



## CAMBrella

### A pan-European research network for Complementary and Alternative Medicine

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## Deliverable 2

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## Introduction

The present report constitutes Deliverable 2 of the CAMbrella project and is provided by Work Package (WP) 6 'The global perspective'. According to the 'Description of Work' (Annex I of Grant Agreement No. 241951), the overall objective of WP6 is to map the **international position and status of Complementary and Alternative Medicine (CAM) within health care policy** so the EU situation can be viewed in context. Its rationale is founded on the WHO Global strategy for Traditional Medicine (TM)/CAM; and the main objectives are:

- Incorporate experiences from countries in which CAM Research & Development (R&D) is integrated and publicly supported (US/Canada), while exploring its use as TM in developing countries (China/India).
- Understand the pros and cons of CAM R&D internationally, addressing issues of patient rights and need, cost, regulation (of practitioner and product), evidence base and research policy/strategy.
- Consider risks of over-harvesting medicinal plants, and protection of traditional inherited knowledge of traditional medicine used within CAM.
- Identify the strategies that we need to address from an EU perspective and gain understanding of how the EU might relate to international developments.

WP6 will reflect on the international complexity of CAM and facilitate future implementation of an EU roadmap and regulatory framework for harmonisation of procedures and provisions concerning medicinal products and natural remedies in EU member states.

This Deliverable is intended to be published as an open access booklet on the CAMbrella website. However, as certain changes in the working procedures (explained in more detail below) prolonged the data collection period, the current report is for restricted dissemination only. As soon as the report has been finalised, it will be published on the CAMbrella website.

## Aim

The specific objective of this Deliverable 2 report is to show trends in the emerging view of the global situation and give an update on the feasibility of the original plan for the WP6 work.

## Method

In order to identify global key stakeholders within TM/CAM R&D we sent out requests via e-mail asking for nominations of such individuals or organizations (see Attachment 1, letter to invite nominations). Fifty-two persons from the CAMbrella consortium and a selected group of external experts were contacted and asked to contribute nominations of individuals or organizations outside the EU playing a key role in TM/CAM R&D.

Forty-three stakeholders (individuals and organizations) were nominated. The nominees were prioritized based on their international relevance as indicated by the number of publications, funded research projects and financial research allocations. Fifteen stakeholders were given first priority status (see Attachment 2).

A research protocol for data collection was developed, partly based on structure, process, and outcome indicators published by the World Health Organization to facilitate the development of evidence based national drug policies (WHO/DAP 1995). Main topics in the protocol included the mission statement, R&D activities, and explicit or implicit R&D strategies (see Attachment 3, Data collection protocol).

With guidance from the research protocol, we conducted pilot interviews with five individual stakeholders in May 2010<sup>1</sup> to test the relevance of the questions in the protocol and in order to understand the essential issues to be discussed in the focus group discussions planned for fall 2010.

The original plan as presented in the Description of Work (Annex I to the CAMbrella Grant Agreement) was to conduct focus group discussions with all the prioritized stakeholders through

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<sup>1</sup> 1. Jianping Liu, at The National Research Center in Complementary and Alternative Medicine (NAFKAM) which is organized as a center at the Faculty of Medicine, the University of Tromsø, Norway, and it is funded by the Norwegian Ministry of Health and Care Services & the Beijing University of Traditional Chinese Medicine, China; 2. Kim Ki Ok & Myeong Soo Lee, Council of National Science & Technology Organizations, Korean Institute of Oriental Medicine (KIOM), National Traditional Korean Medicine Research and Development, Republic of Korea; 3. Claudia Witt, The Institute of Social Medicine, Epidemiology and Health Economics, Charité Universitätsmedizin Berlin, Germany; 4. Heather Boon. Leslie Dan Faculty of Pharmacy, University of Toronto, Canada; 5. Josephine Briggs, NCCAM/NIH, USA

telephone conference calls with 4-5 stakeholders at a time in fall 2010. From the pilot interviewing however, it became clear that the discussions around TM/CAM R&D are of such complex nature that it is very difficult to discuss these issues on the phone and even more so in the form of conference calls. The method of data collection therefore needed to be adjusted to suit the topic of investigation. Face-to-face and/or individual telephone interviews were found to be better solutions for collecting this type of data without compromising on the quality and accuracy of the data.

Due to the practical circumstances of arranging face-to-face interviews instead of telephone conference calls, the interview process was delayed compared to the initial plan. The first formal face-to-face interview was conducted in October 2010 with Director Josephine Briggs at the National Center for Complementary and Alternative Medicine (NCCAM), National Institutes of Health (NIH), USA. Shortly thereafter the Director Professor Wayne Jonas, Director of the Samueli Institute, and Professor Barrie R. Cassileth, Director of the Integrative Medicine Service at the Memorial Sloan-Kettering Cancer Center were interviewed and in December we conducted interviews with Dr. Ramesh Babu Devalla, Director of The Central Council for Research in Ayurveda & Siddha (CCRAS) which is an autonomous body of the department of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homeopathy), Ministry of Health Family Welfare, Government of India and Professor Alan Bensoussan, the National Center for Integrative Medicine (NICM), Australia.

The collection of documents on CAM R&D policy by the prioritized stakeholders was conducted in parallel to the interview process. Documents were selected on the basis of their relevance in answering the questions in the research protocol and included policy documents and information on websites. Although documents could be collected from all prioritized stakeholders independent of the interviews, the interviews proved to be very valuable for finding the most relevant, accurate and updated documents.

Due to the changes in the data collection method described above, the data collection is not yet complete but rather on-going. However, based on the analysis of interviews with five key stakeholders and document information collected from all stakeholders, an initial analysis has been conducted presenting preliminary results important for the remaining data collection and analysis.

To finalize data collection, interviews with the remaining 9 stakeholders are being planned for spring 2011 as well as a round table discussion with stakeholders participating in the International Society for Complementary Medicine Research (ISCMR) conference on complementary and alternative medicine research in Chengdu May 2011.

Interview data and data from various documents have a complementary role in answering the questions posed in the research protocol. Data from interviews and documents of both descriptive and explorative character are analysed using principles of content analysis (Graneheim & Lundman

2004, Patton 2002). Data of descriptive character includes: budget, source of funding, number of funded research projects, focus area (e.g. TM/CAM vs. specific therapies). The explorative analysis includes data from both documents and interviews concerning mission statements and R&D strategies.

Final results will be presented to the included stakeholders, who may then comment the interpretations and results of this study. Such a process is called member check and is one way of increasing the overall trustworthiness of a qualitative study (Patton 2002).

## Results

Our preliminary findings indicate that activities of key stakeholders vary greatly in terms of capacity, mission, and source of funding (private/public). The analysis of the mission statements of the selected stakeholders indicates that the R&D activities of the selected stakeholders range from only conducting research to having a comprehensive R&D policy and communication agenda. R&D strategies could be categorized following the five-phase strategy for evaluating CAM as proposed by Fønnebø et al (2007), namely: 1) Context, paradigms, philosophical understanding and utilization; 2) Safety status; 3) Comparative effectiveness; 4) Component efficacy; 5) Biological mechanisms.

Below we present preliminary findings whereas the final results will be presented in the subsequent progress report.

### I. Descriptive measures: Capacity, funding and focus area

These quantitative results are pending since the analysis will not be completed until all stakeholders' data have been collected and confirmed. These results will be presented in the subsequent progress report.

### II. Mission statements

By analyzing the mission statements of 12 stakeholders, we have identified four main themes, namely: *The development of health care practice; The scientific exploration of TM/CAM; Communication of TM/CAM related research and; TM/CAM focus area.* These themes represent both the expressed goals of the selected stakeholders and the means for achieving those goals. Although these themes overlap and are not contradictory to each other they have distinct features and are

hence presented under separate headings below. The excerpts presented in the results are used to illustrate the analytical points in each theme. The full mission statements of the stakeholders can be found in Attachment 4. Three mission statements could not be evaluated so far and therefore remains to be included in the analysis.

### **Development of health care practice and improvement of health**

The mission statements of a few stakeholders disclose a general goal, not specific to CAM or TM, of transforming and improving health care and health of citizens. The two most explicit examples are the mission statements of the Samueli Institute, USA and AYUSH, India:

*"The mission of Samueli Institute is to transform health care..." (Samueli Institute)*

*"...To focus on promotion of health and prevention of diseases." (AYUSH)*

Other stakeholders express a similar goal slightly differently in terms of promoting integration between conventional health care systems and TM/CAM. The Osher Program for Integrative Medicine and AYUSH are two such examples:

*"...A third goal is to establish clinical treatment programs in which the knowledge and resources of integrative medicine can be used directly to help people as well as furnish training opportunities for medical students." (Osher Program for Integrative Medicine)*

*"To mainstream AYUSH at all levels at the health care system..." (AYUSH)*

### **The scientific exploration of TM/CAM**

The most general and prevalent theme found in the mission statements concerns the scientific exploration of TM/CAM. To some stakeholders the priority is set on increasing the academic influence and interest in CAM as well as extending the evidence base and conducting rigorous science. This can be exemplified by the mission statement by the Research Council for Complementary Medicine (RCCM), NCCAM and the North American Integrative Medicine (IM) Consortium:

*"Our aim is to develop and extend the evidence base for complementary medicine..." (RCCM)*

*"We are dedicated to exploring complementary and alternative healing practices in the context of rigorous science..." (NCCAM)*

*"The mission of the Consortium is to advance the principles and practices of integrative healthcare within academic institutions..." (IM Consortium)*

From another angle, the mission statement of the Osher Program for Integrative Medicine suggests that the conduct of basic research is one of the primary goals:

*"One of the primary goals of these centers is to conduct basic laboratory research on integrative medicine remedies, to examine their consequences, and to build an empirical case for their application...." (Osher Program for Integrative Medicine)*

An aspect that is covered explicitly by the mission statement of only one of the selected stakeholders is the need for strategic investment in TM/CAM R&D as expressed by NICM, Australia:

*"...provide leadership and support for strategically directed research into complementary medicine..." (NICM)*

### **Communication of TM/CAM related research**

In line with the above excerpts from mission statements, another overarching goal expressed in the mission statements of many included stakeholders is to provide a communication platform for TM/CAM and TM/CAM research. The specific focus of such communication activities range from *research translation and dissemination* (e.g. NCCAM, NICM) to providing a *platform for information exchange* (e.g. ISCMR). NCCAM, USA is one example of a stakeholder aiming towards providing authoritative and objective information about CAM:

*"...and disseminating authoritative information to the public and professional communities." (NCCAM)*

Other organizations, such as ISCMR, are less authoritative and more explicit about providing a platform for exchange of CAM information:

*"...a platform for knowledge and information exchange to enhance international communication and collaboration." (ISCMR)*

### **TM/CAM focus area**

Some stakeholders focus their mission statements on specific areas of TM/CAM such as a specific type of traditional medicine or natural products. Among the selected stakeholders there are four examples of government-funded institutions focusing specifically on the traditional medicine of their respective country. These countries are China, India, Japan and Korea. Interestingly, the mission statements seem to indicate two lines of development, one most clearly expressed through the mission statement of Korean Institute for Korean Traditional Medicine and the other by the mission statement of AYUSH in India. While the Korean institute strives towards modernization and industrialization of Traditional Korean Medicine, the mission statement by AYUSH in India indicates that they rather aim for TM to take a larger role within the general health care system in its present form:

*"...to contribute to the improvement of human health through modernization and industrialization of TKM (Traditional Korean Medicine)." (Korean Institute for Korean Traditional Medicine)*

*"To mainstream AYUSH at all levels at the health care system; To improve access to and quality of health care delivery..." (AYUSH)*

Interestingly, the Natural Health Products Directorate (NHPD) is the only one of the selected stakeholders that explicitly emphasises the safety aspect in its mission statement:

*"The mission is to contribute to improved knowledge of NHPD to enable Canadians to make informed choices about their safe and effective use." (Health Canada)*

### III. R&D strategies

As indicated above, specific R&D strategies were rarely expressed in the mission statements of the selected stakeholders (with the exception of NICM, Australia). However, we have conducted a preliminary analysis of R&D strategies as expressed in collected policy documents and interviews with the following six stakeholders: KIOM (Korea), NCCAM/NIH (USA), NICM (Australia), CCRAS/AYUSH (India), Samueli Institute (USA), NHPD/Health Canada (Canada) (see Attachment 5 for data sources). Through this preliminary analysis we found that three main types of factors seem to direct the R&D strategies: *Type of research; Utilization and; Impact on society.*

#### **Type of research**

When analyzing the type of research prioritised by the selected stakeholders we used the division by Fønnebø et al (2007) who propose the following five different types of research areas: 1) Context, paradigms, philosophical understanding and utilization; 2) Safety status; 3) Comparative effectiveness; 4) Component efficacy and; 5) Biological mechanisms.

A strong trend revealed by the analysis is a development over time from a R&D focus on biological mechanisms and component efficacy to a broader focus on all 5 research areas (1-5) mentioned above (e.g. NCCAM and CCRAS). The director of CCRAS for example, refers to this trend as *"reversed pharmacology"*. This broad focus on research areas 1-5 also applies to the newly established center NICM. NCCAM also emphasize a broader research focus including translational research. One exception to this trend is KIOM, Korea whose focus is mainly on component efficacy and biological mechanisms. This is partly expressed by the three main goals of their research program:

*"1) Scientification of Traditional Korean Medicine (TKM) technology; 2) Standardization of TKM technology; 3) Globalization of TKM technology" (KIOM).*

## Utilization

The analyses indicate that to some stakeholders, utilization is an important factor directing R&D strategies whereas to others, utilization does not seem to explicitly direct R&D policy. In general, this seems to be a difference between the included stakeholders with a focus on CAM and those focusing on TM. While all the stakeholders with a focus on CAM (e.g. NCCAM, NICM, NHPD) seem to include utilization figures in some way or the other in their R&D strategy, stakeholders such as CCRAS and KIOM with a focus on TM does not explicitly mention utilization as directing their R&D strategy. Please also see here the findings reported in the recent WP1 report (Deliverable 1), which gives a broader description of the terminology issues.

According to our analysis, utilization of TM/CAM may influence R&D strategies in two different ways through: 1) the *popularity of a certain TM/CAM* and; 2) the *disease burden* related to the condition for which TM/CAM is used. These two different ways in which utilization influence CAM R&D may be exemplified by the following statements from NICM and NCCAM:

*"...high burden of disease where preliminary evidence is strong and demonstrates likelihood of positive impact." (NICM, Australia)*

*"Extent and Nature of Practice and Use..." (NCCAM, USA)*

## Impact on society

According to our analysis, for some stakeholders, also the potential impact of TM/CAM R&D on society seems to be an important factor in R&D policy. Two such examples involved collaboration with regulatory authorities and the natural health products industry. Many research initiatives funded by the NHPD were for example connected to the development of regulatory functions. Moreover, NICM prioritize research projects that involve collaboration with the natural health products industry.

For stakeholders focusing on TM (e.g. CCRAS), the issue of intellectual property rights was mentioned in relation to R&D policy but not considered to be a hindrance, thanks to different initiatives including the Traditional Knowledge Digital Library.

## Discussion

### Directing the research - types of research and prioritization

When analyzing the type of research prioritised by the selected stakeholders we used the division by Fønnebø et al (2007). However, it is clear from the interviews that the issue of strategic CAM R&D financing is not an easy topic to discuss with the informants. This is probably due to the inherent political nature of the CAM area in most countries. For example, there has been a spectrum of critical opinion regarding the NCCAM-funded research enterprise in the US. At one end of the critical spectrum are claims that CAM approaches are inherently implausible and justified only by "pseudoscience," that peer-review processes are inferior and that NCCAM funds proposals of dubious merit, that the field suffers from insularity, that the research agenda is driven by political pressures rather than scientific considerations. At the other end of the spectrum are claims that NCCAM research fails to evaluate CAM as it is actually used in "real-world" CAM practice settings, that there is insufficient support of CAM practitioner involvement in the research process, that the field is dominated by reductionist scientific approaches or inappropriate methodology, that the peer-review process is biased against CAM, that most NCCAM research is designed or conducted with a goal of "debunking" or disproving value, and that there has been insufficient focus on health and wellness.

In general, such contrasting views and opinions are likely to be common in most countries, also among the EU member states, and may hence impact substantially on any CAM R&D initiative. Possibly as a consequence of this, several of the mission statements collected from the prioritized stakeholders aim to achieve a balance between the many divisions. This seems to apply to several initiatives in high income countries including NCCAM, NICM, and the Samueli & Osher centers. In contrast, in China and South Korea, the focus appears to be predominately on component efficacy and biological mechanisms. However, India deliberately seem to argue for a shift of focus from efficacy towards "real world" general effectiveness research, or as stated by the director of CCRAS, for a "*reversed pharmacology*" approach to evaluation of TM.

Despite the aim of many stakeholders to cover all divisions of research, priority setting is vital for any organization given the limited R&D funding available in most countries. Priority setting was suggested to occur in two ways by NICM and NCCAM, with the *popularity of a certain CAM* and the *disease burden* as potential influences on prioritization. For other stakeholders, to which TM utilization is predominant, prevalence information seems not to be as important. In addition, further enquiry with our informants will probe if for example general effectiveness research should precede

efficacy evaluation. In such cases, efficacy studies will only be financed provided that they promise research results on general effectiveness. This type of information will provide an important input to the development of the EU research roadmap.

## Impact on society & intellectual property rights

A few stakeholders aim for health care reform to include CAM where this is compatible with their national health care law and legislations. The Korean institute strives towards modernization and industrialization of Traditional Korean Medicine whereas CCRAS/AYUSH in India aim for TM to take a larger role within the general health care system in its present form. Notably, Health Canada was the only stakeholder who explicitly referred to the safety aspect in their mission statement. Variations in national law and legislation among the EU countries, safety aspects, as well as the impact of CAM on health sector reform, are issues which need to be considered on an EU-wide level in relation to the CAM roadmap.

For stakeholders focusing on TM, the issue of intellectual property rights was raised by e.g. the WHO as an obstacle to R&D efforts. This is because most TM modalities cannot be patented, and indigenous knowledge may hence be exploited for commercial purposes without any benefit to the nation or indigenous population. CCRAS informed that in response to biopiracy threats, the Government of India had ancient manuscripts containing old remedies translated and published in electronic form: in 2001, the Traditional Knowledge Digital Library was set up as repository of 1200 formulations of various systems of Indian medicine, such as Ayurveda, Unani and Siddha. How this may translate to the role of CAM in Europe is an under-researched area that needs to be addressed in the EU context in order to facilitate industrialization of the CAM area.

## Limitations

It is important to bear in mind that we have included only six stakeholder interviews in this analysis so far and that the snowballing process is still on-going. The results will be complemented as soon as more data is available through the successive interviews and document collection. Hence, the results should be interpreted with caution. The limitations of drawing conclusions from mission statements should also be considered, since mission statements may not reflect current thinking and activities of the stakeholders. At present we also do not have a clear picture of the lessons learnt from the stakeholders. This will be part of the subsequent deliverable of WP6, which will include more interview data to complement the analysis of the collected documents.

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Patton, M. Q. (2002). *Qualitative research & evaluation methods (3rd ed.)*. Thousand Oaks, CA: Sage Publications.

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**Attachment 1: Letter to invite nominations**

Stockholm June 23, 2010

**Dear Professor/Dr. X,**

We are writing to you as partners of the pan-European project CAMbrella established under the Seventh Framework Program in January 2010. Sixteen partner institutions from 12 European countries are working together to develop the first roadmap for European research in CAM. The main objective of this coordinating and networking project is to develop a roadmap for future European research in Complementary and Alternative Medicine (CAM) that is appropriate for the health needs of European citizens and acceptable to their national research institutes and health care providers both public and private.

In order to understand the role of the EU in relation to strategic international CAM research, a dialogue with institutions such as X is of outermost importance. As coordinators of Work-Package 6 focusing on the global situation of CAM research within CAMbrella we would therefore like to ask for your views and experiences and/or policy documents related to essential CAM research within your organization/institution.

If this is acceptable to you, please send us relevant policy documents/views or references before **August 30, 2010**.

Based on our review of the material we might contact you again to suggest a time and date in fall 2010 when you could participate in a telephone interview. For such an interview, we will in advance provide you with questions that we intend to discuss.

For more information about CAMbrella, please visit the website [www.cambrella.eu](http://www.cambrella.eu)

We are looking very much forward hearing from you!

Best regards,

Torkel Falkenberg, Assoc. Prof.,  
*Coordinator of Work Package 6*  
CAMbrella, Work Package 6: The Global Position and Status of TM/CAM  
Karolinska Institutet

Johanna Hök, Ph.D.  
*Associate coordinator*

**Attachment 2: Prioritized stakeholders in alphabetical order**

Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), India

Central Council for Research in Ayurveda & Siddha (CCRAS), AYUSH, India

China academy of Traditional Chinese Medicine, China

The Consortium of Academic Health Centers for Integrative Medicine (here referred to as IM consortium) (CAHCIM), North America

Federal Ministry of Health/Complementary and Alternative Medicine, Brazil

International Society for Complementary Medicine Research (ISCMR), international

Japan Society of Oriental Medicine, Japan

Korean Institute of Oriental Medicine, Korea

National Center for Complementary and Alternative Medicine, National Institutes of Health, USA

National Institute of Complementary Medicine (NCIM), Australia

Natural Health Product Directorate, Health Canada, Canada

Osher Program for integrative medicine, located centers in USA & Sweden

Research Council for Complementary Medicine, international, UK based

Samueli Institute, USA

World Health Organization, Traditional Medicine, international

## **Attachment 3: Data Collection Protocol**

### ***Probing research financing and priority setting in relation to safety, quality, effective and appropriate use of CAM.***

The following questions have been developed and structured on the basis of the process, structure and outcome indicators developed by WHO/DAP for a comparative analysis of national drug policies (WHO/DAP/97.6).

#### **GENERAL QUESTIONS**

1. The experience when it comes to strategic financing of CAM research – how do you see that the best financing is done, e.g. what is financed, how is it financed, who is financed?
2. What are the lessons learned (from the horizon of your institution) when it comes to aiming for successful financing?
3. What is successful financing for your organization?
4. Who are the beneficiaries of your organization?

#### **SPECIFIC QUESTIONS**

##### **Q – STRUCTURAL ISSUES**

1. How is current law and legislation of CAM taken into account regarding priority setting of research areas?
2. Research priority setting in relation to products and practitioner regulations (e.g. chiropractors). Level of alternativeness?
3. Budget requirements for vital research financing, how little, how much?
4. Administration experience, and financing of core facilities, etc. How should the EU do this, need to build separate structure, why – why not?
5. Advise regarding structures for quality assurance of research financing allocation.
6. Information, education and communication strategies useful for EU, what do you recommend in outreach and structures necessary for this?
7. Collaboration with other authorities, such as the national food and drug administration?

##### **Q – PROCESSES ISSUES**

1. How has the financing developed over time, and what are the lessons learned relevant for the EU?
2. Organisation (size, budget, personnel, etc) – how has it developed over time, and what are your recommendations to the EU?
3. What proportion of the total CAM activity in your country does your organization actually cover through research activity? What are the excluded areas, what are priority areas, what do you recommend to start with as essential areas for the EU?
4. Cost-benefit of research financing provided by your institution- how is research money used most successfully? What are the risks, the potential benefits, and how is benchmarking done?
5. Turn-over of research project funding; what are the best project cycles, length of project financing, motivate the answer.
6. International collaboration experience among CAM researchers, and/or interdisciplinary research efforts, e.g. wide collaborative consortia? What is your experience of best practice here.

7. What forms of IEC are produced, and what are the essential priorities of content and target groups receiving IEC?
8. How do you ensure, work with TRIP rights, for example traditional knowledge?
9. Meetings with national food and drug administration or equivalent, Government, etc.

**Q- OUTCOMES ISSUES**

1. Number of considered successful research projects per year and over the years (in your organization). What are the lessons learned, for example in relation to level of funding and success?
2. Quality assurance indicator results of research projects at your institution?
3. Total cost of your institution today and the future? What is the prognosis, ie financial resources.
4. Number of patents as part of result of project financing?
5. Number of CAM technologies/procedures within the national health system as a consequence of proven efficacy due to project financing of the actual organization?
6. Improved patient safety thanks to financed research projects?
7. Improved quality and appropriate use of CAM thanks to funded projects?

## **Attachment 4: Mission statements**

### **Natural Health Products Directorate (NHPD)/Health Canada, Canada**

*"The mission is to contribute to improved knowledge of NHPD to enable Canadians to make informed choices about their safe and effective use."*

### **Samueli Institute, USA**

*"The mission of Samueli Institute is to transform health care through the scientific exploration of healing."*

### **Osher Program for Integrative medicine (overarching the three centers), USA & Sweden**

*1) One of the primary goals of these centers is to conduct basic laboratory research on integrative medicine remedies, to examine their consequences, and to build an empirical case for their application. In the case of the American institutions, third-party reimbursement will likely depend upon persuasive cases being made to insurers that integrative medicine offers effective remedies.*

*2) A second goal is to reach out to the larger community with an emphasis on preventive care. The centers seek to educate both medical practitioners as well as the general public. Seminars and conferences help educate people about the benefits of such "non-traditional" approaches to good health and medical care.*

*3) A third goal is to establish clinical treatment programs in which the knowledge and resources of integrative medicine can be used directly to help people as well as furnish training opportunities for medical students.*

### **AYUSH, India**

*1) To mainstream AYUSH at all levels at the health care system; 2) To improve access to and quality of health care delivery; 3) To focus on promotion of health and prevention of diseases*

### **CCRAS, India**

*To enhance the capability of the Council as a premier institution for research in Ayurveda and Siddha, and to forge strategic alliances with similar establishments and constantly strive for excellence in basic and applied knowledge for efficient understanding of the cause and prevention of human diseases and their management.*

### **RCCM, UK based**

*Our aim is to develop and extend the evidence base for complementary medicine in order to provide practitioners and their patients with information about the effectiveness of individual therapies and the treatment of specific conditions.*

### **Korean Institute for Korean Traditional Medicine**

*"...to contribute to the improvement of human health through modernization and industrialization of TKM (Traditional Korean Medicine)."*

### **NCCAM, USA**

*We are dedicated to exploring complementary and alternative healing practices in the context of rigorous science, training CAM researchers, and disseminating authoritative information to the public and professional communities.*

**IM Consortium, International**

*The mission of the Consortium is to advance the principles and practices of integrative healthcare within academic institutions. The Consortium provides its institutional membership with a community of support for its academic missions and a collective voice for influencing change.*

**ISCMR, international**

*ISCMR is an international scientific organization of researchers, practitioners and policy makers that fosters Complementary and Integrative Medicine research and provides a platform for knowledge and information exchange to enhance international communication and collaboration.*

**Japan Society of Oriental Medicine, Japan**

*The intention of the society is to hold research presentations and seek communication, tie-up and promotion concerning oriental medicine and contribute to the progress and dissemination of oriental medicine, and thus contributing to the development of scientific culture.*

**NICM, Australia**

*The National Institute of Complementary Medicine (NICM) was established to provide leadership and support for strategically directed research into complementary medicine and translation of evidence into clinical practice and relevant policy to benefit the health of all Australians.*

## **Attachment 5: R&D Strategies**

In this preliminary analysis we have identified three main types of factors that seem to direct the R&D strategies of 6 selected stakeholders: *Type of research; Utilization; and Impact on society*. Below follows a brief description of the data sources used in the analysis of R&D strategies.

### **KIOM, Korea**

Data sources include transcript of interview with Director Dr. Kim Ki oK & Dr. Myeong Soo Lee at the Korean Institute of Oriental Medicine (KIOM) and R&D policy documents from KIOM website.

KIOM website regarding R&D strategy:

*Scientification of TKM technology; 2) Standardization of TKM technology; 3) Globalization of TKM technology*

Summarized interpretation of KIOM R&D strategy: Main R&D focus is on research areas 4 & 5 (according to Fonnebo et al. (2007)). Utilization and impact of KIOM's activities on society are not explicitly mentioned, but the focus on Korean traditional medicine is in itself an indicator of the importance of the prevalent use of Korean traditional medicine.

### **NCCAM/NIH, USA**

Data sources include transcript of interview with Director Dr. Josephine Briggs and her colleagues at NCCAM and R&D policy documents from NCCAM website.

NCCAM website regarding R&D strategy:

*Four factors will be used in research prioritisation: 1) Scientific promise; 2) Extent and Nature of Practice and Use; 3) Amenability to Rigorous Scientific Inquiry; 4) Potential to change health care practice*

Summarized interpretation of NCCAM R&D strategy: Research strategy has developed over the years from a focus on biological mechanisms and component efficacy (4 & 5) to encompass the broader scope of R&D areas 1-5. Priority is also given to areas that are used by a large percentage of the population and therapies/areas that shows "great scientific promise".

### **NICM, Australia**

Data sources on NICM R&D policy include transcript of telephone interview with Director Prof. Alan B and R&D documents from NICM website.

NICM website regarding R&D strategy:

*"Has the potential to impact positively on the health and wellbeing of all Australians. Emphasis will be given to those areas of high burden of disease where preliminary evidence is strong and demonstrates likelihood of positive impact. 2) Elucidates safety, efficacy and cost effectiveness of complementary medicine and translates this into policy and practice. 3) Investigates methodological issues relevant to the complex nature of complementary medicine. These include the development of methodological tools, such as measurement instruments, trial designs and pharmacological*

*approaches which may impact on our understanding of the whole practice, concepts and mechanisms underpinning complementary medicine.”*

Summarized interpretation of NICM R&D strategy: In their mission statement NICM explicitly state the need for *“strategically directed research”*, stressing the need for research in all 5 areas with a particular focus on the impact on our *“understanding of the whole practice, concepts and mechanisms underpinning complementary medicine”*. Priority is given to areas of *“...high burden of disease where preliminary evidence is strong and demonstrates likelihood of positive impact.”* According to the interview with Professor Alan Bensoussan, prioritization is also given to joint research projects between academic institutions and CAM-associated industry (e.g. Natural Products Industry).

### **CCRAS/AYUSH, India**

Data sources on CCRAS/AYUSH R&D policy include transcript from interview with CCRAS Director Dr. Ramesh Babu Devalla.

Summarized interpretation of CCRAS/AYUSH R&D strategy: Dr. Ramesh Babu Devalla is the new director of the institute since April 2010 and, according to a personal interview in December 2010, is currently reforming the institute's R&D strategy. They are currently working on a new R&D strategy document. While CCRAS previously focused on research on biological mechanisms and component efficacy, there is now a strong focus on *“reverse pharmacology research”* (citation from interview), which we interpret to be in line with the reverse order of research discussed in the article by Fonnebo et al. (2007). According to Dr. Devalla, the institute is now focusing on whole systems research in order to investigate traditional individualization of treatments according to Ayurvedic principles.

Utilization and impact of CCRAS's activities on society are not explicitly mentioned, but the focus on Ayurveda is in itself an indicator of the importance of this focus. The institute is currently putting resources into educating university staff in Ayurvedic principles.

### **Samueli Institute**

Data sources on Samueli Institute R&D policy include transcript from interview with Director Dr. Wayne Jonas and R&D documents from Samueli Institute website. The Institute's mission is to explore the scientific foundations of healing and to apply that understanding in medicine and health care. The Institute conducts research on all types of health care practices. The Samueli Institute supports scientific exploration together with partners, collaborators and its own scientists with the aim of cultivating research on healing and its evaluation in mainstream health care. In developing these initiatives, the Institute seeks opportunities that will:

- Build the scientific tools and capacity for the evaluation of healing practices
- Use multi-disciplinary evaluation models of science
- Develop effective research services on healing practices for use by the public and private sectors
- Increase its grants, contracts and joint ventures in research
- Transfer knowledge and technologies that facilitate healing to the public sector

Summarized interpretation of the Samueli research strategy: The research strategy includes all research areas, with an increasing focus on whole systems research with a pragmatic clinical trials approach that uses mixed methods (areas 1,3 & 5). Such investigations aim to facilitate the transfer of knowledge and technologies to include healing services practices in the public sector.

## Natural Health Product Directorate/Health Canada

Data sources on Natural Health Product Directorate (NHPD) (Health Canada) R&D policy include e-mail correspondence with Dr. Loretta Wong (current position) and from the publication "Natural Health Products Research Program, Five -Year Performance Report 2003/04 - 2007/08".

Funding allocation in Five-year performance report:

Product quality, safety and efficacy	25.0%
Information and knowledge transfer	21.8%
Health systems and health services research	18.8%
Clinical areas and population groups	14.0%
Bioethics, policy and regulatory issues	12.5%
Issues related to the conduct of research and methodologies	7.8%

Summarized interpretation of NHPD R&D strategy: Research strategies have an explicit broad scope in the NHPD field seemingly covering areas 1-5 (see table on funded research above). Many of funded research initiatives were connected to development of regulatory functions.