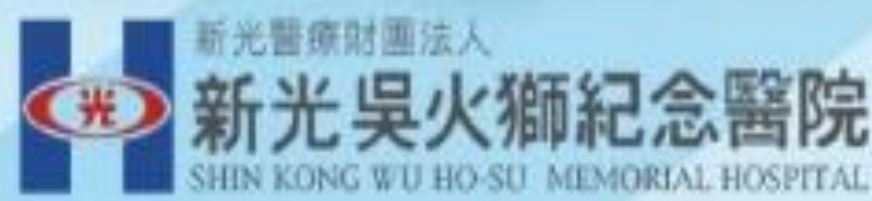




“Kidney Helper”, an AI Robot Mobile Application Designed for Kidney Disease Patients

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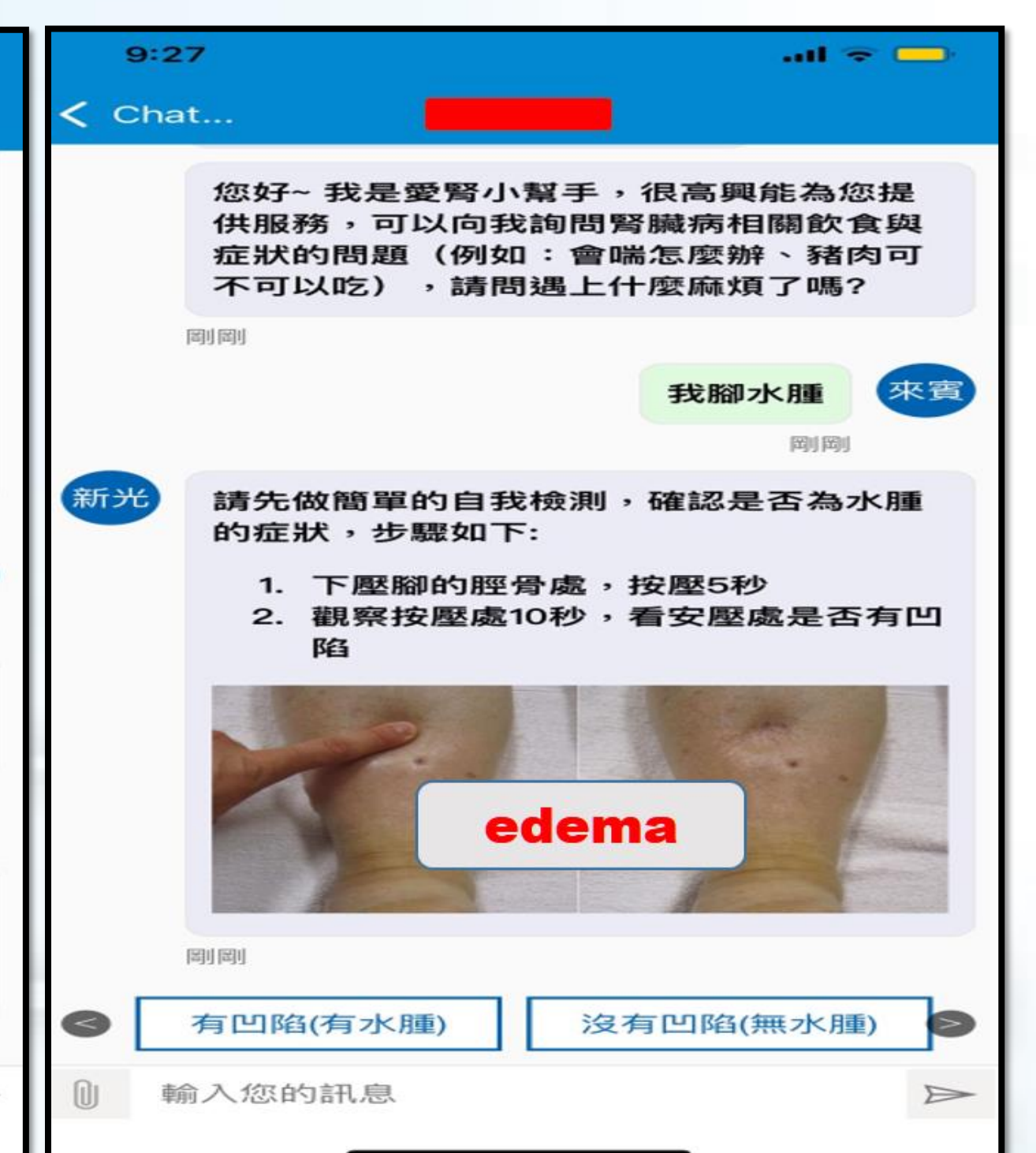
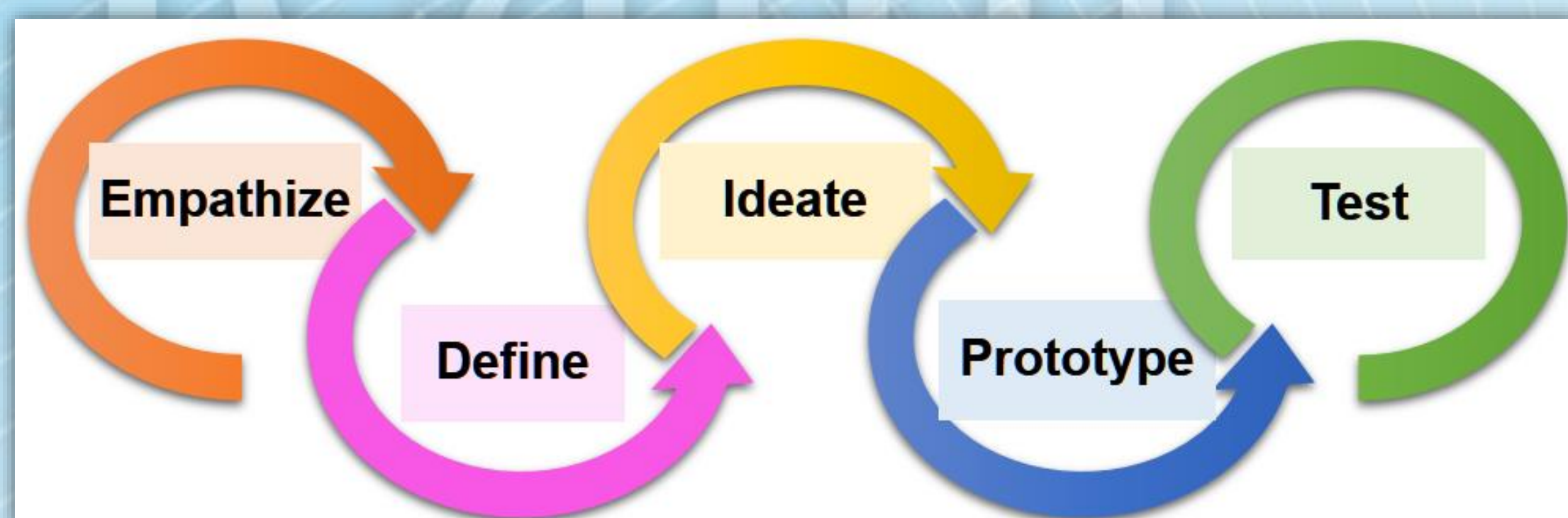
Introduction

- Chronic kidney disease (CKD) is a common non-communicable chronic illness that requires a collaborative effort between patients, doctors, and nurses to effectively manage the condition.
- The purpose of this project is to develop a mobile application for an intelligent AI robot and utilize Q&A Maker's cloud-based natural language processing technology.
- The goal is to provide innovative health education services, helping CKD patients improve their self-care skills and effectively manage and control their condition.

Method

- AI application (APP) called "Kidney Helper" follows the five steps of Design Thinking.

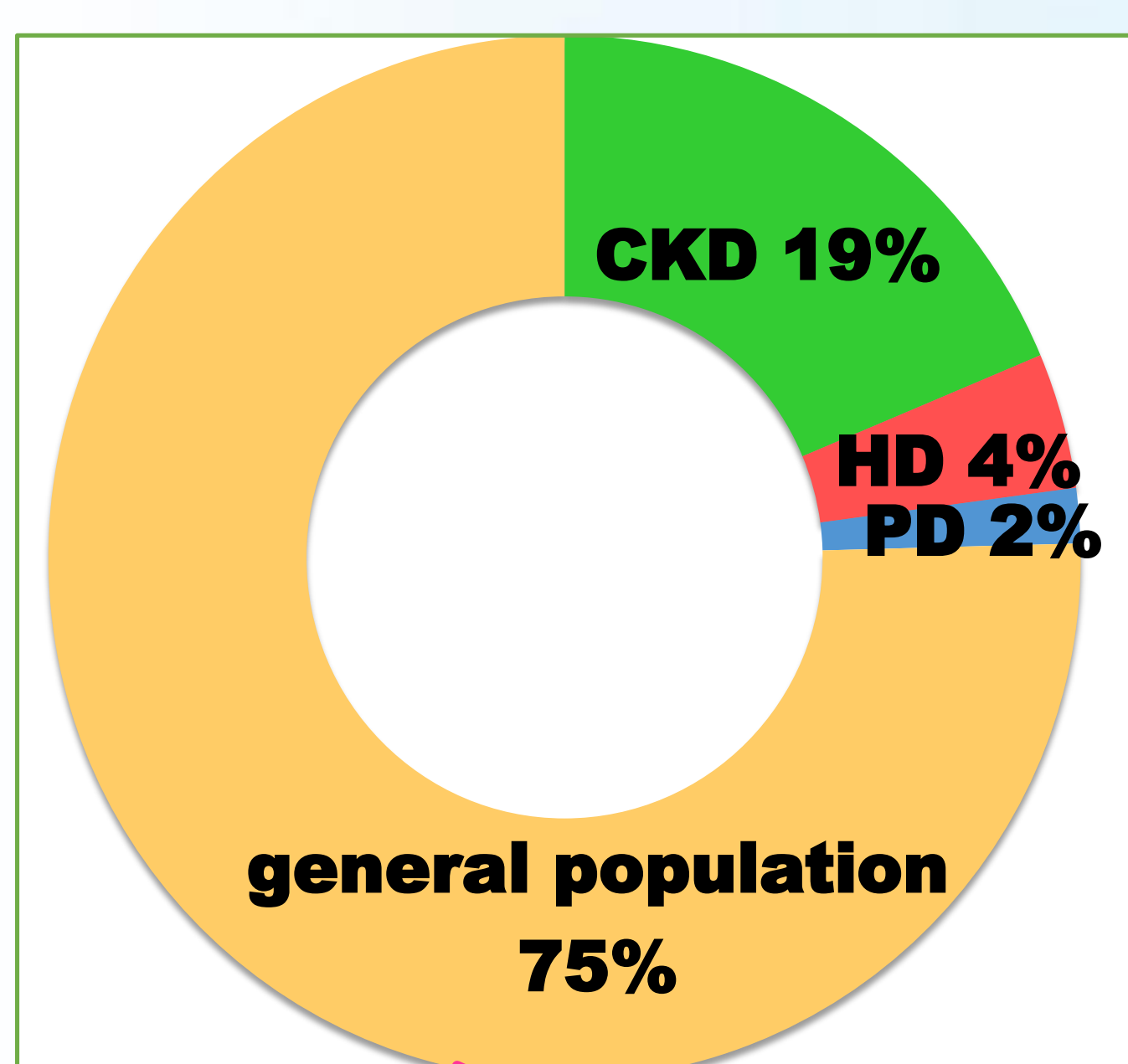
"Kidneys Helper" User Dashboard



- We assembled a team of medical professionals, including nephrologists, dialysis nurses, CKD case managers, dietitians, and Microsoft software engineers to agree on the functionality and purpose of the app.
- Then, we divided the users into three groups: (1) pre-dialysis CKD, (2) hemodialysis, and (3) peritoneal dialysis. Each group identified common clinical problems, organized them, and designed question labels and conversation flows.
- Finally, we used the Q&A Maker to import the knowledge base, and the internal medical staff tested it to confirm the accuracy and consistency of content and processes.

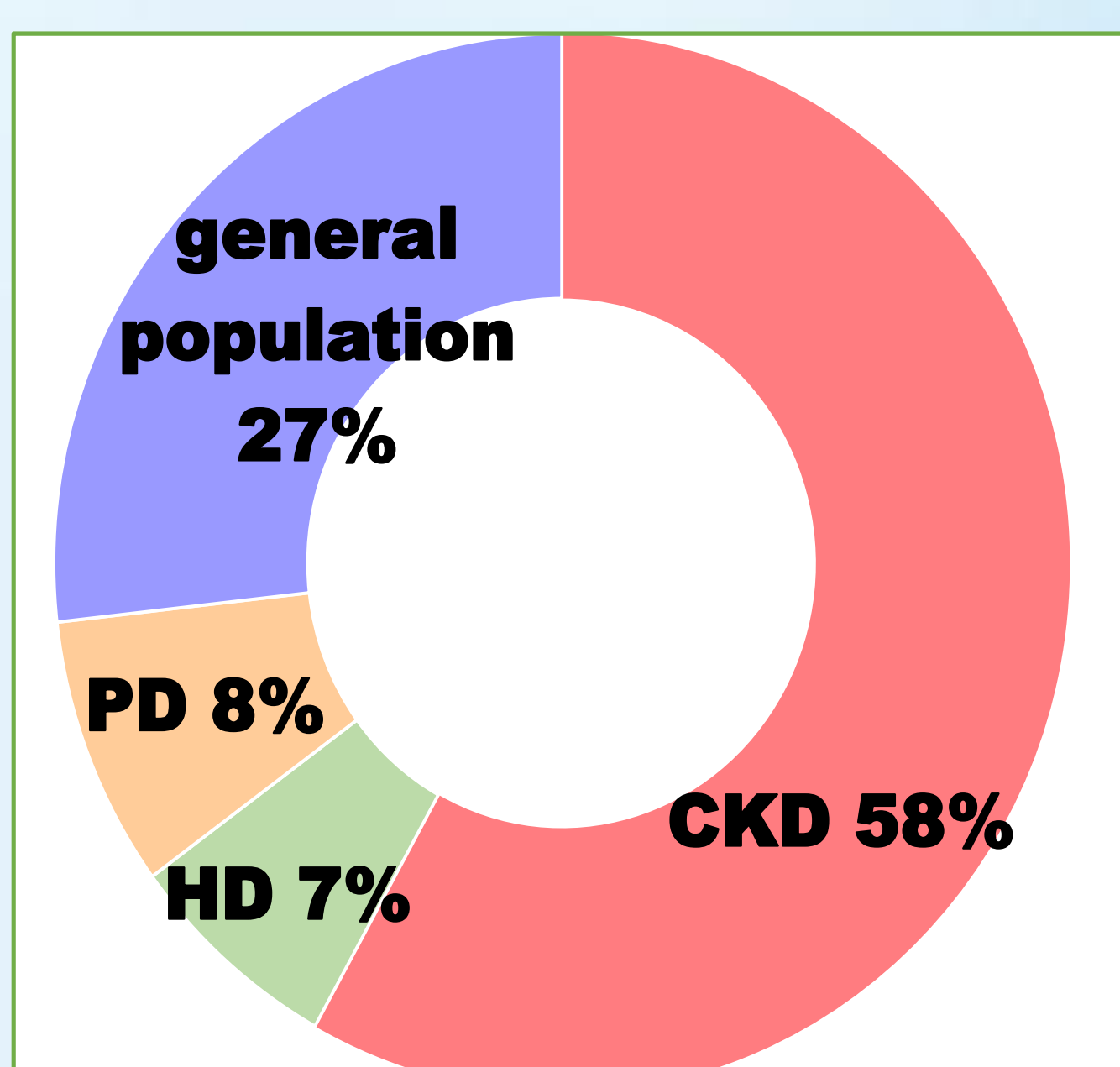
Results

2022.11-2024.07
Kidney Helper User Numbers



25 newly diagnosed CKD patients were identified by the “Kidney Helper”!!

2022.11-2024.07
Kidney Helper Chat Numbers



2022.11-2024.07
Types of Chats in Kidney Helper

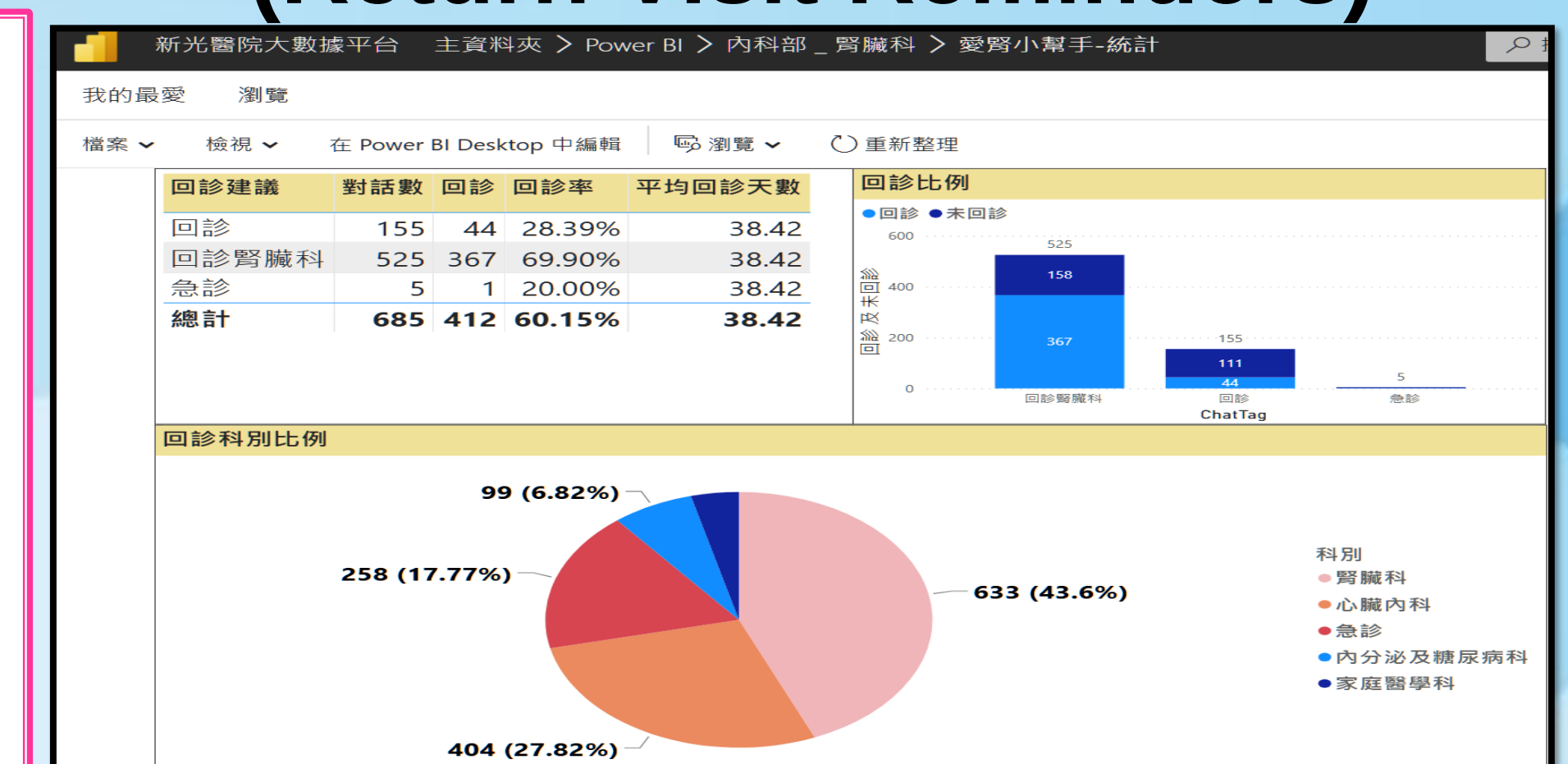
Types	N (%)
General dialogue	14918 (73%)
Nutrition	3006 (%)
Symptoms	1430 (%)
Newly identified CKD	749 (%)
Return visit reminder	425 (%)
Total	20528

Cost Savings
965,400 NTD per year
10.43 NTD/minute per staff
x 20 minutes/week
x 52 weeks/year
x 89 staffs = 965,400.2

Hospital Information Systems Integration



Big Data Integration (Return Visit Reminders)



Conclusion

The "Kidney Helper" connects patients, doctors, and nurses to create a comprehensive "CKD Intelligent Care Service Network" and provides professional advice on daily care and managing kidney disease to enhance the quality of care.