開發建置創新的「快捷健檢報告數位儀表版追蹤系統」，以評估本院健康管理與流程之改善成效

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摘要

本部開發建置創新的「快捷健檢報告數位儀表版追蹤系統」，以取代耗時費力之人工追蹤作業，讓資訊化追蹤平台做為民眾疾病管理與健康促進的重要角色，計畫以使用者旅程圖、體檢流程分析、系統開發與建置及測試輔以使用者滿意度調查之方式為主要研究方法。

本研究充分改善原有流程所花費的時間，主要發現如下：

1.單日確認未出報告時間從20分鐘下降至10分鐘、單日整理電話通知名單時間為每日10分鐘改善為不需電話通知。

2.體檢醫師產生體檢報告單日待批表數量下降從35份降至30份。

3.護理師於門診結束後於報表整理的時間從1小時30分鐘降至30分鐘，大幅改善延遲下班的情形。

4.單日服務量並無明顯提升，惟每份體檢報告完成時間縮短了2天，大幅提高報告完成的效率。

5.於關卡提醒的部分有兩大問題目前是較難解決的，一為資料延遲問題、二為工作日的設定。

本計畫有別於過去其他系統架設及開發，最大差異是由醫師主導。從使用者訪談、使用者地圖繪製、體檢流程整理及歸納、新流程進行方式以及基礎模型介面設計…等，經過團隊多次討論修正，並將未來其他系統相互連結的方式也一併考量，並創新地將物流管理及主動式提醒概念以智慧化形式為體檢門診設計最符合現場使用的系統架構，經過充分測試及修正後來達到系統最大效益，期待系統在後續計畫中能持續更新，以更加自動化、主動化及智慧化發展，為體檢門診帶來更高的效益及服務品質。也為院內他科系統開發作為指標性的參考。

關鍵字：供應鏈管理（Supply Chain Management，SCM），「單一條碼追蹤系統」(Universal Barcode Tracking System , UBTS),「即時作業系統」(Real-time Operating System, RTOS),「數位儀表版之看板管理法」(Digital Dashboard/KanbanManagement System, DDMS)

開發建置創新的「快捷健檢報告數位儀表版追蹤系統」，以評估本院健康管理與流程之改善成效

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Abstract

Preventive medicine is becoming the mainstream of medical care nowadays, and the demand for health examination is increasing more and more. The department of family medicine is committed to providing reliable and credible medical examination services to the public. However, in the face of the massive demand for health examinations, the back-end health examination report generation process has resulted in a large amount of human work, which is time-consuming and overwhelming. Due to the incoherent information flow, delays or omissions can easily occur in the service process. Therefore, it is imperative to develop and establish an efficient information management process.

This project is a brand new application of Supply Chain Management (SCM) concept to the health management process. We Design and Implement a “Smart Digital Dashboard Tracking System for health, (SDDTS)” to replace the time-consuming manual tracking operation and to enhance the effectiveness of health management. We also evaluate the efficiency of the improvement.

The system will consist of three important innovative strategies：" Universal Barcode Tracking System, (UBTS)", "Real-Time operating system, (RTOS)", and "Digital Dashboard/Kanban Management System, (DDMS)".

This study fully improved the time spent in the original process, and the main findings are as follows:

1.The time for a single day to confirm the non-reporting has dropped from 20 minutes to 10 minutes, and the time for sorting out the phone notification list in a single day is 10 minutes a day to improve to no need for phone notification.
2.The number of forms to be approved in a single day for medical examination reports produced by medical examiners has dropped from 35 to 30.
3.The time for nurses to organize reports after the outpatient clinic has been reduced from 1 hour and 30 minutes to 30 minutes, which greatly improved the situation of delays in leaving get off work.
4..The daily service volume has not increased significantly, but the completion time of each physical examination report has been shortened by 2 days, which has greatly improved the efficiency of report completion.
5.There are two major issues in the level reminder that are currently difficult to solve, one is the problem of data delay, and the other is the setting of working days.

This project is different from other system setup and development in the past. The biggest difference is the system development led by physicians. From user interviews, user mapping, physical examination process organization and summary, new process methods, and basic model interface design... etc., the team has discussed and revised many times, and the way other systems are connected in the future are also considered, and Innovatively use the concept of logistics management and active reminder to intelligently design the system architecture that is most suitable for the on-site use of the medical examination clinic. After full testing and modification, the system will achieve the maximum benefit. It is expected that the system will continue to be updated in the follow-up plan for more The development of automation, initiative and intelligence will bring higher benefits and service quality to medical outpatient clinics. It is also used as an index reference for the development of other subject systems in the hospital.