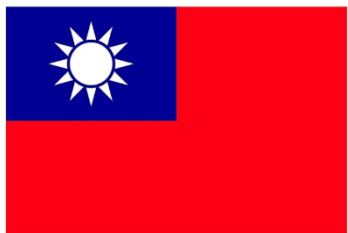# The Speaker Brief

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PT START

IWIS https://nckuhirb.hosp.ncku.edu.tw/pharmacy

Use of a Comprehensive Cloud-Based Drug Tracking System

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Institutional Review Board

National Cheng Kung University Hospital

Presentation Outline

1 Introduction
Drug management in trials is complex, manual errors are costly, and Taiwan lacks alternatives to costly international systems.

2 Research Objective
IWIS automates drug management, reducing errors and enhancing efficiency, covering the full process from receipt to return.

3 System Architecture
IWIS core functions include drug receipt, dispensing, return tracking, and cloud integration for secure, efficient management.

4 Results
The key results of the IWIS system

5 Conclusion & Future Perspectives
IWIS enhances drug management efficiency, with future plans for EMR integration and a global standard platform.

Challenges in Clinical Trial Drug Management

Accurate drug management is critical for clinical trial success and participant safety.

Manual processes are error-prone and inefficient, especially with inconsistent documentation formats.

Lack of standardized coding and similar packaging increases tracking difficulty and risk.
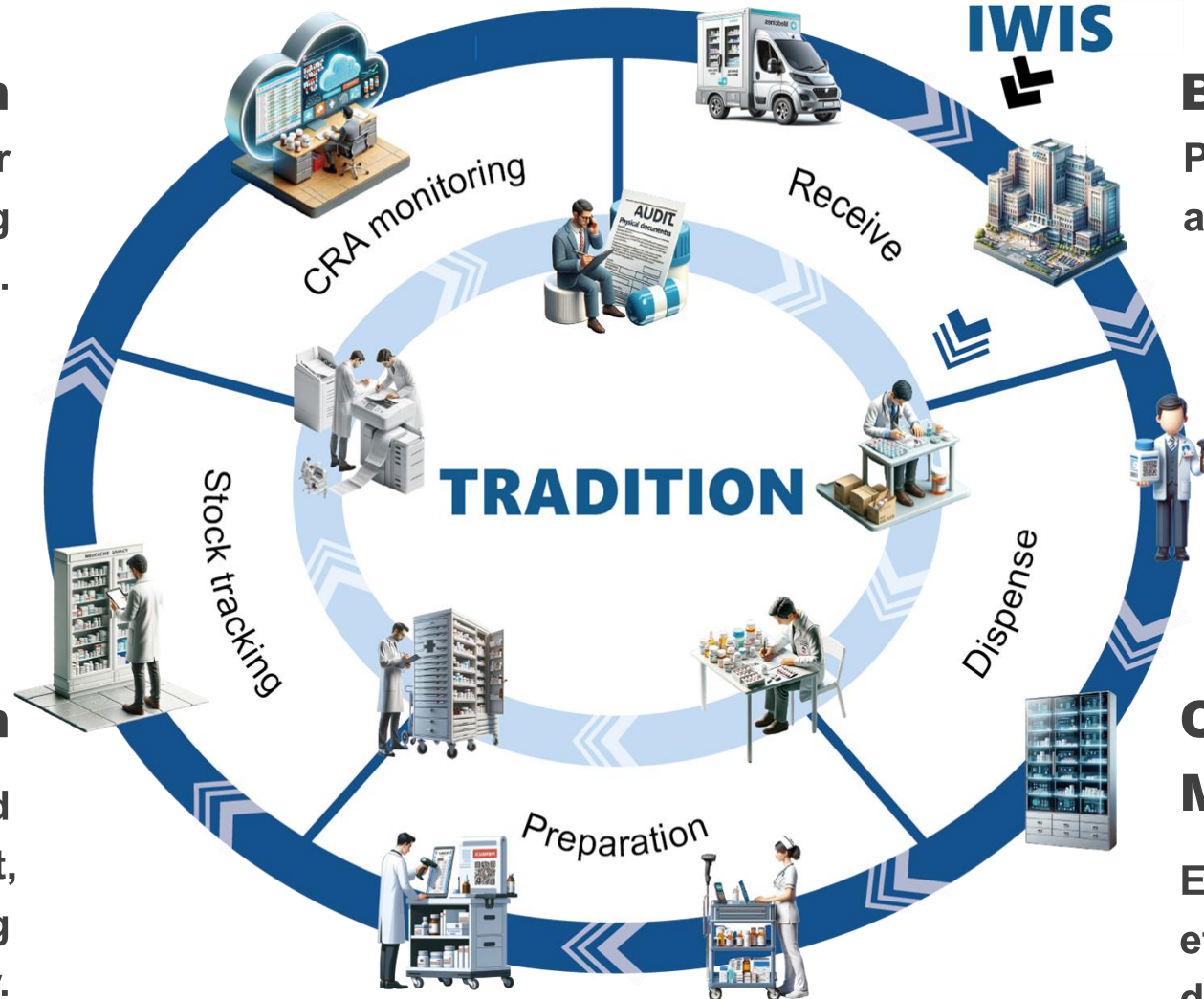
International systems like Vestigo® are costly, so we developed a GCP-compliant system to improve efficiency and safety.

Research Objective

IWIS System
Cloud-based platform for complete drug management tracking.

Barcode Technology
Precisely tracks drug sources and expiration dates.

HIS Integration
HIS integrates trial and clinical drug management, enhancing tracking efficiency and accuracy.
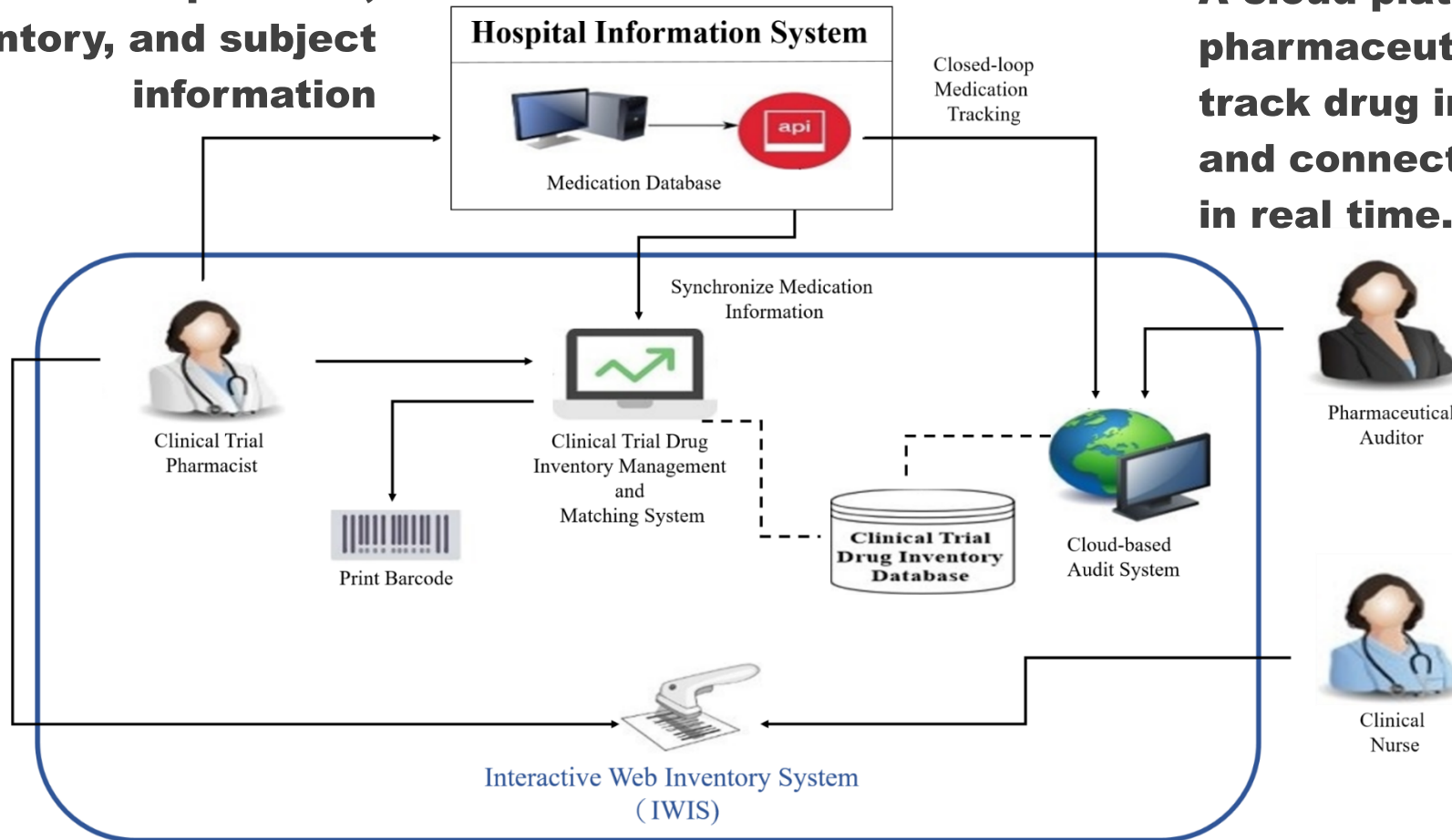
Closed-Loop Management
Ensures safety, accuracy, and efficiency from drug intake to disposal.

CRA monitoring · Receive · Dispense · Preparation · Stock tracking

TRADITION

IWIS : Interactive Web-Based Inventory System

IWIS Architecture

1.

Establishment of a trial protocol, drug inventory, and subject information

3.

A cloud platform lets pharmaceutical companies track drug inventory, usage, and connect with pharmacists in real time.

Hospital Information System

Medication Database

api

Closed-loop Medication Tracking

Synchronize Medication Information

Clinical Trial Pharmacist

Clinical Trial Drug Inventory Management and Matching System

Print Barcode

Clinical Trial Drug Inventory Database

Cloud-based Audit System

Pharmaceutical Auditor

Clinical Nurse

Interactive Web Inventory System (IWIS)

2. Medication dispensing based on physician prescriptions for patient identification.

Results

For Pharmacies

- Real-time inventory tracking, subject-specific inventory and return/disposal records.
- Auto-generates barcode labels to update inventory.
- Reduces manual tasks and paperwork and staff satisfaction.
- Ensures accuracy and safety in dispensing and administration.

For Monitors

- Tracks time for each stage (preparation, delivery, receipt, administration).
- Uses custom workflows to collect data at each required step.

For CROs

- Enables cloud-based remote monitoring access for CROs.
- Enhances communication with monitors via in-system messaging and email features.

For System

- Enhances security, efficiency, and compliance per GCP standards.
- Integrates with IRB systems to avoid duplicate data entry.
- Reporting features support a "paper-lite" or "paperless" approach.

Comparison of System Features

Feature	Traditional	IWIS	Vestigo®
Record Keeping	Paper-based	Database management, tracks all edits	Database management, tracks all edits
Inventory Management	Manual paper records	Systematized with barcode input, saves time	Systematized with barcode input, saves time
Pharmacist Efficiency	Manual, prone to duplication	Automated, reduces repetitive tasks	Automated, reduces repetitive tasks
Vendor Interaction	Phone or email responses	Cloud-based, real-time drug status tracking	Real-time tracking of drug usage
Report Generation	Manually created reports	Automatically generated reports, expiry tracking	Automated reports, multiple export formats
Key Features	N/A	Integrated with HIS, pioneering clinical trial inventory system	• Integrates with EMR for consolidated patient medication records. • Provides inventory alerts to ensure drug availability. • Notifies vendors of stock levels, reducing pharmacist workload. • Supports billing management. • Exports task lists for schedule checks.

Conclusion & Future Outlook

Benefits Comparison

IWIS enhances drug management accuracy, reduces redundancy, rivals Vestigo®, and includes automated reporting and system integration.

Challenges

Data security, system integration, and pharmacist training are key challenges, under optimization.

Efficiency Boost

IWIS improves drug management and pharmacist efficiency, with ongoing updates aiming for global standards.

Future Outlook

- Integrates with EMR for unified patient medication records.
- Smart inventory refill alerts.
- Automated vendor stock notifications.
- Billing management.

IWIS

THANKS

Any questions?

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