

出國報告（出國類別：會議）

國際健康產業園區布局與規劃出國報告

服務機關：衛生福利部

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派赴國家：新加坡

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摘要

衛生福利部為配合國家發展政策與自由經濟示範區推動方向，進行國際健康產業布局規劃，以提升臺灣整體醫療產業的發展，並向國外介紹國際健康產業園區之計畫及目標，同時吸引國外醫療機構與醫療相關產業業者來臺，建立國際合作、投資、人才與技術之交流。

為達上述目的，於今年10月1日至3日前往新加坡，參加當地國際健康產業園區布局與規劃會議，將新加坡發展園區經驗作為國際健康產業園區規劃方向的參考。此次實際參訪1家醫院、1家健康產業企業及新加坡最重要的健康產業研發園區，啟奧生技園區(Biopolis)，並舉辦1場說明會，介紹臺灣醫療產業發展概況與優勢、市場發展現況、國際健康產業園區推動概要，以及新加坡醫院與企業目前在台灣的潛在商機及可行投資模式。

目次

壹、 目的	1
一、 緣起	1
二、 我國國際健康產業推動現況.....	2
貳、 行程表.....	4
參、 活動內容及參訪紀要	
一、 新加坡說明會.....	5
二、 康樂生技參訪	9
三、 啟奧生技園區(Biopolis)參訪.....	12
四、 百匯醫療集團所屬伊麗莎白醫院參訪.....	16
肆、 心得與建議	19
伍、 附件	
附件1 說明會-臺灣國際健康產業聚落的推動與創新	21
附件2 說明會-臺灣國際健康產業園區的潛在商機	40

壹、目的

一、緣起

衛生福利部為配合國家發展政策與自由經濟示範區推動方向，進行國際健康產業布局規劃，以提升臺灣整體醫療產業的發展，並進一步帶動臺灣醫療服務高附加價值化，擬向國外介紹國際健康產業園區之計畫及目標，同時吸引國外醫療機構與醫療相關產業業者來臺，並與臺灣醫療機構或健康產業業者進行人才交流、技術、投資或通路之合作。

根據統計，全球醫療產業市場規模達156兆台幣，在全球產業規模僅次於能源產業(估計為300兆台幣)，產值已經超過製造業中核心的汽車及半導體產業規模，由醫院為核心，結合關聯企業的健康產業儼然是未來帶動經濟的成長的重要動力。

亞洲擁有全世界一半的人口，而人口老化的加劇和新興中產階級的迅速崛起，為整個亞洲的醫療產業帶來了新的發展契機。新加坡政府為了營造利於創新的環境，在軟體和硬體基礎設施建設上都下足了功夫，前者包括新加坡對智慧財產權的保護和執行、科學工程核心能力的建設以及對消費者真正需求的關注和對監管專家的倚重；後者包括啟奧生物醫藥園的設立。新加坡政府至今已投資逾50億新幣建設產業、人力和知識中心，並將在醫療產業領域持續投資開發。

新加坡為亞洲醫療技術的首要聚集地，世界排名前10名的頂尖醫療技術公司都在新加坡設立了區域總部，以此為根基推動其在亞洲的業務擴展。在新加坡設立了製造和研發中心及區域總部的全球產業企業有：愛博才思(AB SCIEX)、百特國際(Baxter International)、美國BD 公司(Becton Dickinson)、百多力公司(BIOTRONIK)、豪雅外科光學(Hoya Surgical Optics)、美國生命技術公司(Life Technologies)、美敦力公司(Medtronic) 和西門子醫療器械(Siemens Medical Instruments)。隨著全球製藥公司正尋求利用外部合作夥伴的專業技術，來完善其新型藥物的產品線，新加坡醫療產業的基礎和臨床研究使其成為製藥商在亞洲的主要合作夥伴。在2000 年至2010 年間，新加坡的生物醫學製藥產量增長了四倍，從60 億新幣增長到233 億新幣，該產業已經佔新加坡GDP大約5%。

因此，希望藉由參加新加坡國際健康產業園區布局與規劃會議、參訪當地最大的私人醫療集團以及一家美容保健產品生技廠商，作為未來規劃國際健康產業園區之參考。另外也希望在新加坡透過說明會演講方式，宣導我國推動國際健康產業園區的政策及發展目標，並與當地企業進行實際交流，以增進對台灣投資的意向。

二、我國國際健康產業推動現況

衛生福利部自2007年起即藉由「醫療服務國際化旗艦計畫」，開始推動國際醫療，馬總統於2008年全力推動觀光醫療，從2009年起更將醫療服務國際化列為健康照護白金方案。臺灣醫療服務具有品質佳、服務好及價格合理三項優點，讓願意來臺灣接受醫療服務或追求健康的之民眾不斷攀升，使我們的醫療本身及帶動的相關產業總產值達到約136億元，比2008年的19億元成長近7倍。

綜觀我國國際醫療與健康產業專區之推行，可分為兩階段：

- (一)第一階段：提升現有國際醫療的質與量，增加國際人士來臺接受選擇性手術、健檢及美容醫學等項，並於102年12月28日在臺北松山、桃園、臺中清泉崗、高雄小港等國際旅客進出便利之機場內設置5個國際醫療服務中心，行銷臺灣整體醫療形象及諮詢服務。另主動向海外介紹示範區計畫及目標，洽詢先進醫療機構來臺與健康產業進行合作，並加強品質認證與管理，強化簽證作業，以拓展與宣傳臺灣的優質醫療，吸引華僑與國際友人來台。
- (二)第二階段：自由經濟示範區的重點在發展國際健康產業，以健康產業為主，醫療為輔，由中央主導政策，地方規劃執行，以醫療為火車頭，帶動生技、製藥、醫材、資訊、復健及養生等產業發展，初期規劃將先就申請案中核准1~2處，未來則視成效、需求及對國內醫療的影響後，再決定是否逐步放寬。

臺灣雖然在國際醫療上起步較晚，但仍然大有可為，端賴我們能否在最短的時間內建構適合健康產業的基礎，吸引國外先進醫療機構來臺與國內健康產業結合，提升國內

在醫療服務之品質與技術，吸引國際知名機構來臺設立相關研發中心，應能帶動醫材、生技、藥品、養生等產業聚落林立，為臺灣健康產業之發展注入正面能量，進而帶動相關產業之活絡發展。

貳、行程表

時間	行程
103 年 10 月 1 日	<ul style="list-style-type: none">● 上午：台北－桃園機場－新加坡● 下午：台灣國際健康產業園區招商說明會@新加坡康萊德三 Conrad 飯店
103 年 10 月 2 日	<ul style="list-style-type: none">● 上午：康樂生技企業參訪● 下午：啟奧生技研究園區參訪
103 年 10 月 3 日	<ul style="list-style-type: none">● 上午：Parkway Group-Mount Elizabeth Hospital● 下午：新加坡－桃園機場－台北

參、活動內容及參訪紀要

一、新加坡說明會

本次於新加坡康萊德 Conrad 飯店在 10 月 1 日舉辦一場說明會，邀請新加坡醫療、健康產業關聯業者共二十家廠商參與活動。當日由本部委託單位野村總和研究所協助衛生福利部以英文進行簡報，並輔以他國與台灣企業合作並成功推展大陸及東南亞市場之案例，讓與會者得以順利了解台灣醫療產業之政策規劃及市場商機。

(一)新加坡說明會議程如下表：

時間	議程	備註
15:00—15:10	主辦機關開場致詞 衛生福利部技監 許明暉技監	英文
15:10—15:45	講演：臺灣國際健康產業聚落的推動與創新 NRI 台灣 平山直人顧問師	英文
15:45—16:00	Coffee Break	
16:00—16:35	講演：新加坡企業的台灣國際健康產業園區的活用方法及商機介紹 NRI 台灣 黃慧慈資深顧問師	英文
16:35—16:55	Q&A	英文

(二) 說明會摘要：

1、臺灣國際健康產業聚落的推動與創新

介紹台灣醫療的六大優勢，促使國際上 CNN、The New York Times、Times of Omen…等媒體，均紛紛報導有關台灣醫療奇蹟、台灣全民健康保險制度。而台灣政府積極推動國際醫療，將觀光、休閒遊憩與醫療相結合，以推展台灣醫療優勢國際化。並更進一步說明台灣在自由經濟示範區的規劃與願景，國際健康產業園區可區分為健康生活園區與醫學及產業園區，並分為九種業態，透過聚落的形成，以促進醫療健康相關產業之發展。

2、臺灣國際健康產業園區的潛在商機介紹

分析台灣健康產業市場持續成長現況，2012 年醫療支出金額達 9,302 億元，根據衛生福利部統計，平均每人每年健保資出為 39,973 元，醫療資出佔 GDP6.3%。

未來可配合國際健康產業園區中先端醫療的醫院設置及外資投資限制的鬆綁，吸引海外醫療機關（醫院、研究機構、大學）及相關企業群進行投資。在國際健康產業園區內，放寬專業人才出入境簽證與停留的限制與所得稅的優惠，對產業也提供更多元面向的租稅優惠。

介紹國際健康產業園區內，可與國外廠商合作模式：

- (1)醫院投資的合作模式：透過投資核心醫院可服務台灣及來台灣進行國際醫療的病患，亦可與園區內企業、研究機構進行共同開發並取得臨床資料。醫院海外投資可分成「權利金」及「合資」兩種模式，並舉例說明。
- (2)醫療器材與台灣可合作的模式：海外企業可透過活用台灣企業的中階醫材的開發、量產能力及中華圈市場的銷售通路，可達到降低成本，創造更佳的利潤。並介紹數種國外廠商可投入台灣國際健康產業園區的合作模式(詳如附件)。

(三)本次說明會中，由與會人員提問，討論內容彙整如下：

Q1：新加坡政府是新加坡當地醫療企業的最大客戶，政府是相當重視我們的醫藥產業。假如我們企業要進入台灣醫療藥品與疫苗的市場的競爭力如何？目前臺灣整體醫療藥品與疫苗的需求量及庫存量有多大？

回覆：有關台灣藥品與疫苗庫存量問題，台灣擁有製造疫苗的能力，並與許多國際大廠有合作的協議，可以及時提供國內發生疾病疫情時使用，因此這方面的庫存量沒有問題。另外台灣衛生福利部每年皆會進行藥品與疫苗的大宗採購，如對這樣的資訊有興趣，可以進到台灣衛生福利部網站查詢相關資訊。

Q2、國際健康產業園區的目標客群為何？在國際健康產業園區所進行的醫療是否與台灣健保系統相連結？

回覆：台灣國際醫療的客群分布狀況，顯示目前大陸仍為最大宗，因此園區的主要目標客群也是國際醫療的患者。由於是鎖定在國際醫療患者，因此沒有與台灣健保系統的直接關聯。

(三)新加坡說明會照片紀實



新加坡說明會開幕現場
衛生福利部許明暉技監致詞



新加坡說明會現場狀況，共二十家新加坡醫療、健康產業關聯之廠商參與



中場討論:業者想進一步了解進入臺灣市場的可能性



現場有興趣的企業提問國際健康產業園區所進行的醫療是否與台灣健保系統相連結



衛生福利部許明暉技監代表回覆提問



會後討論：邀請廠商於 11 月可來台參加推動國際醫療及健康園區的活動，並提供接洽窗口。

二、康樂生技參訪

本次拜訪一家新加坡企業，康樂生技為新加坡與馬來西亞知名的機能性飲品製造商，亞洲擁有超過 4,500 個銷售通路，目前與台灣製造商合作，未來將進一步擴展至通路合作。創立於 2000 年，2011 年 4 月來台上市，資本額 2.18 億台幣(908 萬新幣)，年營收 4.3 億台幣(1,792 萬新幣，2012 年)，擁有銷售點遍布中國、馬來西亞、新加坡、印尼、菲律賓、泰國、越南、汶萊、科威特、英國以及沙烏地阿拉伯，目前在台灣沒有據點。

透過本次參訪以瞭解該公司未來在台灣可能進一步發展的模式，除了原來在臺灣的代工產業外，討論未來在分裝產品線、新產品的研究開發之合作，與通路結合或擴大的可能性。該企業對於未來臺灣國際健康產業園區的看法，保持非常正面且支持的態度，若我國未來園區成立，公司方面表示很有興趣進一步了解。

目前康樂生技對於進入台灣市場，希望能找到更多台灣企業與其合作，將產品帶入台灣市場。另外，康樂生技在東南亞國家的優勢之一是對當地有深入了解，台灣若對東南亞市場有興趣，尤其東南亞有許多回教國家，台灣廠商可與康樂生技合作，協助產品清真認證，以獲得東南亞的銷售通路，這對彼此都具備相當大的商機。如果台灣企業要進入印尼市場，康樂生技是印尼唯一一家擁有清真認證的機能性飲品公司，與之合作將具相當大的優勢。

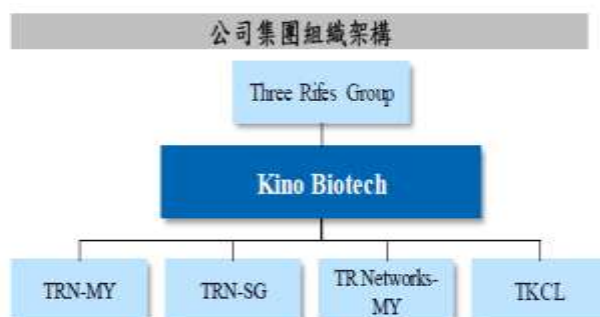
(一)康樂生技參訪行程如下：

時間	行程
10:00—10:10	雙方介紹與名片交換
10:10—10:25	Kino BioTech 介紹
10:25—10:40	台灣健康產業園區概要與發展可能介紹
10:40—11:00	未來與台灣企業的合作可能性意見交流
11:00—11:10	贈送禮品及紀念照片拍攝

(二) 康樂生技公司基本資料

Kino BioTech介紹

創立時間	2000年，2011年4月來台上市
資本額	2.18億台幣(908萬新幣)
年營收	4.3億台幣(1,792萬新幣，2012年)
員工數	103名(2012年)
地址	178 Paya Lebar Road #04-02, Singapore 409030
台灣據點	沒有據點



主要商品



擁有品牌



全球通路



(三)康樂生技參訪照片紀實



康樂生技公司位於工業區的廠辦



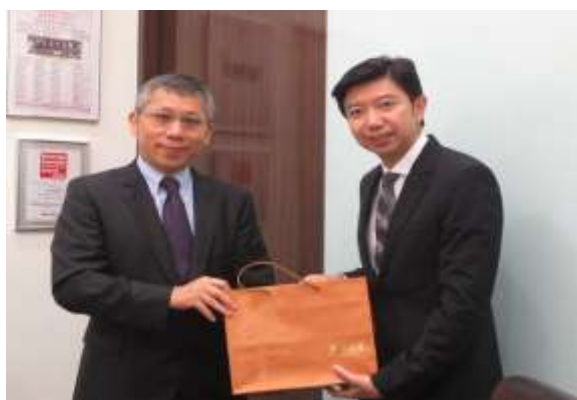
衛生福利部許明暉技監與康樂生技張嘉偉總經理雙方交換名片



衛生福利部許明暉技監(左)與康樂生技公司陳言福董事長(右)雙方就可合作範疇意見交流



衛生福利部(左二)、野村研究所(左一)與康樂生技(右一、二、三)積極討論在台灣設研發中心或增加代工項目可能性。



衛生福利部許明暉技監與康樂生技陳言福董事長致贈禮物



現場與會人員合影(右四：陳言福董事長、右五：許明暉技監、右六：康樂張長中顧問)

三、啟奧生技園區(Biopolis)參訪

本次參訪新加坡的生技產業研發聚落，啟奧生技產業園區。位於 one-north 的啟奧生技產業園區是生物醫藥科學領域最重要的研究中心，園區第一期，在 2001 年開始建設，並在 2003 年完成，提供了企業營運的功能，與零售、餐飲、金融等的產業附加服務機能，並邀請國際醫療產業廠商，包括 Abbott、GSK、Novartis 等，以及在公立機關與私立機關的研究人員進駐啟奧生技研究。目前已經完成三期的開發，接下來是第四期，也是新加坡定位的未來創新研發中心。這個創新研發中心是官方研究單位 A*STAR 與民間企業所共同合作的，主要的民間企業包括全球知名的 P&G 公司。這個創新研發中心將有 400 位的研究開發人員且整體建設將在近期完成。

新加坡經濟發展局在 2000 年開始制訂與發展的產業政策中，推動生技醫療產業的主要專案。新加坡以推動作為生技醫療產業的研究中心，啟奧生技研究園區為公立機關與私立機關提供了很好的研究環境，它匯集了許多重點國立和私人企業的生物醫學研究實驗室、研究所和團隊，帶動了生命科學產業整個研發價值鏈的發展，包括基礎藥物研究、臨床研發和醫療技術研究。並希望藉由推動生技醫療產業的 R&D，來帶動整個生技醫療與生命科學產業的發展，包括基礎藥學、臨床測試與醫學科技研究。由於他提供了最先進的設備、科技研究基礎設施和專業化的服務，因此也幫助企業大大降低研發成本和縮短研發週期。

啟奧生技產業園區位於緯壹科學城(One-North)內，與既有研究單位，如新加坡國立大學與南洋理工學院，有政府機關新加坡科技發展局(A*STAR)進駐，並由政府主導推動各項研究專案，充分運用園區的研發資源，吸引外國醫藥企業來此投資，並鎖定企業在此進行研發，由於新加坡對於土地使用規劃嚴格，因此在 Biopolis 園區內只能從事研發，量產則在另一園區進行，量產目標放在海外市場，約 90%產品都直接出口。Biopolis 內 Ascendas 規劃有細胞培養中心、研究設備、消毒清潔設備等給企業使用，增加企業對於進駐該園區的意願。

啟奧生技產業園區與兩個產業聚落緊鄰，分別為數位媒體產業聚落(Mediapolis)與資訊科技產業聚落(Fusionpolis)，此三個產業園區，匯聚政府單位與企業的研究機關，提供

政府、學術與企業研究合作的環境與技術合作及商業化的功能，並匯聚出新加坡整體產業發展的能量。

本次參訪 Science Park2 及 Biopolis(one-north)，參訪對象為園區的開發及營運商 Ascendas，針對 Biopolis 的開發過程進行介紹。

(一) 啟奧生技產業園區概要

啟奧生技研究園區(Biopolis)概要

啟奧生技研究園區實景圖



啟奧生技研究園區設施圖



圖書館

會議廳

展演所

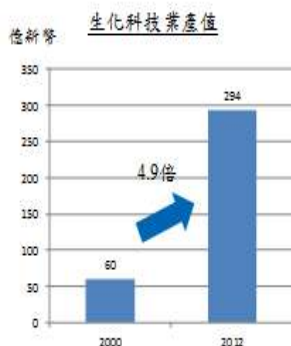


會議室

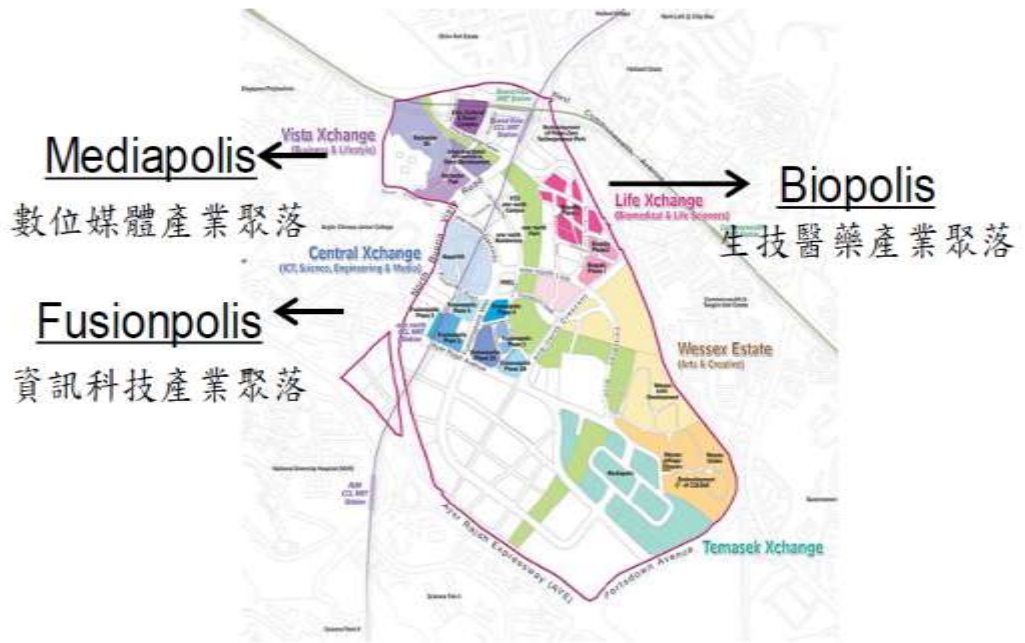
視訊會議室

- 2001年設立，2003年完成第一期的建造。
- 面積：一期18.5公頃；二期3.7公頃；三期4.15公頃。
- 在產業的地位：
 - 目標成為亞太地區的生技醫藥產業研發中心
 - 發展全球生命科學研究中心並延攬全球的科學研究專業人員
 - 新加坡重要研究機構，如新加坡國立大學和南陽科技大學與其合作的史丹佛大學合作進行研發人才培養

- 生技業產值294億新幣(7,203億)台幣(2012年)
- 生技業雇用人數15,700人(2012年)
- 生技業附加價值率25.5%(2012年)



(二)啟奧生技研究園區與鄰近產業聚落如下圖：



(三)啟奧生技園區(Biopolis)參訪照片紀實



啟奧生技研究園區



Ascendas 專員以模型介紹整個生技園區概況



由 Ascendas 進行簡報



雙方合影(右四-：許明暉技監)於 Ascendas 公司門口



參觀 Biopolis 園區中心，大樓間以空橋相連結，園區內規劃有細胞培養中心、研究設備、消毒清潔設備等給企業使用



園區內大樓大都具綠建築概念

四、百匯醫療集團所屬伊麗莎白醫院參訪

本次拜訪新加坡醫療機構，伊麗莎白醫院，Mount Elizabeth Hospital(Novena)，為百匯醫療集團(Parkway Group)所營運的醫院。主要參訪目的在瞭解該醫院的強項及瞭解今後與台灣醫院合作的可能性與進一步到台灣投資的可能。經意見交流，百匯醫療集團目前對台灣較有機會合作的層面，是在台灣可以設立綜合醫院的據點或是和當地的診所合作，以進入台灣地區的市場。

百匯醫療集團對於台灣醫療費用之低廉感到非常意外，無法了解醫院在如此的醫療環境如何生存及營運，本部加以說明，在健保的規範之下，台灣發展一套優質的醫療資訊系統，增加醫院運作效率，是台灣醫療的優勢之一。

(一)百匯醫療集團介紹(Parkway Group)

新加坡為最大的私立醫療集團，在新加坡擁有 4 間醫院，包括 Gleneagles Hospital、Mount Elizabeth Hospital、Mount Elizabeth Novena Hospital 和 Parkway East Hospital。全部的病床數超過 1,300 家，其中 3 家通過 JCI 認證。另擁有多家診所、健檢中心等。

百匯醫療集團有四個醫院品牌，Mount Elizabeth、Gleneagles、Pantai 和 Parkway and Parkway Health，並分佈於下列據點。其他尚有診所與其他醫療相關服務中心，如實驗室、保險機構與 PET-CT 中心等。

品牌名稱	Mount Elizabeth (Singapore)	Gleneagles	Pantai (Malaysia)	Parkway and Parkway Health
醫院名稱與地點	<ul style="list-style-type: none"> ■ Mount Elizabeth Hospital (Orchard) ■ Mount Elizabeth Novena Hospital 	<ul style="list-style-type: none"> ■ Gleneagles, Singapore ■ Gleneagles Kuala Lumpur ■ Gleneagles Penang, Malaysia ■ Gleneagles JPMC, Brunei ■ Apollo Gleneagles Kolkata, India ■ Gleneagles Medini, Malaysia (2015) ■ Gleneagles Kota Kinabalu, Malaysia (2015) ■ Gleneagles Khubchandani, India (2015) ■ Gleneagles, Hong Kong (2016) 	<ul style="list-style-type: none"> ■ Pantai, Ampang ■ Pantai, Ayer Keroh ■ Pantai, Batu Pahat ■ Pantai, Cheras ■ Pantai, Ipoh ■ Pantai, Klang ■ Pantai, Kuala Lumpur ■ Pantai, Manjung ■ Pantai, Penang ■ Pantai, Sungai Petani ■ Pantai Integrated Rehab ■ Pantai Premier Pathology 	<ul style="list-style-type: none"> ■ Parkway East Hospital, Singapore ■ Parkway Shenton Clinics, Singapore ■ Parkway College, Singapore ■ Parkway Health Laboratory, Singapore ■ Parkway Health Radiology, Singapore ■ Parkway Health Medical Centers, China

(二) 伊麗莎白醫院介紹

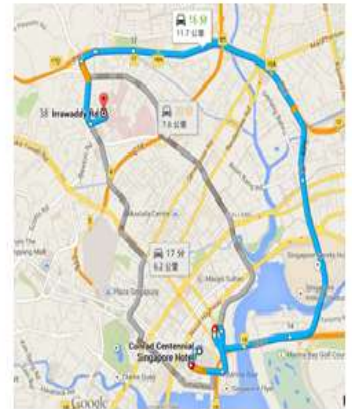
Mount Elizabeth Hospital (Novena) 醫院介紹

設立時間	2012年	特色介紹	<ul style="list-style-type: none">■ Parkway集團於新加坡的第4家醫院，開幕僅兩年。■ 位於Novena Area，該區內有多家新加坡知名醫院，包括Tan Tock Seng Hospital (John Hopkins新加坡分院)、Thomson Medical等。■ 為新加坡最高端的醫院之一，主打微創手術、器官移植、達文西機器人等，醫療技術發展領先。■ 積極推動國際醫療，鄰近Novena Specialist Center、多家飯店及地鐵站，提供國際醫療的完整配套
經營單位	Parkway Pantai Limited (PPL)		
病床數	333床		
地址	38 Irrawaddy Road Singapore		

醫院外觀



病房實景



(二) 伊麗莎白醫院參訪照片紀實



伊麗莎白醫院入口處-飯店式的大廳



伊麗莎白醫院入口處，完全沒有醫院的感覺。



自助登記 Kiosk 系統



醫學影像中心，提供非本院醫療單位付費使用



參觀伊麗莎白醫院，此為最貴的單人病房，內部擺設具中國風。



衛生福利部(左一：郭為中技正，左三：許明暉技監)與百匯醫療集團討論至台灣發展可型性，雙方意見交流。

肆、心得與建議

本次實際參訪新加坡一家有清真認證產品的企業-康樂生技、一個生技研究產業園區-啟奧生技研究園區以及百匯醫療集團的伊麗莎白醫院，並舉辦一場介紹臺灣醫療優勢與推動國際健康產業園區之說明會，以規劃並推動我國國際健康產業園區，探討新加坡企業園區的可行投資模式及潛在商機。透過參訪相關醫院及產業界，發掘國際健康產業園區未來之潛在投資者。

經由說明會讓與會企業了解臺灣醫療優勢與推動國際健康產業園區的企圖心，在會議中場及會議結束時，企業主動詢問臺灣醫療產業、健保、醫療器材發展性等問題，彼此交流，除展現熱忱留下日後可洽詢相關議題的窗口外，並主動邀請來臺灣參加醫療健康產業相關活動。

新加坡在政治、金融、教育與投資環境等各方面都相對於其他國家更為優質與穩定，是全方位發展最為平衡的國家。加上政府與政策執行效率高，自 1990 年以來大量投入資金打造生技研發與投資環境，儼然成為國際生醫產業進入亞洲市場的門戶，近 20 年來在生命科學產業發展上的成就，大幅提高國際能見度。

新加坡政府巧妙運用公部門的資金與政策工具，引入企業化高效率的機制，加上 10 年免稅、國際化眼光與手法、單一化政策與執行單位，已使成為國際生醫產業大廠在亞洲最重要的聚集地。但另一方面，新加坡政府的過多參與，確時也影響整個產業運作的靈活性。

此次深感新加坡政府善於運用亞洲其他地區的人才，在發展與規劃啟奧生技研究園區時，事先縝密之規劃，值得借鏡，並有一具效能的管理機構 Ascendas，積極推動他國研究機構至新加坡奧生技研究園區設置，此可作為國際健康產業園區規劃時的參考。另外在新加坡除公立醫院外，私人醫院基於營運所需，也會將所設置之檢驗中心或影像中心，對外提供服務，以增加多元化的營收來源，相較於我國，政府的限制較少，是具有競爭力。

未來我國在規劃國際健康產業園區時，建議可參考新加坡的相關經驗，包括啟奧生技產業研發聚落的成立與運作模式及百匯醫療集團的海外發展模式

一、參考啟奧生技產業研發聚落的成立與運作模式：

新加坡精於縝密規劃園區內各項產業類別，不同類別產業分立於不同區塊，園區內有研發，可進行臨床試驗，並結合學校人才資源，具研發一條鞭概念。且在 Biopolis 園區內只能從事研發，量產則預在另一園區進行，研發與製造有做明確之切割。

另園區如有政府機關進駐，主導推動各項研究專案，確能吸引了外國醫藥企業來此投資，並在園區周邊形成多個產業聚落，藉由匯聚政府單位與企業的研究機關，以提供共同合作研究的環境與技術合作及商業化的功能，使得整體的產業得以凝聚發展。

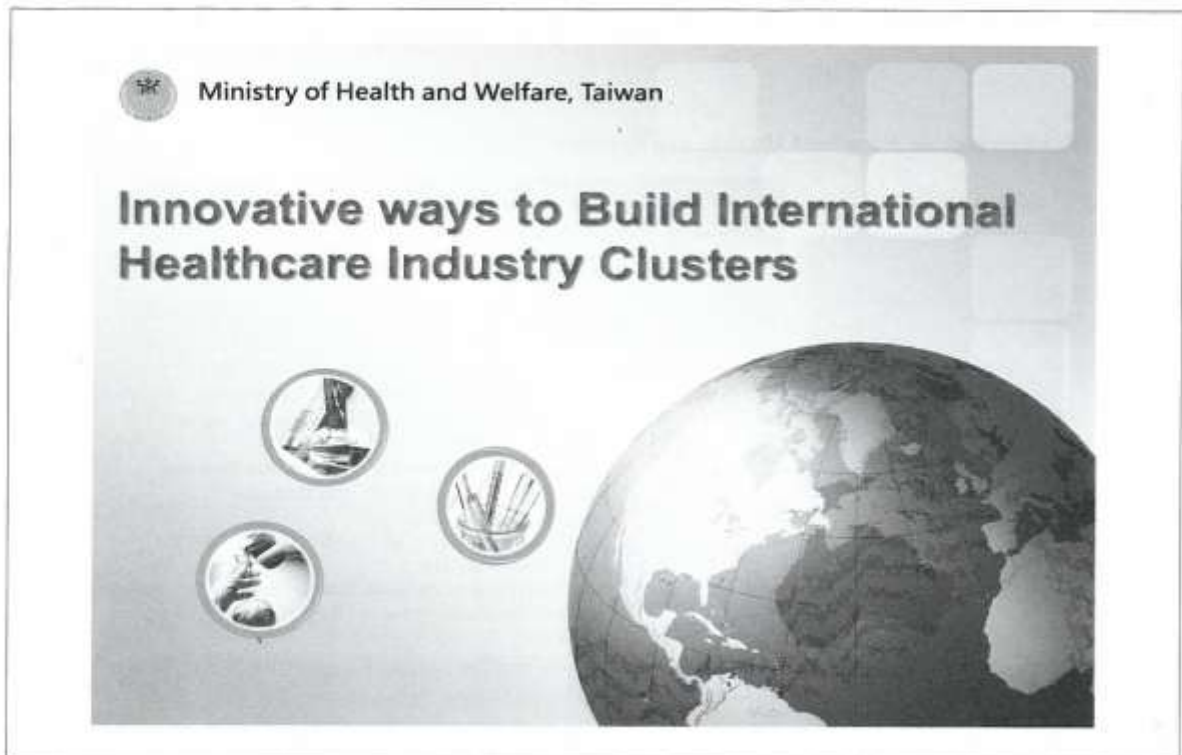
二、百匯醫療集團的海外發展模式：

新加坡為最大的私立醫療集團，在新加坡擁有 4 間醫院，並在海外有 15 家分院，其中 6 家獲得 JCI 認證，未來期待全數醫院都能獲得 JCI 認證，並持續在馬來西亞與印度等地拓展業務。

我國如要推動國際健康產業園區或國際醫療，醫院的 JCI 國際認證非常重要，也可參考新加坡伊麗莎白醫院營運方式之一，對外提供其檢驗中心或影像中心的使用服務，以增加多元化的營收來源。

伍、附件

附件 1 臺灣國際健康產業聚落的推動與創新



Taiwan has an Excellent Healthcare System



Taiwan (Republic of China)	
Population	23.37 million
Area	36,193km ²
Average life expectancy	female: 82.7 ; male: 76.0
Health Insurance	<ul style="list-style-type: none"> National Health Insurance launched in 1995 (insurance coverage ratio has reached 99.8%) Government handling, mandatory, single payer healthcare system The scope of NHI benefits is broad, and the items included in the package are abundant, the proportion of which is high Health Insurance provides solid social security for poor and sick people The proportion of National Health Service expenditure accounts for in GDP: Approximately 6.8%
Medical Institutions	Number of hospitals: Approximately 507 Primary Care Clinics: Approximately 20,000

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2

Taiwan Medical Service Features











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3



Globally recognized High Quality for Taiwan's Healthcare System

	2014	Times of Oman gave high praise quality of Taiwan healthcare service
	2012	Praised Taiwan's healthcare achievement
	2012	The New York Times introduced Taiwan's healthcare advancement
	2012	National Geographic: "Taiwan's Healthcare Miracle"
	2012	Time's special column introduced Taiwan's health insurance
	2008	CNN praised Taiwan's health insurance scheme is as advanced as other leading nations
	2005	Paul Krugman, one of the laureates of the Nobel Prize in Economics, praised that Taiwan could be a good reference for the U.S.
	2000	The Economist appraised Taiwan as the second best in the world

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4



Taiwan ranked Top of the World Healthcare Systems

Ranking	Countries	Why Taiwan is at the top?
1	Taiwan	<ol style="list-style-type: none"> 1. Universal coverage: low medical expenses 2. Smart card: obtain patient's information via health insurance IC Card (Smart card) 3. Information technology (IT): replace paperwork with electronic information to reduce waste and cost 4. Subsidies: for elderly and minorities 5. Medical availability: receive medical care from various practitioners, including specialized doctors, traditional Chinese medicine doctors, vision test, etc.
2	Switzerland	
3	China	
4	Canada	
5	United Kingdom	
6	Germany	
7	France	
8	Japan	
9	Italy	
10	Cuba	

Source: The Richest (2013)

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5



Treatment for Rare Disease in Taiwan

- Ms. Ruan, age of 28
- Werner Syndrome



- Ms. Yi (from Hong Kong)
- She was seized and shot in Philippines, causing her mandible bone to be severely injured





Medical achievement of Critical care cases in Taiwan



Hemangioma was cured for an Afghanistan doctor



Liver transplantation surgery for a Dubai citizen



Face reconstruction surgery for a Romanian girl



Cerebellar lesion was cured for a Dubai citizen

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8



There are 13 hospitals certified by the JCI in Taiwan



There are 13 hospitals certified by the JCI

Chang Bing Show Chwan Memorial Hospital	National Taiwan University Hospital
Chang Gung Medical Foundation	Shuang Ho Hospital, Ministry of Health and Welfare
Changhua Christian Hospital	Taipei Medical University Hospital
Dr. Wells dentist	Wan Fang Hospital
China Medical University Hospital	Tung 's Taichung Metro Harbor Hospital
E-DA Hospital	Universal Eye Center
Koo Foundation Sun Yat-Sen Cancer Center	

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9



Evolution of Taiwan's Healthcare System



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10



SWOT analysis for Taiwan's Healthcare System

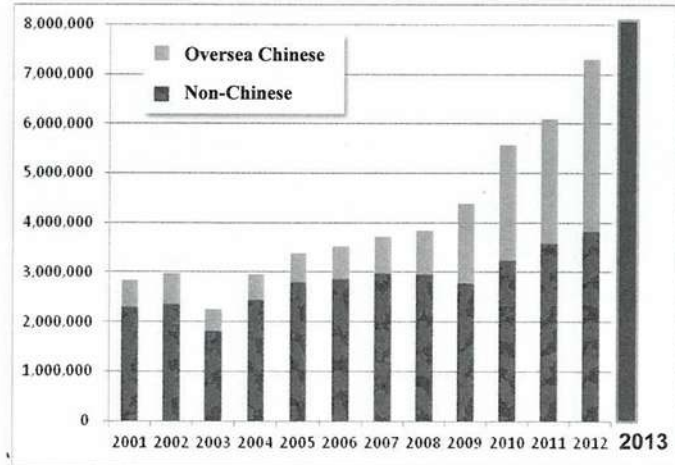
Strengths	Weaknesses
<ul style="list-style-type: none"> ■ Good reputation in medical services and quality ■ Advanced medical technology ■ Reasonable and competitive cost 	<ul style="list-style-type: none"> ■ Highly managed healthcare ■ Immature marketing channels ■ Rare linkage to international insurance companies
Opportunities	Threats
<ul style="list-style-type: none"> ■ Increasing tourists ■ Growing medical need ■ Government policy (Free Zone) 	<ul style="list-style-type: none"> ■ High competition ■ Domestic dispute about the crowd-out effects ■ Uncertainty of economy

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11



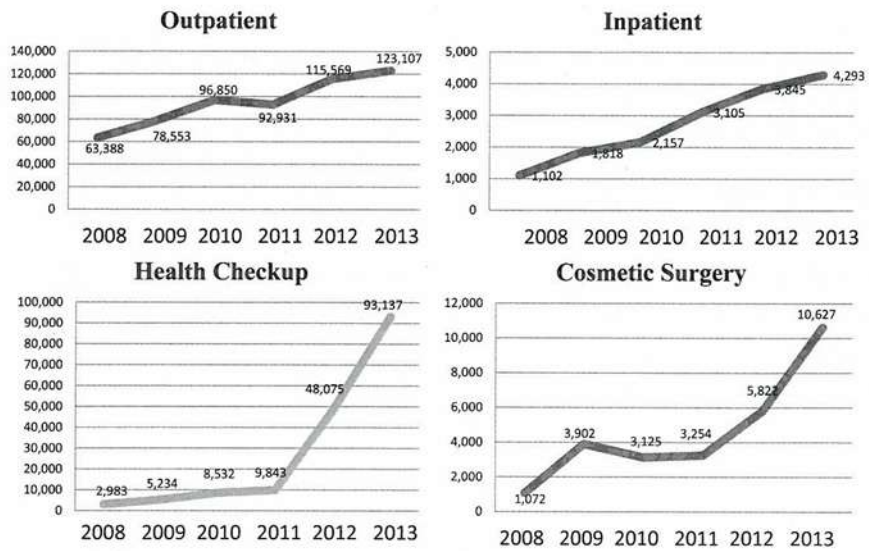
Visitors to Taiwan booming up to 8 Millions in 2013



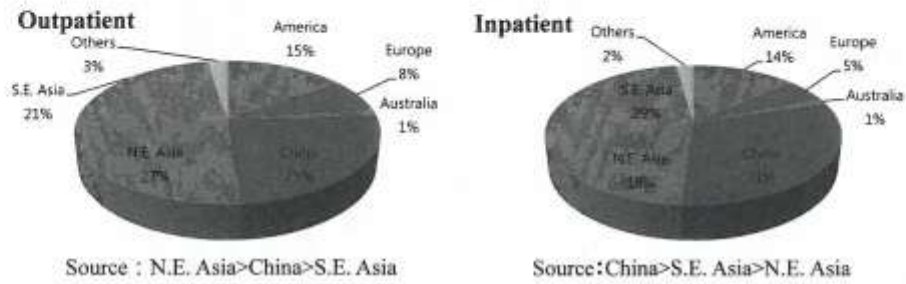
Source: Tourism Bureau, Taiwan



Rapid increase of Taiwan's healthcare service volume since 2012

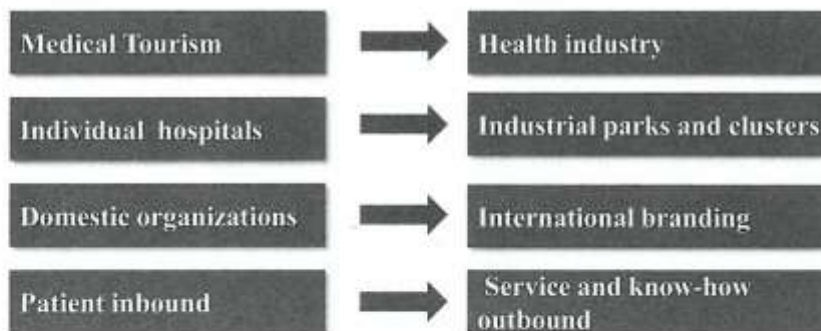


Geographic distribution of patients in 2012



Source of Data: 2012 International Healthcare Working Group, DOH, Taiwan

Global Trends of International medical tourism





The Next for Taiwan's Healthcare Industry:

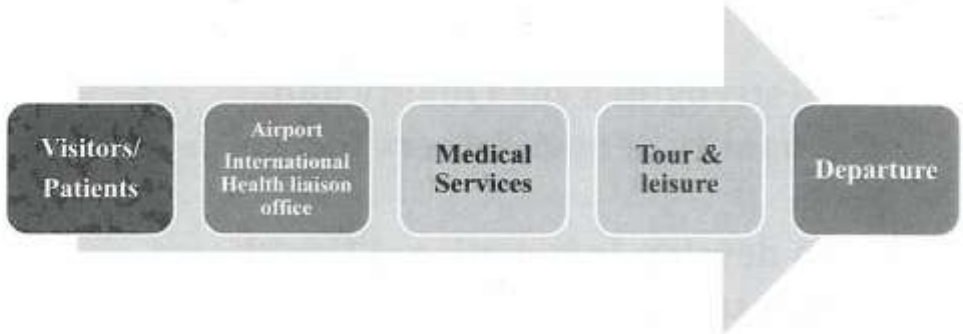
- **To strengthen the Quality and Quantity of medical services**
- **To develop International Healthcare Industrial Park (Free Economic Pilot Zones)**



Global Promotion: Connecting 60 oversea TAITRA offices



**Airport Service Center:
Provide consulting services for foreign travelers throughout**



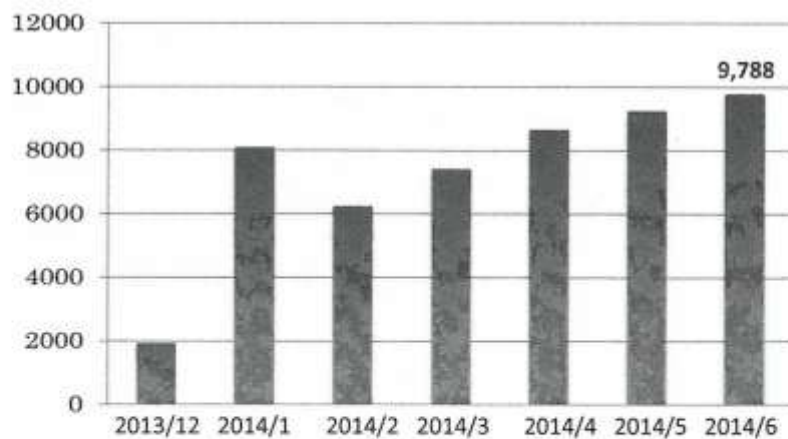
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18

The number of visitors of the 5 airport service centers continue to grow



■ (since 2013 / 12 / 28)

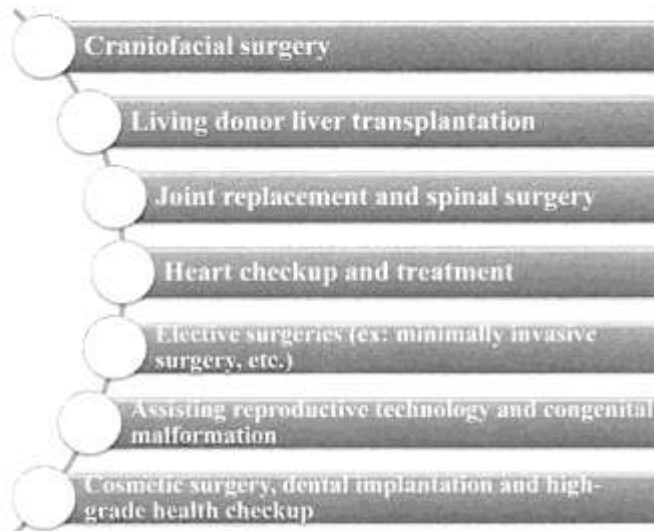


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19



Specialized Medical Services in Taiwan

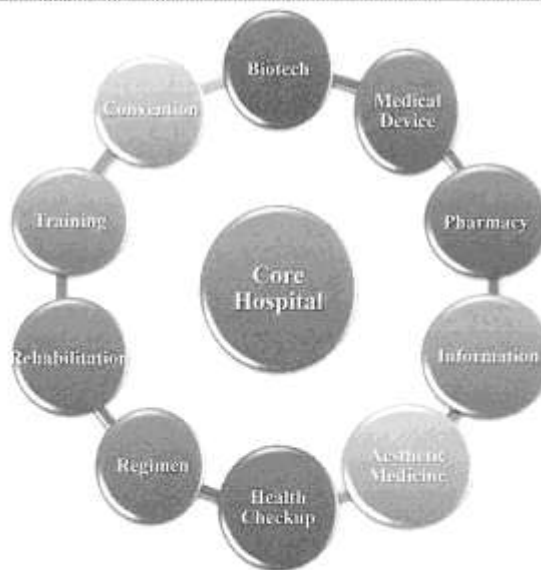


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20



Cross-border consolidation, maximize cluster benefits

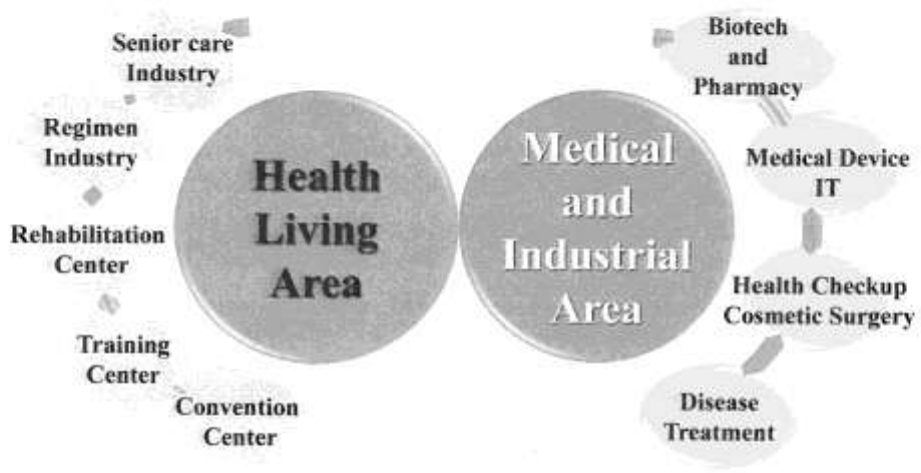


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21

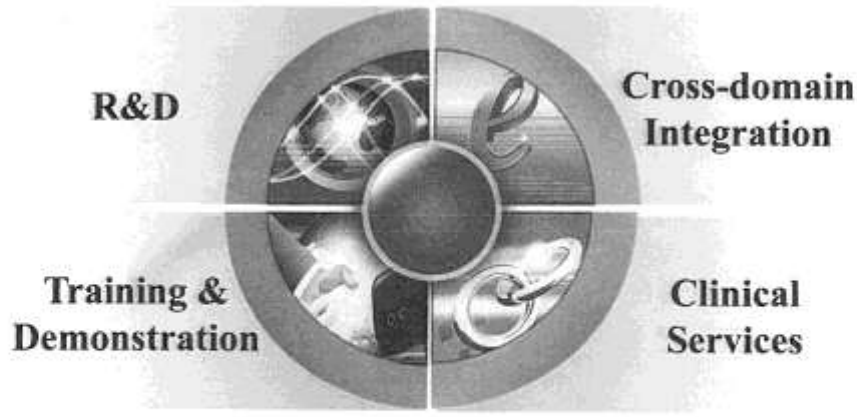


The industries covered by International Health Industrial Park



The Core Hospital Supports Healthcare Industries in IHIP

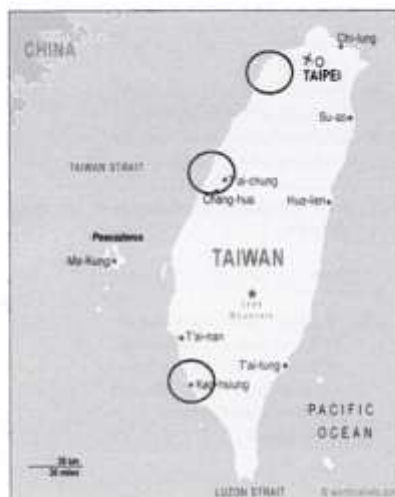
Cluster Effect & Cross-Domain integration



Special Bill of Free Economic Pilot Zones (FEPZ)

Limited within pilot zones:

- Allows legal people as members of healthcare associations (§ 49)
- Relaxes restrictions on foreigners serving as board directors or chairmen (§ 49)
- Relaxes restrictions on foreign healthcare personnel practicing medicine in the zones (§ 50)



Attract international professionals and business talents as well as provide business-friendly tax environment

■ Personnel access liberalization

- Relaxation of the restrictions of the two-year work experience requirement for white-collar workers coming to Taiwan
- Visa-free for foreign business travellers who come to Taiwan for short stays
- The number of Chinese who visit Taiwan for the engagement of short-term business activities no longer than one month is unlimited
- Three-year multiple entry visa is issued to Chinese business people

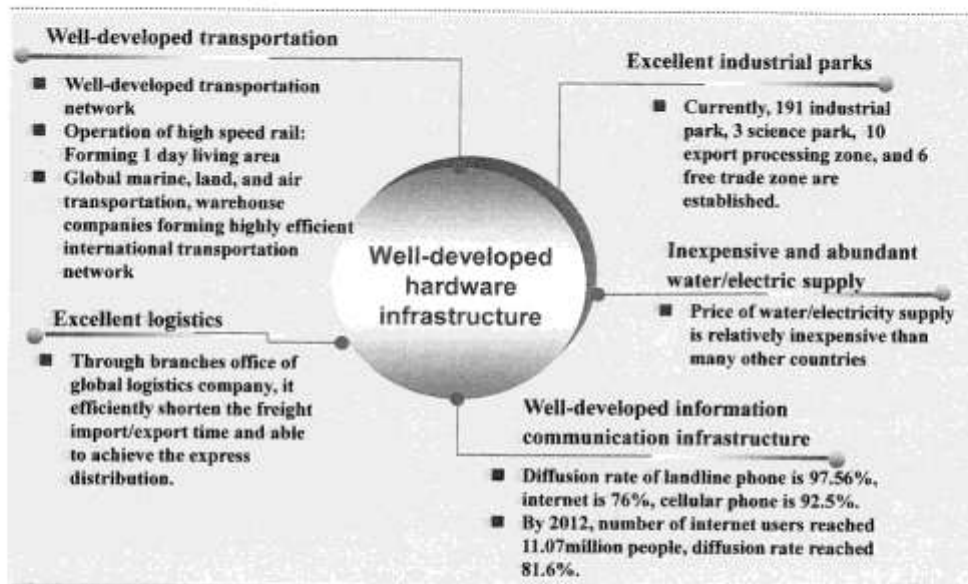
■ Income tax concessions

- Expatriates are not required to declare overseas income sources
- Only half of the salary and income of foreign professionals who work in Taiwan is credited in the lump sum of the comprehensive income in the first three years of their residency

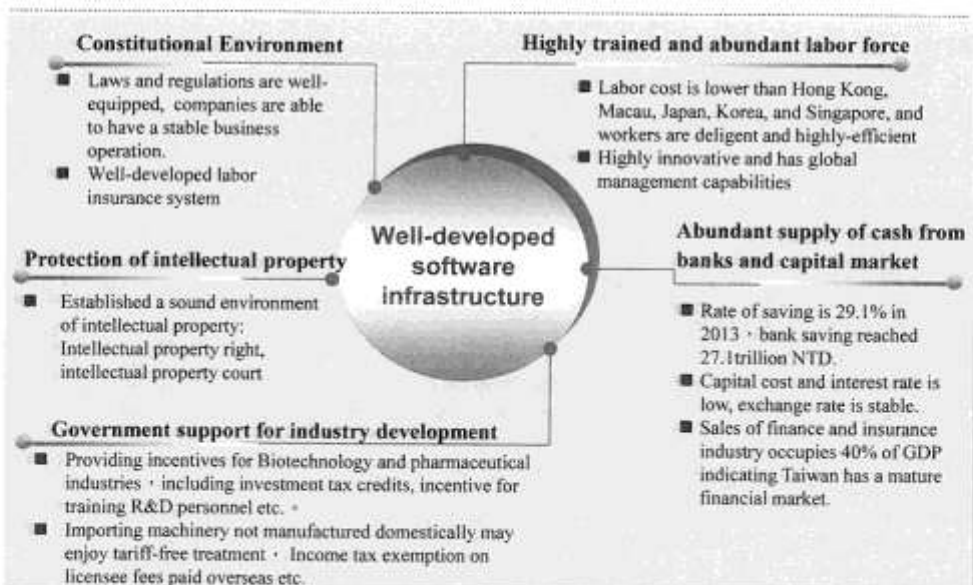
■ Provide incentives

- The proceeds of foreign patents authorization enjoy tax exemption
- In the area, within the limits of 15% of the expenditure amount invested in highly innovative research and development have tax credit for the amount of business income tax payable each year within 3 years.
- Within 3 years, the dividends or surplus obtained from foreign investment may be exempt from paying the income tax in accordance with the provisions of the Income Tax Act
- The goods for operation and the machinery and equipment for personal use imported from abroad into the demonstration area are exempted from tariffs, excise, and sales tax
- Input tax concessions for agricultural and industrial raw materials and goods, export 100%, domestic sales 10% exemption from business income tax

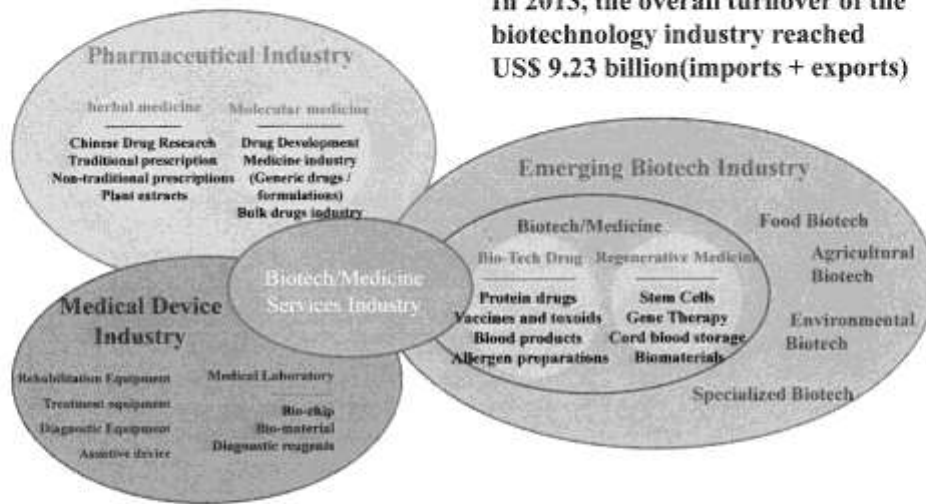
Investment Advantages-Hardware



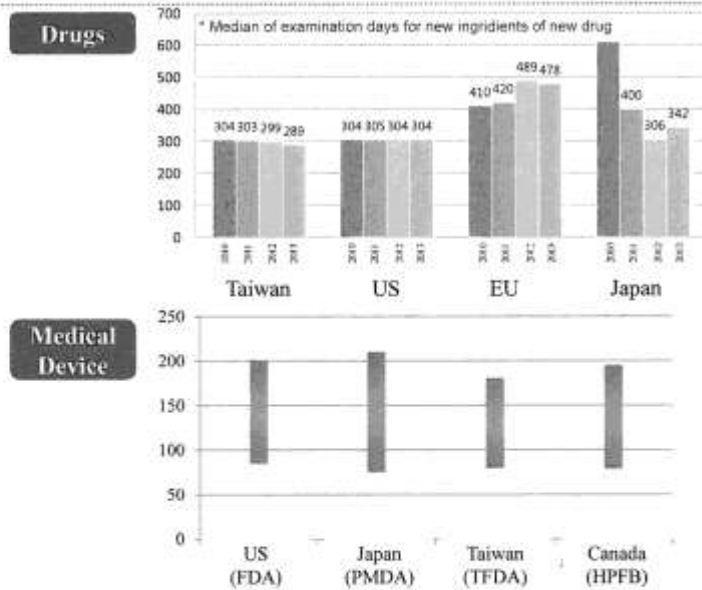
Investment Advantages-Software



Biotech industry category



International convergence of drug and medical device certification system



Cross-industrial Integration: Medical device industry and optoelectronic device industry (BenQ)



明基友達集團醫療產業布局

公司	專長項目
佳世達	遠距健康照護管理、影像診斷醫療器材
明基材	醫美產品、隱形眼鏡
明基三豐	醫療設備及耗材製造與行銷
明基口腔醫材	3D植牙整合服務

Trend of "Smart Hospital" in Taiwan



- Based on the strong ICT industries in Taiwan, it is possible to improve the efficiency of medical service and patients' safety

Hospital Information System	Lower labor cost
Electronic Medical Records (EMR)	Reduce paper waste and cost
Picture Archiving and Communication System (PACS)	Lower film and storage cost
Mobile Hospital	Shorter waiting time for patients

Other medical technology development

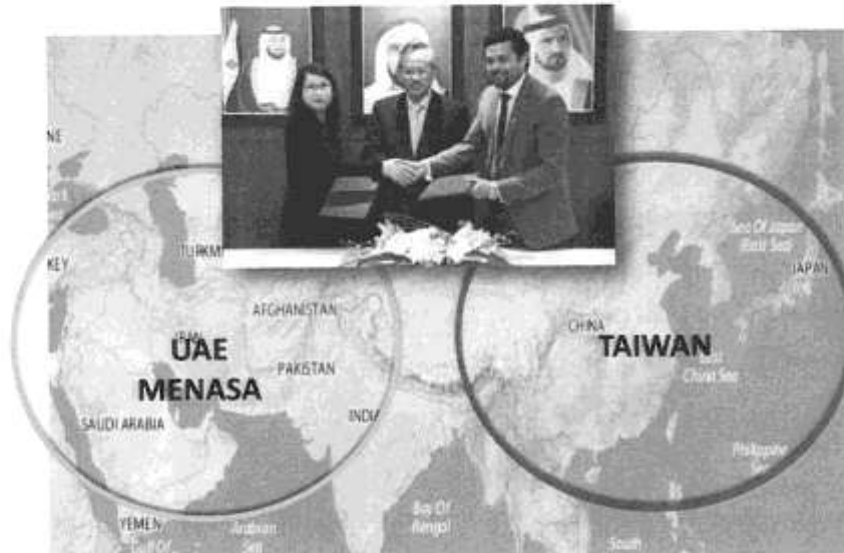
- 3D printing
- Cancer screening chips
- Virus identification kit
- Dental implement
- Medical Cloud (EMR)
- Portable 3C for eHealth
- High-profile medical devices
- etc.....



Support from the Government and the Medical Field



Actively enhancing international collaboration: MOU Signing with Dubai Healthcare City, DHCC



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34

Investment opportunity with ECFA signed in 2010.



Post-ECFA bilateral investment and trade



Taiwan's advantage through ECFA

- > Tariff incentive for bilateral trade
- > Open Three Links increased convenience of freight and human resource circulation
- > Sound protection of intellectual property from laws, regulation and government enforcement in Taiwan
- > Incentive for establishing R&D Center



Merit of Investing in Taiwan

- > Investing in Taiwan can be a gateway to the China Market.



Encourage foreign company to establish a branch for R&D, value-added production or operational HQ. Envisioned the world based on the two sides of the straits, we are creating values and international competitiveness.

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35



Provide an efficient one-stop service

- Provide advice and assistance for businesses setting up presence in the international healthcare industrial park with one-stop service.



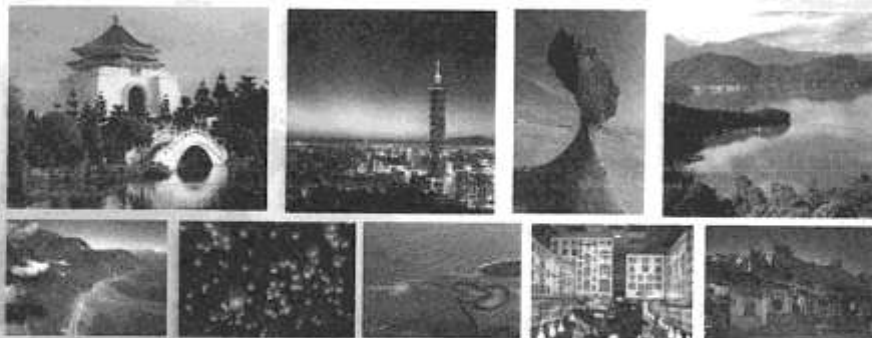
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36




TAIWAN
Touch Your Heart

We welcome you to invest in Taiwan, and cooperate to create a win-win situation!



附件 2 說明會-臺灣國際健康產業園區的潛在商機

 野村綜合研究所

**Discovering Potential Business Opportunities and Doing Business in
the International Healthcare Industrial Park in Taiwan**

1st of October, 2014
Nomura Research Institute Taiwan Co., Ltd.


10th FL-F, No.168, Dun-Hwa N. Rd.
Taipei, Taiwan
+ 886 - 2 - 2718 - 7620

Presentation Outline

1. Taiwan's healthcare industry market analysis

2. Business models and opportunities
in the International Healthcare Industrial Park

3. Summary

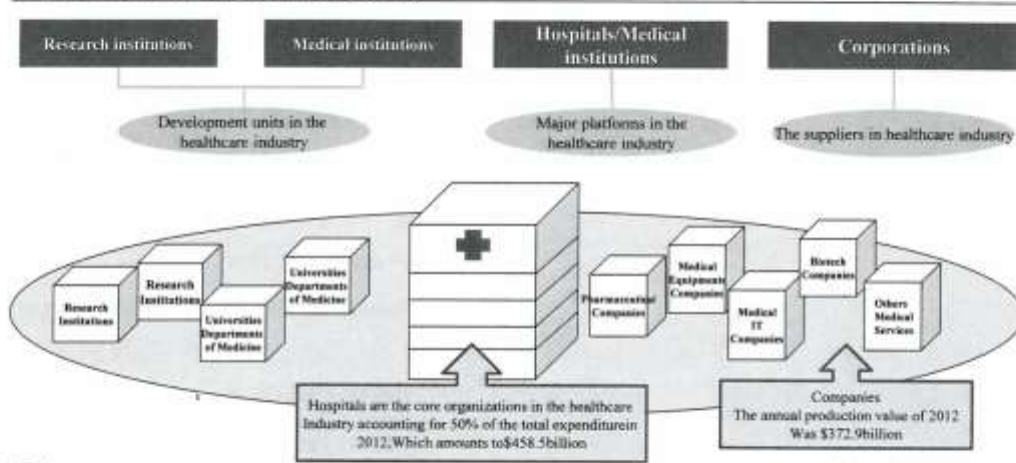
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1. What are the constituent elements of healthcare industry

Medical institutions are the key to the development of the healthcare industry. By connecting resources related to the R&D and production development of medical devices and drugs, not only the domestic healthcare needs can be met, but also capabilities of product and service exportation can be enhanced.

- Medical institutions play a key role in developing the whole healthcare industry. It provides the clinical trial data which in chain support the R&D and service.

The constituent elements of healthcare industry



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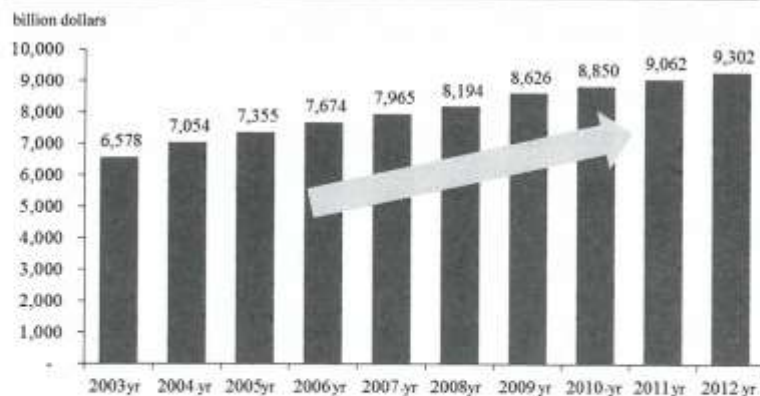
Source: Collated by NRI 2

1. The status of Taiwan's healthcare industry

Taiwan's medical market continues to grow, the amount of medical expenditure in 2012 amounted to \$930.2 billion

- According to the statistics of the Ministry of Health and Welfare, the average annual health insurance expenditure per capita is \$39,973, and the medical expenditure accounts for 6.3% of the GDP.

The variation in health care spending in Taiwan from 2003 to 2012



Source: the Ministry of Health and Welfare, collated by NRI

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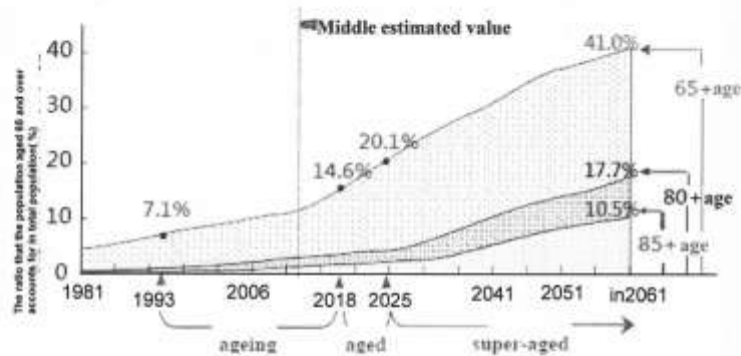
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1.The status of Taiwan's healthcare industry

In the future, as aging gradually prevails, Taiwan's medical market is expected to have strong growth strength

- In 2018, the proportion of the aging population in Taiwan will begin to increase rapidly.

The forecast of Taiwan's demographic change from 1981 to 2061



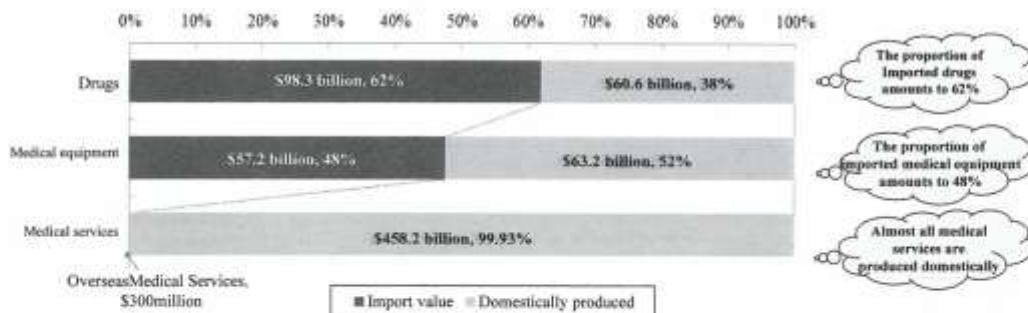
Source) National Development Council's population projections for 2014-2061, published on 18th, August, 2014

1.Overall analysis of Taiwan's healthcare industry

The health care industry falls into 3 major categories, except for medical service, the proportion of imports remains high for drugs and medical equipment in Taiwan

- Health care industry falls into 3 major categories, The proportion of imported drugs is 62%, the proportion of imported medical equipment is 48%, as for medical service, 99.93 % of medical services are provided by domestic medical institutions.

The scale of Taiwan's health care industry (in 2012)



Source: "2013 White Paper on the biotechnology industry" and "2012 National Health Care Expenditure" by Industrial Development Bureau, Ministry of Economic Affairs, collated by NRI

1. Analysis of the status of pharmaceuticals in Taiwan

Future development of Taiwan's biotech pharmaceutical industry will move gradually from the market of OTC drugs and generic drugs towards prescription drugs, which require technical level

- Taiwan's three major pharmaceutical companies, Yung Shin Pharm., CCPC and TTY Biopharm mainly manufacture generic drugs.
- In terms of the technological barriers, development costs and profits of prescription drugs, generic drugs, and OTC drugs, those of prescription drugs are the highest, and those of over the counter medicines are the lowest.

The ranking of Taiwan's Top15 major pharmaceutical companies in 2012

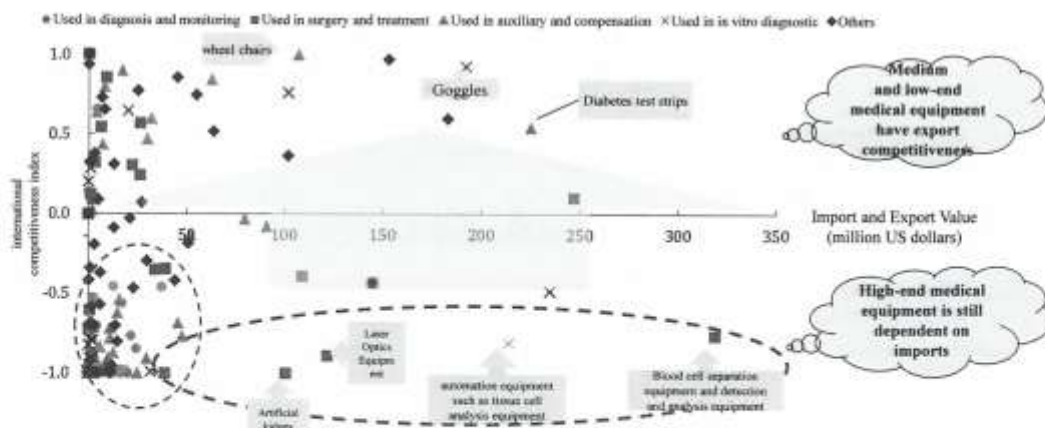
Ranking	Company Name	Sales Value (million US dollars)
1	Pfizer	428.0
2	Novartis AG	304.3
3	MSD	259.5
4	Hoffmann-La Roche	258.1
5	Sanofi	246.2
6	GlaxoSmithKline	197.1
7	AstraZeneca	191.2
8	Bayer	131.3
9	Eli Lilly and Company	126.9
10	Bristol-Myers Squibb	105.0
11	Yung Shin Pharm.	99.6
12	CCPC	91.3
13	TTY	89.3
14	Takeda Pharmaceuticals	84.1
15	Abbott	80.1

The comparison of various types of drug development costs and profits

Drug types	Technological barriers	Development costs	Selling expenses	Price	Profit
Prescription drug (Prescription Drug)	High	High	High (sold mainly to professionals)	High	High
Generic drug (Generic Drug)	Medium	Medium	Low	Medium	Medium
OTC drug (OTC drug)	Low	Low	Medium (Mainly advertising expenses)	Low	Low

1. International Healthcare Industrial policy analysis and development opportunities -Medical Equipment, including devices and instrument
 Taiwan's index of international competitiveness in medical supplies such as laser optics, detection and analysis, automated healthcare, and imaging is comparatively low. However, if combined with Taiwan's existing advantages in the mechanical and IT industries, entering the field of high-end medical supplies shall be possible, which will help achieve import substitution of products

The distribution of Taiwan's international competitiveness index in medical equipment(2013).



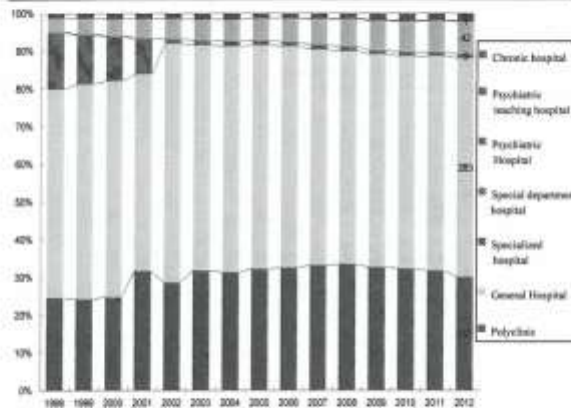
Source: Import and export statistics from the Customs Administration, Ministry of Finance, collated by NRI
 Note: International competitiveness index equals (value of exports - value of imports) / total import and export value.

1. Analysis of the status of healthcare services in Taiwan

In Taiwan, the hospital service industry mostly provides integrated services and lacks specialized and special department hospitals. The growth of American hospitals relies mostly on specialized medical services. In the future, Taiwan's hospitals will be developing towards specialized medical services in a similar way

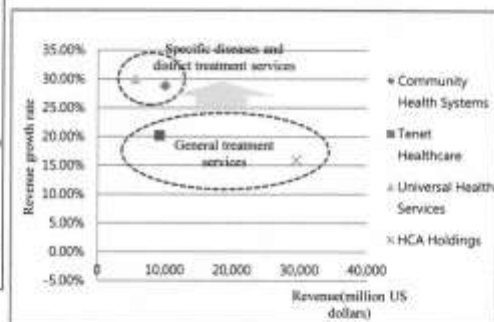
- The main hospital types in Taiwan remain to be general hospitals and polyclinics; psychiatric hospitals are increasing year by year, fewer of them are specialized hospitals and special department hospitals.
- Main medical centers in the US include HCA Holdings, Community Health Services, Tenet Health care and Universal Health Services, among which Universal Health Services and Community Health Systems have been developing towards the specialization of mental illness treatment services and hospital services in non-urban areas respectively, which led to the increase of revenue growth rate.

The proportion of each hospital-type in Taiwan



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The revenue and growth rate of major medical centers in the U.S. from 2005 to 2013



Source: UZABASE, collated by this project

8

1. Analysis of the status of Taiwanese medical personnel training

Taiwan's National Taiwan University (No. 7) and Taipei Medical College (No. 12) are ranked rather prominently in Asia's medical field, ranking 7th and 12th respectively

- The 2013, Survey of Life Sciences and Medicine colleges in Asia conducted evaluation mainly from five aspects, which are Academic Evaluation (30%) Employers Evaluation (10%) Teacher-student ratio (20%) Citations (15%) The number of published papers (15%) and International exchanges (10%)

Ranked as one of the top 50 Asian medicine and life sciences colleges in 2013

2013 Rank	Institution Name	Country/Territory	2013 Rank	Institution Name	Country/Territory
1	The University of Tokyo	Japan	26	Zhejiang University	China
2	National University of Singapore (NUS)	Singapore	27	Tokyo Institute of Technology	Japan
3	Kyoto University	Japan	28	Kyung Hee University	South Korea
4	University of Hong Kong (HKU)	Hong Kong	29	Nanjing University	China
5	Peking University	China	30	Pohang University of Science and Technology (POSTECH)	South Korea
6	Seoul National University (SNU)	South Korea	31	Hokkaido University	Japan
7	National Taiwan University (NTU)	Taiwan	32	Keio University	Japan
8	Osaka University	Japan	33	Universiti Kebangsaan Malaysia (UKM)	Malaysia
9	Tsinghua University	China	34	Korea University	South Korea
10	The Chinese University of Hong Kong (CUHK)	Hong Kong	35	University of Science and Technology of China	China
11	Fudan University	China	36	Indian Institute of Science	India
12	Taipei Medical University	Taiwan	37	National Tsing Hua University	Taiwan
13	The Hong Kong University of Science and Technology (HKUST)	Hong Kong	38	Beijing University of Chinese Medicine	China
14	Mahidol University	Thailand	39	Universiti Sains Malaysia (USM)	Malaysia
15	Shanghai Jiao Tong University	China	40	The Hong Kong Polytechnic University	Hong Kong
16	Chulalongkorn University	Thailand	41	University of Indonesia	Indonesia
17	KASIT - Korea Advanced Institute of Science and Technology	South Korea	42	Universiti Putra Malaysia (UPM)	Malaysia
18	Yonsei University	South Korea	43	University of Tsukuba	Japan
19	Sungkyunkwan University	South Korea	44	National Yang Ming University	Taiwan
20	Tokyo Medical and Dental University	Japan	45	University of the Philippines	Philippines
21	Tohoku University	Japan	46	Kobe University	Japan
22	Nanyang Technological University (NTU)	Singapore	47	Wuhan University	China
23	Universiti Malaysia (UM)	Malaysia	48	University of Delhi	India
24	Nagoya University	Japan	49	National Cheng Kung University	Taiwan
25	Kyushu University	Japan	50	Universitas Gadjah Mada	Indonesia

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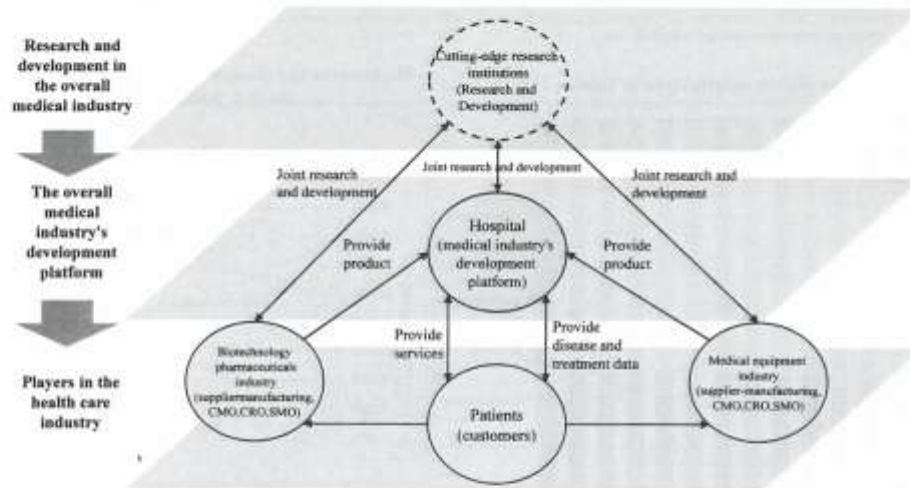
Source: QS universities rankings, Asia

9

1.The development plan of Taiwan's healthcare industry(1)

Hospitals should be the platform where medical industry develop as a whole, and the cutting-edge research institutions are the R&D center of the overall medical industry; both of them play essential roles in the development of the industry

Players and roles in the medical industry chain



1.The development plan of Taiwan's healthcare industry(2)

Taiwan will focus on the research and development of the overall health care industry, to enhance the overall medical standards and the industry competitiveness

- Taiwan's medical industry should move towards the R&D of three major areas, which are biotechnology pharmaceuticals, medical equipment and medical services, to enhance the development and competitiveness of the whole industry.

The value chain of the medical industry

	R&D	Manufacturing	Service
Biotechnology pharmaceuticals	<ul style="list-style-type: none"> Basic Research (Biomaterials, pharmaceutical raw materials, biotechnology processes, etc.) non-clinical trials 	<ul style="list-style-type: none"> New Medicine Generic Medicine 	<ul style="list-style-type: none"> Carried out by research institutions, hospitals or other professional bodies Clinical trials, manufacturing after market survey(CRO) Manufacturing of drugs of clinical trials (CMO) Agencies assisting in trials(SMO)
Medical equipment	<ul style="list-style-type: none"> Nano Technology Medical Electronics Medical Imaging Molecular Diagnostics Complex Medical Supply Organ regeneration 	<ul style="list-style-type: none"> Medium to high risk Surgical and therapeutic medical equipment Low risk Used in diagnosis and monitoring Used in in vitro diagnostics Used in auxiliary and cooperation Other 	<ul style="list-style-type: none"> Carried out by research institutions, hospitals or other professional bodies Clinical trials, manufacturing after-market survey(CRO) Manufacturing of drugs of clinical trials (CMO) Agencies assisting in trials(SMO)
Medical services	<ul style="list-style-type: none"> Genetic Engineering Gene Therapy Telemedicine Medical Information 		<ul style="list-style-type: none"> Hospital Rehabilitation Center Regimen facilities (Senior citizens and regimen industry) Physician Training Center Conference center

1. The concept hypothesis of the healthcare park

Attract investment from overseas medical institutions (hospitals, research institutes, universities) and related corporate groups by setting up hospitals with cutting edge healthcare in the International Healthcare Industrial Park, in coordination with the de-regulation of foreign investment restrictions

- Limited to the Healthcare Industrial Park, the latest and cutting-edge medical technologies, pharmaceuticals, equipments and surgical methods from Europe and Singapore are introduced.
 - For example: the introduction of the cutting-edge medical equipment and surgical methods used for deep brain stimulation, which is one of the latest treatments of Parkinson's disease.
- De-regulation of foreign hospitals' investment restrictions in Taiwan.

Concept of the International Healthcare Industrial Park



Presentation Outline

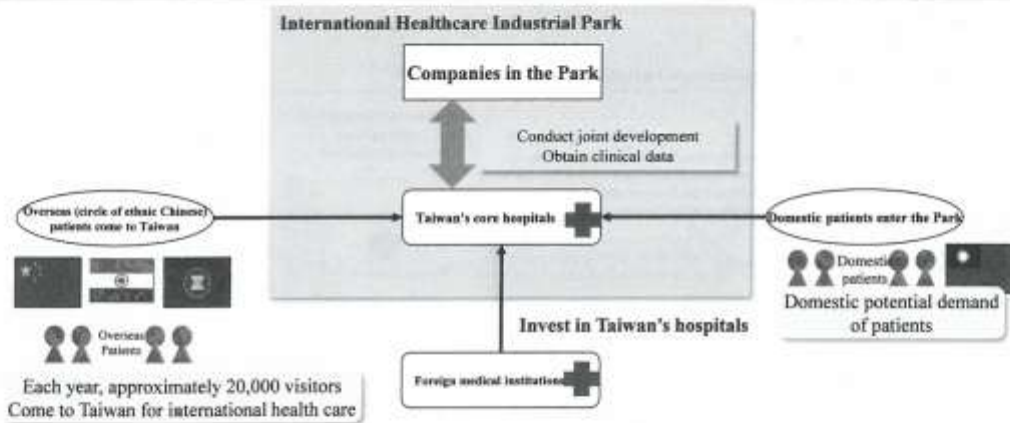
1. Analysis of Taiwan's healthcare industry market

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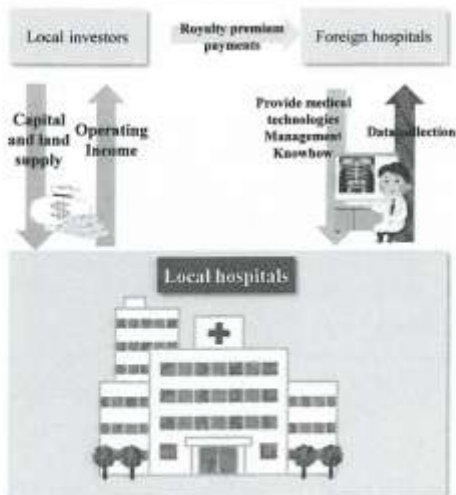
2. International Healthcare Industrial Park-collaboration model of hospital investment
 By investing core hospitals, patients from Taiwan and those who come to Taiwan for international healthcare can be served, joint development can also be conducted with the corporates and research institutions in the Park to obtain clinical data

collaboration model of hospital investment

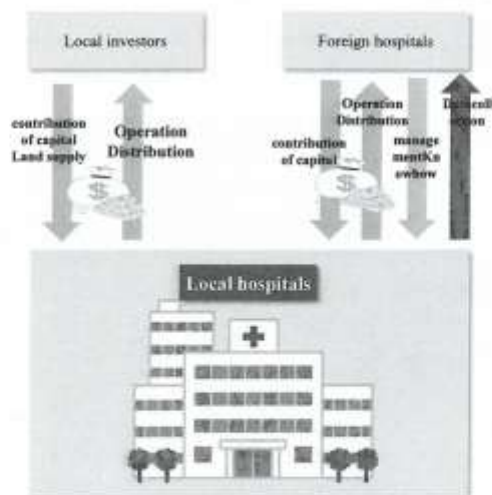


2. Overseas investment model of hospitals
Overseas investment of hospitals includes two models: 'royalty premium' and 'joint venture'

Royalty model



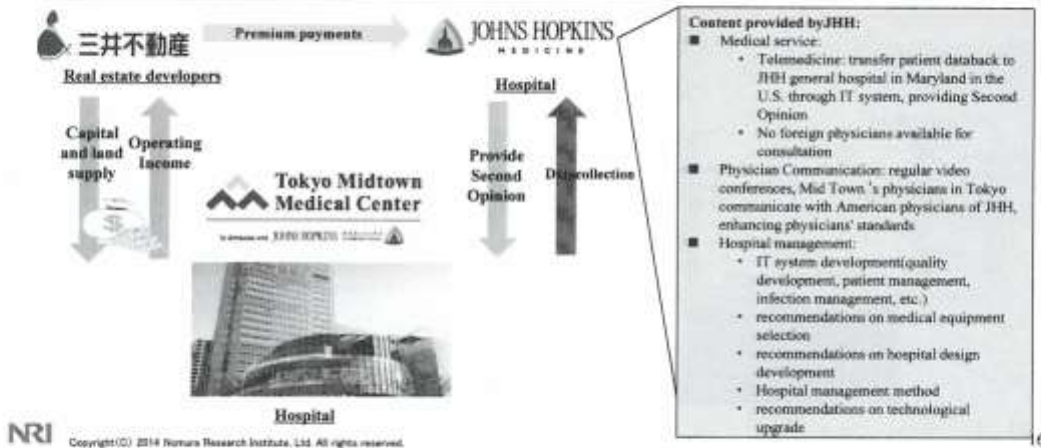
Joint venture model



2. The case of royalty premium(1) - John Hopkins Japan
Subject to the Japanese medical regulations and restrictions for foreign physicians, services are provided through telemedicine

- Cooperation began in 2005, and in 2007 saw the official opening.
- Japan's Physicians Act (foreign physicians practicing provisions) and the regulations on foreign investment of hospitals, the model of non-direct health care service provision and non-investment is adopted.

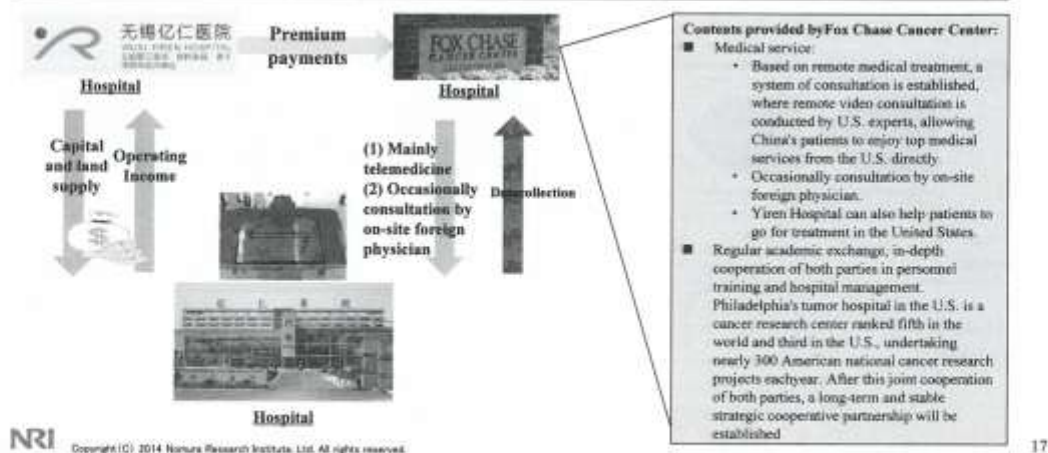
John Hopkins Japanese investment model



2. The case of royalty premium(2) - Fox Chase Cancer Center China
Enhance the brand and reliability of hospitals in China through introducing the technology and management of American hospitals

- In 2013, Wuxi Yiren Hospital in China, signed an MOU with Fox Chase Cancer Center in Philadelphia
- On April 21, 2014 Fox Chase Cancer Center's Wuxi Branch began operating in Wuxi Yiren Hospital.

Fox Chase Cancer Center investment model in China

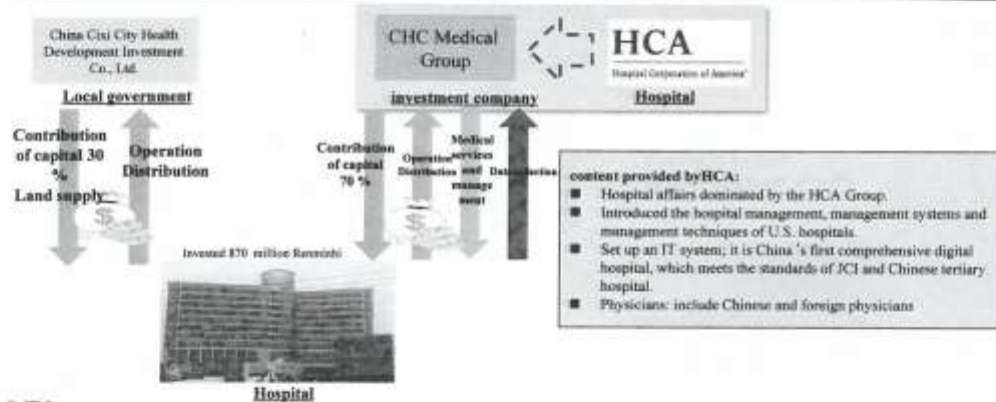


2. The case of funds investment –HCA in China

Constructed Cilin hospital with the joint venture of Cixi City, Zhejiang Province, it was the first Sino-US joint venture hospital with the U.S. holding 70% of the equity

- In 2009, the CHC Group (China Healthcare Corporation, the company reinvested by the founder of the HCA Group) established a joint venture with Cixi city government and started to construct a hospital, which was the second People's Hospital in Cixi City. With 870 million Renminbi invested, a scale of 80,000 square meters, and an early planning of 500 beds, its scale is the largest of all the joint-ventured Sino-US hospitals.
- On June 26, 2014 trial operation started, on 15 July it was formally opened.

The investment model of America's HCA in China



18

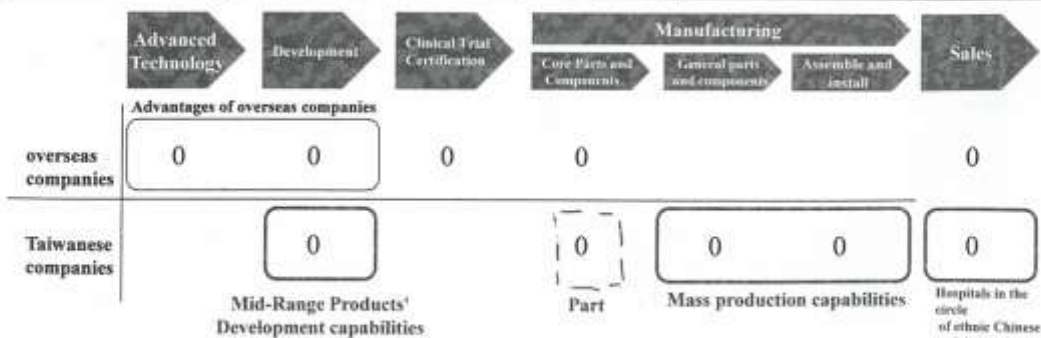
2. The advantages of medical equipment cooperation with Taiwan

Overseas companies can utilize the development and production capacity of Taiwanese companies' mid-level medical materials and the sales channels of the market of the circle of the ethnic Chinese to achieve cost reduction and create higher profits

- The cooperation of developing functions: the advanced technologies that overseas companies master, by utilizing the production capacity in Taiwan, joint development of mid-range products can be carried out.
- The cooperation of manufacturing function: utilize the capacity of Taiwan's OEM and EMS to increase price competitiveness of products.
- The cooperation of sales function: in addition to providing access that Singaporean companies do not have to overseas companies, Taiwan's companies have a special advantage in terms of access into the Chinese market. Therefore through cooperation with Taiwanese companies one can expand one's sales channels.

The industrial chain analysis of Taiwanese and overseas companies' medical equipment

Taiwan's strengths



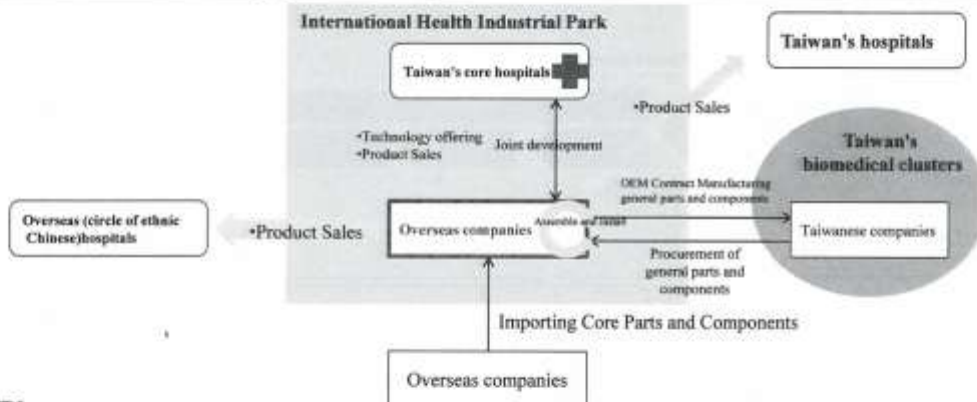
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19

2. International Health Industrial Park-collaboration model of medical equipment investment
Establish a business presence in the park, jointly develop with core hospitals in the Park, sell the products domestically throughout Taiwan, and further export them overseas

- Overseas companies establish business presence in the park, and establish a close working relationship with the core hospitals in the park.
- Cooperate with Taiwan's existing domestic industrial clusters and obtain parts and components at competitive prices and of high quality, assembly and install the products in the park.
- In addition to selling to core hospitals, selling in domestic market in Taiwan and overseas markets via the networks of core hospitals' physicians is also possible.

collaboration model of medical equipment



2. Example of medical equipment utilizing Taiwanese companies: electric wheelchair
Utilizing Karma's product development, mass production capabilities, and its sales channels in the Asian Market, cooperate comprehensively with Taiwan's companies, and entrust the leading of Asian market to Taiwanese companies

Cooperation case of Taiwanese company (Karma) and foreign-funded company

Karma's sales channels and mass production capabilities in Asia

Taiwanese companies	karma 康揚 KARMA MEDICAL PRODUCTS CO., LTD.	
Cooperation partners (Overseas)	AC Mobility (Australia)	LifeStand (France)
Products	Central-axis driven electric wheelchair	Upright electric wheelchair
Utilize the advantages of Taiwanese companies	<ul style="list-style-type: none"> •Mass production capabilities realize cost reduction •joint development of mid-range products 	<ul style="list-style-type: none"> •Mass production capabilities realize cost reduction •Utilize sales channels to increase sales performance



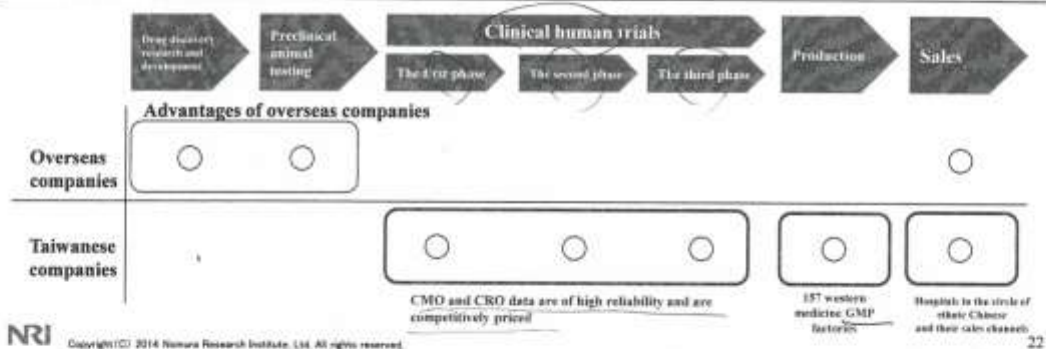
2. The advantages of drugs cooperating with Taiwan

Taiwan has a single database for the use of drugs, and it has also signed Cross-strait Cooperation Agreement on Medicine and Public Health with China whilst cooperating with China's companies, which contribute to the R&D of special medication for ethnic Chinese in East Asia, and the expansion of market sales

- The cooperation of development function: core R&D at the forefront of drug development, special medication for East Asia allows joint development. 'Cross-strait Cooperation Agreement on Medicine and Public Health' allows cooperation platform of cross-strait human clinical trial on new drugs to be established, encouraging industries from both sides of the strait to jointly conduct R&D cases of new drug. In addition, as Taiwan's CRO and CMO information are more credible than that of China, Taiwan thus enjoys an added advantage.
- The cooperation of manufacturing function: Taiwan has 157 GMP pharmaceutical companies, enhancing pharmaceutical manufacturing that is both of high quality and at competitive prices.
- The cooperation of sales function: in addition to providing access that Singaporean companies do not have to overseas companies, Taiwan's companies especially have an advantage in terms of access into the Chinese market. Therefore through cooperation with Taiwanese companies one can expand one's sales channels.

The industrial chain analysis of Taiwanese and overseas companies' drugs

Taiwan's strengths



2. International Health Industrial Park-collaboration model of drug investment

Establish business presence in the park, jointly develop with core hospitals in the Park, target Taiwan's domestic market and overseas market

- Overseas companies may establish business presence in the Park, and establish a close working relationship with the local core hospitals.
- Cooperate with Taiwan's existing domestic industrial clusters and obtain products at competitive prices and of high quality, assembly and install the products in the Park.
- In addition to selling to core hospitals, selling in domestic market in Taiwan and overseas markets via the networks of core hospitals' physicians is also possible.

collaboration model of drug investment

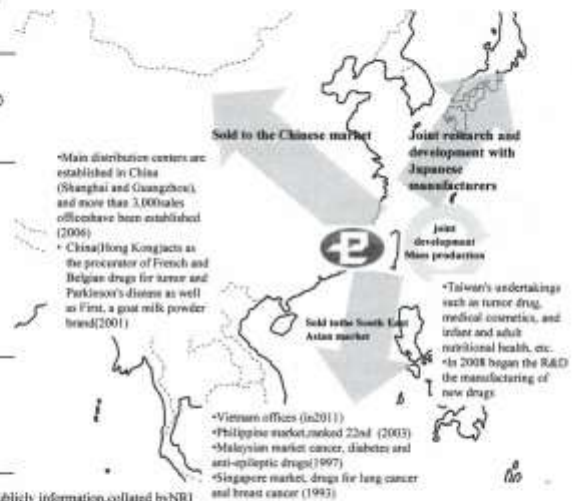


2. Example of drug utilized in Taiwanese companies: Anti-pancreatic cancer injection drug
Utilizing Orient EuroPharm's product development, mass production capabilities, and its sales channels in the Asian Market, carry out comprehensive cooperation in the development, manufacturing, and sales of anti-pancreatic cancer injection drug

Cooperation case of Taiwanese company (Orient EuroPharm) and foreign-funded enterprises

Orient EuroPharm's sales channels and mass production capabilities in Asia

Taiwanese companies	 友華生技醫藥股份有限公司 Orient EuroPharma Co., Ltd. Orient EuroPharm Co., Ltd.
Cooperation Partners (Overseas)	薬の未来を創造する  Nano Carrier Nano Carrier
Products	 NC-6004製剤 Anti-pancreatic cancer drug, NC - 6004 injection
Utilize the advantages of Taiwanese companies	<ul style="list-style-type: none"> Both parties establish joint venture factory and founded a subsidiary of Orient EuroPharm, "Y Think", Orient EuroPharm invested \$350 million, and holds 68% of the shares. Y Think's anticancer injective plant located in Huzhou, Yantai, and is expected to be completed in 2016 Expand the product sales of anti-cancer injection in the future



Source) publicly information, collated by NRI

Presentation Outline

1. Analysis of Taiwan's healthcare industry market

2. Business models and opportunities in the International Healthcare Industrial Park

3. Summary

Summary

Singaporean hospitals and related pharmaceuticals · medical equipment businesses can start operating jointly with Taiwanese companies by utilizing the International Health Industrial Park to open up markets in Taiwan and China

- The aging phenomenon continues in Singapore, and the medical market has an incentive to continue growing. However, with regards to the promotion of health care system in Singapore, it is expected that the growing space of Singaporean medical market is still limited.
- On the other hand, Taiwan is just becoming an aging society. In the future, medical services, long term care services, pharmaceuticals, and medical equipment are expected to grow considerably. Taiwan's government is promoting long term care insurance system, so in the future Taiwan's social system of health care and long term care will be more robust.
- Taiwan has fast-growing medical tourism, high quality clinical trials, product manufacturing capacity, and sales channels in China and Southeast Asia. By utilizing these advantages, one can carry out development, manufacturing, and sales of drugs and medical equipment in Taiwan, and take Taiwan as a springboard for the Asian market.
- Through this utilization model, when Singaporean hospitals and business of the medical industry invest in Taiwan, not only can they enter the Taiwanese market, but they can also take the whole Asian region as their target market.
- To promote the development of medical industry, Taiwan government is planning to establish the 'International Health Industrial Park', through the establishment of which, more preferential measures can be provided, making the model of cooperation described above more feasible, and the charm of investing in Taiwan more easily experienced.
- When related Singaporean businesses are making overseas investment, they can utilize Taiwan, especially the International Health Industrial Park, to plan a feasible investment model. In the future there will be increased potentiality for Singaporean companies investing in Taiwan.

