am J Clin Nutr* 1999; 69:842-56.
- ¹³⁵ Vieth R. Why the optimal requirement for Vitamin D(3) is probably much higher than what is officially recommended for adults. *J Steroid Biochem Mol Biol* 2004; 89-90:575-9.
- ¹³⁶ Esparza ML, Sasaki S, Kesteloot H. Nutrition, latitude, and multiple sclerosis mortality: an ecologic study. *Am J Epidemiol* 1995; 142:733-7.
- ¹³⁷ Goldacre MJ, Seagroatt V, Yeates D, Acheson ED. Skin cancer in people with multiple sclerosis: a record linkage study. *J Epidemiol Community Health* 2004; 58:142-4.

-
- ¹³⁸ Freedman DM, Dosemeci M, Alavanja MC. Mortality from multiple sclerosis and exposure to residential and occupational solar radiation: a case-control study based on death certificates. *Occup Environ Med* 2000; 57:418-21.
- ¹³⁹ Embry AF, Snowdon LR, Vieth R. Vitamin D and seasonal fluctuations of gadolinium-enhancing magnetic resonance imaging lesions in multiple sclerosis. *Ann Neurol* 2000; 48:271-2.
- ¹⁴⁰ Munger KL, Zhang SM, O'Reilly E, et al. Vitamin D intake and incidence of multiple sclerosis. *Neurology* 2004; 62:60-5.
- ¹⁴¹ van der Mei IA, Ponsonby AL, Dwyer T, et al. Past exposure to sun, skin phenotype, and risk of multiple sclerosis: case-control study. *Bmj* 2003; 327:316.
- ¹⁴² Deluca HF, Cantorna MT. Vitamin D: its role and uses in immunology. *Faseb J* 2001; 15:2579-85.
- ¹⁴³ Lukoff D. et al. *Cultural Psychiatry* 1995;18(3):467-84.
- ¹⁴⁴ Matthews D, McCullough M, Larson D, et al. 'Religious commitment and health status: a review of the research and implications for family medicine.' *Arch Fam Med* 1998;7(2):118-24.
- ¹⁴⁵ Gartner J., Larson D., Allen G. Religious commitment and mental health: a review of the empirical literature. *J Psychol Theol* 1991;19:6-25.
- ¹⁴⁶ Koenig H., George L., Perterson B. Religiosity and remission of depression in medically ill older patients. *American Journal of Psychiatry* 1998;155:536-42.
- ¹⁴⁷ McCullough M, Larson D. Religion and depression: a review of the literature. *Twin Research* 1999;2(2):126-36.
- ¹⁴⁸ Gartner J, Larson D, Allen G. Religious commitment and mental health: a review of the empirical literature. *J Psychol Theol* 1991;19:6-25.
- ¹⁴⁹ Comstock G, Partridge K. Church attendance and health. *J Chronic Dis* 1972;25:665-72.
- ¹⁵⁰ Larson D., Wilson W. The religious life of alcoholics. *Southern Medical Journal* 1980;73:723-7.
- ¹⁵¹ Moore R, Mead L, Pearson T. Youthful precursors of alcohol abuse in physicians. *Am J Med* 1990;88:332-6.
- ¹⁵² Fraser G., Sharlik D. Risk factors for all-cause and coronary heart disease mortality in the oldest old: the Adventist's Health Study. *Archives of Internal Medicine* 1997;157(19):2249-58.
- ¹⁵³ Levin J., Vanderpool H. Is frequent religious attendance really conducive to better health? Toward an epidemiology of religion. *Soc Sci Med.* 1987;24:589-600.
- ¹⁵⁴ Kune G., Kune S., Watson L. Perceived religiousness is protective for colorectal cancer: data from the Melbourne Colorectal Cancer Study. *Journal of the Royal Society of Medicine* 1993;86:645-7.
- ¹⁵⁵ Craigie F, Larson D, Liu I. References to religion in the *Journal of Family Practice*: dimensions and valency of spirituality. *J Fam Pract* 1990;30:477-80.
- ¹⁵⁶ Hummer R., Rogers R., Nam C. et al. Religious involvement and U.S. adult mortality. *Demography* 1999;36(2):273-85.
- ¹⁵⁷ Clark K., Friedman H., Martin L. A longitudinal study of religiosity and mortality risk. *Journal of Health Psychology* 1999;4(3):381-91.
- ¹⁵⁸ McCord G, Gilchrist VJ, Grossman SD et al. Discussing spirituality with patients: a rational and ethical approach. *Ann Fam Med.* 2004;2(4):356-61.
- ¹⁵⁹ Hased C. Western psychology meets Eastern philosophy. *Australian Family Physician* 1999;28(10):1057-8.
- ¹⁶⁰ Astin J. Why patients use alternative medicine: results of a national study. *JAMA* 1998;279(19):1548-53.
- ¹⁶¹ Hased C. (2005) Unit Study Guide. Health Enhancement Program, Monash University.
- ¹⁶² McCord G, Gilchrist VJ, Grossman SD et al. Discussing spirituality with patients: a rational and ethical approach. *Ann Fam Med.* 2004;2(4):356-61.