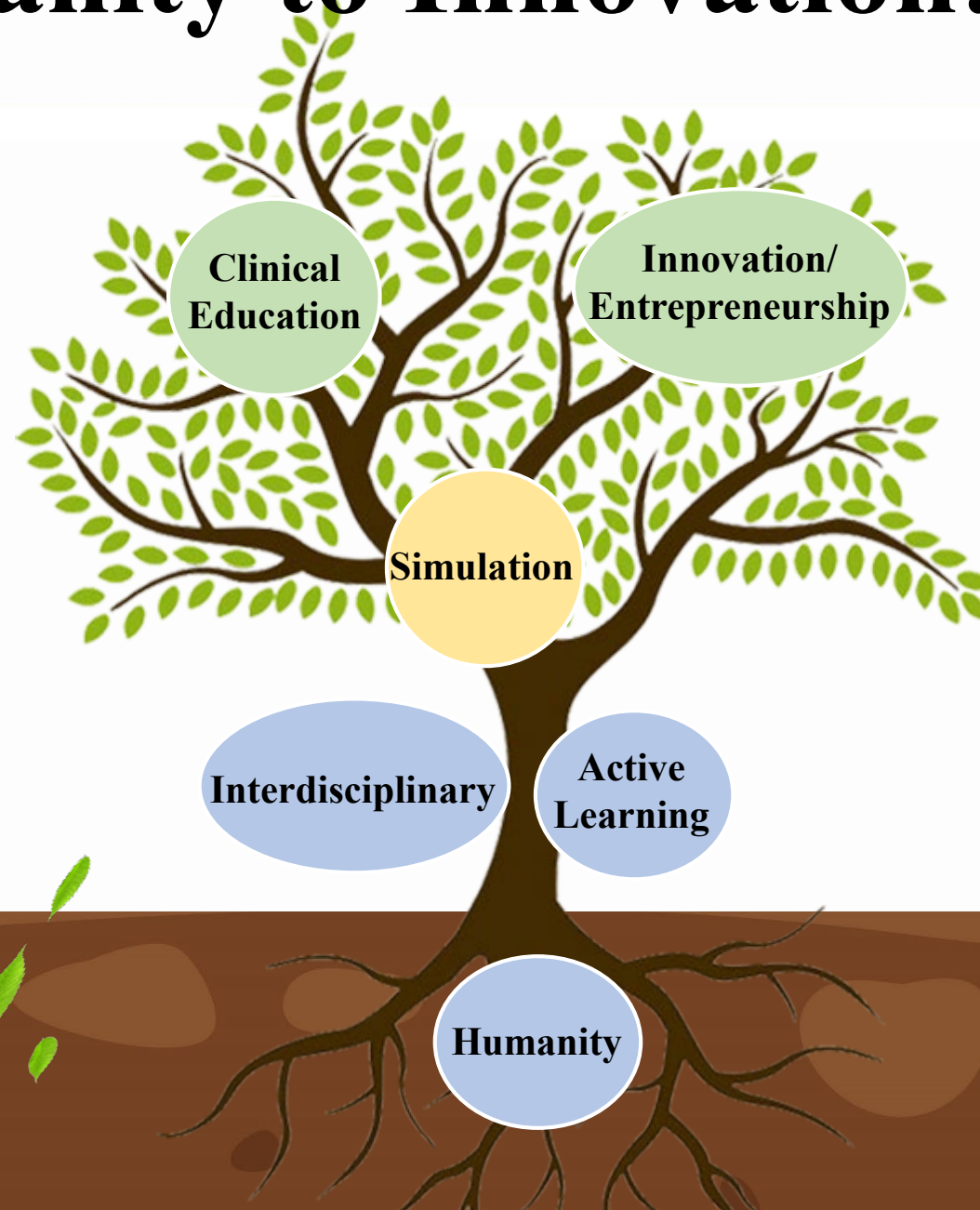# 【Panel Discussion 2】Digital Transformations in Higher Education

Mai-Szu Wu, MD

President, Taipei Medical University

From Humanity to Innovation…

TAIP-X (TMU AI Integrated Platform X)
- Enhanced by Gen AI Innovations

Acute Care
- **System upgrades**
  Widely adopted by medical centers, regional hospitals, and clinics.
  - **Gen AI innovations**
  - **Smart ward technology**

TMU Health HIS3.0 Project

2023.10

2023.12.31 Launch

2024.02.08 Launch

2024.03.01 Launch

2024.07.01 Launch

2025 TAIP-X

One Platform

One Standard

One Protocol

Ambulatory Care
- **Telemedicine/ Telehealth service**
- **Hospital-at-Home (HaH) services**
- **Resilient medicine service**

Advanced Care
- Digital pathology
- Precision medicine platforms
- AI-powered diagnostic tools
  - AKI-AKD Care System
  - Ted ICU 2.0
  - Deep Lung-CAC

TMU Health：IT Roadmap (2023-24)

Medical Simulation Center...
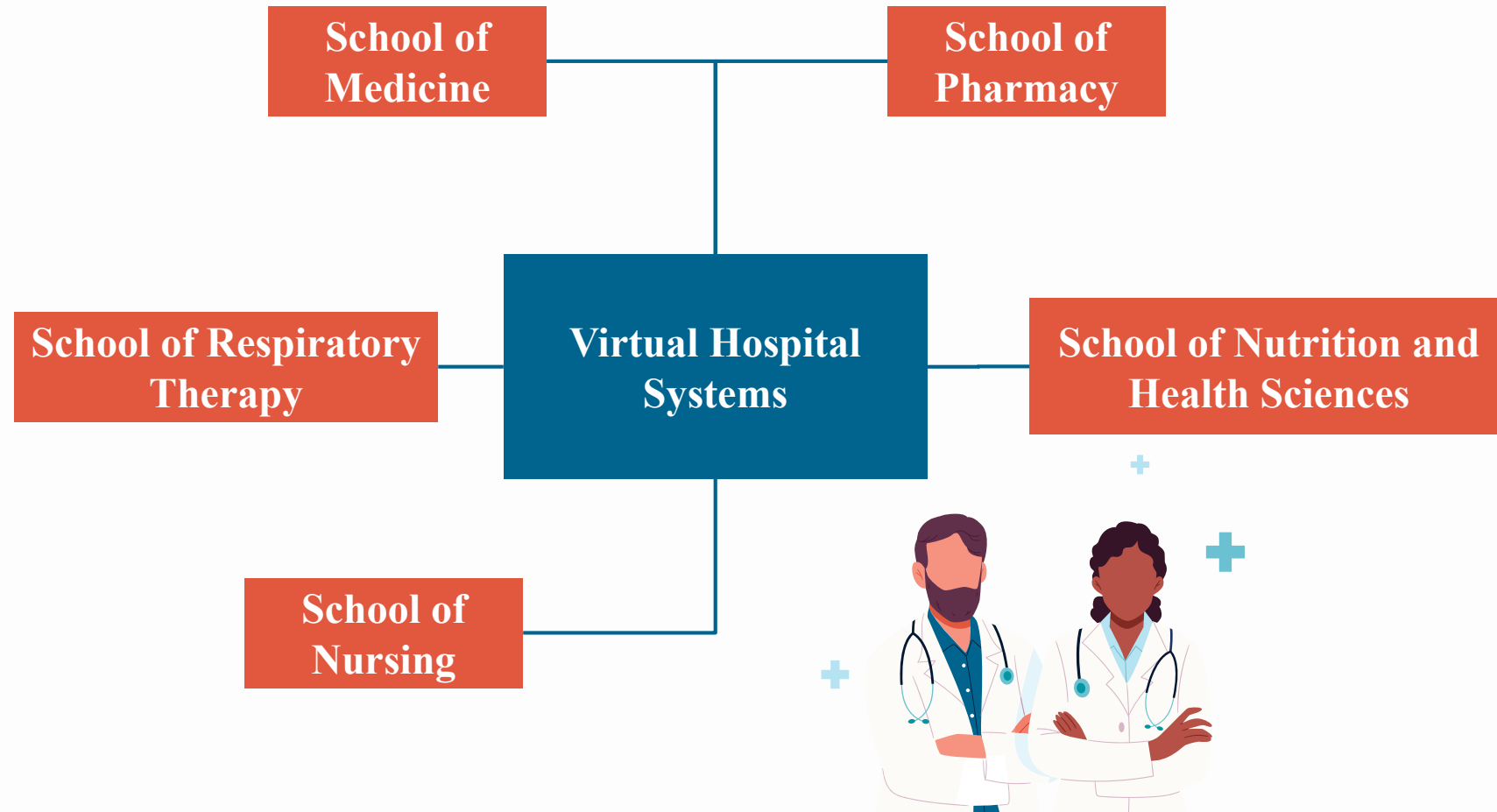

3rd F

OSCE Center & Simulated Clinic

2nd F

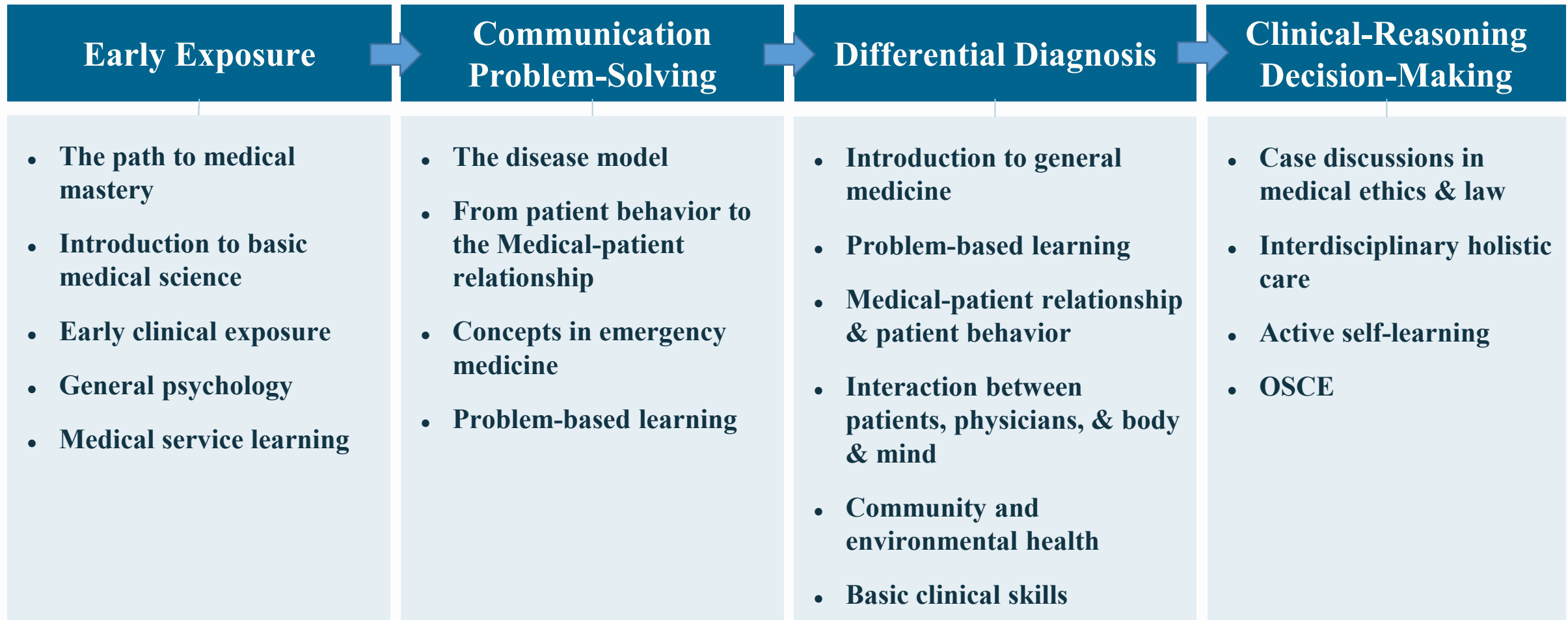Multi-Functional Simulated ICU & OR 270° VR room
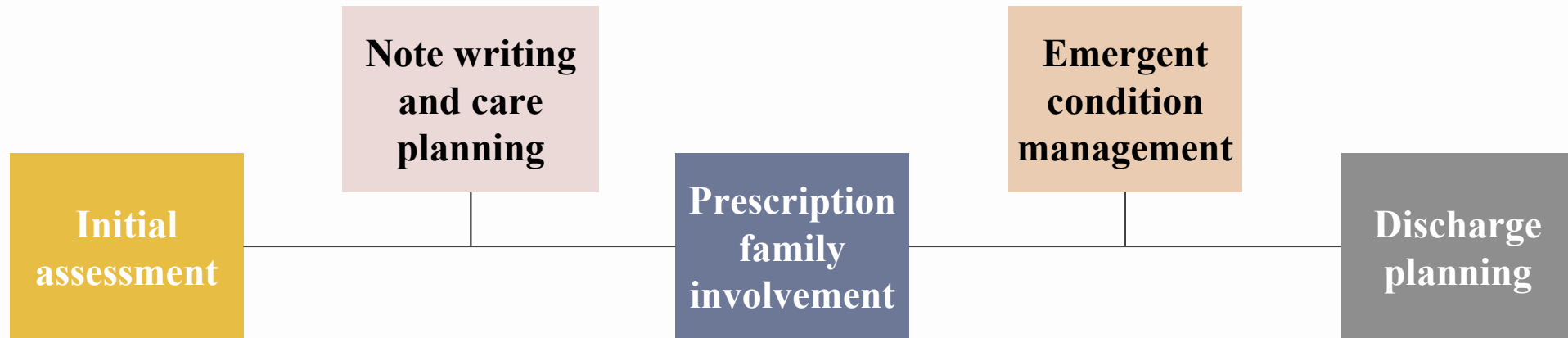
1st F

Simulated Nursing Station & Ward

Virtual Hospital Systems…

School of Medicine

School of Pharmacy

School of Respiratory Therapy

Virtual Hospital Systems

School of Nutrition and Health Sciences

School of Nursing

Virtual Hospital Systems in Medical Education

Early Exposure	Communication Problem-Solving	Differential Diagnosis	Clinical-Reasoning Decision-Making
• The path to medical mastery • Introduction to basic medical science • Early clinical exposure • General psychology • Medical service learning	• The disease model • From patient behavior to the Medical-patient relationship • Concepts in emergency medicine • Problem-based learning	• Introduction to general medicine • Problem-based learning • Medical-patient relationship & patient behavior • Interaction between patients, physicians, & body & mind • Community and environmental health • Basic clinical skills	• Case discussions in medical ethics & law • Interdisciplinary holistic care • Active self-learning • OSCE

Early Clinical Exposure…

Note writing and care planning

Emergent condition management

Initial assessment

Prescription family involvement

Discharge planning

Allow students early exposure to patient's hospital journey, helping them understand the content and experiences of their future careers

Immersive and Realistic...

Medical History

Nursing Record

Vital Signs

Discharge Documentation

Differential Diagnosis…

Mission of 1st week

Mission of 2nd week

01

02

03

Interact with standardized patients
(Based on Virtual Hospital Systems cases)

Using Virtual Hospital Systems

Complete reports/reflect

- **Differential diagnosis**
- **Request lab test and imaging**

- **Diagnosis confirmation**
- **Treatment strategy**

- **Discharge procedures**
- **Patient and family education**

Clinical Reasoning…

Preview patient history online

History taking with virtual patient

Write patient notes Apply critical thinking

Team-based diagnostic reasoning

Exam | Culture | Patho | Surgery | Story | ePaper

2025/03/14 血液腫瘤科 蔡佳叡

History
lower esophageal SCC with multiple distant LN mets cT3N3M1 , stage IV
2024/07/29 neck CCRT 25 fx , 180 cGy + 8 fx , 200 cGy to 09/25
HTN

Subjective
submandibular LN (+) , dysphagia (+)
no cough , BW 58 , mild oral ulcer

Objective
dysphagia & BWL 3 kg in months , 2023/05 (+)multiple neck LNs , visited 陽大附醫H , PES : esophageal tumor , bx : SCC
2023/05/19 brain MRI (外) : no brain mets
2024/04/11 PET/CT : new Lt scapula , RLL lesion ; multple LAP of bil neck , supraclavicular , axillary , pulmonary hilar , para-aortic region , most ↓size & uptake
2024/10/21 PET/CT : PD of lower esophageal ca with new & persistent LNs from neck to Rt renal hilum
2024/09/02 CEA / Ca-199 / SCC 20.8 / 171 / 6.8
2024/10/08 CEA / Ca-199 / SCC 18.2 / 186 / 11.4
2024/09/24 WBC 5630 Hb 11.8 Neu 55.0% Cr 1.0 ALT 15 Na / K 137 / 4.4
2024/10/08 WBC 5540 Hb 13.4 Neu 47% glu 85 Cr 1.0 ALT 14 LDH 182 CXR : no lung mets , KUB : no ileus

Assessment
C15.3 Malignant neoplasm of upper third of esophagus
C76.1 Malignant neoplasm of thorax
I11.9 Hypertensive heart disease without heart failure

Virtual Patient, Student Interaction
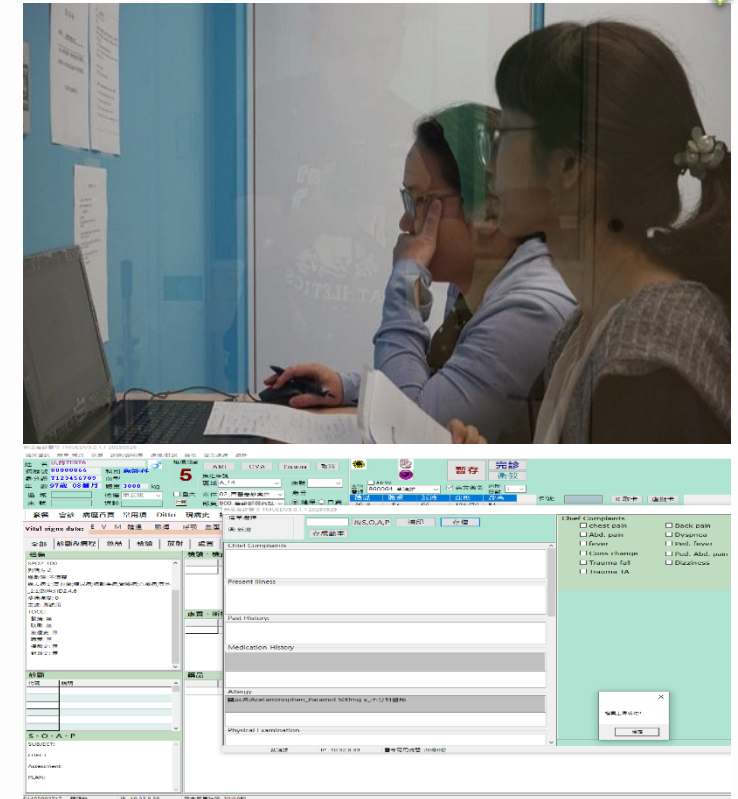
To train communication, empathy, teamwork, and critical thinking

Personalized Learning with AI Feedback & Decision Making

Registration

View images

Prescribe orders based on imaging and lab data

AI feedback

Changing Landscape…

- **Early Clinical Exposure…**

- **Immersive and Realistic…**

- **Differential Diagnosis…**

- **Clinical Reasoning…**

- **Decision Making…**

Thank you