

高等教育深耕計畫第2部分
特色領域研究中心計畫

學校自訂指標精進建議

2018.04.26

自訂指標精進建議

- 檢視各研究中心計畫書



- 進行相互比較找出常見問題

- 參考國際相關計畫作法

邏輯架構

量化指標

質性描述

資料填報建議



建議調整方式

計畫書常見問題(一)

1.目標及指標描述缺乏清楚架構

- 以段落式呈現，不易閱讀。
- 目標和指標之間缺乏清楚的連結。

➔ 計畫目標及指標間應有清楚的邏輯架構，並以表格或數據呈現。

➔ 不同指標應區分其構面，分門別類呈現。

2.目標以及指標之達成程度並未逐年預估

- 僅呈現總體目標及指標。

➔ 計畫目標及指標應有分年或分短、中、長期呈現。

計畫書常見問題(二)

3.指標描述不具體

- 指標描述模糊，難以衡量計算。

➔ 指標應符合具體可衡量原則。

4.目標及指標描述與其他項目混雜

- 目標及指標描述與技術背景介紹等，內容混雜。

➔ 目標與指標應與其他章節拆開，獨立列出。

計畫書常見問題(三)

5.目標和指標散見於不同章節

- 散見於「執行計畫預定之總體及分年目標」以及「達成計畫目標之策略」

➔應集中呈現。

6.未列出標竿對象可做為標竿之面向

➔應列出標竿對象值得參考之構面項目，以及具體的表現參考值。

➔應就標竿對象與本身的表現進行比較。

7.未列國際標竿研究中心

範例(一)目標及指標具清楚架構

指標架構清楚且
各構面兼具

		106 年	107 年
學術成就	優質論文數目	37 篇 (5 年平均)	42
	國際合作	12	14
	辦理學術活動	17	18
技術創新	專利申請件數	7	8
	技術報告	0	6
經濟效益	產學合作件數	16	18
	衍生公司	0	0
社會影響	腦功能健檢活動	0	1
	科普教育活動	0	3

範例(二)目標以及指標之達成程度逐年預估

量化績效目標	分年預期績效					
	107 年	108 年	109 年	110 年	111 年	總體績效
論文篇數	10	12	14	16	18	70
專利申請數	3	3	4	4	4	18
技術轉移件數	1	2	2	3	3	11
新創公司數	0	0	1	1	2	4
人才培育人數	25	25	25	25	25	125
技術平台件數	1	2	2	3	3	11
新品種件數	1	2	2	3	3	11
研討會舉辦數	1	1	1	1	1	5

達成程度逐年預估

範例(三)指標應具體可衡量

□ 成為具國際知名度的研究中心。



□ 中心成員至少兩名成為國際重要癌症期刊編輯(Editorial Board)重要國際會議 Keynote speakers，或執行跨國研究計畫。



□ 增進產學交流。



□ 將智能化模具技術發展應用於汽車板金沖壓業，藉此擴散至歐美日車廠與協力廠沖壓生產線應用。



範例(四)目標及指標描述不應與其他項目混雜



過去由於資訊不透明及不對稱.....。..近年來因為此技術...透過掌握客戶資料、.....，以降低整體供應鏈之營運成本與風險。



現有技術的描述及背景介紹，應置於其他章節。

範例(五)未列標竿研究中心



研究可概分兩大領域，第一類是...；第二類是....。...中心是唯一涵蓋兩大研究領域之例外....各國將本校研究中心視為標竿。



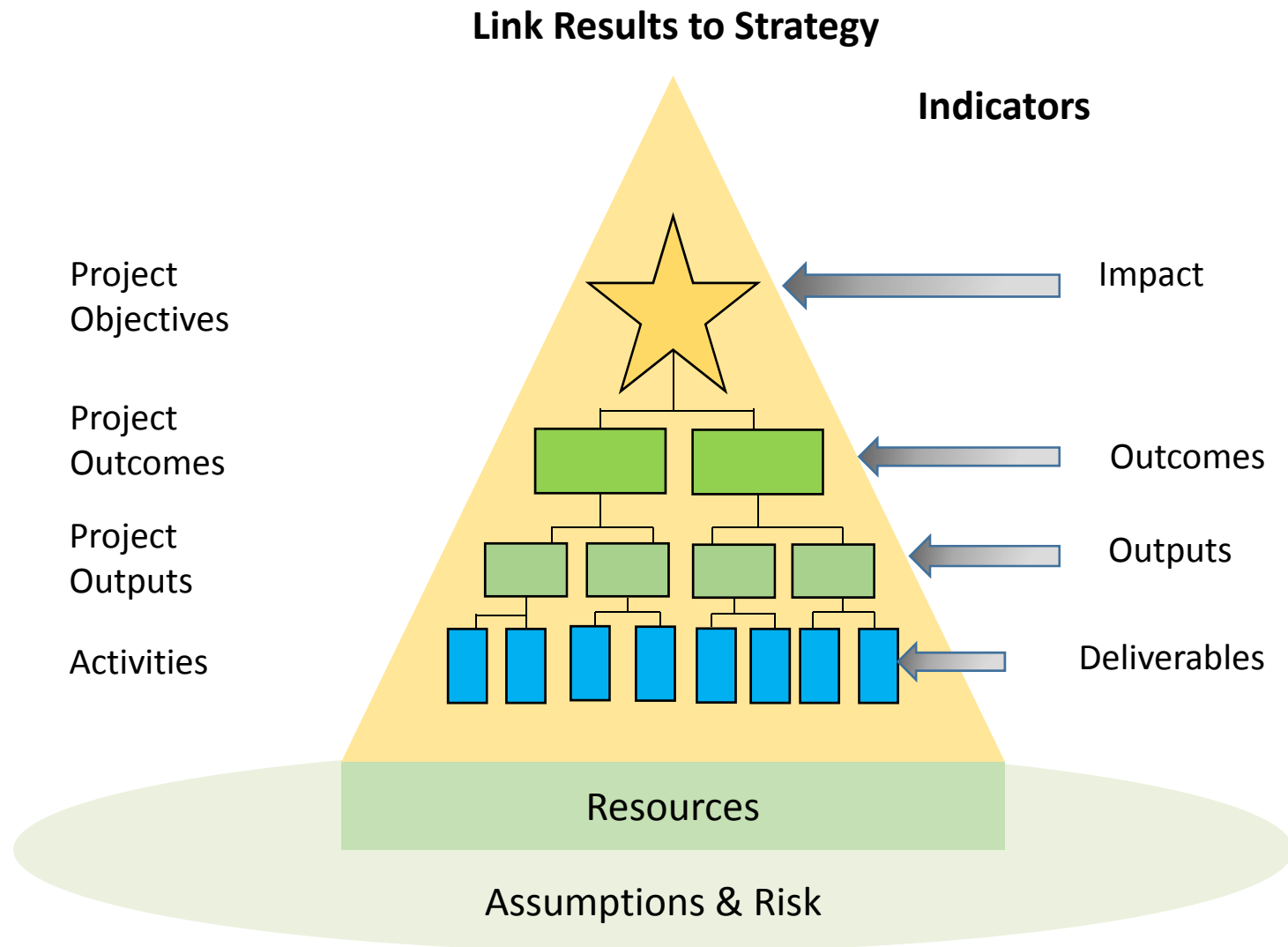
若已全球領先，無標竿單位，亦應設定規劃成長目標。

範例(六)列出標竿對象可做為標竿之面向

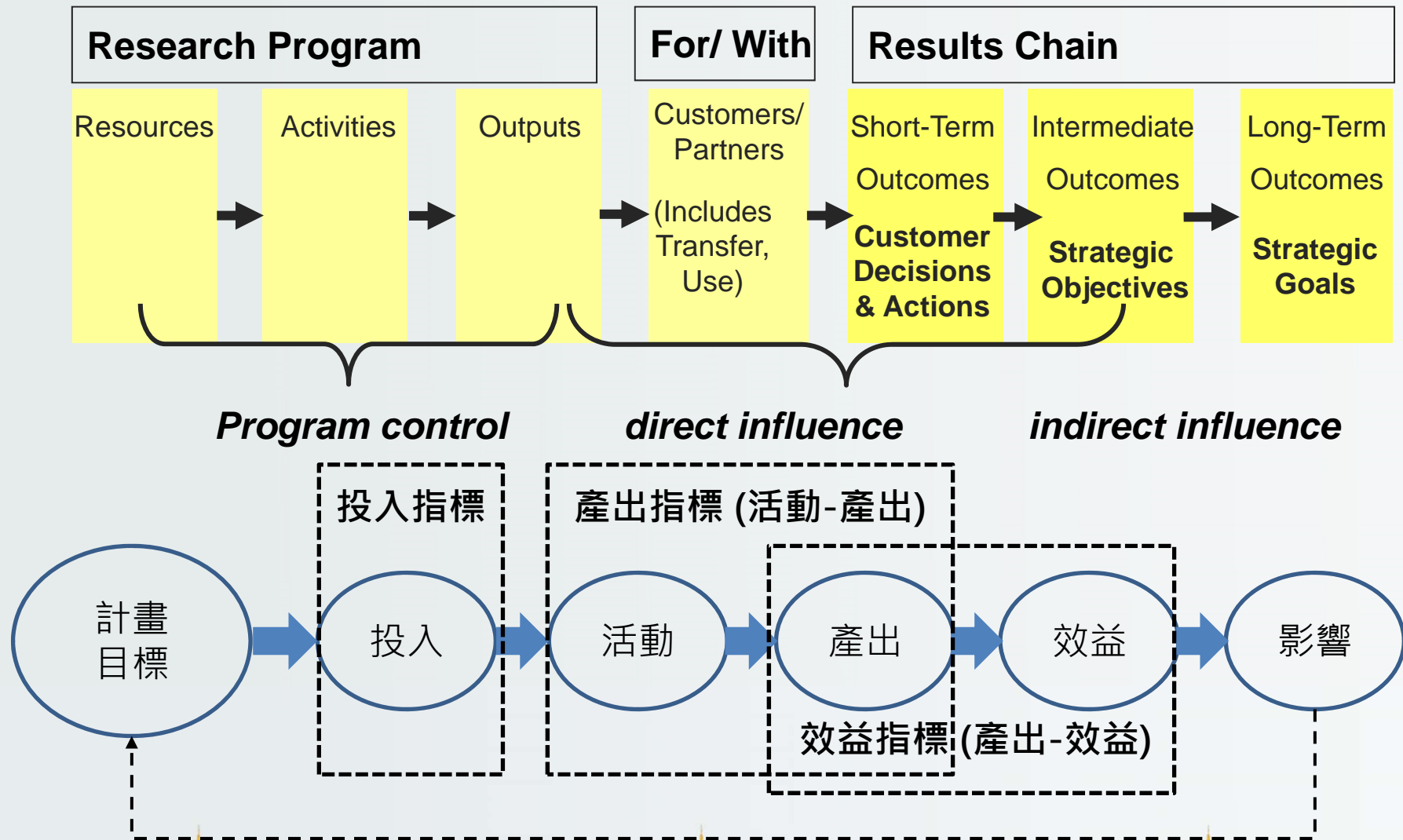
研究中心	國際標竿	本中心
中心簡介(含所在地、設立時間、發展關鍵技術領域...等)	位於日本岐阜大學，以推廣「智能化模具開發」為目標，目前是日本大學唯一文部科學省補助建置「智能模具開發基地」研究中心	本校....係唯一獲教育部補助的...中心。由機械與自動化工程系教授群共同主持，13年來....已有相當成果....
歷年成效(包含取得研究經費或資源、學術成果、輔導業界或合作交流...等)	2016年通過...計畫補助共四年第一年補助經費達7億日圓。中心共36位教授群同主持，近五年SCI國際期刊論文發表篇數215篇。	共19位教授群同主持，成立至今累計獲得政府與企業研究經費達4.3億元。...研究與技術發展計畫總件數達324件....，SCI國際期刊論文發表篇數139篇。
協助學術、社會或產業發展之概況，形成區域性先進模具技術研究發展中心。	...除服務國內...產業外，配合...政策，完成....技術轉移。
延攬優秀人才或培育高階研發人才之概況	...，從產品設計到完成好產品的製造過程，經由實作訓練縮短學理與實務差距，培育具解決問題能力之高階人才。	於碩博士課程共開設12門模具相關專業課程，...。
永續經營策略	透過產學聯盟方式招收會員，企業會員挹注經費進行新技術研發。同時透過大學研究推廣單位增加中心技術與廠商媒合機會。	通過科技部計畫成立「....產學聯盟」，提供先進技術服務與交流平台服務。定期舉辦研討會與開設相關學程及課程，培育優秀專業人才及精進實務技術。聯盟企業會員共計25家...。
:	:	;

列出可標竿的面向，並就研究中心現狀與標竿單位表現進行比較

指標訂定的邏輯架構(一)



指標訂定的邏輯架構(二)



Source: Jordan, Gretchen, 2005, "Generic R&D Logic Models Suggest Key Performance Indicators," Workshop on National Models for Public R&D Evaluation, Korea, Seoul.

影響指標 (影響-總體目標)

指標的意涵(一)

- 指標的功能？指標的意義就是標示出某一事物在某個值域下的**數值**。
- 什麼叫做指標？預期中打算達到的指數、規格、標準。
- 質化指標與量化指標
 - 量化則著重描述事物的**數量**
 - 質化著重描述事物的**特徵**

發表**10篇**國際期刊論文 → 量化指標

發表**高品質**期刊論文 → 質化指標 (??)

指標的意涵(二)

發表高品質期刊論文

高品質期刊?

-影響係數?

-影響係數排名?

-SJR?

-學門A級期刊?

-各領域公認?

→ 發表在經濟學領域影響係數排名前10大期刊論文5篇

量化指標

- 可以「數字」呈現，包含整數、小數、比率、百分比、幣值等。
- 許多可量化數字出現在文字敘述之中，建議應製表呈現，如下圖。
- 眾指標可以「分門別類」，以不同構面呈現，簡明易瞭。
- 指標應根據現況，除五年目標值，還應設計分年目標值。

		五年 目標值	第一年	第二年	第三年	第四年	第五年
構面1	指標A						
	指標B						
構面2	指標C						
	指標D						
	指標E						
構面3	指標F						
	指標G						

質化描述

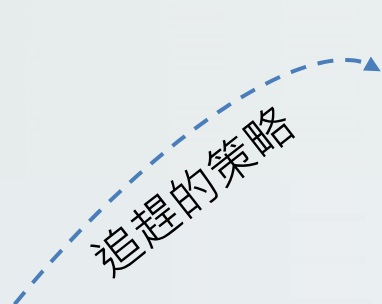
- 各研究中心成果若無法以指標數值衡量，可採取質性描述，以文字說明實際研究成效，甚至是後續影響力(政策、健康、技術發展、經濟、法規、文化、社會、環境等面向)。
- 在說明成效或影響時，若有相關佐證資料可列舉。
- 範例：
 - 以文字說明技術突破，如製程良率提升15%，其所帶來的效益為何。
 - 可檢附製程良率如何提升至15%的論文或是技術報告供審查委員參考。
 - 檢附實際應用案例一如XX公司採取該製程技術；或是XXX委員會採取該份研究報告作為政策制定依據。

標竿國際研究中心

- 各特色領域研究中心將根據其形態、定位、目標及任務，選定合適的國際標竿對象，
- 就研究資源、學術產出、合作策略，以及國際獲獎情形等成果表現進行標竿比較，以分析兩者學術成就之接近程度。
- 請以國際上類似中心(而非學校)為標竿單位。
- 若標竿一個以上的單位，請說明各自欲標竿的構面。



研究中心的現狀



標竿單位的表現

管考原則

- 各研究中心於計畫書上所填寫之績效指標的目標數值，若與實際遞交之成果產出數量有所不同，管考單位並不會依此作為執行力之依據。
- 例如：某研究中心於績效目標設定發表於期刊*Nature*之論文10篇，然實際僅發表8篇，管考單位僅針對8篇論文進行檢核與後續書目計量指標分析，而非作出執行力不彰之評判。
 - 實際執行成效將由審查委員小組書面審核與實地訪查後作出評判。

產出填報之標準格式

- 為節省資料比對與校正之時間與人力，以及有效追蹤補助計畫下之產出，擬制定產出填報標準格式。
- 研究產出識別碼DOI
 - 數位物件識別碼 (Digital Object Identifier, DOI)為辨認數位資源的機制，為數位物件在網路上的唯一識別碼。
 - 使用者亦可透過DOI直接將其轉換為永久的網址，直接找到所需的研究產出。
- 研究人員識別碼ORCID
 - 開放型研究者與投稿者識別碼 (Open Researchers and Contributor ID, ORCID)，為一組16位數的識別碼，學者可免費註冊。
 - 其發展目的為解決現今各類資料庫常出現學者姓名同名同姓之現象，以及無法有效將學者個人資料與研究產出串聯之問題。
- 致謝acknowledgement
 - 學者獲得計畫補助所產出之論文，應記載補助計畫之編號，補助機構可制定統一寫法，以強化產出追蹤成效。

DOI

- 填寫論文相關產出時，若該產出有DOI資訊，請填寫。
- 範例：
 - Lai, C. Y., Wu, M. Y., Chiang, J. H., Sun, M. F., Chen, Y. H., Chang, C. T., ... & Yen, H. R. (2017). Utilization of Western medicine and traditional Chinese medicine among patients with Alzheimer's disease in Taiwan: a nationwide population-based study. *European journal of neurology*, 24(9), 1166-1172. doi:10.1111/ene.13361.
- 一般而言，期刊論文會有doi資訊，可至期刊論文網頁或是pdf檔案上查詢得知。
- 其他類型產出，如書籍、研討會論文、技術報告等，若亦有註記DOI資訊，請一併填寫。

註：DOI詳細介紹可參考以下網址

<http://www.doi.org/>

<http://www.sciencemag.org/site/misc/doi.xhtml>

Original Article

Utilization of Western medicine and traditional Chinese medicine among patients with Alzheimer's disease in Taiwan: a nationwide population-based study

C.-Y. Lai, M.-Y. Wu, J.-H. Chiang, M.-F. Sun, Y.-H. Chen, C.-T. Chang, J.-G. Lin, H.-R. Yen

First published: 26 July 2017 <https://doi.org/10.1111/ene.13361>

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PDF TOC

Abstract

Background and purpose

Large-scale studies of utilization of medical services among patients with Alzheimer's disease (AD) are lacking. We aimed to investigate the usage of Western medicine and traditional Chinese medicine (TCM) among these patients in Taiwan.

Methods

We analyzed one million samples from the National Health Insurance Research Database in Taiwan. Patients ($n = 1814$) newly diagnosed with AD in 2001–2010 were divided into TCM users ($n = 528$) and non-TCM users ($n = 1286$).

ORIGINAL ARTICLE

Utilization of Western medicine and traditional Chinese medicine among patients with Alzheimer's disease in Taiwan: a nationwide population-based study

C.-Y. Lai^{a,b,*}, M.-Y. Wu^{c,*}, J.-H. Chiang^{d,e}, M.-F. Sun^{a,f}, Y.-H. Chen^{g,h}, C.-T. Chang^{a,i}, J.-G. Lin^a and H.-R. Yen^{a,c,t,j,k}

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Keywords:

Alzheimer's disease, donepezil, epidemiology, National Health Insurance Research Database, rivastigmine, traditional Chinese medicine

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doi:10.1111/ene.13361

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Methods: We analyzed one million samples from the National Health Insurance Research Database in Taiwan. Patients ($n = 1814$) newly diagnosed with AD in 2001–2010 were divided into TCM users ($n = 528$) and non-TCM users ($n = 1286$).

Results: Compared with non-TCM users, TCM users were younger, had a higher female:male ratio and higher utilization rate of Western medicine. The median interval between diagnosis and the first TCM consultation was 7.92 months. Donepezil and rivastigmine were commonly prescribed medications. Chinese herbal medicine was the most popular treatment among TCM users.

Conclusions: This study revealed the specific usage patterns of TCM and non-TCM medical services among patients with AD. The information could be used for improving the healthcare of patients with AD.

Introduction

Alzheimer's disease (AD) is a chronic neurodegenerative disease that typically occurs in the elderly population and has become a global health challenge [1]. The global costs of dementia have increased from US \$ 604 billion in 2010 to US\$ 818 billion in 2015 [2].

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In China, the direct (e.g. medical and social care) and indirect (e.g. unpaid care for family and friends) costs of AD have also increased. The estimated total annual cost of dementia in China was US\$ 47.2 billion in 2010 and this is predicted to reach US\$ 69.0 billion in 2020 [3]. It is estimated that, in China, two-thirds of the direct cost was medical and one-third was social care [4].

Alzheimer's disease has a wide range of symptoms associated with a decline in memory and cognitive function severe enough to reduce a person's ability to perform activities of daily living. Although acetylcholinesterase inhibitors and *N*-methyl-D-aspartate receptor antagonists [5,6] show promise in helping to maintain global function [7], none of these

ORCID

- 在主要研究人力一覽表中，請加註ORCID資訊。
- ORCID資訊僅供管考單位檢核填報與資訊比對分析之用，並不會於審查或評估過程中，讓委員們知曉。
- 學者若無ORCID ID，可自行至<https://orcid.org/> 註冊，或洽詢各校圖書館尋求協助。



姓名	任職系所	職稱	ORCID

註：ORCID詳細介紹可參考以下網址
<https://orcid.org/>

研究中心應列名學術產出之機構

- 各研究中心應確認其英文名稱。
- 研究中心有學術發表時，應將研究中心之名稱列名於作者所屬機構。

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致謝中須內含四樣項目

- XXX 研究中心名稱
 - 請寫全名。
- 特色領域研究中心計畫 The Featured Areas Research Center Program
- Higher Education Sprout Project 高教深耕計畫
- Ministry of Education (MOE) in Taiwan 教育部

註：高教深耕計畫與特色領域研究中心計畫之英文翻譯取自教育部官網
<http://english.moe.gov.tw/public/Attachment/7121917593271.pdf>

MEDICAL UTILIZATION AMONG AD PATIENTS 1171

unsatisfied with conventional therapy [29]. Patients with AD had a broad spectrum of disease categories at their clinical visits [30]. A previous report [31] demonstrated a high prevalence of chronic diseases among populations with dementia in Asia. A nationwide survey in Taiwan also revealed that those with poor health status tended to use more TCM services [32]. This could be partially accounted for by TCM users having more comorbidities and more clinical visits.

The most commonly adopted TCM therapeutic approach is CHM. Although previous studies have reported that acupuncture can improve behavior and sleep disturbance in AD [33], patients with AD tended to use CHM rather than acupuncture in this study. Unlike the tendency toward acupuncture in most Western countries, CHM is popular in Taiwan. Furthermore, the low cost and insurance coverage of CHM has also contributed to its widespread use [34]. Regarding the frequency of visits, 55.30% of TCM users used TCM services more than six times, which might be due to the symptom relief or effectiveness perceived by users [35].

Traditional Chinese medicine treatments have been found to have potential in the treatment of AD. A recent study revealed that licorice, the main ingredient in Zhi-Gan-Cao-Tang, which was the most commonly used Chinese herbal formula in this study, suppressed amyloid- β oligomer-induced neuronal damage [36]. Liu-Wei-Di-Huang-Wan and Ji-Sheng-Shen-Qi-Wan are derivatives of Ba-Wei-Di-Huang-Wan, which was found to improve cognitive function in the clinical trial [37]. In a recent study, a combination of *Radix Salviae miltiorrhizae* and *Radix Astragali* conferred anti-amnesic properties in a mouse model of memory impairment through modulation of cholinergic activity [38]. *Rhizoma Gastrodiae* and *Radix Scutellariae* protected neuronal cells from direct amyloid- β insult [39]. A previous study also showed that acupuncture plus donepezil was more effective than donepezil alone in improving patients' ability to carry out their daily lives [40].

Some limitations merit attention. First, this study did not include other TCM treatment modalities such as tai-chi, which have been found to have the potential to improve cognitive function [13]. Secondly, information about the progressive deterioration of learning and memory impairment or behavioral and neuropsychiatric changes was unavailable in the database. Although not addressing the severity, this study provided a comprehensive analysis of the characteristics and utilization of WM and TCM among patients with AD.

Conclusion

The use of TCM by patients with AD in Taiwan is common. Additional basic pharmacological investigations

or clinical trials could be conducted to further validate the efficacy of the commonly prescribed CHM. Overall, our study provided valuable information and added value to the existing knowledge regarding healthcare for patients with AD, and may provide directions for the design of future therapeutic strategies.

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Disclosure of conflicts of interests

The authors declare no financial or other conflicts of interest.

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