

Use of power business intelligence to improve the microalbumin coverage for patients with diabetes mellitus.

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INTRODUCTION

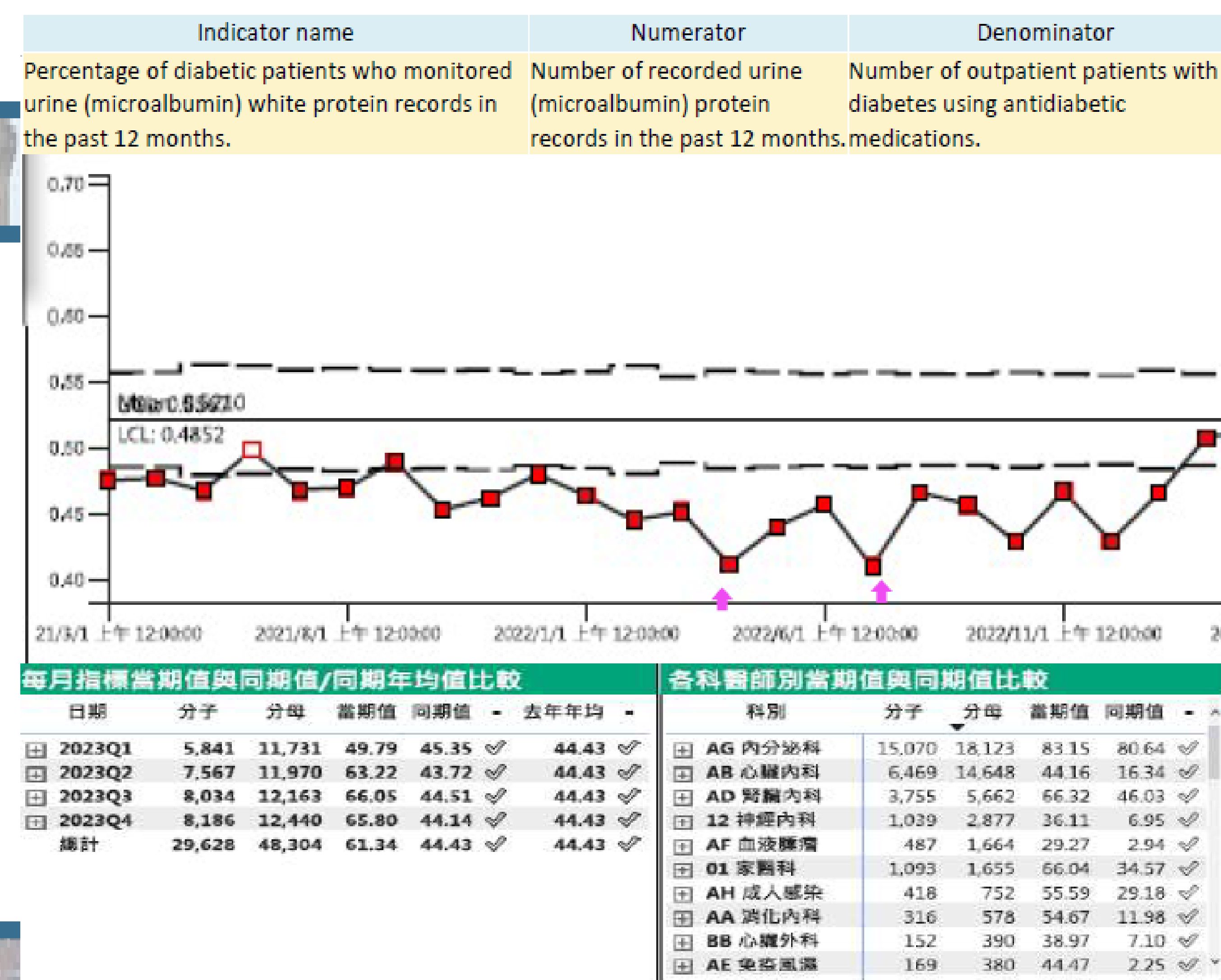
Individuals with **diabetes mellitus (DM)** are at higher risk of major adverse cardiovascular (CV) events . **Albuminuria** is a risk factor for both morbidity and mortality associated with CV disease in patients with DM. The urinary albumin to creatinine ratio (UACR) is a common indicator of urinary albumin level. For every 30% reduction in the UACR, the risk of CV death is reduced by 14%. Therefore, the UACR monitor represents one of the quality indicators for DM care for medical facilities. Unfortunately, physicians other than endocrine specialists usually ignore it in their daily practice.

METHOD

- We comprise a new BI technology and analytics platform, and to set up a cross functional team.
- We improve data management efficiency, integrated HIS, IoT device, and Azure based on data both in the cloud and on-premises, and to expand the number and variety of data sources.
- We used Power BI tools (Self-service business intelligence), SQL Server Integration Services (SSIS), and to build the system frame and integrate management function of data warehouse and dashboard.

RESULTS

- The UACR monitor for DM patients in Taipei Medical University Hospital (TMUH) was lower than nationwide average (only 40 ~ 45%) before 2022 and can't improve even promoted in any occasions.
- We thus introduce power business intelligence (Power BI) to analysis, we found that 62.5 % of our DM patients was not care by endocrine specialists.
- We thus enforce UACR check for every DM patients in TMUH without such data in previous 6 months since April of 2023.
- After that, the UACR monitor in our DM patients increasing to 65 ~ 70 %.



Internal memo

Taipei Medical University Hospital

Subject: Automatic Prompt for Urine Microalbumin Testing in Diabetic Patients

Explanation: Starting from January 9, 112 (2023), diabetic patients receiving follow-up care at our hospital will automatically receive a prompt for urine microalbumin testing (using the codes 12111C or 27065B) if they meet the following criteria:

Diagnosed with diabetes (ICD-10 codes E08-E13)
Using antidiabetic medications (ATC codes starting with A10)

This initiative aims to enhance the quality of diabetes care. We kindly request your cooperation in promptly ordering the specified laboratory tests for eligible patients.

Thank you,

Medical Affairs Department JAN/12/2023

◇ 門診訊息畫面

按「確定」後，會自動帶入檢驗項目

◇ 帶入檢驗項目：

醫令	次量	單位	用法	天	途徑	數量	單位	自調
	1.00Tab	TID		1	PO	0.50	Tab	N
Creatinine (尿酸)							1	N
Microalbumin							1	N

藥品	處置	劑次	檢驗	取時	採時	表單	同類清單	開立醫師				
名	名稱代碼	名稱	檢驗名稱				表	次	自	特	檢驗	醫師
PO90109	013C	Kreatinine (尿酸)					1	1	健康	尿		
PO121108	0195	Microalbumin					1	1	健康	尿		

CONCLUSIONS

From our experience, use of Power BI can accurately analyze problems and define the correct solutions to enhance our patient care.

CONTACT INFORMATION

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