



## Original Research Papers

## Complementary medicine research projects in Australia: 2008–2013

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## ABSTRACT

**Objectives:** Australians are among the world's highest consumers of complementary medicine. Research is vital to ensure the safe and effective use of complementary medicines and practices and their appropriate integration into mainstream healthcare. In 2014, the National Institute of Complementary Medicine (NICM) undertook a survey to determine the extent of complementary medicine academic research in Australia from 2008 to 2013. This survey builds upon aspects of previous research undertaken by NICM in 2005 and 2008.

**Methods:** The surveys were conducted using the Survey Monkey™ program and distributed electronically by email, made available on the NICM website, provided in the NICM newsletter and sent to industry associations, who agreed to promulgate the link. The survey included 20 items assessing the size and scope of the industry in Australia in terms of the research workforce, the nature of research activities, funding mechanisms and quantum of research funds and resources and facilities available to researchers.

**Results:** Based on survey responses reporting on the 6 year period 2008–2013, 160 respondents provided information on 295 active CM research projects employing a total quantum of \$31.3 million. The greatest quantum provided for active projects came from NHMRC (36%) while universities supported the greatest number of projects (27%). 238 of the 296 projects reported on their workforce, this represented 429 academic researchers and 167 full time equivalent (FTE) research students. \$29.5M in new funding was awarded to new projects over this period.

**Conclusions:** Whilst the total reported quantum of research funding for expenditure on CM projects in the period January 2008–December 2013 was \$31.3M, the annual funding of new CM research projects decreased considerably in the latter part of the survey period. Australia has a well-developed CM research sector; however it is insufficiently supported given the size of the Australian industry and the level of consumer use.

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## What is already known about the topic

- Australians are among the world's highest consumers of complementary medicine with CM products and services representing a \$4B industry in Australia, with an expected annual growth of 3.9% in the 2011–2016 period.
- Greater investment in research and development generates downstream benefits for the community. Access Economics reported that “for the average dollar invested in Australian health R&D, \$2.17 in health benefits is returned.”

- Australian researchers have demonstrated excellence in the field of complementary with two research concentrations well-above world standard, though funding investment in this area remains low.
- Two previous reports released by the National Institute of Complementary Medicine in 2005 and 2008, indicated a growing investment in complementary medicine research supported heavily by industry investment.

## What this paper adds

- Despite the reach of this survey being broader to be more inclusive of smaller scale and scattered projects, the quantum of investment has decreased in the current survey period.
- A total of \$31.3M of funding was allocated to CM research for expenditure over the period (2008–13) comprising 295 unique

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CM projects led by 160 chief investigators. Over this six year period a total of \$29.5M of new funding was awarded including funding for future years, supporting 285 new projects.

- 428 academic staff and 160 FTE research students spread across 118 research clusters in 53 unique organisations reported being involved in CM research projects during the survey period. NSW was the most active state with the largest number of active projects (162) the highest proportion of allocated funding (49%), and the largest CM research workforce (55%).
- While government funding contributed the greatest quantum of funding (36%), university funding supported the greatest number of projects (27%), indicating support for smaller scale, and seed projects.
- The focus of this research has been around the general effect of complementary medicines and nutritional and dietary supplements for bone and joint diseases and mental health, and involving laboratory and clinical analyses equally.

## 1. Introduction

Australians are among the world's highest consumers of complementary medicine (CM) products and services with the industry growing at an annual rate of 3.9% [1]. CM is used by 2 out of 3 Australians, with the primary reason for use being for health maintenance [2]. More than 40% of users take CM for chronic medical conditions, where current treatments may be expensive, ineffective or have unwanted side effects [3]. Research undertaken by the National Prescribing Service in 2007 showed about 90% of general practitioners had recommended at least one CM in the last 12 months and almost all surveyed community pharmacists had recommended some kind of CM over that period [4]. A study of Australian consumers by the National Prescribing Service found that only 53% of survey respondents reported having mentioned or discussed their use of complementary medicines with a doctor [5]. A 2010 survey reported that up to 65% of Australian cancer patients used at least one form of CM [6], with over half of these patients using CM in conjunction with conventional therapy [7]. However in some specific cancer categories, even higher rates of use (87%) have been noted [8].

Australian researchers display excellence in this field, with two complementary medicine research concentrations in Australian universities achieving an *Excellence in Research for Australia* ranking of 5 ('well above world standard') in the Australian Research Council's 2015–16 ranking round [9]. The overall levels of funding for CM research however remain low relative to levels of public use. Support for this sector through industry and government funding of research is critical for a number of reasons. Australians use CM and seek to integrate this use, with or without the knowledge of their medical practitioners. Undertaking high quality CM research will assist in the safe and effective integration of this medicine in practice, benefitting health practitioners and consumers. Moreover, an environment that supports innovation and encourages greater investment in research and development (R&D) is key to promoting better outcomes for all the community.

CM products and services currently represent a \$4B industry in Australia, with an expected annual growth of 3.9% in the 2011–2016 period [1]. This can be attributed in part to growing health consciousness and an ageing population. There is potential for substantial health benefit and a reduced burden on private health expenditure, if such expenditure were principally directed to health products with strong evidence to support their clinical use.

Greater investment in research and development generates downstream benefits for the community. As noted in the Australian Government *Industry, Innovation and Competitiveness Agenda*, global competitiveness and innovation are critical to Australia's future success. Future prosperity hinges on our ability

to turn research into commercial outcomes that lift innovation, boost Australian business and grow productivity and exports. In October 2010, Lateral Economics noted that, "Australian research-related goods and services not only contribute to Australian gross domestic product but also support high-skill, high-paid jobs – as well as reinforcing Australia's reputation in this field by being exported all over the world" [10]. Investment in medical and health research also delivers substantial health benefits. In June 2008, Access Economics reported that "for the average dollar invested in Australian health R&D, \$2.17 in health benefits is returned." Australia has a well-established CM research sector, involving key university medical research groups.

This survey sought to examine Australian academic research activity in CM from 2008 to 2013 in the context of the current funding landscape and pattern of CM use among Australians. It aimed to outline the size and scope of research activity conducted by Australian researchers to gain a better understanding of the national research workforce; the nature of relevant research activities including major funding mechanisms and quantum of research funds; and resources and facilities available to researchers in the field. There is no other comprehensive data available on the nature and scale of CM research by Australian researchers.

This survey builds upon aspects of previous research undertaken by NICM in 2005 and 2008, with the former commissioned by the New South Wales (NSW) Government. Over these two previous survey periods, more than \$58 million was reported to have been invested in complementary medicine research, approximately 40% of which can be attributed to industry investment and 15% from category one Commonwealth research funding schemes (NHMRC & ARC). Over these two periods the investment in research and workforce increased substantially, supported by the initiation of collaborative research centres. Research activity was concentrated to NSW.

## 2. Methodology

### 2.1. Survey design

The survey was closely modelled on that used in 2008 with 20 questions that comprised a combination of multiple choice, dropdown menus and short answer questions.

The following definition of complementary medicine was provided in the introduction to the survey; Complementary Medicine (CM) is a *broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period. CM includes all such practices and ideas self-defined by their users as preventing or treating illness or promoting health and well-being. Boundaries within CM and between the CM domain and that of the dominant system are not always sharp or fixed* [11]. As explained in the survey instrument, we use the term complementary medicine to describe healthcare practices such as acupuncture, applied kinesiology, aromatherapy, Ayurveda, chiropractic, environmental medicine, herbal medicine, homoeopathy, hypnosis, massage, meditation, naturopathy, nutritional therapy, osteopathy, reflexology, reiki, shiatsu, traditional Chinese medicine, yoga among many others. We use it synonymously with the terms "complementary therapies", "complementary and alternative medicine" and "natural medicine" found in other texts.

The survey questions solicited the following information on a project by project basis:

- Project title/description
- Location of research
- Funding source

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