

出國報告（出國類別：開會）

2022 年澳洲第 38 屆國際醫療照護品質協會 國際會議（ISQua）

服務機關：高雄榮民總醫院/品質管理中心

姓名職稱：莊旺川/醫師兼科主任

派赴國家：澳洲

出國期間：2022/10/17-2022/10/21

報告日期：2022/10/28

摘要

此次會議的主題為設計未來的社區韌性與可持續性，參訪的目的主要在了了解醫療機構在醫療品質與病人安全上的新趨勢及醫療品質與病人安全的國際相關研究與推展的教學方式。

主要聚焦在資訊科及人工智慧的引進在人因工程上要考量的重點、與病人及其家屬建立伙伴關係，以及貼近社區照護並強調一般醫師(General Physicians)的重要性。此外，PROMS 即 Patient-Reported Outcomes Measurement System 的重視，會是未來在醫品病安上的重要研究主題。在海報的呈現上面，我主要在觀察視覺化圖表在醫療照護上的運用，以利做為未來本院事廣 Power BI(Business Intelligence) 做為準備。

WHO 在宣導邁向 2030 年，有關醫療品質與病人安全的策略，WHO 的目標是希望能夠零傷害。WHO officer 總共陳述了七大策略目標，將在本文中一一陳述。

最後提出個人對此次研討會的建議與感想。

關鍵字

病人通告結果(Patient-Reported Outcomes)、人因工程(Human Factors Ergonomics)、人工智慧(Artificial Intelligence)、商業智慧(Business Intelligence)

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一、目的

自 2015 年接任醫院醫療品質與病人安全的業務以來，一直想要與國際接軌。經過了五年的努力，我們醫院終於在 2020 年投稿了國際健康照護品質學會(International Society for Quality in Health Care 簡稱 ISQua) 在義大利佛洛倫斯舉辦的國際研討會共 26 篇，被接受了 22 篇(含 4 篇口報及 18 篇海報)。可惜因為疫情的因素而讓出國的夢想成空。該研討會將日期延至 2021 年 7 月舉行，並改成線上發表。兩年的疫情讓大家無法出國參與國際研討會。

這次我的研究團隊以「Developing An Efficient Clinic Decision Support System Based on Deep Learning」為題，受到評委的青睞。得到今年在澳洲舉辦的國際研討會以口頭論文發表的機會，與國際上志同道合的朋友分享我們研究的成果。

本次參與研討會的目的有三：其一為體會實體的國際研討會的臨場感；其二為了解醫療機構在醫療品質與病人安全上的新趨勢，畢竟每年世界衛生組織(WHO)會透過該研討會宣導國際近年來的努力方向；其三為廣泛地知道，醫療品質與病人安全的國際相關研究與推展的教學方式。

二、過程

第一天開場，跟幾位台灣一同前往研討會的同好，參與以「世界咖啡館」的模式進行的討論，討論的主題為持續性的照護影響病人的就診行為，與會的主講者研究發現，一般科醫師(General Physician, GP) 深入社區做持續性的醫療照護，可以減少病人到醫院就診的次數，與會者主要的資料庫來源為澳洲本土的資料庫，有點類似台灣的健保資料庫研究。與會者提出了九項邁向新時代的指引，分述如下：

1. 測量(Measure)：主要是指「指標」，測量那些對照護病人有幫助的指標，並主要是供做學習之用。
2. 停止(Stop)：停止複雜的激勵就醫制度，而將這些激勵策略與照護的目標一致化。
3. 轉移(Shift)：將商業策略從收入及數量轉移至價值導向
4. 放棄(Give up)：放棄專業的特權，因為它對整個醫療體系造成傷害。
5. 改善(Improve)：運用改善科學來讓整個照護品質提升。

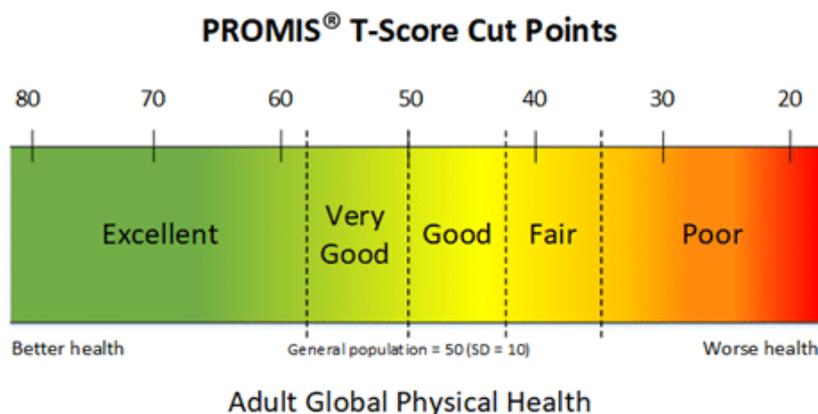
6. 透明化(Be transparent)：降低醫病之間的資訊不對等。
7. 文明(Be civil)：保護文明社會。
8. 傾聽(Listen)：傾聽受照護人民的聲音
9. 拒絕貪婪(Reject Greed)：停止容忍與拒絕貪婪 - 公平利潤與公平定價。

最後他以信賴、創新與責任，連結核心價值，為共創的目標做結尾。

第一天的第二場主要演講，聚焦在與病人、病人家屬及照顧者成為伙伴關係，以共同維護病人健康為原則來陳述，研究團隊的主軸是在闡述為何伙伴關係(Partnering)那麼重要，主要有四大重點：

1. 更好的病人與社區經驗(Better patient and community experience)：提升病人滿意度、改善病人的參與及改善社區照護組織的認知。
2. 更好的勞動力體驗及更好的福利。
3. 更好的臨床結果、安全及品質。
4. 更好的價值照護及更低的成本。

在我第一天的第三場演講，主要是在講述 PROMIS T-Scores 的運用，這是我第一次聽到這個名字，PRO 是 Patient-Reported Outcomes 的縮寫，即是由病人主動報告結果。而 MS 則是 Measurement System，即是測量系統，T-scores 則是經過標準化的過程後所呈現的數字，如下圖所示。分數越高代表健康狀態越好，反之則越不好。而這分數有一大串的量表，倒是可以拿來做未來研究之用。



Based on Hays RD, Spritzer KL, Thompson WW & Cella D (2015). US general population estimate for "excellent" to "poor" self-rated health item. *Journal of General Internal Medicine*, 30(10), 1511-1516.

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而對於這個量表，演講者給了幾個未來的方向：

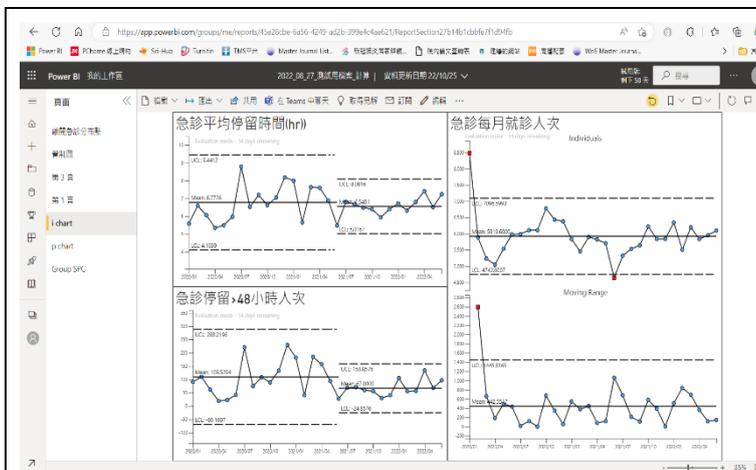
1. 持續加強它的臨床實用性。
2. 改善調查參與率。
3. 評估在適合單位使用的(如企劃部門、群體及照護提供者)可信度。
4. 評估病人個體的改變及群體的改變。
5. 加強各國際學協會間的協作關係。

研討會的第二天，我主要聚焦在 **Human Factors Ergonomics**，簡稱 **HFE**，中文翻做人因工程。這個名詞在病人安全上很常聽到，尤其是近幾年來，人工智慧與資訊科技的進步，為醫療照護帶來很多方便性，但也因為從原本的紙張改成電腦無紙化，很多流程上的設計就涉及到病人安全的議題。此次演講者提出了八個在成功導入人工智慧照護上要考慮的原則：

1. 環境意識 **Situation Awareness**：這主要是在講設計選項中，要考量人工智慧如何支援決策，而不是侵蝕病人所處的環境意識。這一點其實非常重要，這幾年來我們發展人工智慧，常常會聽到有人持反對的聲浪，大多聚焦在 AI 出錯誰來負責之類的言論。事實上我們設計人工智慧的情境常常只是協助醫療照護者一個「決策支援系統」，它是協助專家做決策的，而不是幫專家做決策。
2. 工作負荷(**Workload**).. 這就像我們有句古話：水可以載舟，亦可以覆舟。人工智慧及資訊科技的引進，常常會引發流程的再造。這流程再造的過程或許可以減少人員工作的負擔，但在有些情境之下，反而會增加人員的負荷。前些日子我們在設計開刀房同意書無紙化時，就產生這樣一個問題，無紙化反而增加人員的負荷。這確實是我們要考量的。
3. 自動化的偏差(**Automation Bias**):應將防範人們盲目依賴人工智慧的策略納入考量。例如使用模型訓練及可解釋性上要注意可能的偏差。
4. 可解釋性與信賴(**Explanation and Trust**):人工智慧的相關應用應該能解釋他們的行為，並准許使用者可以查詢(**Query**)，以減少自動化偏差的可能性，並提供可信賴的決策支援。
5. 人類-人工智慧的組隊(**Human-AI teaming**):人機如何共享心智模式的考量

6. 訓練(Training)：主要在專家如何在 AI 的新世代維持及保有自己的專業技能。
7. 醫病關係(Relationship between Staffs and patients)
8. 倫理相關議題(Ethical Issues)

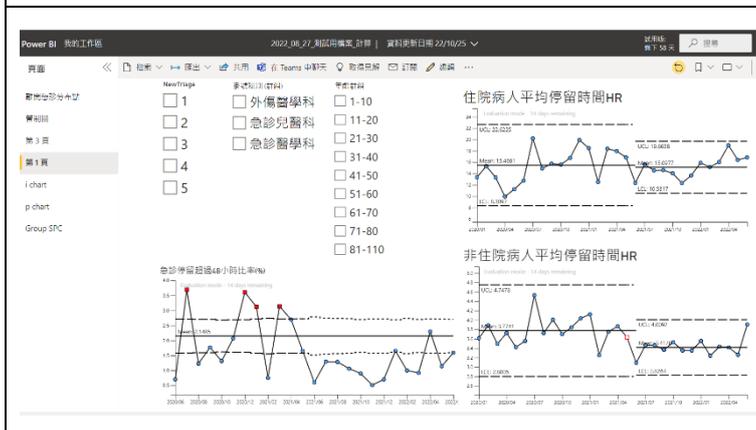
第二天的另一項最重要的活動，就是瀏覽現場張貼的海報。現在有 400 多份的海報，大多與品管改善的專案為主，摻雜部份的資料科學及 AI 研究相關議題。AI 的議題確實非常地多，但我主要聚焦在 BI 的運用上，BI 即 Business Intelligence，中文翻成商業智慧，主要是視覺化圖象的呈現。我觀看了澳洲學者運用 BI 來發展、測量及監控癌症患者在接受化療時的等待時間視覺化呈現、巴西學者運用 BI 來呈現社群媒體散播對病人安全的重視及倡導的成效、台灣的萬芳醫院的學者運用 Power BI 來改善糖尿病患者的眼底檢查成效、法者運用 Power BI 裡的文字雲，來呈現病人就醫體驗，他們運用國家調查來呈現病人滿意度及就醫經驗。另外澳洲有學者運用 Power BI 的視覺化效果來呈現病人流的指標九宮格。最後一個是 BI 到 AI 的預測模型，運用在急性腸炎及克隆氏症的患者身上，預測其未來住院的可能性。還有台灣北醫團隊一些 BI 的運用經驗分享，這部份在國內也分享了許多，就不在此一一陳述。看完這些 AI 的範例，回到住的飯店，我也試著做出一些新的嘗試：



← 嘗試在 Power BI 上繪製管制圖，以做為自動化判讀的先期作業。

左上圖為運用 I chart 來呈現每個月急診平均急診的停留時間，在國內疫情發燒之後，停留時間的變異性有縮小。

左下圖為運用 I Chart 上來繪製每月急診停留超過 48 小時的人數。



←左下圖則為 P chart，這是當天第一次嘗試繪製。

←左上方則將篩檢的條件發進頁面，可以讓使用者下不同的條件查詢不同的族群有不同的情境表現。

研討會的第三天，就是我要上場做口頭論文報告的日子。我主要也是用 AI 的專案來做報告。這是在 2017 年設計出來的全人醫療平台相關研究的延申。當年我們運用了心情、營養、疼痛、共病、及生理參數來提供臨床醫師做為開全人醫療會議的參考。從 2017-2020，的住院病人資料中，共萃取出 250,000 筆住院病人的資料，共有 2900 萬的病歷記錄。從資料清洗到測試不同的模型，來預測可能讓醫師選來進行全人醫療照護並開立照護會議的選單，提供臨床醫師做決策支援的考量。當天主持人問了我幾個問題，其中第一個問題就是前頭說的 Automation Bias 如何避免？第二個問題是這些參數是否可以用在其他的醫療機構？以及它的實用性如何？第三個問題是醫師是否會遵從由 AI model 所做出來的決策？我三個問題在會場上我都一一的答覆。報告完閉後，有位在澳洲工作的華裔跟我聊了一下在醫院內使用 AI 的經驗及我對 AI 的看法，在不同的國家制度下，確實會有一些不同的考量。

當天除了我的報告外，還有個場次是 WHO 在宣導邁向 2030 年，有關醫療品質與病人安全的策略，WHO 的目標是希望能夠 Zero Harm. 主持人為 ISQua President Prof. Jeffrey Braithwaite. WHO officer 總共陳述了七大策略目標，希望能在 2030 年以前達到，條列如下：

1. 建立政策以在健康照護上降低可避免的傷害 (Policies to eliminate avoidable harm in health care.)
2. 高可靠性系統 (High-Reliability System)
3. 臨床流程的安全性 (Safety of Clinical Processes)
4. 病人及家屬的參與 (Patient & family engagement)
5. 健康工作者的教育、技能及安全 (Health worker education, skills and safety)
6. 資訊、研究及風險管理 (Information, Research and Risk management)
7. 協作、伙伴與團結 (Synergy, partnership and solidarity)

研討會的最後一天，主要邀請不同領域的專家來陳述在 COVID-19 Crisis 時，各自在不同的工作崗位上伴演的角色。與會者有英國來的國家健保局的主管，她本身也是個重症病患、一位波士頓的急診醫師、一位瑞士來的內科醫師，他們各自陳述在疫情期間所遇到的事務及在這整個過程中學到了哪些可貴的經驗。

三、心得及建議

1. 國際醫療健康品質學會（ISQua）是一個以會員為基礎的非營利性社團組織，致力於促進醫療保健品質的提高。這近 30 多年來，他們一直致力於提高全球醫療保健的品質和安全。他的的宗旨在通過教育訓練、知識共享、外部評估、支援全球衛生系統以及通過我們的醫療保健網路將志同道合的人聯繫起來來實現共同的照護目標。自 2006 年起，它成為世界衛生組織(WHO)正式 NGOs，是目前國際上主要的健康照護品質學術團體，頗具影響力。記得在 2018 年時，該學會辦在馬來西亞辦的國際研討會，當年與會的台灣人聽說就有超過數百人，盛況空前。因此也成了各家醫院從事醫品病安人員每年必會參與的國際研討會。此次研討會礙於新冠肺炎疫情的影響，本院只投稿兩篇，一篇被接受口報、一篇則為海報。可惜本院並不補助海報的張貼，非常可惜。若提建議的話，我會建議每年像這種國際研討會(它其實跟 WHO 正式的 NGOs 組織)，能補助一些交通費用，或許也能鼓勵更多同仁參與國際會議。
2. 這次除了聽取國際的趨勢外，也跟各家醫院的醫品病安策略做交流。與會的醫院代表有三軍總醫院、台北榮民總醫院、台北醫學大學附設醫院、新光醫院及恩主公醫院。其中北醫的朋友分享了不少推動 BI (Business Intelligence)的經驗，從中也想到一些可以推行的可行計畫。在研討會上的海報分享，也得到不少的啟發，這次本次研討會一項額外的收獲。
3. 下回像這種國際研討會，要記得帶上醫院及單位的旗子。
4. 感恩這次醫院提供出國報告的機會，幸好後來政策在 2022/10/13 改成 0+7，不用隔離，只需自我健康管理。得以在回來的日子馬上回到工作崗位，機場發放的快篩試劑也是歸國的四天內全數檢測完，全部陰性，個人也沒有任何不適的症狀。感恩再感恩。

附錄

Future ISQua Conferences



ISQua's 38th International Conference
Brisbane, Australia
17th - 20th October 2022

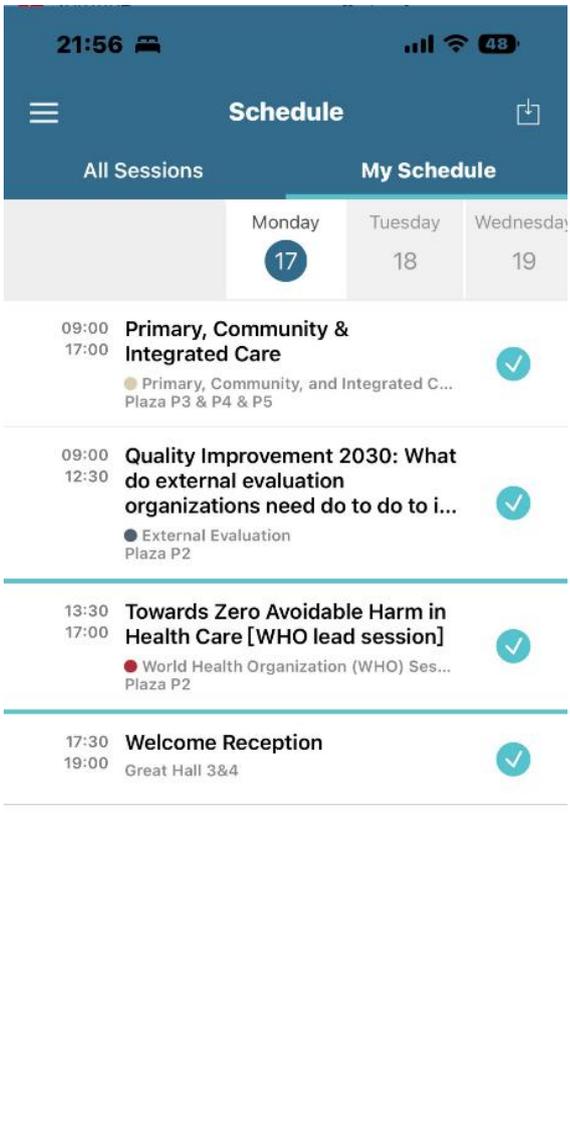
FIND OUT MORE



ISQua's 39th International Conference
Seoul, Republic of Korea
27th - 30th August 2023

VIEW ALL FUTURE CONFERENCES & EVENTS

今年的研討會在澳洲的布里斯本，明年將在韓國首爾舉行，品管中心將會協助臨床有進行品質專案改善的團隊，進行投稿此國際研討會。



Schedule

All Sessions | My Schedule

	Monday 17	Tuesday 18	Wednesday 19
09:00 - 17:00	Primary, Community & Integrated Care Primary, Community, and Integrated C... Plaza P3 & P4 & P5		
09:00 - 12:30	Quality Improvement 2030: What do external evaluation organizations need do to do to i... External Evaluation Plaza P2		
13:30 - 17:00	Towards Zero Avoidable Harm in Health Care [WHO lead session] World Health Organization (WHO) Ses... Plaza P2		
17:30 - 19:00	Welcome Reception Great Hall 3&4		

2022/10/17 個人所安排的行程

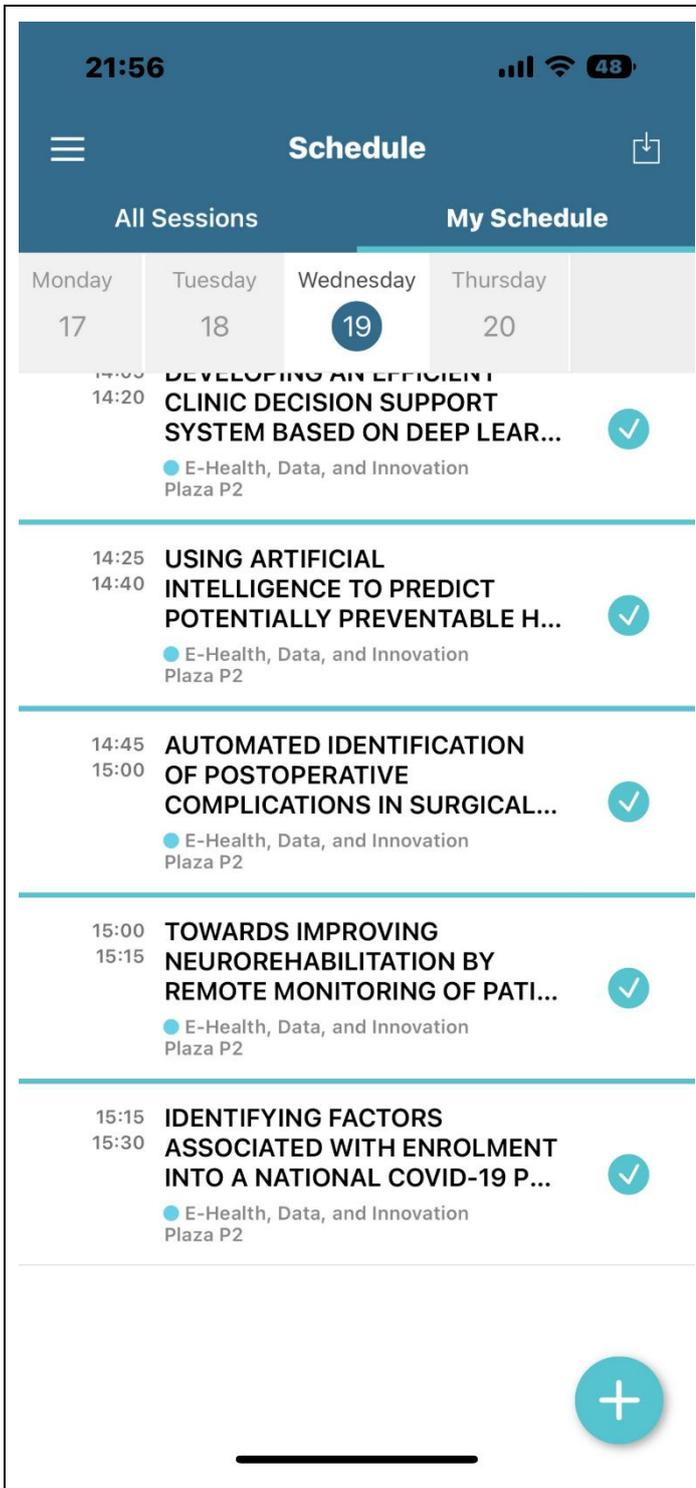


Schedule

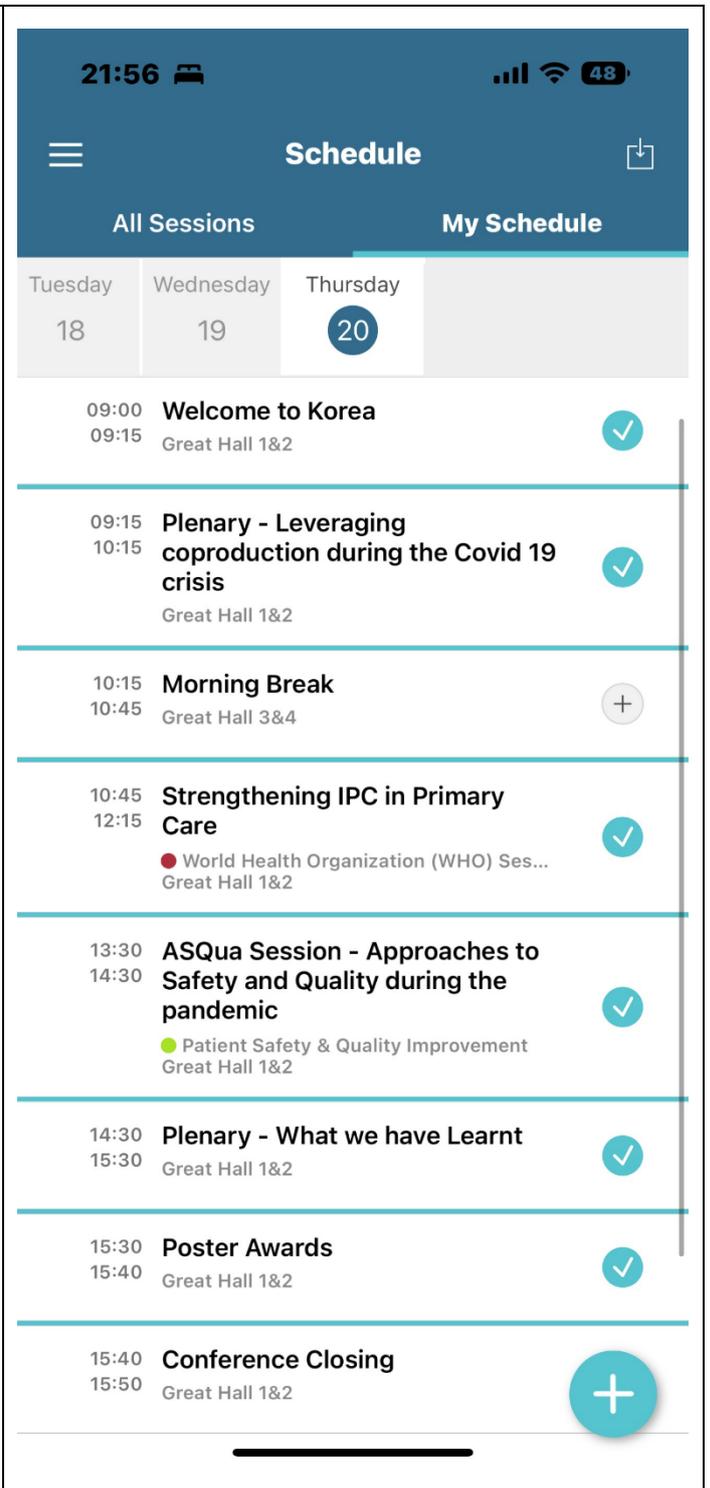
All Sessions | My Schedule

	Monday 17	Tuesday 18	Wednesday 19	Thursday 20
09:10 - 10:15		Plenary - The Value of Patient Reports about their Health and Health Care Great Hall 1&2		
10:45 - 12:15		DIGITAL FRONTIERS IN HEALTHCARE AND THE EMERGING ROLE OF HUMAN F... E-Health, Data, and Innovation Plaza Terrace Room		
10:45 - 12:15		LEARNING TO COPRODUCE HEALTHCARE SERVICE: CURRENT APPROACHES, EXPE... Co-production with service users Mezzanine Meeting Room 4		
11:45 - 12:00		THE EFFECT OF PROMOTING THE SEAMLESS INTEGRATION OF HOSPITAL DISCHARGE PRE... Primary, Community, and Integrated C... Mezzanine Meeting Room 1&2		
13:45 - 15:15		Primary Health Networks: Innovation in Responding to Local Primary Health Needs Primary, Community, and Integrated C... Mezzanine Meeting Room 4		
13:45 - 14:00		USING DESIGN THINKING TO REWRITE THE PATIENT JOURNEY IN THE FIRST 100 DA... Co-production with service users Plaza P3 & P4 & P5		

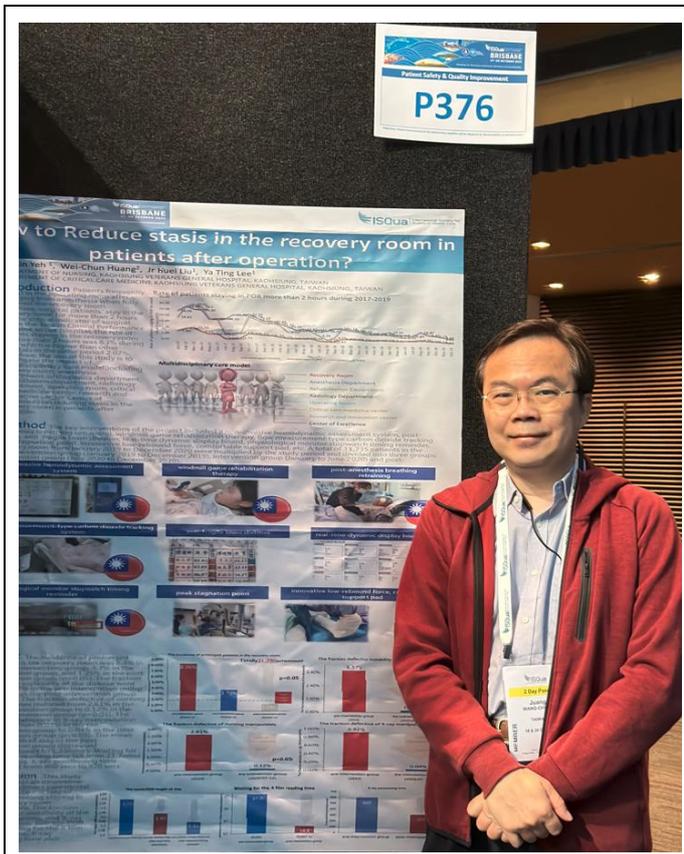
2022/10/18 個人所安排的行程



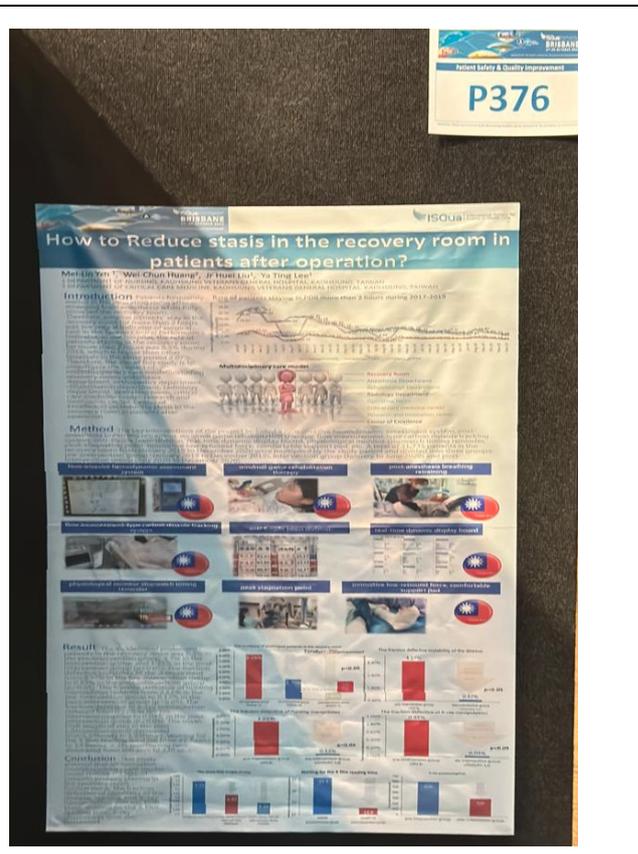
2022/10/19 個人所安排的行程



2022/10/20 個人所安排的行程



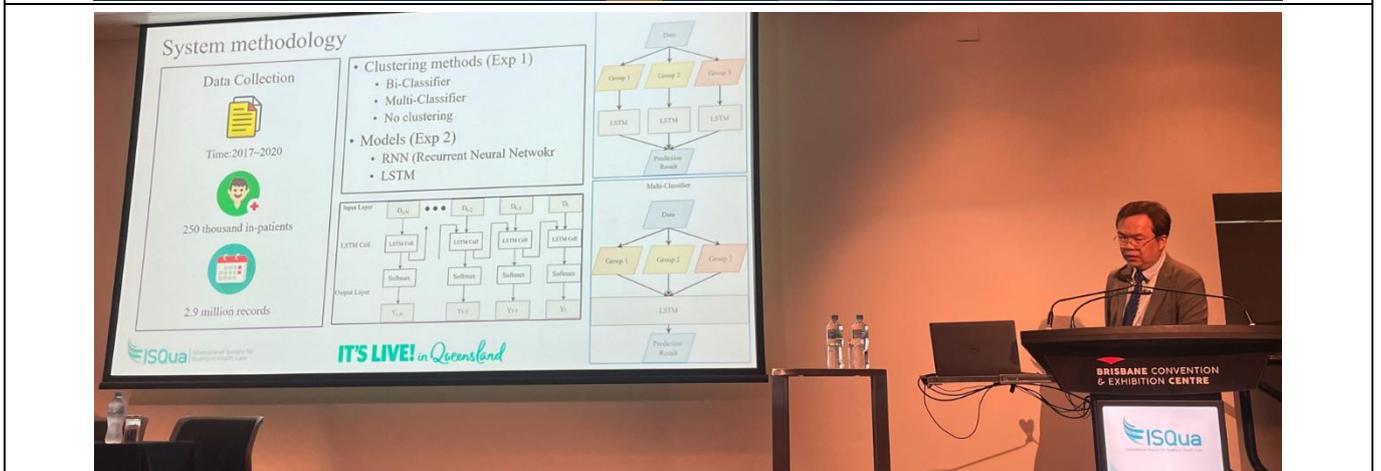
協助重症醫學部黃偉春主任張貼研討會海報



黃偉春研究團隊的海報，為 2021 年品管圈的主題 - 縮短手術後的病患在恢復室停留時間



在研討會上巧遇同為急診專科醫師的劉中賢主任(本身為嘉義基督教醫院急診部主任及醫品中心副主任)，此照片的背景即為此次研討會的四天行程。



研討會中，口頭報告團隊的研究成果-Developing an Efficient Clinic Decision Support System based on Deep Learning.

口報的過程中，與主持人對話的留影。主持人共問了我四個與研究相關的議題。每個都切中要點。主持人為 James Robblee，本身是加拿大的醫師。



James Robblee

Physician
UNIVERSITY OF OTTAWA HEART INSTITUTE



因為只有我一個人代表醫院出席，就沒有帶旗子出發，自左而右分別是三總澎湖分院張雅玲督導長、三總家醫科主治醫師廖芳藝、ISQua President Prof. Jeffrey Braithwaite 及我本人高雄榮總品質管理中心科主任莊旺川



2022/10/17 研討會第一天的傍晚有一個時段是 Welcome Reception，一群台灣過去的朋友一起合影，有三總及其澎湖分院、新光、恩主公、部基、北醫及我們高雄榮總等等醫院。



2022/10/17 的晚宴上，ISQua President Prof. Jeffrey Braithwaite 在台上致辭表示歡迎，會展上來了一個小動物，這個小動物是 Wombat 袋熊。結果所有人紛紛跑去跟這小動物拍照，沒人聽 President 講話。無奈之下，他也下來跟 Wombat 一起拍照。然後跟大家話家常。



這分別是第一天(上)跟第四天(下)的出席的情形，第四天主要是 COVID-19 crisis 的分享，我估計是有興趣的伙伴不多，出席率相對不高，這是所有場地最大的 Great Hall 1&2

A knowledge broker implementation strategy was no more effective than disseminating recommendations for the promotion of evidence-informed inpatient weekend allied health services

Mitchell N Sarkies^{1,2}, Lauren Robins², Megan Jepson², Terry Haines²
 1 University of Sydney, Sydney, Australia
 2 Monash University, Melbourne, Australia
 Funding: NHMRC Partnership Grant (APP1114210)
 Acknowledgement: Monash University, Monash Health, and the Victorian Department of Health and Human Services



INTRODUCTION

Disseminating recommendations and knowledge brokering are key strategies to implementing evidence into routine clinical practice.

AIM

This trial compared the effectiveness of two implementation strategies to facilitate evidence-informed hospital management decisions for the provision of inpatient weekend allied health services.

METHOD

Design and setting: multicentre, single-blinded, three-group parallel cluster randomised controlled implementation trial conducted in Australian and New Zealand hospitals between February 2018 and January 2020.

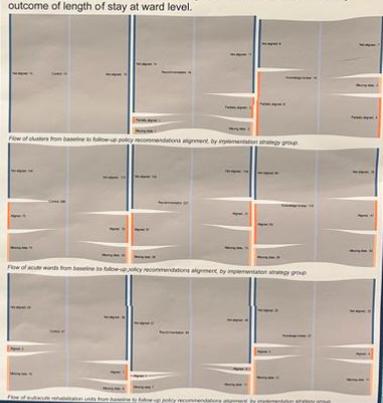
Procedure: Randomisation took place at the level of individual hospitals or hospital networks. Hospital managers who were responsible for inpatient weekend allied health resource allocation decisions.

Interventions delivered over 12-months: 1) waitlist control 2) dissemination of evidence-based practice recommendations; and 3) access to a knowledge broker in addition to the recommendations.

Outcomes: The primary outcome was the alignment of weekend allied health provision with practice recommendations.

RESULTS

No significant effect was found for the primary outcome at the cluster level (recommendation vs. control β 18.11 [95% CI -8.721.81, 8.758.02] $p=0.997$; knowledge broker versus control β 1.24 [95% CI -6.992.60, 6.995.07] $p=1.000$; recommendation versus knowledge broker β -9.12 [95% CI -3.878.39, 3.860.16] $p=0.996$) or ward level (recommendation versus control β 0.01 [95% CI 0.74, 0.73] $p=0.983$; knowledge broker versus control β -0.12 [95% CI -0.54, 0.30] $p=0.581$; recommendation versus knowledge broker β -0.19 [-1.04, 0.65] $p=0.651$). There was no significant effect for the secondary outcome of length of stay at ward level.



CONCLUSIONS

The knowledge broker strategy was no more effective than disseminating recommendations for inpatient weekend allied health services decisions.

CONTACT

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此次研討會以 power BI 來呈現桑基圖(即病人流的呈現方式)

USING POWER BI TO IMPROVE THE FUNDUS EXAMINATION RATE OF DIABETIC PATIENTS

Ya Yun Hsieh¹, Ji Jhen Chen¹, Tzu Chieh Tsai¹, Tsong Yih Ou¹
 1 Medical Quality Department, Wan Fang Hospital, Taipei Medical University, Taipei, Taiwan

AIM

Raising the fundus examination rate of diabetic patients can effectively reduce the incidence of diabetic retinopathy. According to the DARC Clinical Practice Guidelines for Diabetes Care-2018, Taiwan, Diabetes Association of the R.O.C., 2018, diabetic patients should receive fundus examination at least once a year. The fundus examination rate of our hospital in 2020 is lower than other peers. Through this project, we hoped that assist patients in early detection and treatment to ensure the quality of patient care.

METHODS

To improve the fundus examination rate of diabetic patients, the Power BI indicator dashboard was built in August 2020. The dashboard can analyze indicators in real-time during the meeting. We drilled down the departments and physicians, found the top five departments with low rates: Metabolism, Cardiology, Family Medicine Department, Nephrology, and Neurology. We gave back the data and publicized it in the department meeting.

RESULTS

RESULT 1
 The fundus examination rate of diabetic patients in the whole hospital increased from 47.8% in August 2020 to 74.8% in July 2022.

RESULT 2
 The fundus examination rate of diabetic patients in the Metabolism increased from 63.8% in August 2020 to 91.4% in July 2022.

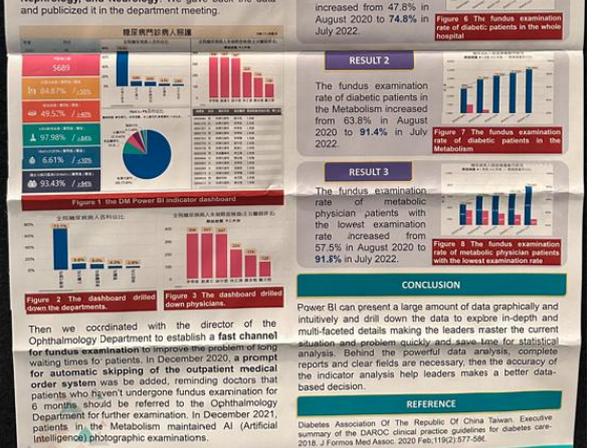
RESULT 3
 The fundus examination rate of diabetic patients with the lowest examination rate increased from 57.5% in August 2020 to 91.8% in July 2022.

CONCLUSION

Power BI can present a large amount of data graphically and intuitively and drill down the data to explore in-depth and multi-faceted details making the leaders master the current situation and problem quickly and save time for statistical analysis. Based on the powerful data analysis, complete reports and clear fields are necessary, then the accuracy of the indicator analysis help leaders makes a better data-based decision.

REFERENCE

Diabetes Association of The Republic of China Taiwan. Executive summary of the DARC clinical practice guidelines for diabetes care-2018. J Formos Med Assoc. 2020 Feb;119(2):577-584.



台北市立萬芳醫院同仁展示的視覺化圖表-用於改善糖尿病患者眼底檢查的成效

The use of, and outcomes for, inflammatory bowel disease services during the Covid-19 pandemic: a nationwide observational study

M Deputy¹, K Sahnan, G W..., K Pat..., S..., A..., S..., B..., A Hart, O Faiz
 1 St Mark's Hospital and Academic Institute, London, UK

Introduction

Inflammatory bowel disease (IBD) services have been particularly affected by the Covid-19 pandemic.¹

Delays in referral to secondary care and access to investigations and surgery have been exacerbated.¹

Aim

Investigate the use of, and outcomes for, emergency IBD care during the Covid-19 pandemic.

Comparing cohorts admitted from January 1 2015 to January 31 2020 (pre-pandemic) and from February 1 2020 to January 31 2021 (pandemic).

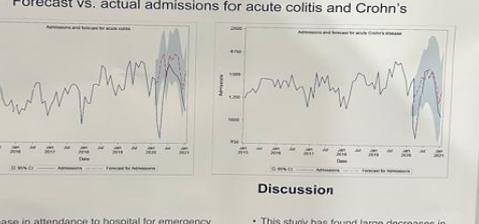
Autoregressive integrated moving average forecast models were run to estimate the counterfactual IBD admissions and procedures for February 2020 to January 2021.

Method

Nationwide observational study using administrative data for England.

Results

Forecast vs. actual admissions for acute colitis and Crohn's



Results

- Large decrease in attendance to hospital for emergency treatment were observed for both acute ulcerative colitis (UC, 16.4%) and acute Crohn's disease (CD, 8.7%).
- All IBD procedures and investigations showed decreases in volume from February 2020 to January 2021.
- The largest absolute deficit was in endoscopy (17,544 fewer procedures, 35.2% reduction).
- No significant difference in 30-day mortality was observed for acute colitis or acute CD.
- A shorter median length of stay by one day for acute IBD admissions was observed ($p<0.0001$).
- A higher rate of emergency readmission within 28 days for acute UC was observed (14.1% vs 13.4%, $p=0.012$).

Discussion

- This study has found large decreases in emergency and elective activity for IBD services on a national scale during the pandemic.
- Thousands fewer patients have attended hospital for acute IBD during the first year of the pandemic.
- There is likely a significant burden of untreated IBD in the community.
- Patients with IBD may experience clinical harm or protracted decreases in quality of life if care is not prioritised.

References

1. In order to effectively improve the indicators collection and objectively judge the reason for patient readmission, analysis the standard operating procedures and import automation design in inter-departmental discussion meetings.

2. Use the Chi-Square Test Statistical Analysis to explore whether different data aggregation methods, make a significant difference in unplanned 14 days readmission rate.

CONCLUSIONS

The automatic collection of indicators and the improvement of the accuracy could help to detect problems, intervention to improve immediately, and also enhance the hospital medical quality and safety. In addition, during the project improvement period, cross-professional cooperation will not only innovative process optimized but also virtually increases the patient satisfaction.

CONTACT INFORMATION

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 Taipei Medical University Hospital

急性腸炎及克隆氏症的預測模式，以視覺化圖表來呈現預測的結果。

ISQUAL BRISBANE 17-20 OCTOBER 2022

Designing for the Future: Community, Resilience and Sustainability

THE APPLICATION OF AUTOMATED SYSTEM TO IMPROVE THE EFFICIENCY AND ACCURACY IN DATA AGGREGATION OF UNPLANNED READMISSION WITHIN 14 DAYS AFTER DISCHARGE

Chia Jui Chang¹, Ming Hui Shen, Hsu Ching, Chen Ming Hsiang
 1 Quality Management Department, Taipei Medical University Hospital, Taipei, Taiwan
 2 Department of Cardiology, Taipei Medical University Hospital, Taipei, Taiwan

INTRODUCTION

In the past, the indicator collection required high costs in manpower and time. First, the Quality Management Department staff need to download the list of readmission patients within 14 days per month, and send it to clinical department for retrospective review. After consulting the clinical department reply the judgment of the reason for the patient's readmission. It caused problems include lack of efficiency and objectivity in judgment of reasons for readmission.

AIM

The purpose of this study is to improve the indicators collection through automaticity increase the timely intervention, and enhance the hospital medical quality and safety.

METHOD

1. In order to effectively improve the indicators collection and objectively judge the reason for patient readmission, analysis the standard operating procedures and import automation design in inter-departmental discussion meetings.
 2. Use the Chi-Square Test Statistical Analysis to explore whether different data aggregation methods, make a significant difference in unplanned 14 days readmission rate.

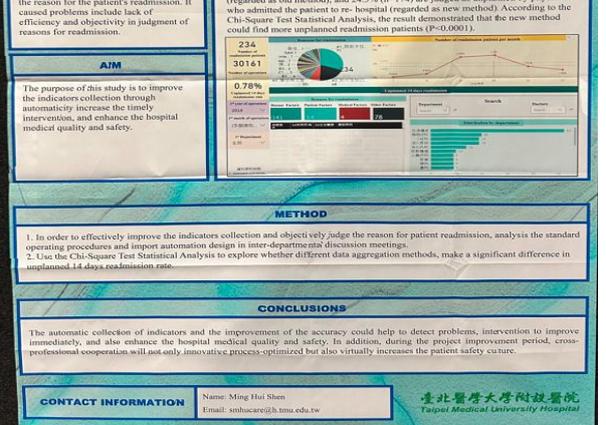
CONCLUSIONS

The automatic collection of indicators and the improvement of the accuracy could help to detect problems, intervention to improve immediately, and also enhance the hospital medical quality and safety. In addition, during the project improvement period, cross-professional cooperation will not only innovative process optimized but also virtually increases the patient satisfaction.

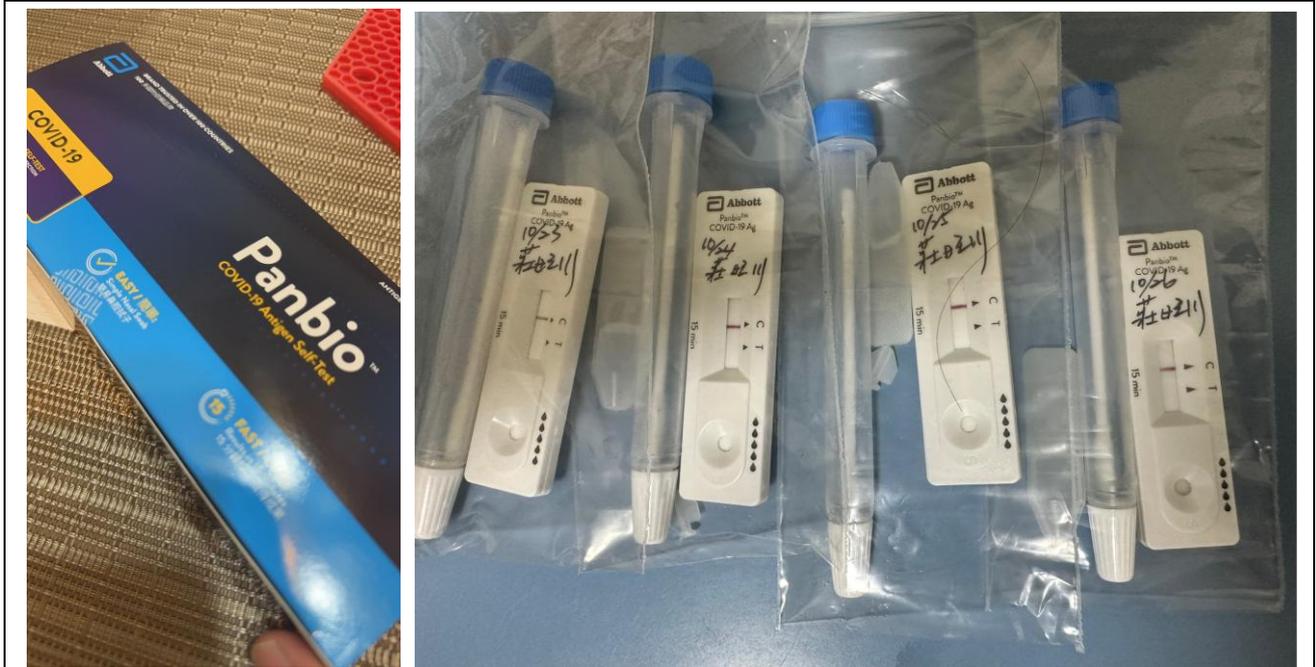
RESULTS

1. For the past years, it took about 9 days per month to collect data. Now users can finish in the reason for readmission on information system, then system will automatically-updatable convert the data to simple charts by Power BI. For clinical department, greatly improve the collection of indicators and the timeliness of data review.

2. A total of 709 re-hospitalized patients within 14 days of discharge from September to October in 2019. There 12.8% (n=91) readmission patients are judged as unexplained by physician who admitted the patient to hospital for the first time (regarded as old method), and 24.5% (n=174) are judged as unexplained by physician who admitted the patient to re-hospital (regarded as new method). According to the Chi-Square Test Statistical Analysis, the result demonstrated that the new method could find more unexplained readmission patients ($P<0.0001$).



臺北醫學大學附設醫院展示 power BI 呈現之視覺化圖表。



2022/10/22 入境時，機場發放的快篩試劑，連續四天檢測都呈現陰性，在出國前已施訂四劑的疫苗，這幾天個人也沒有任何症狀。

~~結束~~