AI藥品文字辨識暨藥歷查核功能

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摘要

　　長期使用五種以上的藥品為多重用藥(polypharmacy) ,可能導致藥品交互作用的風險增加，也可能發生藥品不良反應、病人活動力與認知下降、營養不良與增加醫療支出。此外，多重用藥可能導致病人用藥配合度不佳或處方連續事件(prescribing cascades)，故取得實際用藥清單可協助醫病溝通治療方案、確保治療成效與用藥安全、降低不必要醫療文出。然現有醫療制度使民眾可自行至多個醫療機構就醫，雖有健保雲端藥產補強跨院就醫之用藥資訊，但健保雲端藥歷中文計畫摘要需經病人授權，且健保藥歷難以與醫院處方系統整合，加上沒有自費處方資訊，導致快速整理病人實際用藥清單十分困難。本計畫結合技術成熟之光學字元辨識、符合資安防護認證規範之雲端服務與國際視訊軟體，搭配創新藥品標示分類方法，突破健保雲端藥歷個資授權、跨院自購藥品、病人自行增減藥品的困境，提供整理病人實際用藥清單之新方法。
系統功能涵蓋自動完成藥歷紀錄田傳至本院病歷，搭載藥品資料庫比對，進行初階藥歷審核如重複用藥等，提供醫師、藥師、個管師判讀臨床重要性，進行後續說明與處理，提升藥事照護品質。

關鍵詞：光學字元辨識、藥事照護、遠距醫藥服務、心房顫動照護

Abstract

　　Polypharmacy refers to the long-term use of five or more medications, which may increase the risk of drug interactions and adverse drug reactions, decrease the level of patient activity and cognition, cause malnutrition, and result in extra healthcare payments. In addition, polypharmacy may cause poor medication adherence or prescribing cascades. Thus, obtaining a current medication list will facilitate physician and patient communication on treatment plans, assure treatment efficacy and

medication safety, and reduce unnecessary healthcare costs. The patients in Taiwan may have medical cares from multiple healthcare facilities. Thus, the common method to obtaining total drug lists is to access the data from the cloud-based drug history from Taiwan National Health Insurance (NHI). However, patient authorization is required when requesting for the data. Moreover, it is challenging to integrate the data from NHI with local hospital prescription systems. Besides, out-of-pocket prescriptions and poor medication adherence are also the factors that make changes ofthe current medication lists. This project combines optical character recognition (OCR), cloud services and video software to establish a service platform. The cloud services comply with information security and protection certification standards, and the video software is a product from international company. With the add-on of innovative drug labeling classification methods, the project provide a new method to obtain patients' current medication lists, and avoid the obstacles for cloud-based drug history accessibiliy，out-of pocket prescriptions, and poor medication adherence. The system also generate structural medical records for current medication lists and upload the records to the hospital health information system. Medication verification, such as duplications or medication reconciliation, may be perform by comparing the current medication lists to the hospital medication records. The medical personnel may interpret clinical significance of the verification results, and arrange the follow-up plans. This project provide a new method to improve the quality of medical cares.
Key Word：Optical Character Recognition (OCR), pharmacy service,telemedicine, atrial fibrillation