

## Practice of Electronic Medical Record –

*A Success Story in CYCH, Taiwan*

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## Outline

- ❖ Introduction to Medical Record
- ❖ Motivation and Goal
- ❖ How do we make it
- ❖ The key to the success
- ❖ After the success

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## Introduction to Medical Record

- ❖ What is Medical Record ?
  - ❖ Documentation of health care services provided to a patient
  - ❖ A repository of information that includes
    - ❖ Demographic data : patient's name, date of birth, address, telephone number, ...
    - ❖ Clinical data : documentation to support diagnoses, justify treatment and record treatment results.

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## Purpose of Medical Record

- ❖ Primary purpose – *provide continuity of care*
  - ❖ Health care is a **Big** team work
  - ❖ Medical Department
    - ❖ Medical Staff
    - ❖ Diagnosis Services (Cardiology, Laboratory, Pathology, Radiology, ...)
    - ❖ Therapeutic Services (Dental, Nursing, Pharmacy, ...)
    - ❖ Etc.
  - ❖ Administrative department
    - ❖ Billing, Insurance Affair, General business
    - ❖ Medical Engineering
    - ❖ Information Technology
    - ❖ Etc.

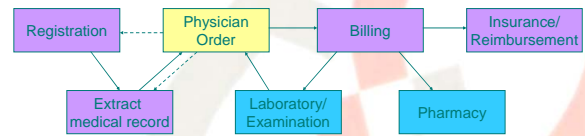
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❖ Secondary purposes –

- ☞ Evaluating quality of patient care
- ☞ Providing information to third-party payers for reimbursement
- ☞ Serving the medicolegal interests of the patient, facility, and providers of care
- ☞ Providing data for use in clinical research, epidemiology studies, education, public policy making, facilities planning and health care statistics

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## An outpatient's visit flow



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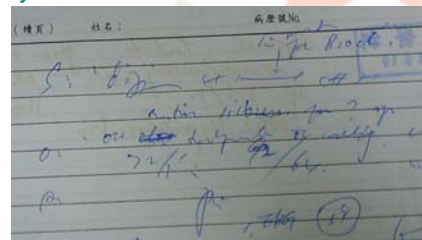
## Motivation and Goal

❖ The paper record's problem



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❖ Can you read this?



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❖ The new building – record transfer problem



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## The Goal

**USING COMPUTER!!!**

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## The Goal

**IT'S A BIG CHALLENGE!!!**

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## The Plan

- ❖ Set up the Goal & Scope
- ❖ Requirement collection
- ❖ References
- ❖ Consultants
- ❖ Analysis
- ❖ Development/Testing
- ❖ Online Promotion
- ❖ Feedback
- ❖ Keep on progress



## How do we make it

- ❖ Communication is the first step → to know the user and have them trust us



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## How do we make it

- ❖ Listen first → they are teaching us



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## How do we make it

- ❖ Collect problems

日期	時間	地點	問題描述	處理結果
10/10	10:00	內科	醫師在輸入病歷時，系統提示錯誤訊息。	經系統工程師檢查，發現是資料格式錯誤，已修正。
10/11	14:30	外科	手術室電腦系統無法正常運作。	經系統工程師檢查，發現是網路連線問題，已修復。
10/12	09:00	婦產科	產婦在產後護理紀錄時，系統提示錯誤訊息。	經系統工程師檢查，發現是資料格式錯誤，已修正。
10/13	11:00	兒科	醫師在輸入病歷時，系統提示錯誤訊息。	經系統工程師檢查，發現是資料格式錯誤，已修正。
10/14	15:00	內科	醫師在輸入病歷時，系統提示錯誤訊息。	經系統工程師檢查，發現是資料格式錯誤，已修正。
10/15	10:00	內科	醫師在輸入病歷時，系統提示錯誤訊息。	經系統工程師檢查，發現是資料格式錯誤，已修正。
10/16	14:30	外科	手術室電腦系統無法正常運作。	經系統工程師檢查，發現是網路連線問題，已修復。
10/17	09:00	婦產科	產婦在產後護理紀錄時，系統提示錯誤訊息。	經系統工程師檢查，發現是資料格式錯誤，已修正。
10/18	11:00	兒科	醫師在輸入病歷時，系統提示錯誤訊息。	經系統工程師檢查，發現是資料格式錯誤，已修正。
10/19	15:00	內科	醫師在輸入病歷時，系統提示錯誤訊息。	經系統工程師檢查，發現是資料格式錯誤，已修正。
10/20	10:00	內科	醫師在輸入病歷時，系統提示錯誤訊息。	經系統工程師檢查，發現是資料格式錯誤，已修正。

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1. 系統開發階段	2. 系統測試階段
3. 系統部署階段	4. 系統維護階段
5. 系統升級階段	6. 系統退役階段
7. 系統評估階段	8. 系統改進階段

## How do we make it

- ❖ Solve the critical technical problems



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## How do we make it

- ❖ Collect reference information
  - ❧ Knowing the trend
  - ❧ Other hospitals status
  - ❧ How many forms should we finish ?
- ❖ Finding cooperation partners
- ❖ Have the doctors to be our consultant

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## How do we make it

- ❖ The support from superintendent
- ❖ Ask for resources
  - ❧ Man power
  - ❧ Equipments (software/hardware)
- ❖ Team work
  - ❧ Schedule
  - ❧ Routine meeting

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## How do we make it

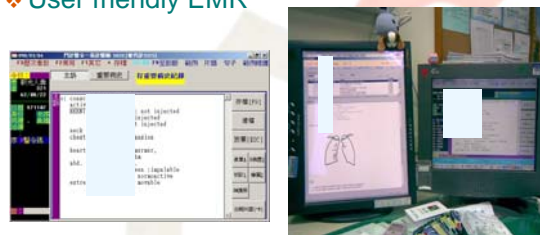
- ❖ Being with them -> teach them, help them



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## Our outcome

- ❖ User friendly EMR



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## Our outcome

- ❖ Nice functions



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## Our outcome

- ❖ Enough information



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## Our outcome

- ❖ They love it

Before EMR

After EMR

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## Our outcome

- ❖ ~ 200 doctors in 26 different departments use the EMR in their Out-Patient service
- ❖ Out-Patient Serves approx. 3,800 persons daily → needn't paper transfer now

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## Key to the Success

- ❖ A "Need To" goal is the first key, got the support from the superintendent
- ❖ Knowing user requirement *well* is the second key
- ❖ Good technology is the third key
- ❖ *Being* with the user is the fourth key

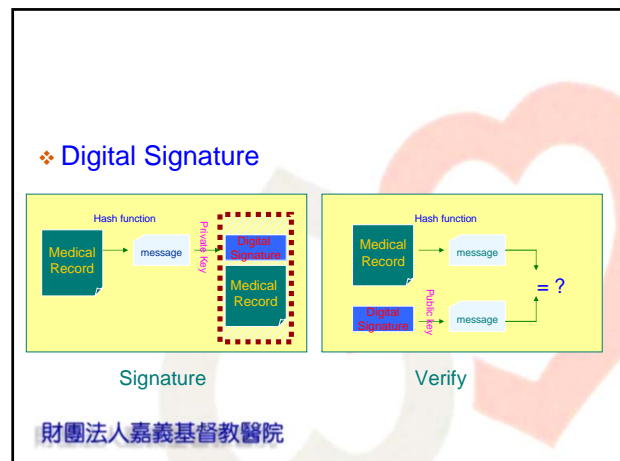
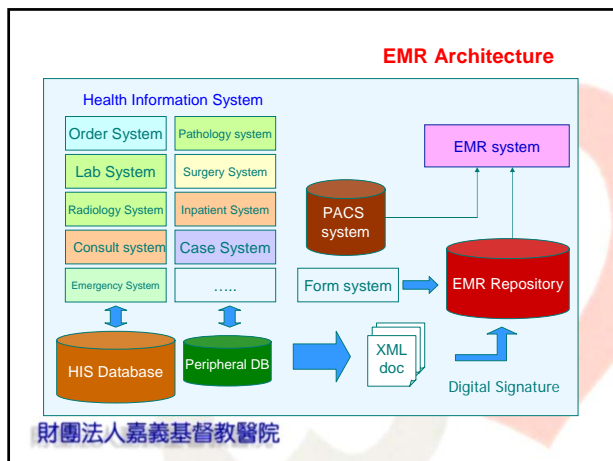
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## Behind the Success

- ❖ Security Issue
  - ↳ ISO 27001 Certification
  - ↳ EMR Management Rule
  - ↳ Digital Signature
- ❖ Great effort in integration

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- After the success**
- ❖ Challenge is continuing → paperless
  - ❖ User expand :
    - ↳ Emergency Department: Serves approx. 260 persons daily
    - ↳ Hospital bed count: nearly 1,000
    - ↳ Hospital staff: nearly 2,700
  - ❖ EMR share
    - ↳ DOH (Department of Health) is promoting
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**Thank you !**

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