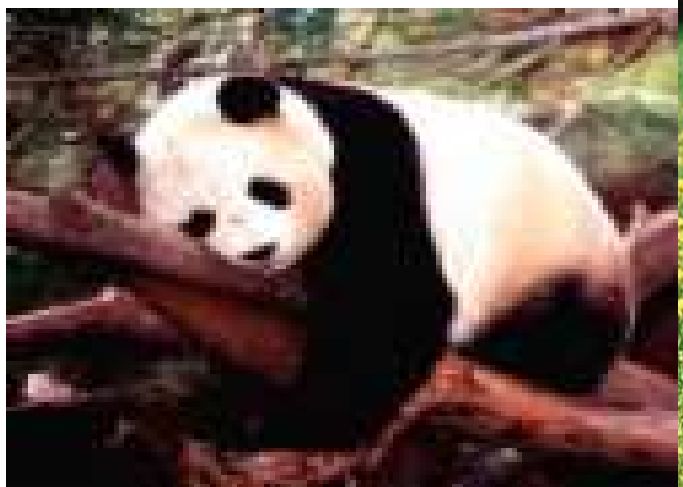
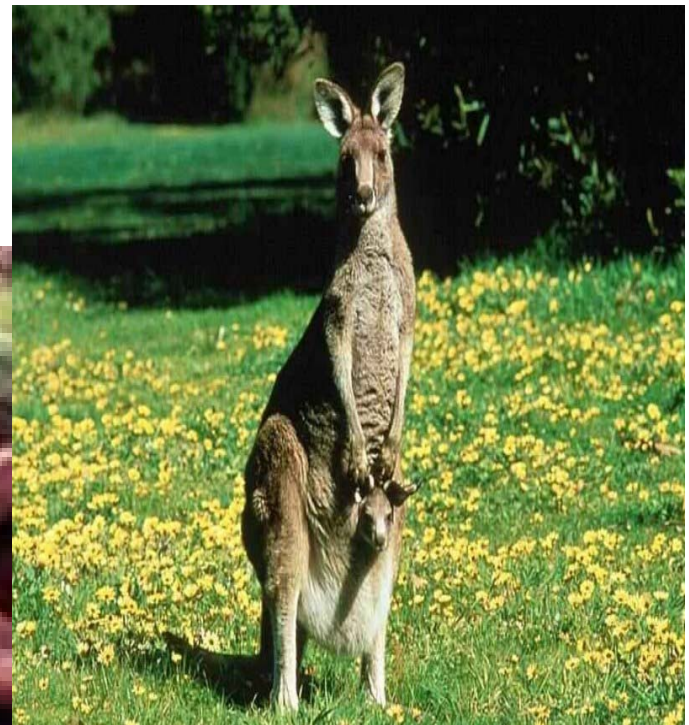
# Does an efficient Em SSU reduce or redistribute admission ? And the By-products ?

## From Panda's Eyes to Aussie Kangaroo's Hop


- CW Kam
- TMH AED COS

- 5 May 2008





# Emergency Medicine

**1) Broad-based Specialty**

- **A Specialty of Multi-specialties / sub-specialties**

**2) Excel in some in-depth subspecialties**

- **Resuscitology / Traumatology**
- **Toxicology / Em USG / PHEC**
- **Em Short-stay Care**

**3) Not = Jack of all trades & King of none**

- **Much more > > the Gate-keeper**
- **Dx & Rx**

# Issues in 2002 – Attd Vs Adm

| Daily Avg | 2002 | TMH | AED |
|---|---|---|---|
| Cat | Attd | Adm | % |
| 1 | 3.7 | 2.6 | 71 |
| 2 | 14 | 13.4 | 96 |
| 3 | 177 | 107 | 61 |
| 4 | 405 | 54 | 14 |
| 5 | 93 | 1.7 | 2 |
| U | 12 | 1.5 | 13 |
| Total | 705 | 181 | 25.8 |

# Hypothesis : AED can help reduce in-pat ward congestion ….

- if provided with - additional
  - Ward(s)
  - Man-power : doctors / nurses / HCA
  - Resources
- in a more cost-effective fashion

# Em Ward – 30 Beds from 27 Jan 2003 in TMH AED

**Opening Ceremony**

# EOP Ward (2003) Vs EMW (2007)

- Em Observation & Pre-adm
  - Observational Med - Passive
  - Wait & see until patient ‘dies’
- EMW
  - Treat & actively review
  - To QA good outcome

# Daily Clinical Activities – Em SSU

1) 3 Specialist Ward Rounds – t d s

2 Regular & timely input by Psy, Physicians (CGAT), MSW, PhysioRx

3) Minimize non-value-added consultation

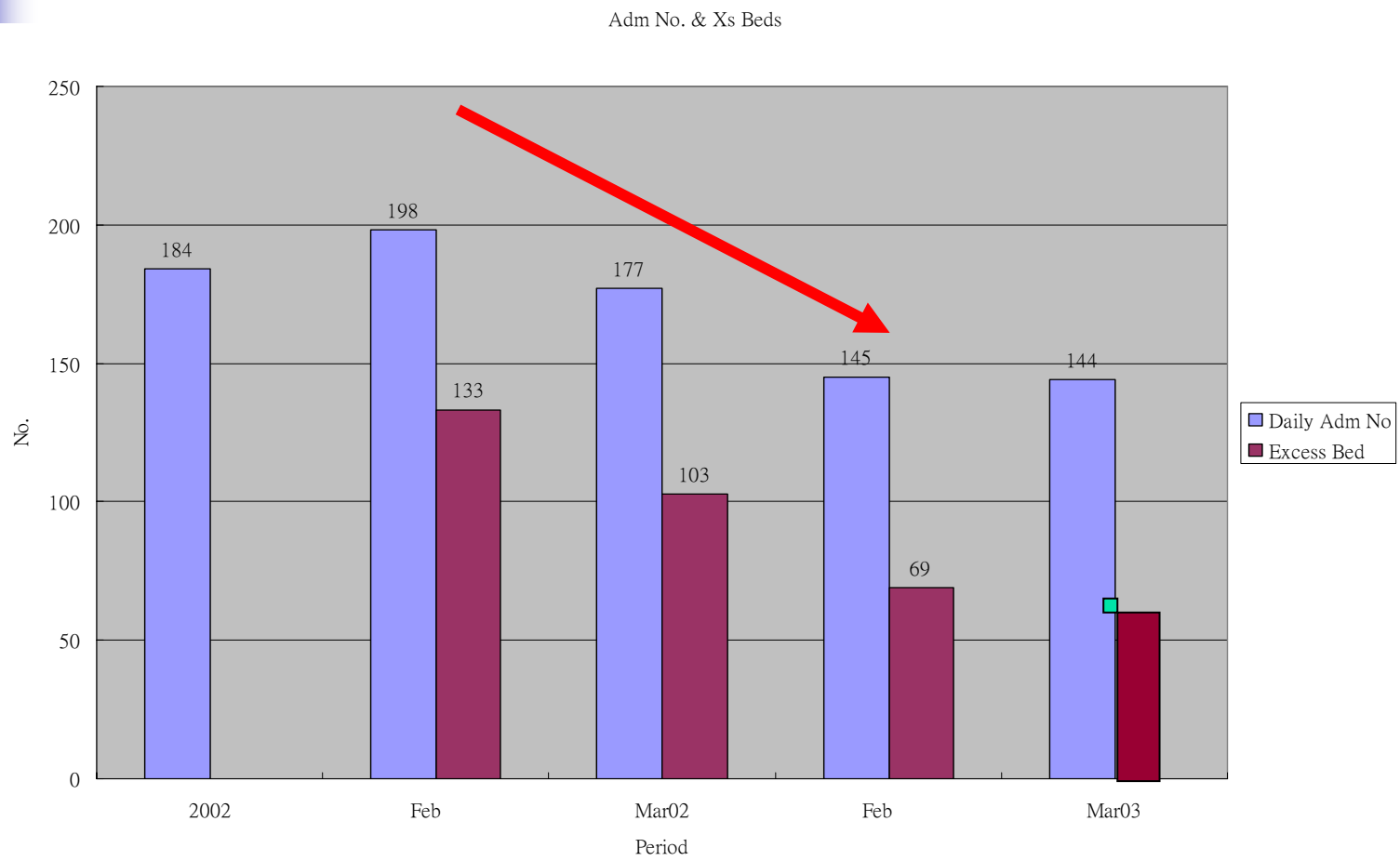
4) Rapid access to Lab Tests / Imaging (CT & USG) – short Turn-around-time (TaT)

5) Delete "Wait & See" Concept >> Change to "Treat & Actively Review"

6) Optimization - training time - Ward Rounds

# Reduction - Em Adm No. & Excess Bed (133 → 69 / day)

## Feb & Mar – 2002 Vs 2003



# Reduction - Em Adm No. & Excess Bed (133 → 69 / day)

## Feb & Mar – 2002 Vs 2003

| Feb - Mar | | | EMW | Extra | Excess |
|---|---|---|---|---|---|
| Avg Daily | Attd | Adm | Cases | Discharge | Bed |
| 2002 | 706 | 188 | 0 | 0 | 133 |
| 2003 | 700 | 140 | 23 | 17 | 70 |

# Critical Changes in Admission - 2004 Vs 2002

| Daily Avg | 2002 | TMH | AED | 2004 | TMH | AED |
|---|---|---|---|---|---|---|
| Cat | Attd | Adm | % | Attd | Adm | % |
| 1 | 3.7 | 2.6 | 71 | 3.3 | 1.9 | 59 |
| 2 | 14 | 13.4 | 96 | 13.8 | 10 | 74 |
| 3 | 177 | 107 | 61 | 158 | 82 | 52 |
| 4 | 405 | 54 | 14 | 350 | 39 | 11 |
| 5 | 93 | 1.7 | 2 | 54 | 0.8 | 1.5 |
| U | 12 | 1.5 | 13 | 25 | 4 | 16 |
| Total | 705 | 181 | 25.8 | 604 | 137 | 22.7 |

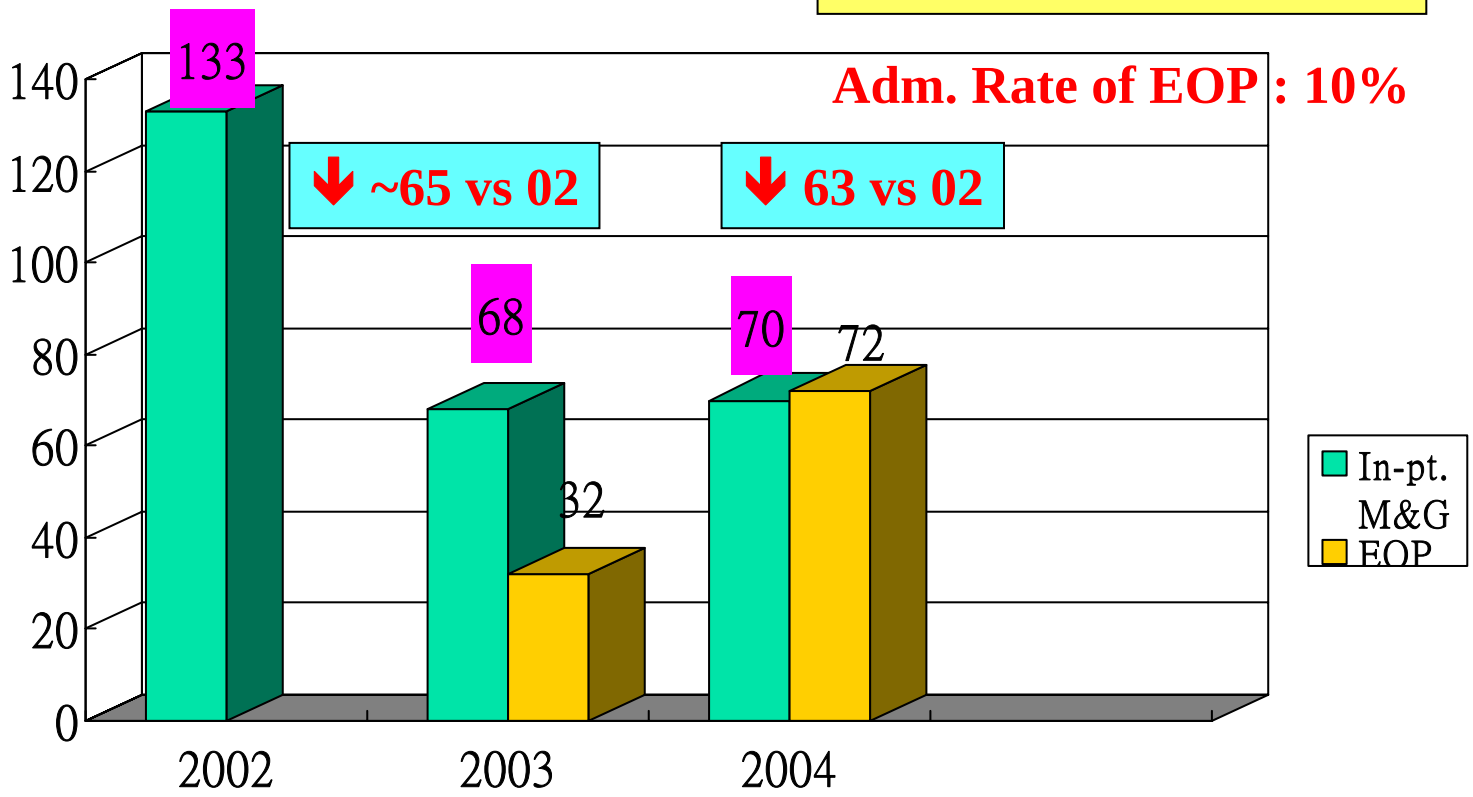
# Obvious Drop : In-patient Chest Pain - Monthly Adm.

**cTnT a/v 1.3.2003**

**ALOS**

**MED - 2 days**

**Em W - 20 hr**

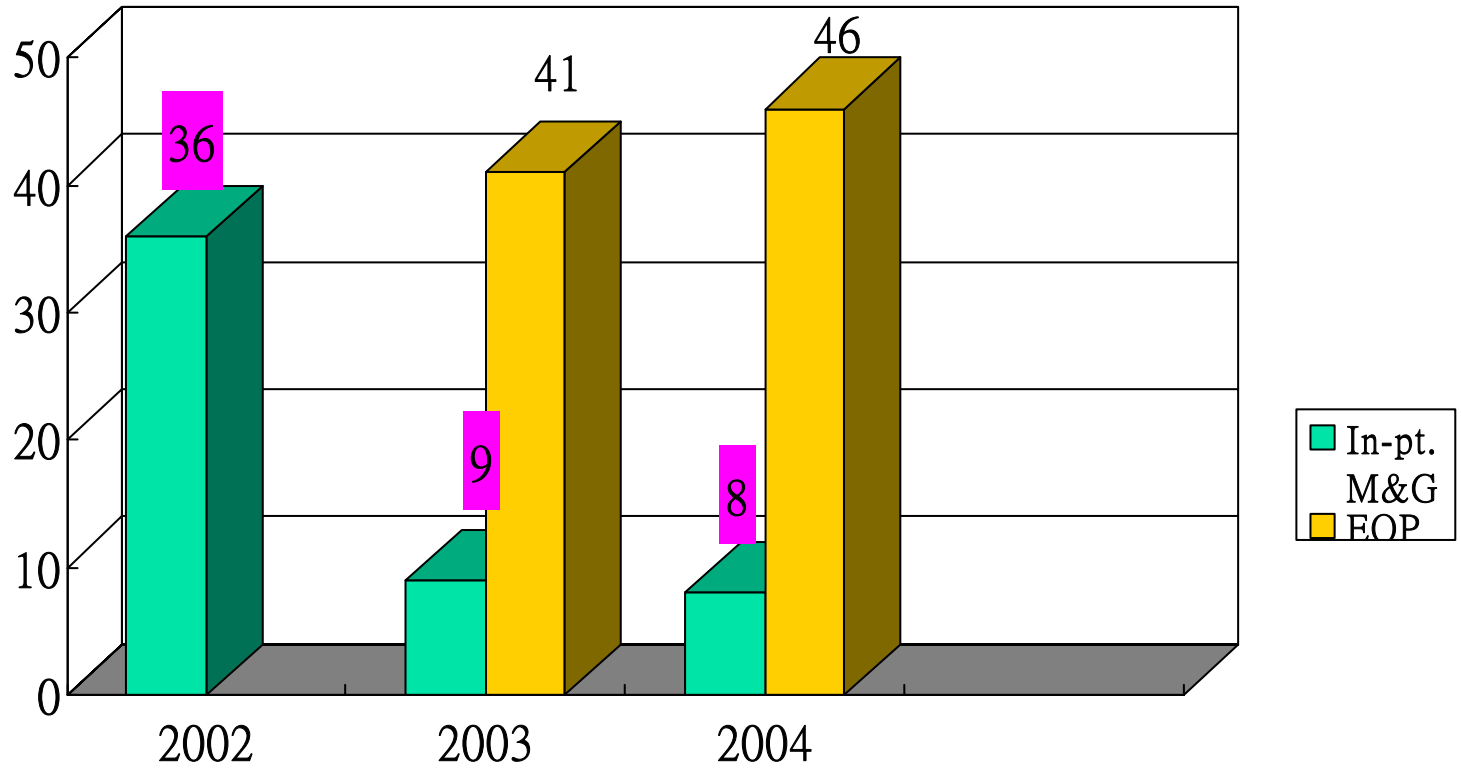


# Obvious Drop : In-patient Drug OD - Monthly Adm.

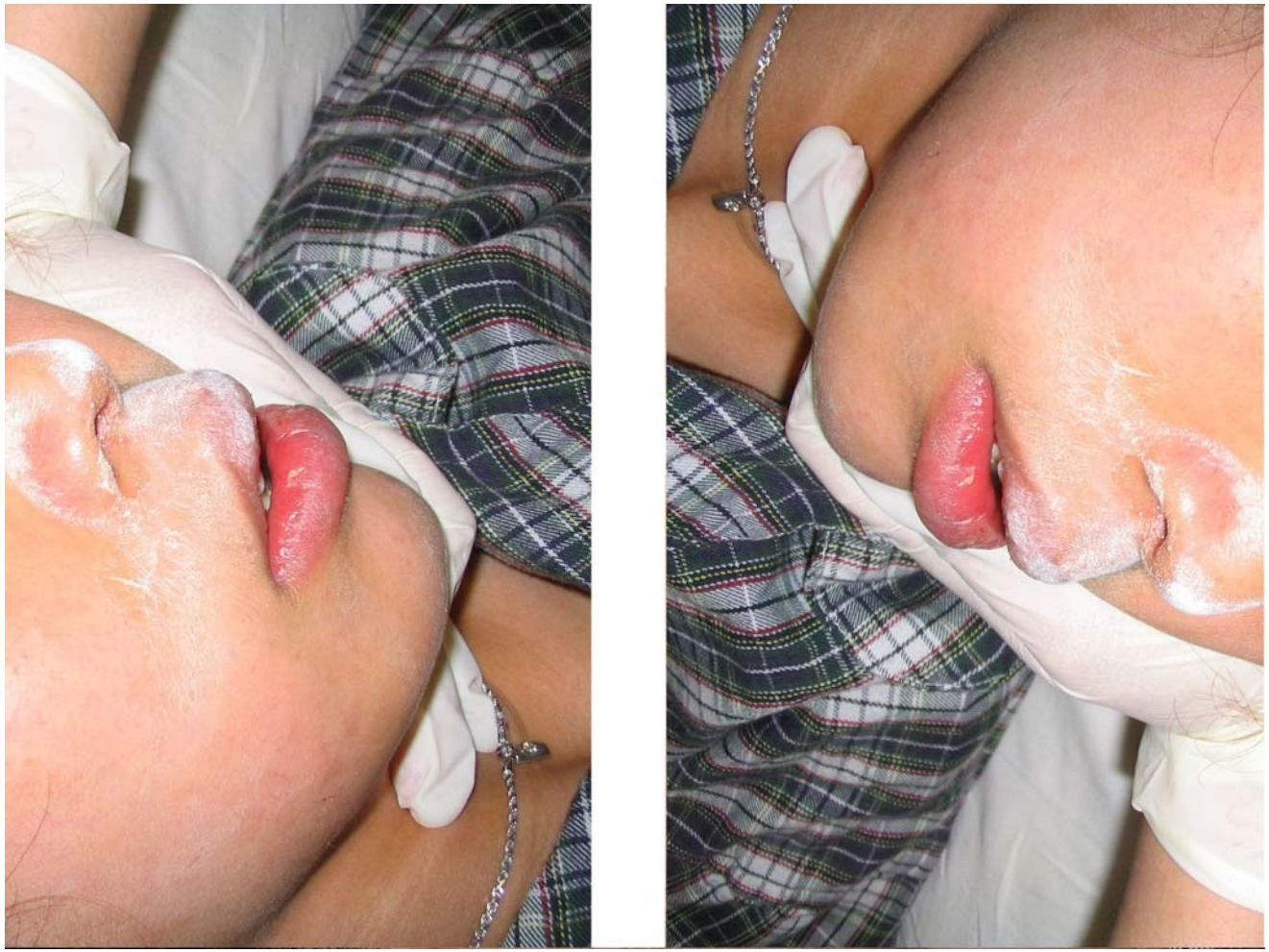
**ALOS**

**MED - 2.1 days**

**Em W -17 hrs**



# **Ketamine Sniffer** – Subs Abuser

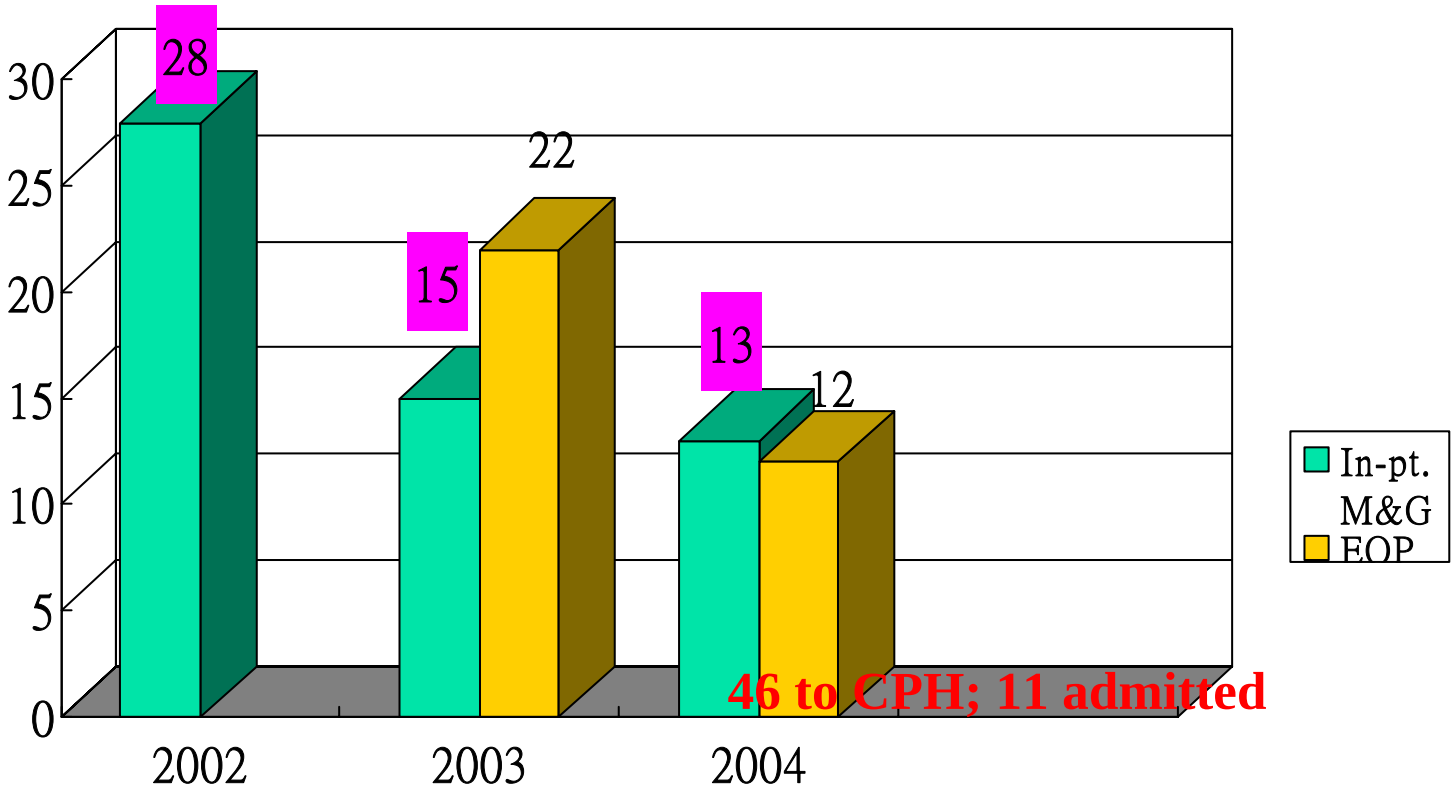


# Obvious Drop : In-patient Suicidal / DSH - Monthly Adm.

**ALOS**

**M&G - 2.5 days**

**EOP – 17 hrs**

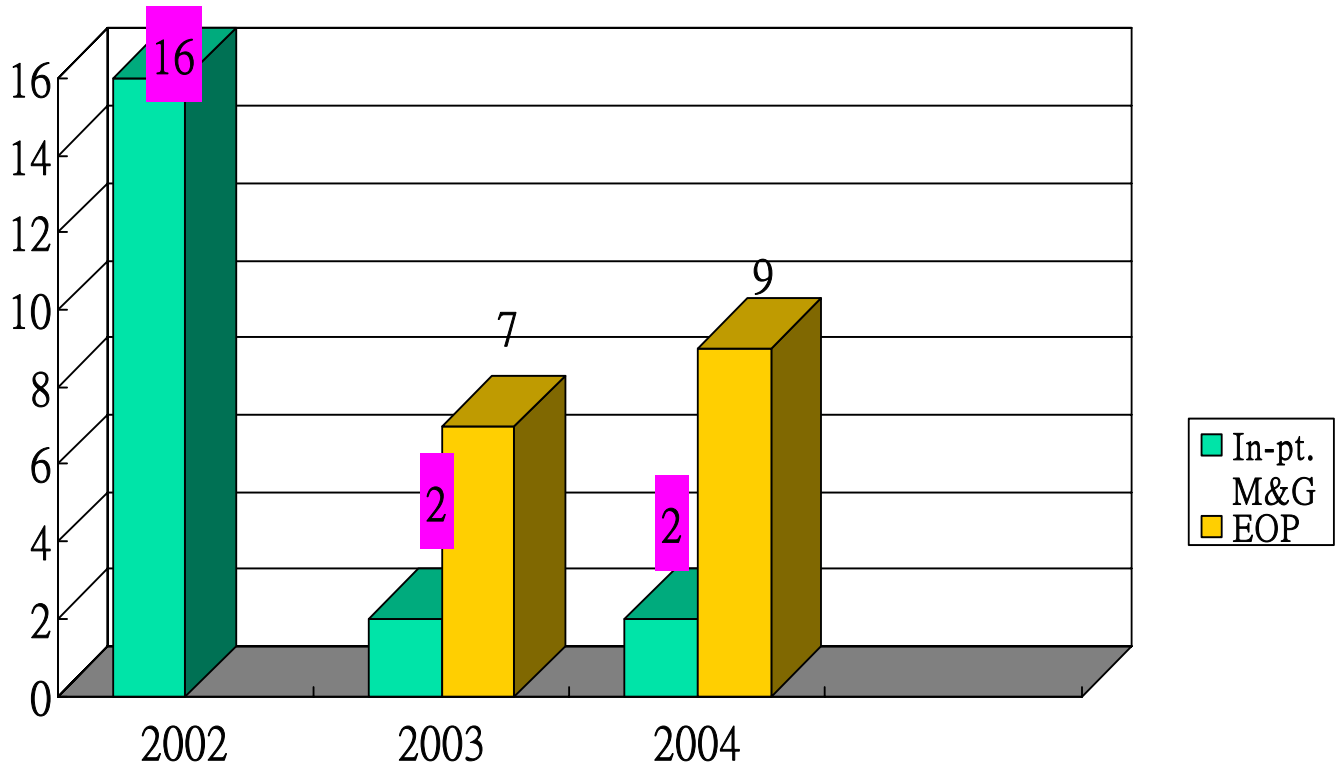


# Obvious Drop : In-patient Drunk Cases - Monthly Adm.

**ALOS**

**MED - 1.5 days**

**Em W - 16 hrs**



# LOS (hrs) – Comparison : 2003 & 04

| | In-pat Ward | EMW |
|---|---|---|
| DSH | 60 | 17 |
| DO | 50 | 17 |
| Chest Pain | 48 | 20 |
| Drunk | 36 | 16 |

# Em SSU – Australia & Singapore

**A) Perth : Em Adm - 10 most common DRG**

- A decreased ALOS
- from 3.97 to 2.59 days
- Pat no. = 19 % increase
- Bed-days = 23 % decrease
- *Williams AG. Med J Aust 2000*

**B) SGH - 6.4% saving for in-pt admission**

- n = 9126; Abdo Pain
- ALOS – Median 5.6 hrs
- *Lateef & Anantharaman. Am J Emerg Med 2000*

# Healthcare Sustainability

## Kam CW – Sharing Forum of HAHO 2006

1) Rapid Turn-over EmSSU
   - Efficiency to tackle Congestion
   - More EMWs started in 2007
2) 還 [ 症 ] 於民
   - Participatory Community healthcare
3) 醫院無彊界
   - Hospitals without boundaries
   - JAPA : Joint Ambulatory Parental Antibiotic Prog. (Cellulitis / Acute Pyelonephritis)

# An Overview of Emergency Department Short Stay Ward in Hong Kong

**Dr KL Tsui, Dr HT Fung, Dr KK Lam, Dr CW Kam**

**Accident & Emergency Department, Tuen Mun Hospital, NTWC, HA**

# HKJEM – July 2007 & HA Convention 2007

Hong Kong Journal of Emergency Medicine

## An overview of an emergency department short stay ward in Hong Kong

概述香港一急症室的暫住病房

HT Fung 馮顯達, KL Tsui 徐國樑, CW Kam 甘澤華

Hong Kong Journal of Emergency Medicine
香港急症醫學期刊

# Efficacy Cutoff Points

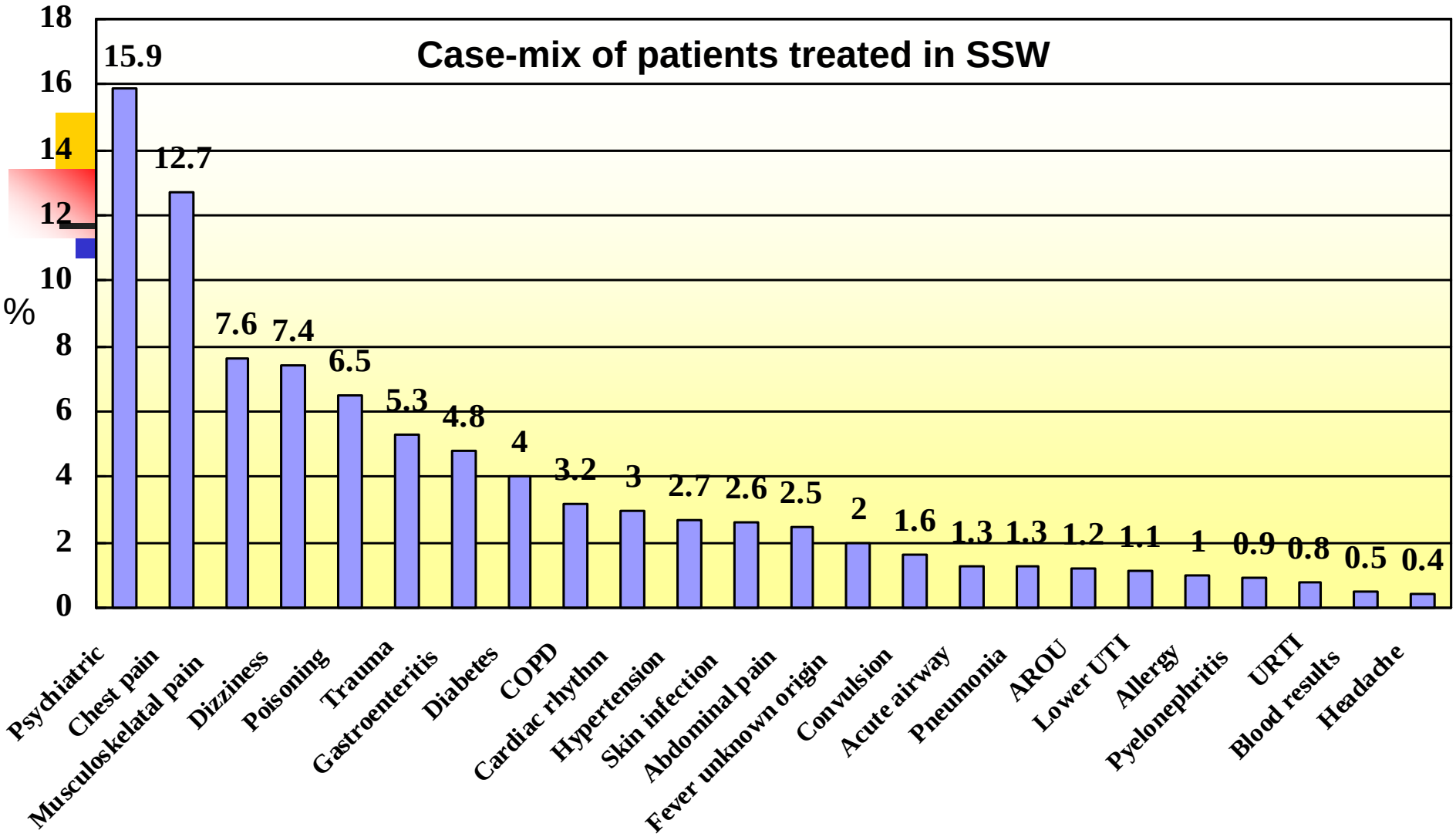
- **No local / HK benchmark**
- **LOS less than 24 hr**
- **Hospital admission rate of less than 30 %** [1,2]

1 Zalenski RJ. Ann Emerg Med. 1997;29:99-108.

2 Gomez MA. J Am Coll Cardiol. 1996;28:25-33.

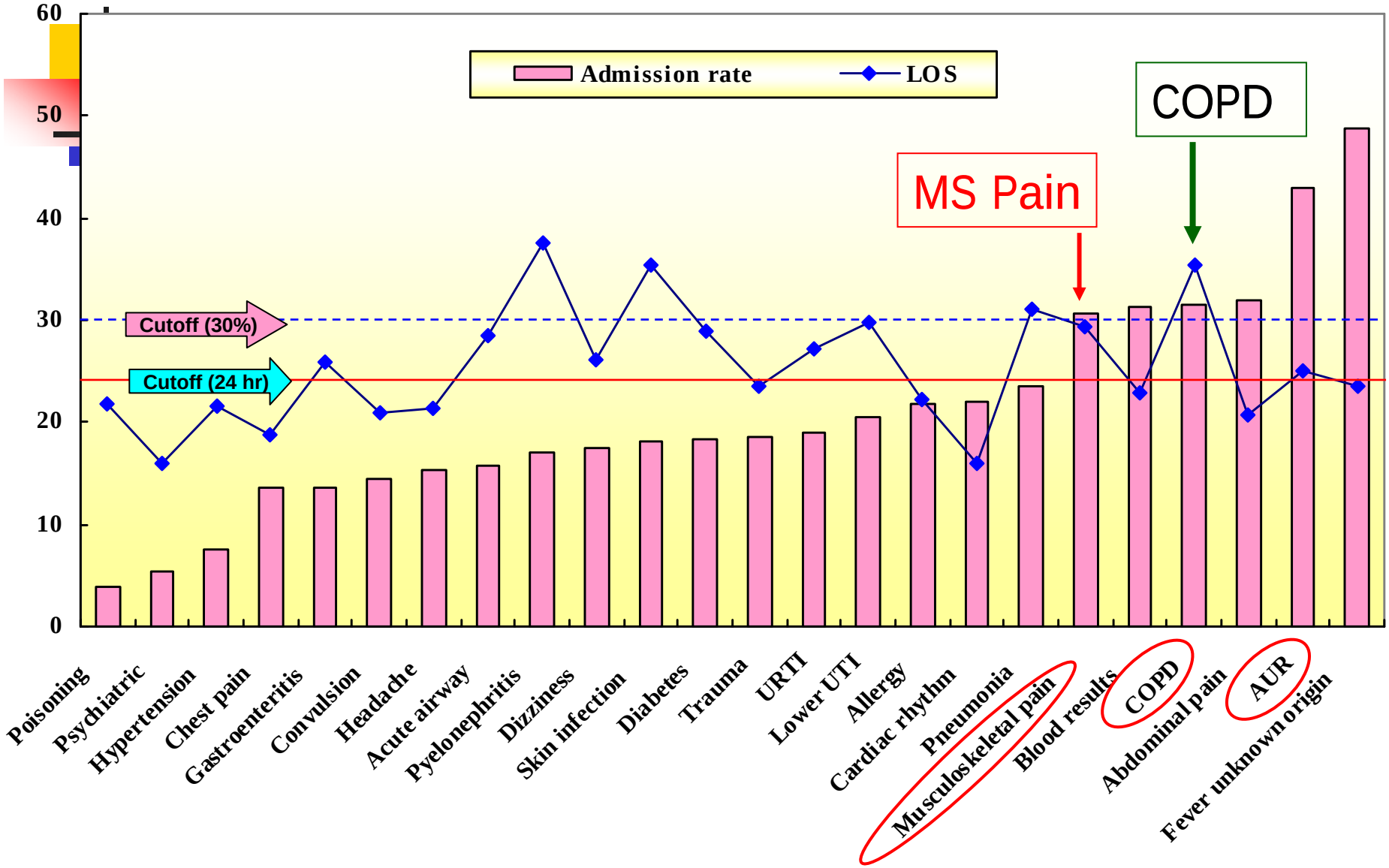
# Results – TMH AED SSU

- 10,111 patients - in SSW in 2006
- 4.6% of total AED attendances
- 680 patients (7%) were excluded - missing data




AROU: acute retention of urine, COPD: chronic obstructive pulmonary disease,
Lower UTI: lower urinary tract infection. URTI: upper respiratory tract infection`

# Comparison of LOS and Admission Rate among different DRGs



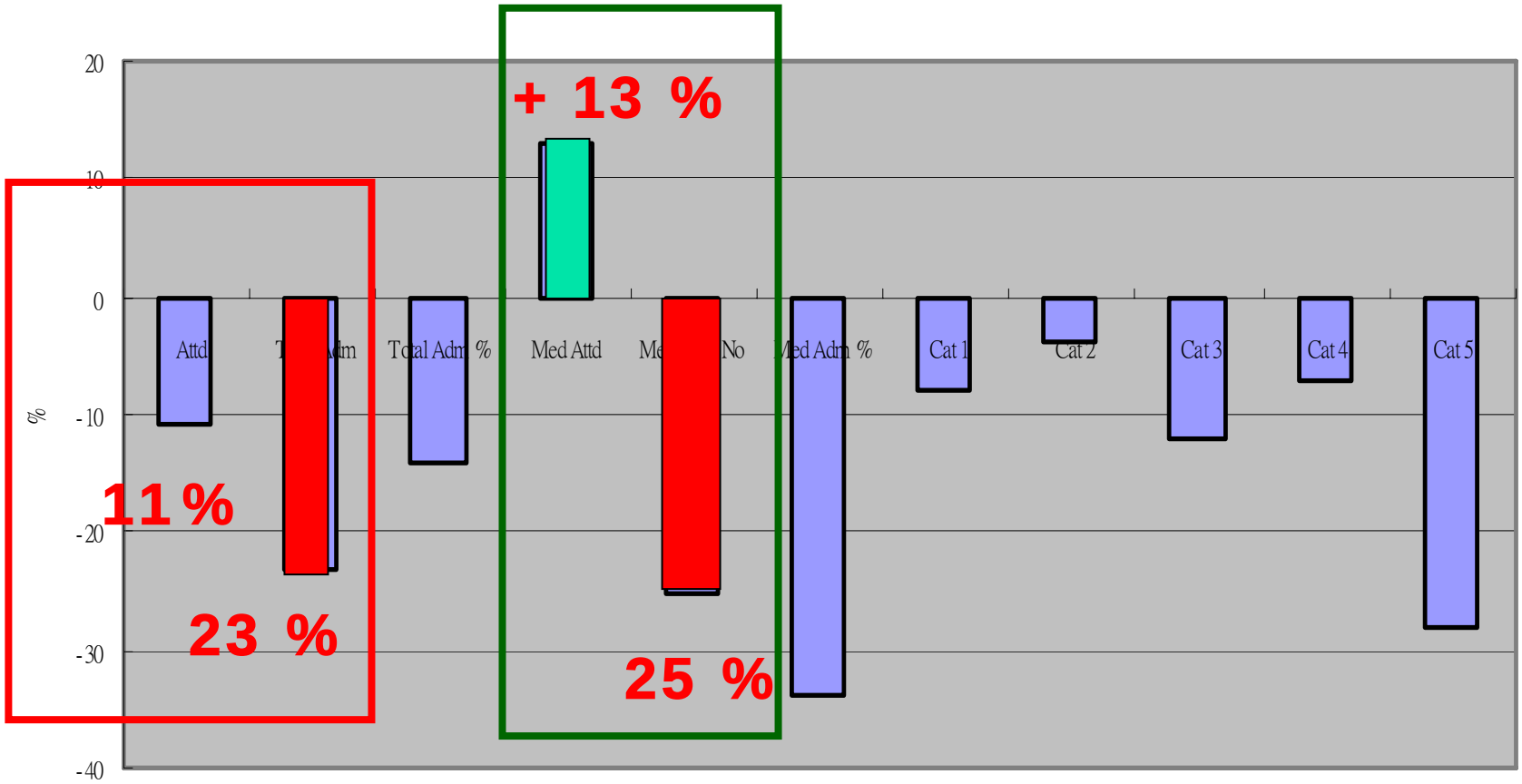
# Overall Effectiveness

- Average LOS = 23.4hr
- Overall hospital admission = 26.8%
- Both below the efficacy cutoff points = Good Performance

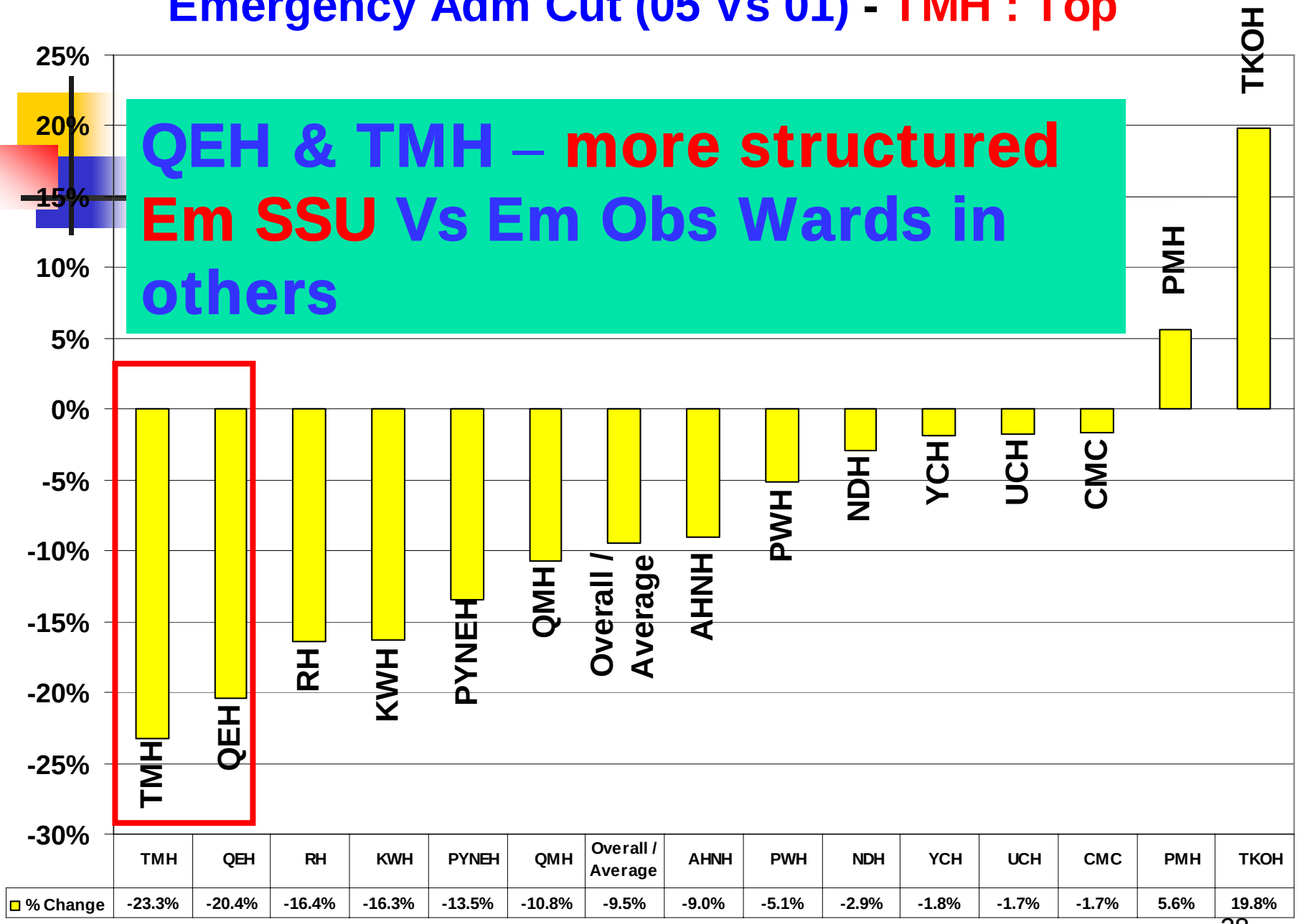
# AED Adm Performance + SSU

| Average Daily | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|
| Attd | 706 | 551 | 605 | 627 | 607 |
| Total Adm | 184 | 131 | 140 | 141 | 145 |
| Adm % | 26.1 | 23.8 | 23.1 | 22.5 | 23.9 |
| Med Adm | 92 | 64 | 67 | 69 | 72 |

# Admission Cut 23 % Much Greater > Attd Reduction 11 % (Yr 02 Vs 05) - TMH



# Emergency Adm Cut (05 Vs 01) - TMH : Top




| | TMH | QEH | RH | KWH | PYNEH | QMH | Overall / Average | AHNH | PWH | NDH | YCH | UCH | CMC | PMH | TKOH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % Change | -23.3% | -20.4% | -16.4% | -16.3% | -13.5% | -10.8% | -9.5% | -9.0% | -5.1% | -2.9% | -1.8% | -1.7% | -1.7% | 5.6% | 19.8% |

# Standardized Adm Formula - Controversial Wisdom

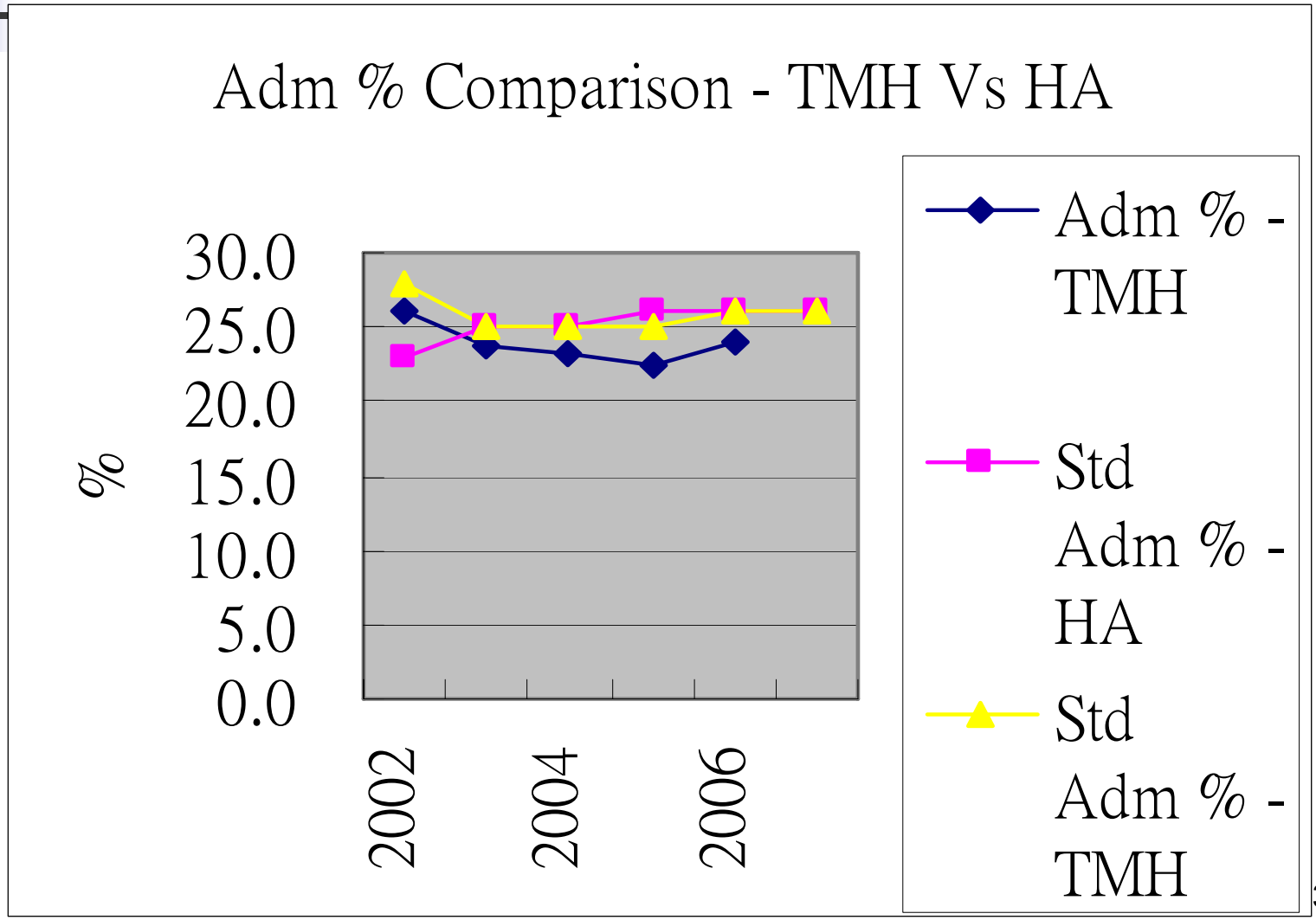
**Standardized admission rate**

$$= \frac{\text{Observed no. of admission}}{\text{Sum of expected no. of admission for each age, sex, triage and ambulance-in path group x HA-wide admission rate}}$$

**Expected no. of admissions for each age, sex, triage and ambulance-in path group**

**= No. of A&E 1st attendances in each group x HA-wide group-specific admission rate**

# Admission Trend – TMH Vs HA



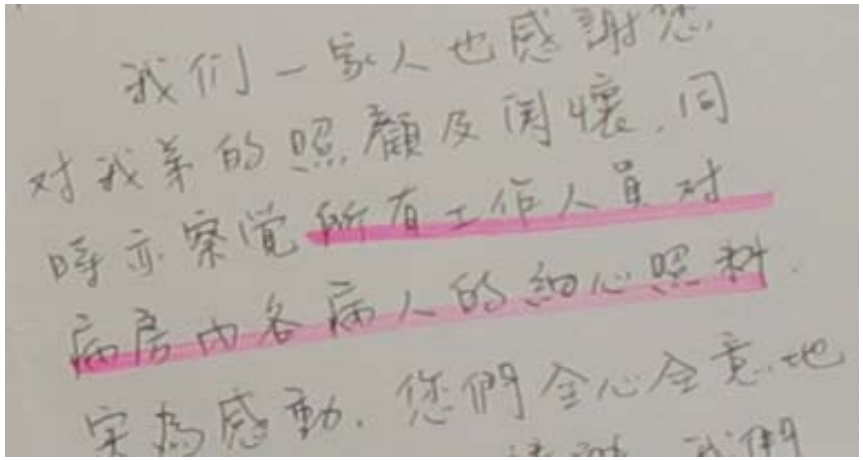
# TMH EMW Performance 2007 - Sustained

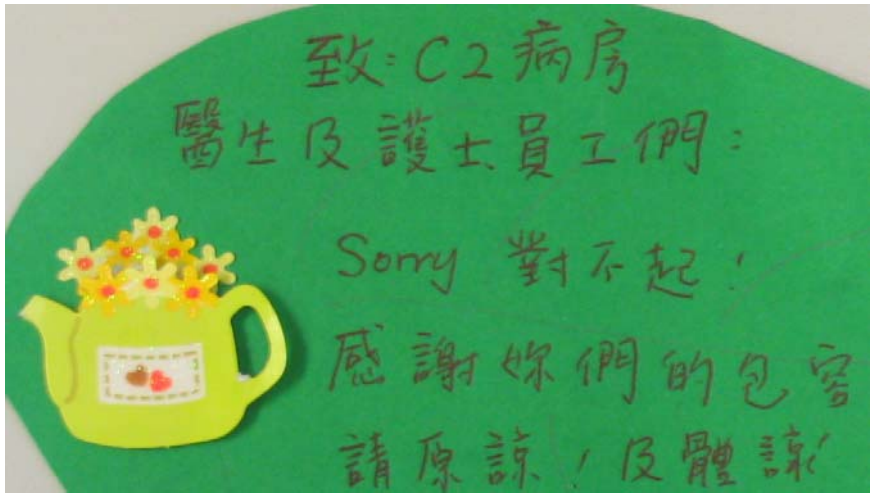
| | |
|---|---|
| **LOS – Avg / Median** | **23.5 / 19 hrs** |
| **In-pat Transfer** | **23 %** |
| **Med Adm Reduction** | **30 %** |
| **AED Adm Rate** | **26.6 %** |
| **AED Adm Rate - EMW** | **23.3 %** |

# Patient Satisfaction – Em SSU / Em Obs Unit

- More cost effective (LOS) Vs traditional admission in UK
- Improve patient satisfaction
  - Safe, earlier Senior Involvement
  - *Decrease LOS*, more *proactive* Mx.
  - *Reduce* Unnecessary *Admissions* in DRG (Drunk, Asthma, DO, GE, Chest Pain, Dizziness)
- Cooke MW, Higgins J, Kidd P. ***Emerg Med J 2003***

# Patient Satisfaction : Fruit Baskets - Helping Patients & Saving Lives : AED Motto



# New Future Roles - EMW

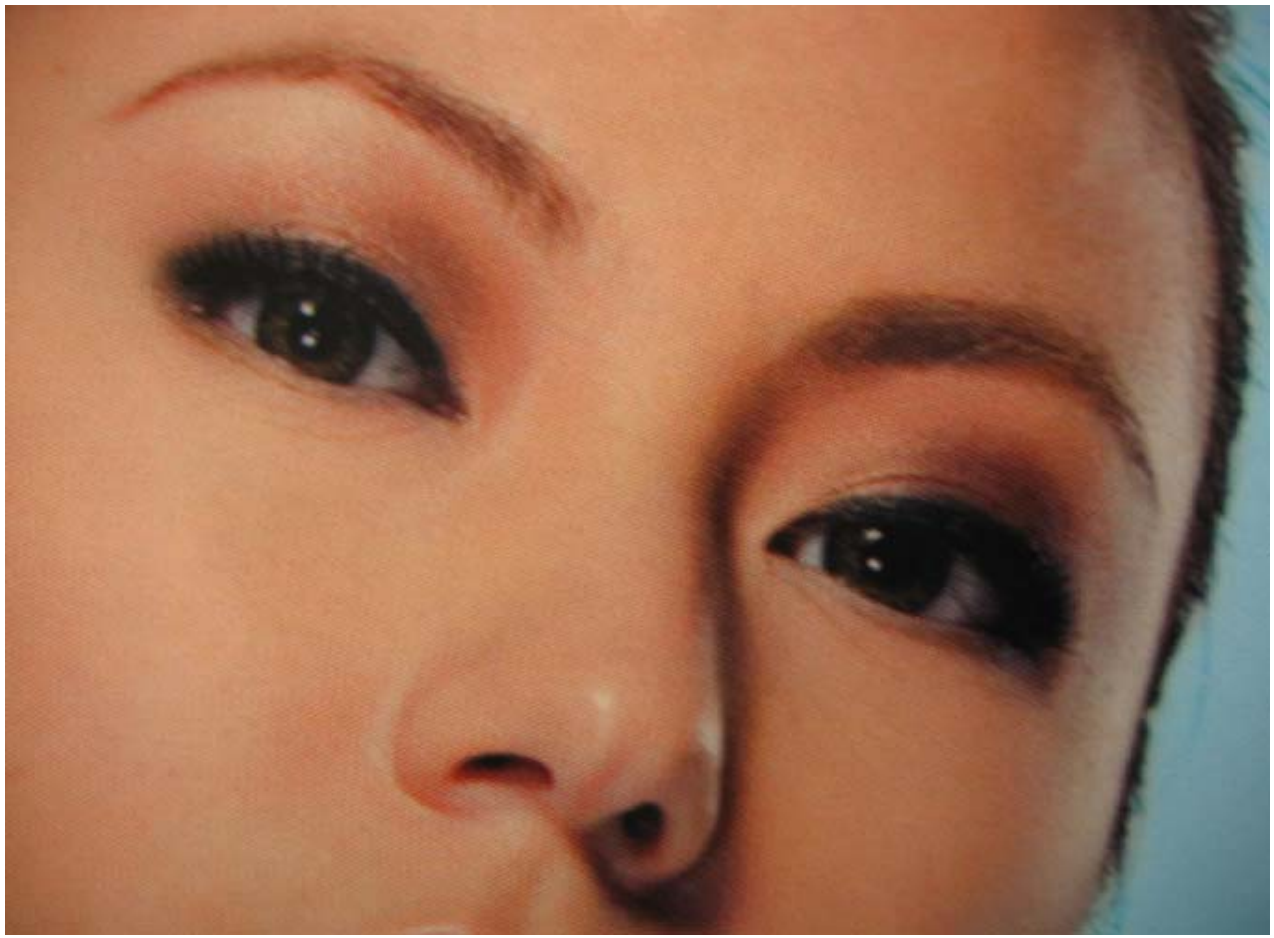
- an evolving role
- Hospital at Night
- to rationalize
- nocturnal man-power need

# Transforming from Panda to

- **Peri-orbital dark circles – tired look**
- **Clinicians : Exhausted appearance**

- **System factor > > over-work**
- [ Patients : # of skull base ]

# Panda's Eye → Pretty
# Visionary Hosp Authority



# Healthcare Sustainability

- Health maintenance – aging
- Ambulatory Healthcare
- Short LOS
- Minimize cost – man-power / inventory / consumables
- Tap new resources

# Optimization of AED Services

- **To achiever efficiency & efficacy**

- **Factors**
  - **Volume – workload**
  - **Case-mix**
  - **Work-flow**
  - **Keep LEAN**
  - **Waste Reduction**

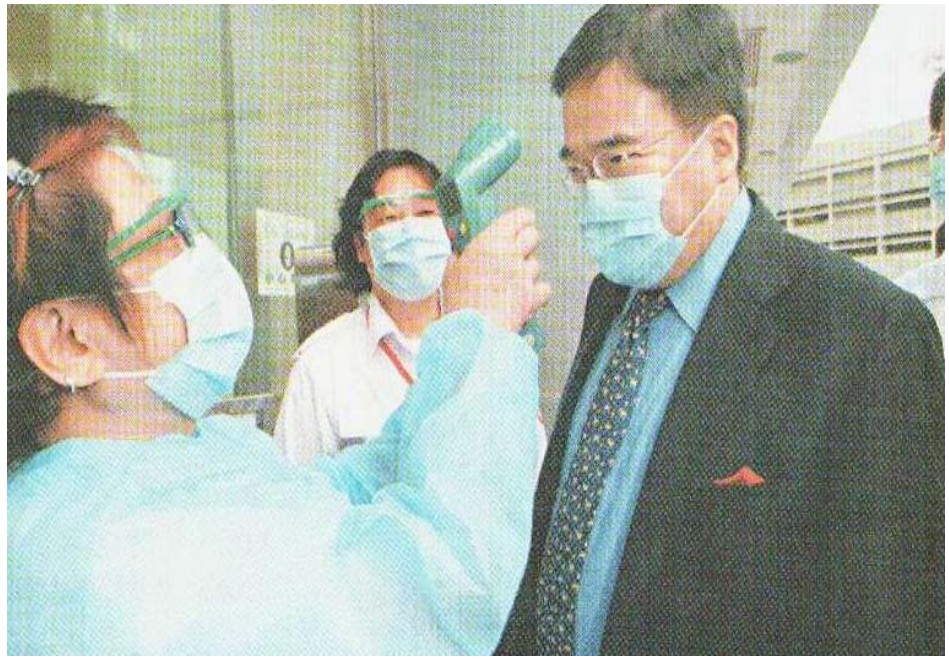
# Healthcare Policy - the basic mimimum

- No one ought to be deprived of the necessary medical services thro' lack of means

# Flu Crisis (Mar 08) >> AED
# Robust + Innovative

- **Working together we can create a beautiful World**

- 同心協力
- 創建美好



# Efficient Em SSU : Summary

| | |
|---|---|
| **Adm** | **Reduction = Out-pat Ward** |
| | **Redistribution = In-pat Ward** |
| **By-products** | Shorter LOC : Pat Bed-Hr |
| | Reduced Ward Congestion |
| | Saved $ Millions |
| | Improved Satisfaction |
| | Healthcare - sustainability |

# Please try our EMW if U cannot find a Hotel Room – Short-stay Rx

**Tuen Mun Hospital**

**Hong Kong**

# Aussie Kangaroo's Hop

- **Energetic** - Hopping but not in a hurry
- Abdominal pouch - **caring** not just for the young but **all patients**
- **Mobile** organism >> A**mbulatory care & SSU Vs conventional mode**


Thanks
for not
having
fallen at
sleep !!

# Let’s Go to our EOPW

# Moved to F3B Ward on 31-7-2003

# To C2 on 6-11-2003

# @ 5-Point Policy Plan TMH AED (2007-10)

1) Service Efficiency
2) Ambulatory Care
3) Staff Empowerment
4) Training & Research
5) Life Career Partnership

# EMW – Reduce Vs Redistribute Adm >> Efficiency

- Main impact - Em SSU
- Not - absolute admission reduction
- But Reduction – LOS (Pat Bed-Hr)
- Specific patient domain
- Enhance the cost-efficiency
- In-patient bed utilization (less congestion – both Wards & AED)
- Patients - hospital-based Rx

# Multi-Win Situation - **Reduction**

- **In-pat Ward : Congestion**
- **AED : Over-crowdedness / Adm**
- **Admin : Less Expense**
  - **Notional cut**
  - **= 25 pat x 1 day (LOS cut) / each day x $5,000**
  - **= $ 3M per month & $ 30M per yr**
- **Patients : LOS (Satisfaction)**