

Dennis Bowden



11 November 2011

The Research Director
Industry, Education, Training and Industrial Relations Committee
Parliament House
George Street
Brisbane QLD 4000

Dear Sir/Madam

My name is Dennis Bowden. I am presenting this submission to the Industry, Education, Training and Industrial Relations Committee based on my experience as an educator and training developer for the Australian Army and the Royal Australian Navy. Both organisations contain schools that are recognised training authorities (RTO). These RTOs can issue qualifications in their own right or in conjunction with a civilian educational institution. At various times during my 15 years working as a military educator I was involved with the analysis, design, development, conduct and validation of training. I have converted distance-learning courses to face-to-face courses and visa versa. As a recruiting ploy, the military are keen to equate military qualifications with their civilian counterparts. Giving the Commonwealth control over RTOs and their courses will make linking military and civilian courses simpler because an RTO will be able to deal with a single entity instead of seven State and Territory organizations. However, there is a very serious problem that the Commonwealth could inherit from the State organizations. That is, accredited courses in the alternative medical field are not based on scientifically tested medicines and medical techniques. By scientifically tested I mean the medicines and medical techniques have been subjected to double-blind clinical trials. The anecdotes of practitioners and patients involved in the alt med industry mistakenly link the placebo effect and confirmation bias to the efficacy of the treatments provided.

When training developers design courses they do so under the guidance of a subject matter expert. I supervised the analysis, design, development, conduct and validation of courses for the medical, dental, catering and supply schools. For medical courses the subject matter experts I used were highly trained and experienced senior NCOs, warrant officers and medical officers. Our collective aim was to train medical staff with the skills, knowledge and attitudes necessary to provide the best medical care and advice to military personnel while they were based in Australia, or when they were deployed overseas. I would imagine this is the exact aim of civilian nursing and medical schools. During all the discussions and interviews I had with medical staff and patients, during all the documentation I read on medical courses, during all the times I was on the receiving end of medical care, not one single time during my 33

years as a soldier did I see or hear of a need to use or consult homeopaths, naturopaths, iridologists, chiropractors, herbalists, acupuncturists, reflexologists, or aromatherapists. The military demands effective, scientifically based medical care for its men and women.

A brief explanation of each of these fallacious alternative medical (alt med) modalities is at Annex A. Except for a small benefit shown in reducing lower back pain by chiropractors and the unpredictable effects of herbal medicines of unknown potency, these alt meds have no greater success than a placebo when subjected to double-blind clinical trials. Usually anecdotal evidence is offered for the efficacy of alt med practices. The people who offer anecdotal evidence of the efficacy of alt med do not understand, or pretend they do not understand, the placebo effect or how to recognise the confirmation bias that plays a major role in giving credence to alt med practices. A brief explanation of the placebo effect and confirmation bias is also at Annex A.

The current situation in Queensland sees a number of registered training authorities providing courses in alt med. These include the Endeavour College of Natural Health. Endeavour provides courses ranging from a one-day homeopathic first-aid course to a full-time 3.5-year bachelor of health science (BS) degree in homeopathy. As far as I can ascertain all of Endeavour's courses are correctly documented. According to Endeavour's website its BS degree will cost a student \$43 000. There is no entry-level science experience required for any of the six bachelor degrees Endeavour offers, yet chemistry and biochemistry are subjects in all bachelor degree courses except acupuncture. At the very least "science" should be removed from the title and replaced by "wishful thinking" or "anecdote". The title of the bachelor of health science is misleading in the extreme; it is indicative of the alt med industry's use of scientific sounding terms to confound scrutiny. Alt med courses train student to believe they can provide alternative treatment to science-based medicine. Here the danger can be life threatening; for instance, homeopaths have offered homeopathic alternatives to anti-malarial drugs and naturopaths have dissuaded parents from having their children vaccinated against measles, mumps, rubella, and pertussis.

RTOs are subjected to inspection. However, these inspections are focussed on the correct documentation of a course and the maintenance of student records; while these are important, the inspections do not delve into the contents of a course. Therefore, when a government body accredits a course the RTO can imply government backing of the contents of the course. A similar situation was noticed by the House of Commons Science and Technology Committee when it reviewed the effectiveness of homeopathy:

"When the National Health Service funds homeopathy it endorses it. Since the NHS Constitution explicitly gives people the right to expect that decisions on the funding of drugs and treatments are made "following a proper consideration of the evidence", patients may reasonably form the view that homeopathy is an evidence-based treatment.

Students are then free to infer that the government has given its approval to the contents of a course not that it has been just correctly documented. The Associate Director of Student Services at Endeavour College of Natural Health was very keen the have courses registered when she addressed a group of prospective students. Organisations that carry out government functions, such as the Queensland Tertiary Admissions Centre (QTAC), end up acting as a shill by being a focal point for gathering, for the alt med institution, through the Internet and advertising, a group of people perhaps nervous about their or their children's future with the allure of courses that sound like science. The approval of course content is a different process from the approval of course documentation. QTAC explained the process as follows:

“Approval processes are based on the principle of academic quality through independent peer review. Meeting at a course assessment panel, leading academics, practitioners and industry professionals participate in an evaluation of a proposed course in order to make a recommendation to the Minister about approval. This process provides assurance to the public that higher education awards in Queensland are consistent with national standards.”

The academics, practitioners and industry professionals mentioned by QTAC can be the same people who are going to benefit financially from the accreditation of the course. Alt meds are a 3 billion dollar industry in Australia. There is no discernable independent peer review of alt med courses; if there were, it should be done by scientifically trained doctors who would quickly pick up on the lack of successful double-blind trials into the efficacy of alt meds. Whenever double-blind trials have been conducted into alt meds, they have shown the treatments to be no better than a placebo. The use of the term “peer review” is disingenuous. When scientists use the term peer review they use it to refer to a process where a research paper is published and copies are sent to other scientific experts in the same field. None to gently, the reviewers let the authors of papers know where they are wrong. Saying course content is peer reviewed and thereby proven worthy of accreditation is nonsense. Just because you can articulate a course on an alt med does not indicate it provides training that is the equal of science-based medicine. Alt med proponents do not criticise each other; probably this is from a fear that they could not withstand the return criticism. The people producing the course documentation, providing the subject matter expertise and those doing the “peer review” could easily be a mutual admiration society. I must mention that QTAC has informed me that as of August 2011 it would no longer process applications on behalf of Endeavour College; hopefully it is not passing this privilege to the Commonwealth.

The medical training system in Australia should be concentrating on providing training that will produce providers of effective medical care; it should not simply be providing courses for the sake of giving people qualifications. Alt med courses are base on ideas derived when medicine was in its infancy. By the application of scientific testing in the form of double-blind trials modern medicine has lifted itself into a position where it saves lives. Alt meds practitioners only recognise evidence

that supports their ideology. Do not allow the Commonwealth to become a shell for the institutions that provide this quackery.

Dennis Bowden



M Ed (TESOL); M Prof St;
Grad Dip Inf Man & Sys;
Grad Dip Ed (Sec);
Grad Dip Arts (Lib Sc);
BA; Dip Trg Dev

Tel: [REDACTED]

E-mail: [REDACTED]

Acupuncture

Acupuncturists insert and manipulate steel needles that penetrate the skin into qi or meridians that channel “energy” through the body. (The term “energy” used in this sense is nonsense. Energy is simply the capacity of a physical system to perform work; it is not some weird force field that can be channelled.) Practitioners claim that acupuncture relieves pain, promotes health, treats infertility, and treats and prevents diseases. Test subjects receiving either real acupuncture, where needles are inserted, or sham acupuncture, where wooden tooth picks touch but do not penetrate the skin, report the same therapeutic effects. What patients are experiencing is the placebo effect coupled to confirmation bias.

Aromatherapy

Aromatherapy along with massage and music therapy are used by alt meds proponents to give the status of the medical sounding term “therapy” to a pleasant activity so as to imply that there is some specific medical mechanism at work where none need exist. Aromatherapy involves the use of pleasant scents with the implication of medical benefits where none exist. Aromatherapy gives a pseudoscientific medical perspective to a vast range of products providing pleasant smells: scented candles, air fresheners and flowers. Proponents make claims that aromatherapy can be beneficial in pain and anxiety reduction, improvements in short-term memory, prevention of hair loss, reduction of itching, relaxation and enhancement of energy. Scientific testing has never been able to substantiate any of these claims.

Chiropractic

Founded in 1895 by Daniel Palmer, Chiropractic treated all diseases as being caused by subluxated bones, usually of the spine, which disrupt the flow of “innate intelligence”. Therefore, if a patient has heart disease it could be treated by manipulating the misaligned vertebrae that are compressing the nerves, which supply the heart with life force, thus depriving the heart of its vital innate intelligence. Claims are made that manipulation of the neck can cure headaches. Manipulation of other parts of the spine can cure colic or even asthma. Some chiropractors are critical of the unscientific claims of their fellow chiropractors and only treat lower-back pain for which there is some scientific backing.

Herbal Medicines

Often herbs sold by herbalists do have active ingredients in them that can have a positive therapeutic benefit, and, if the correct herb is applied to the appropriate malady, it can be of benefit. However, the concentration of active ingredient can vary wildly and, therefore, give unpredictable results. As well, if herbs are taken at the same time as prescribed medicines, there can be an adverse reaction. Many modern pharmaceuticals are refinements of herbal medicines, but the concentration of active ingredient in modern pharmaceuticals is accurately controlled so its effects can be predicted.

Homeopathy

Homeopathy is a marketer's dream product. Invented over 200 years ago by Samuel Hahnemann it is based on two laws: the law of like cures like and the law of infinitesimals. The like cures like law claims that drugs that cause specific symptoms can cure the disease that causes the same symptoms. The law of infinitesimals claims that as you dilute drugs in water or alcohol the drugs become more powerful; the more diluted the more powerful. When drugs are diluted to the point that there is no active molecule of the drug left in the water, the water is said to retain a memory of the drug. Consequently, patients are taking very pure water or sugar pills, if the medicine is in solid form, and in most cases the body cures itself. Homeopaths pitch their holistic approach as superior to their mistaken idea that modern medicine focuses only on the disease. This has been an effective technique and many people have rejected medical treatment in favour of homeopathic treatment. Many people have died. The website What's the Harm.com details the sad consequences of not understanding some basic science. The House of Commons Science and Technology Committee summed up Homeopathy nicely: "In our view, the systematic reviews and meta-analyses conclusively demonstrate that homeopathic products perform no better than placebos."

<http://www.publications.parliament.uk/pa/cm200910/cmselect/cmsctech/45/4502.htm>

Iridology

Iridology is based on the assertion that the health of various organs in the body can be assessed by examining the iris of the eye. That is, if you have kidney disease there will be a mark on a particular part of the eye. Ignatz von Peczely linked the recovery of an owl's broken leg with the gradual disappearance of a mark in the bird's iris. As an adult he then went on to chart the correspondence of the organ of the body with texture and pigment flecks of the iris. There are no observable links between the organs of the body and marks in the iris. Mats Larrson claimed to be able to detect a link between the mark in the iris and personality.

Naturopathy

Naturopathy lays claim to any technique that purports to prevent, diagnose, evaluate or treat an illnesses by supporting, stimulating or supplementing the body's own natural self-healing processes. Of course, the explanation for the claimed effectiveness of naturopathy varies widely among naturopaths; however, they do have a particular proclivity for using scientific-sounding terms unscientifically: toxins, energy, quantum, chemicals, peer review, clinical trials, research etc. The usually unspecified toxins are the underlying cause of the body's inability to cure itself of diseases such as cancer, autism, diabetes, heart disease and high blood pressure among others. Naturopaths give credence to anti-vaccination organizations in Australia. The success of the scare tactics used by anti-vaccination proponents is seen in the resurgence of measles and pertussis as herd immunity is lost and these disease again have access to those who are too young to even be vaccinated. Australian children have died while we pander to the unscientific beliefs of naturopaths.

Reflexology

Having your feet massaged feels very good. In the 1930s, Eunice Ingham developed reflexology where the massaging of feet was used to diagnose and treat disease. Each part of the foot is said to mirror part of the body. Practitioners of reflexology claim they can cure migraines, sinus problems, hormonal imbalances, breathing disorders, digestive upsets and back pain. By massaging the correct spot on the correct foot these disorders can be cured. There has been no scientific research to substantiate these claims.

Overview

All of the above pseudoscientific alt meds rely on the power of the placebo effect and confirmation bias in convincing practitioners and patients of the efficacy of a treatment. A placebo is a pharmacologically inert substance that produces the same effect as a pharmacologically active substance. The placebo effect is the measurable, observable or felt improvement in health or behaviour that comes from a test subject or researcher believing that viable medications or treatments are being administered. By extension fake surgery and fake therapies are considered placebos. Confirmation bias refers to a type of illogical and very selective thinking where those receiving and those providing treatment tend to notice and look for what confirms their beliefs while ignoring what contradicts their beliefs. Supporters of alt med therapies also ignore what the human body has been doing since long before any of these alt meds were even heard of; that is, cure itself. Of course the practitioner takes the credit and the money.