

Evaluation of Emergency Medicine Ward (EMW) Service in a pilot Hospital



Dr. C.H. Lit

PMH EM Ward Opening

- Opening ceremony (2 Nov 2007)



- Commencement of operation (5 Nov 2007)



Timing for Evaluation (PMH EMW)

- Just opened in Nov 2007
- Exceptional situation in Feb-March 08
 - Prolonged cold spell
 - Flu upsurge

The Standard



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Saturday, May 3, 2008

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Thursday, February 14, 2008

As Hong Kong shivers through its second-longest cold spell since 1885, scientists point to global warming to explain the abnormal cold weather phenomenon worldwide.

phenomenon worldwide.

Unusually cold weather is gripping a number of countries, including China and Canada.

"We are seeing extremely unusual



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HONG KONG - Hong Kong ordered more than half a million primary and kindergarten students Wednesday to stay home for two weeks because of a flu outbreak in one of the world's most densely populated cities.

The government also asked one of its top scientists to investigate the deaths of three children. But the World Health Organization said only two of the children tested positive for the flu, and both had other diseases as well.

outbreak
two weeks



Ym Yik / EPA

Pupils and teacher wear masks at a primary school at Yuen Long district in Hong Kong. Institutional outbreaks of influenza fear escalates in Hong Kong, with two schools closing early for the Easter holidays after a 7-year old boy died.

AP Associated Press

updated 7:29 p.m. ET March 12, 2008

HONG KONG - Hong Kong ordered more than

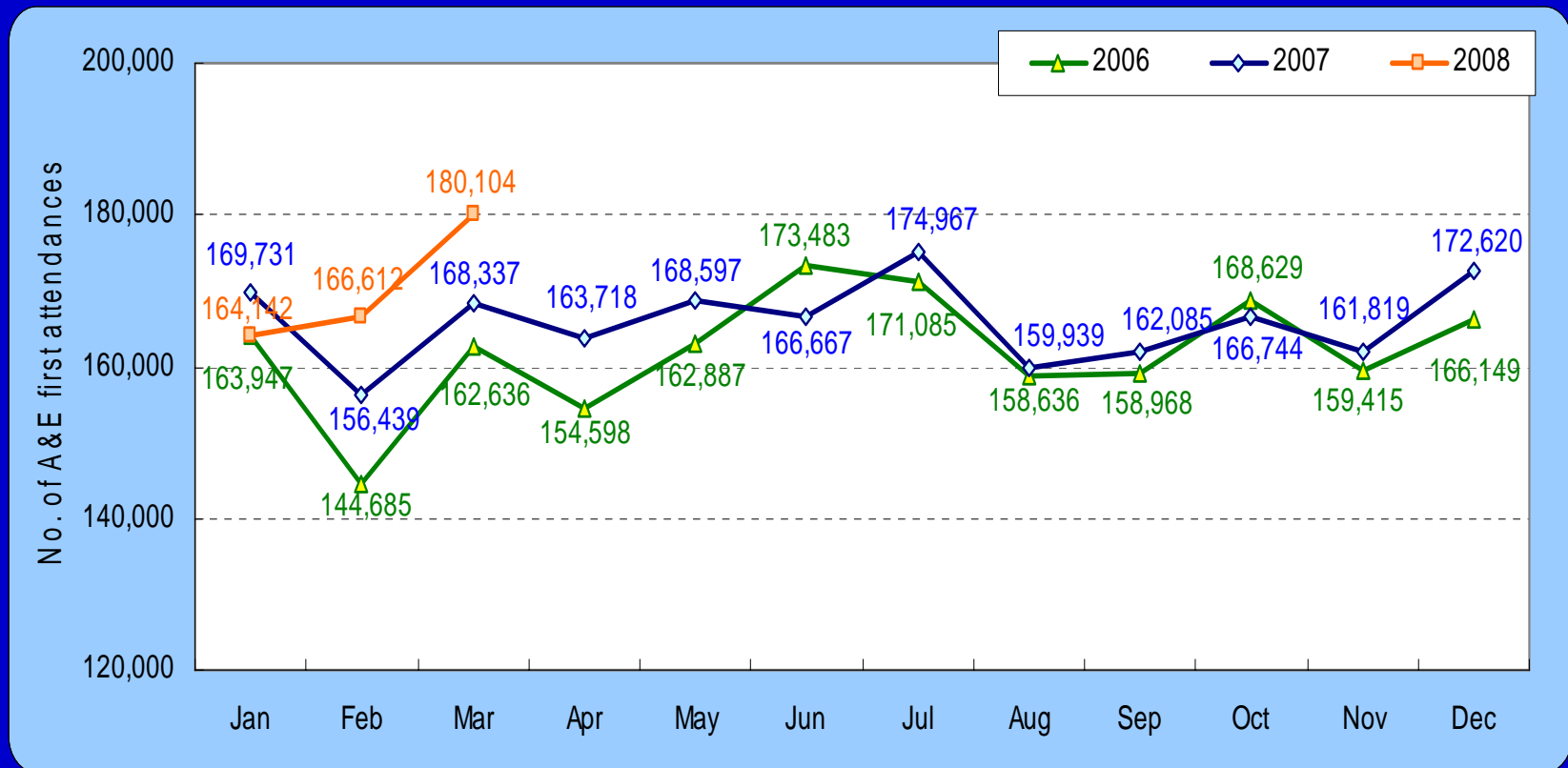
INTERACTIVE

WEEKLY FLU ACTIVITY

Weekly influenza estimates

Total A&E Attendance in HK

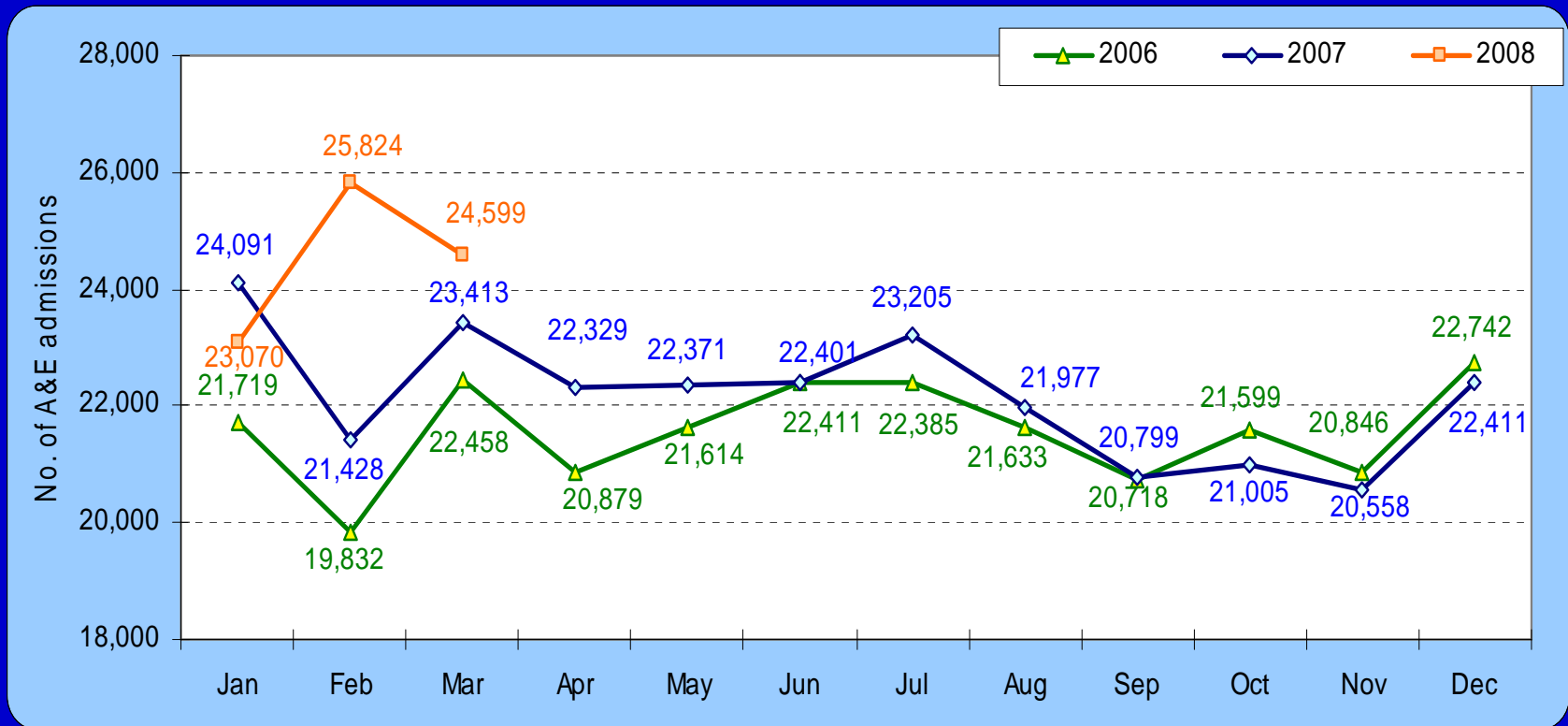
Compared with 2006 \Rightarrow 2.4% increase in 2007 & 5.3% increase in 2008



Total A&E M&G Admissions in HK

(Including all A&E with or without EM Ward Admissions)

Compared with 2006 \Rightarrow 2.8% increase in 2007 & 13.8% increase in 2008

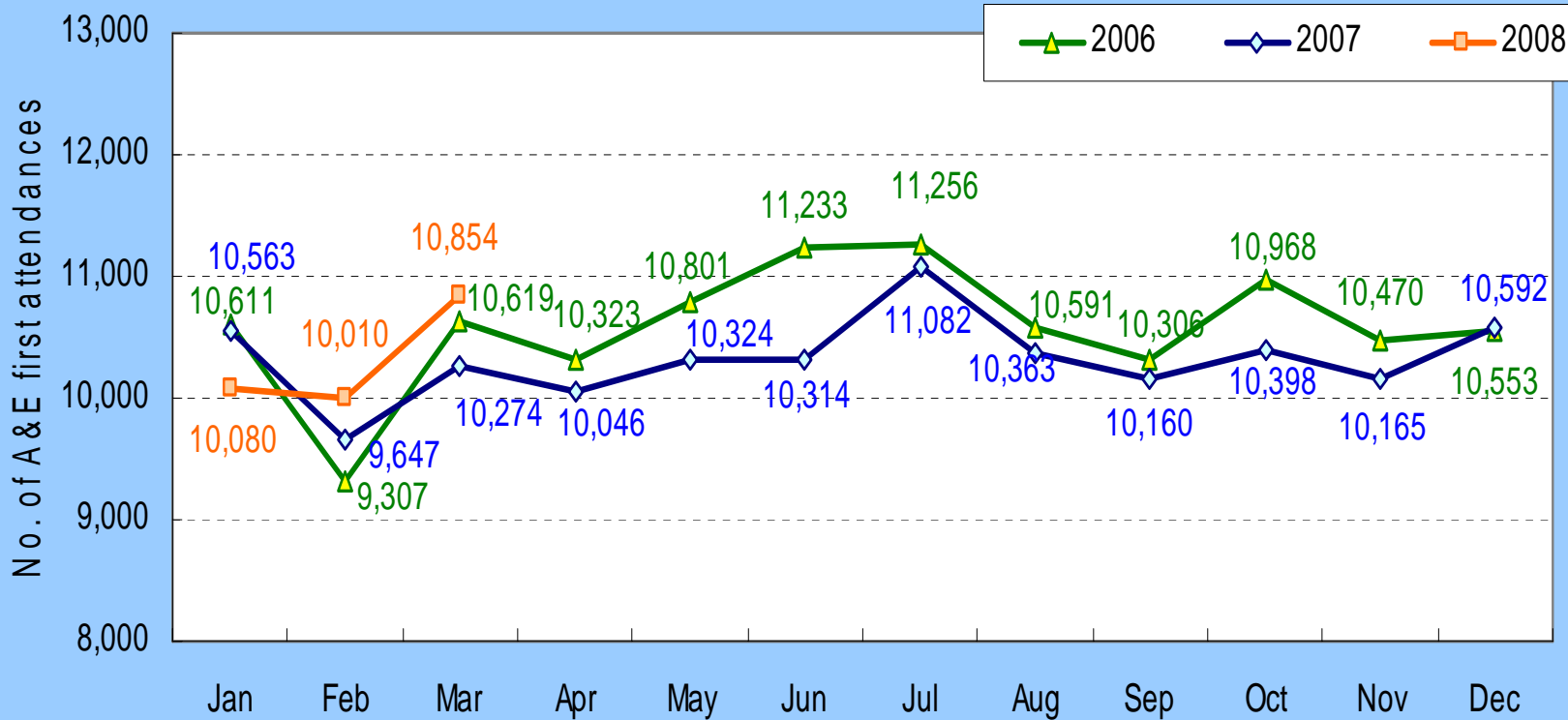


* Including all AEDs with or without EM Ward admission

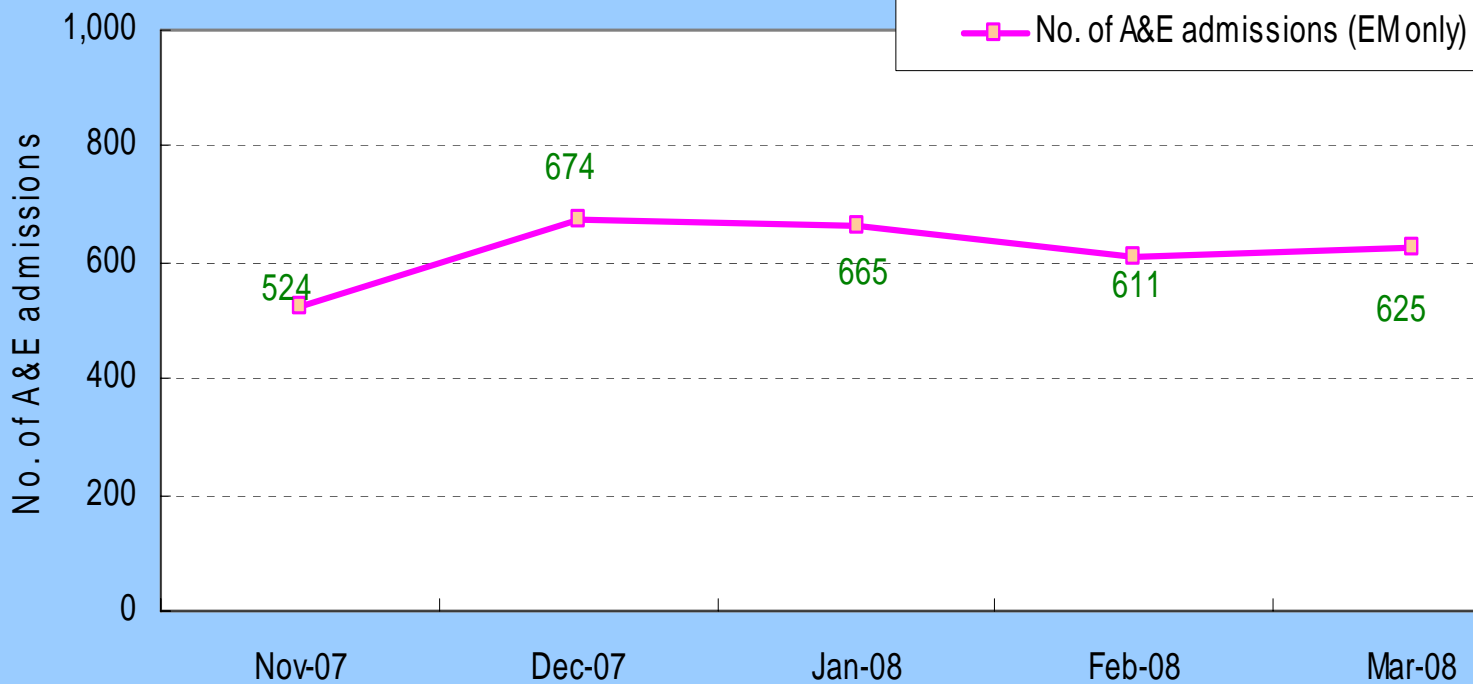


PMH A&E / EMW

A&E 1st Attendance

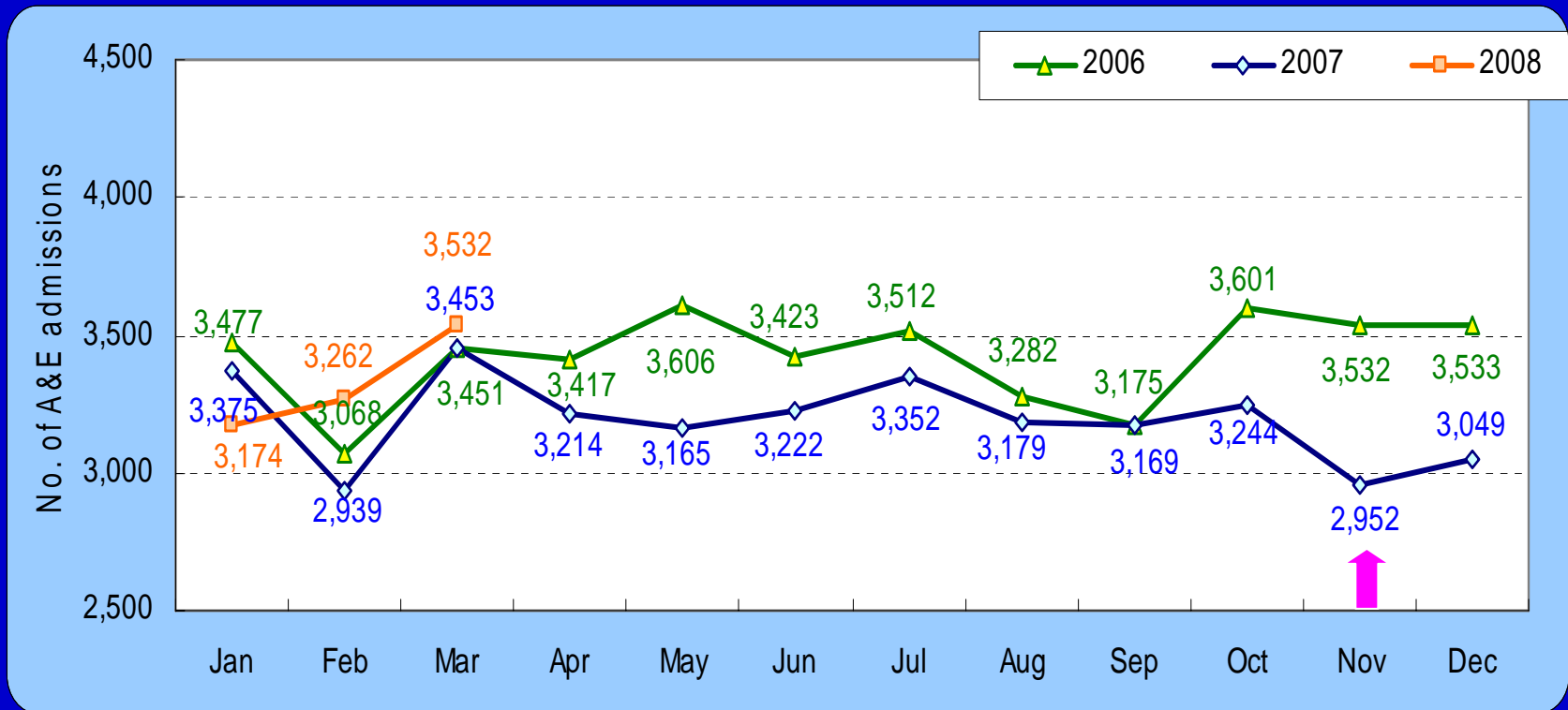


A&E Admission (EMW Only)

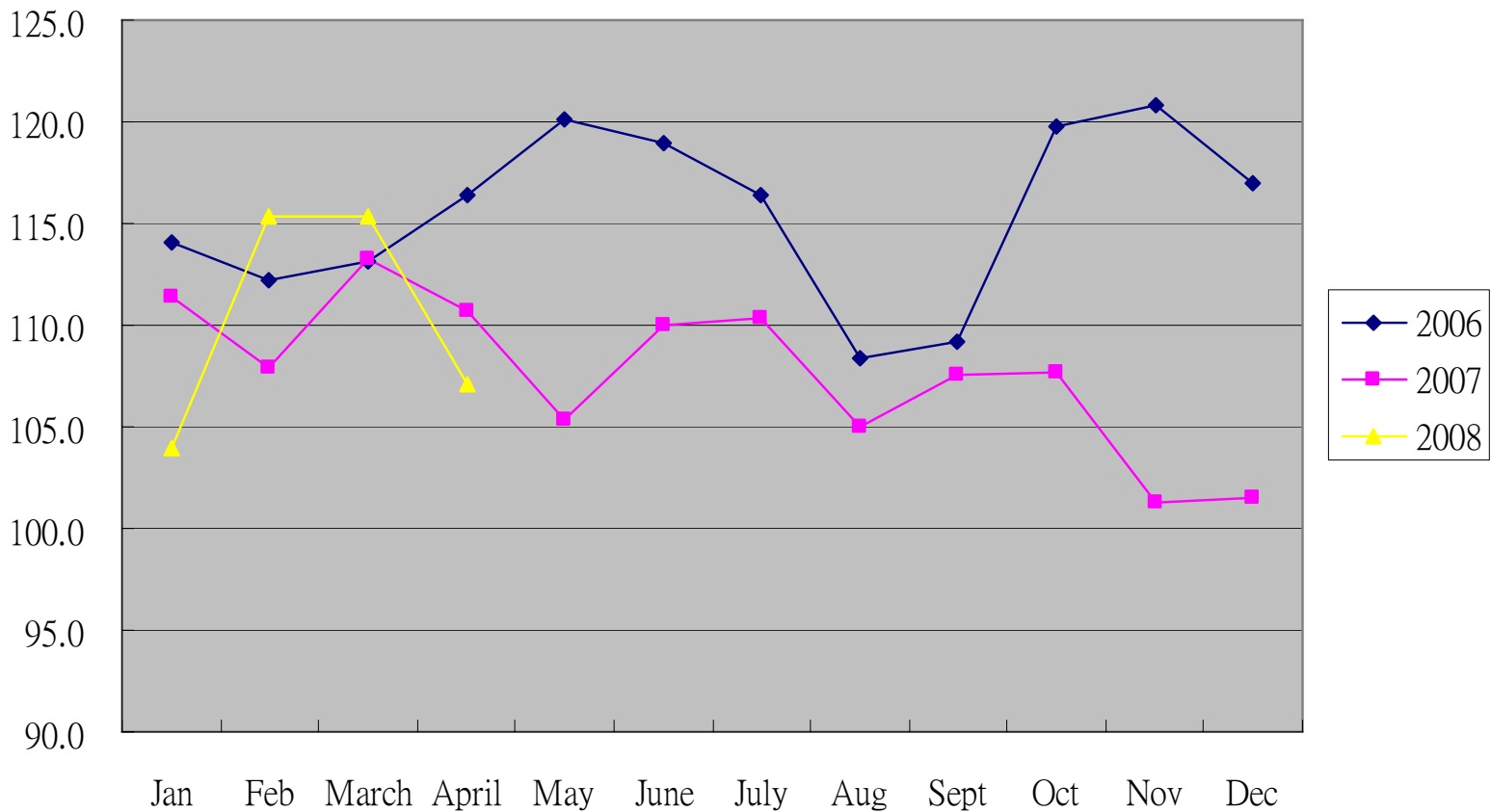


A&E Admission (All Specialties)

(Exclude EMW, include lateral transfer from EMW)

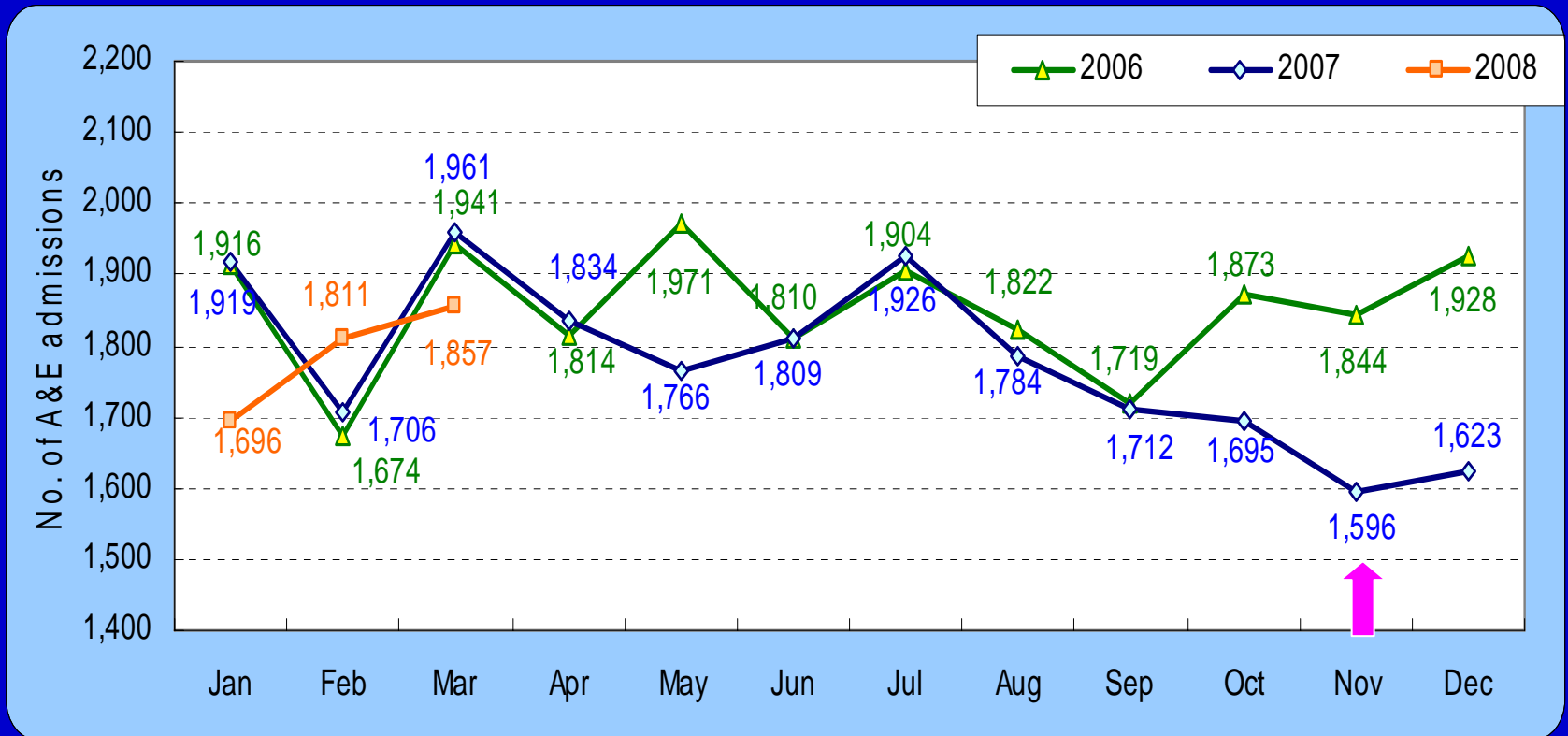


Hosp Adm (PMH) (excluding EMW Adm, including Lat Adm from EMW)

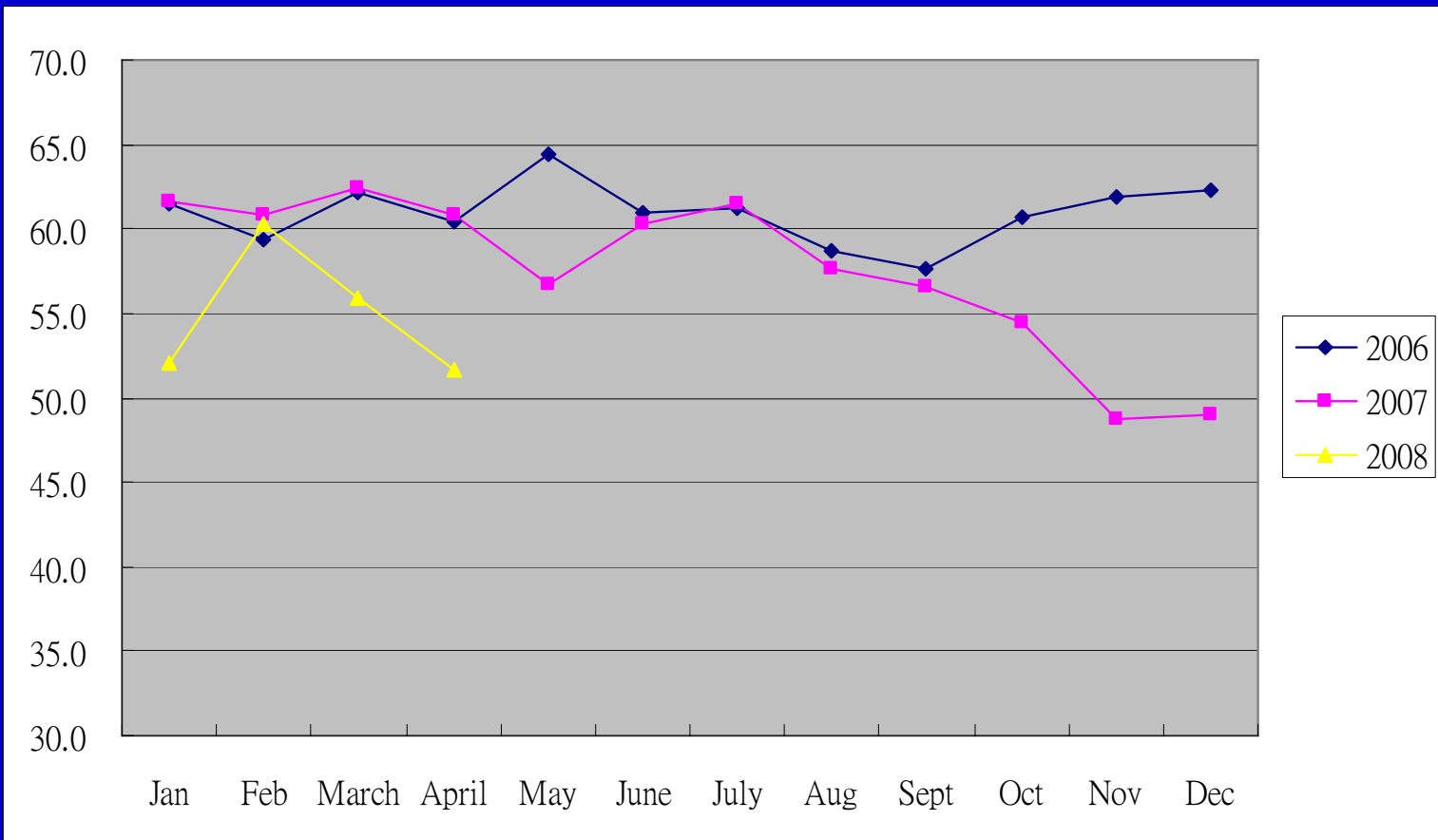


A&E Admission (M&G)

(Exclude EMW, include lateral transfer from EMW)



M&G Adm (including lateral transfer from EMW) (PMH)





Admission (PMH)

- 07/08 vs. 06/07

	Nov 07 – March 08	Nov 07 – January 08
All Admission	- 5.6	- 11.9
M&G Admission	- 8.8	- 13.6



Admission (PMH)

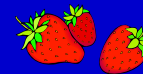
- 07/08 vs. 06/07

	Nov 07 – March 08	Nov 07 – January 08
All Admission	- 5.6	- 11.9
M&G Admission	- 8.8	- 13.6



Each hospital is different...

Confounding Factors to Note

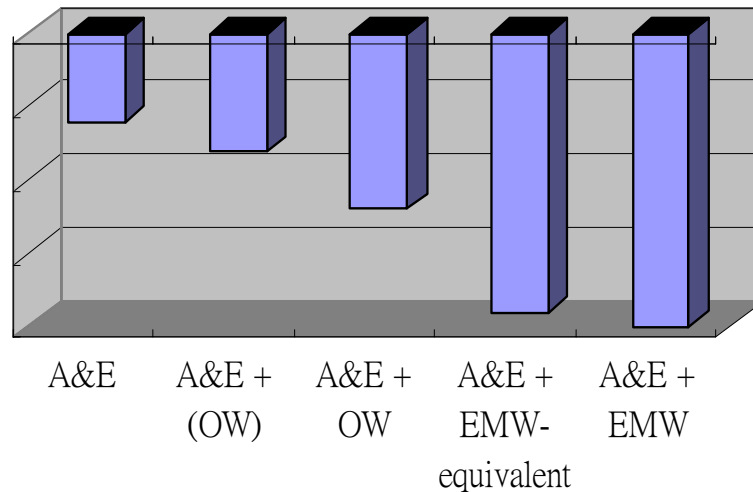




Confounding Factors

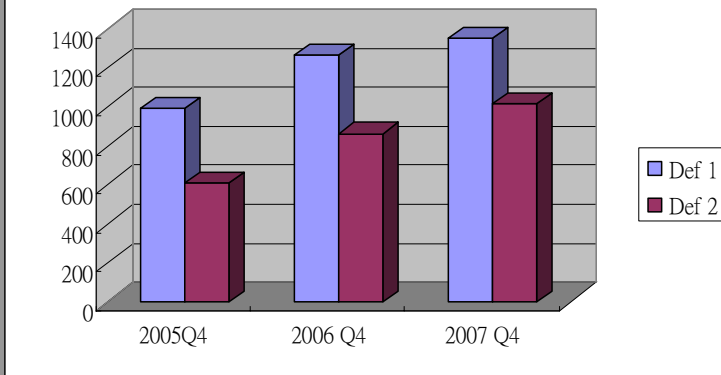
- Complexity of service within Cluster
- Scale of A&E service before implementation of EMW
- Hosp / Cluster service rationalization
 - Oncology
 - Major trauma diversion (expanded scope & enhancement)
 - Others
- Local population profile (age / dependency on HA)
- Staff movement
- Others

Scale of A&E service before implementation of EMW



- A&E
- Observation Ward
- “EMW – equivalent”

Impact of Oncology Service (PMH)



2006 vs 2005
(% increase)

2007 vs 2005
(% increase)

Def 1:
>/= 1 Oncology FU in 12m

27

36

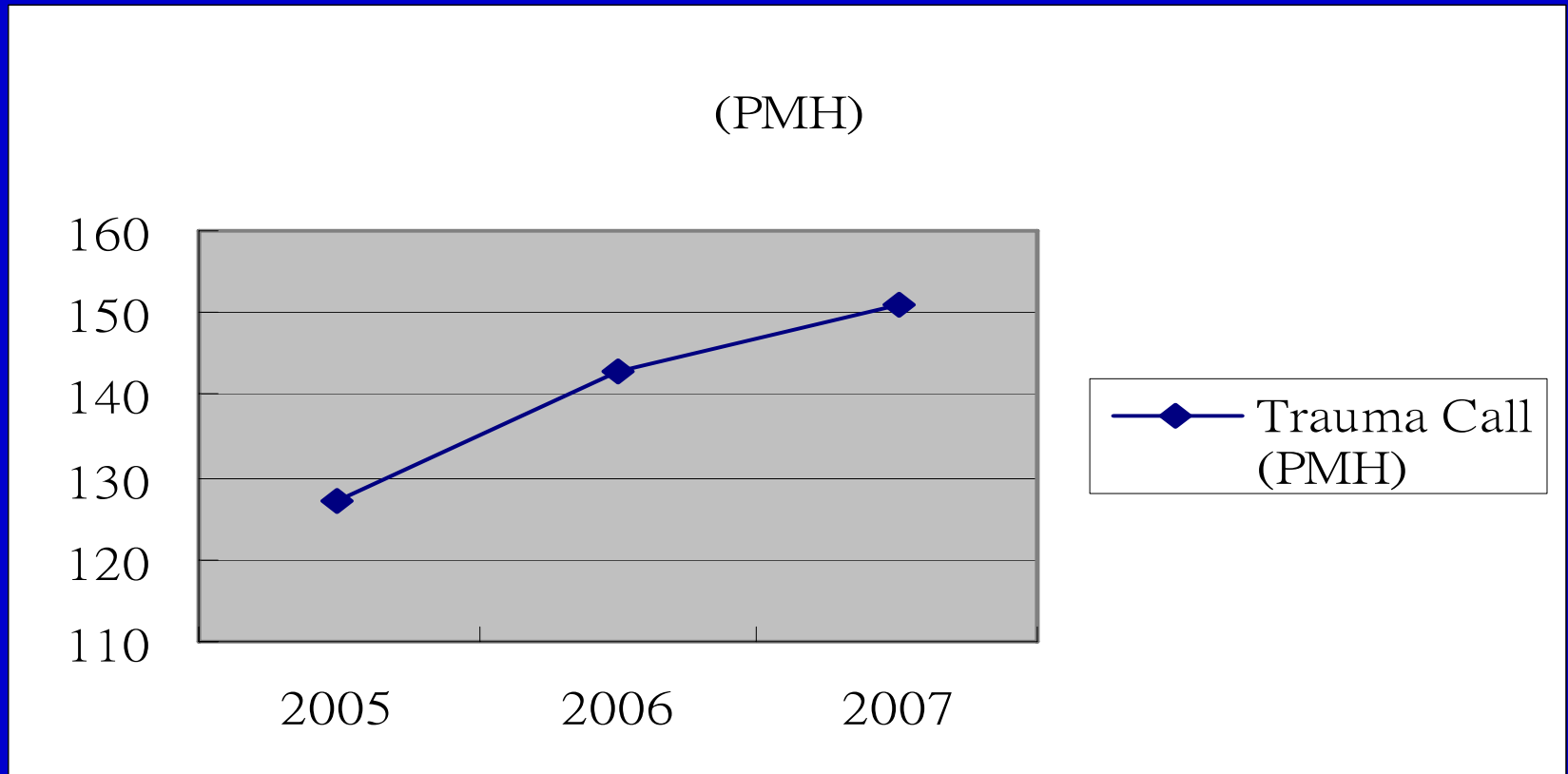
Def 2:
>/= 2 Oncology FU in 6m

42

67

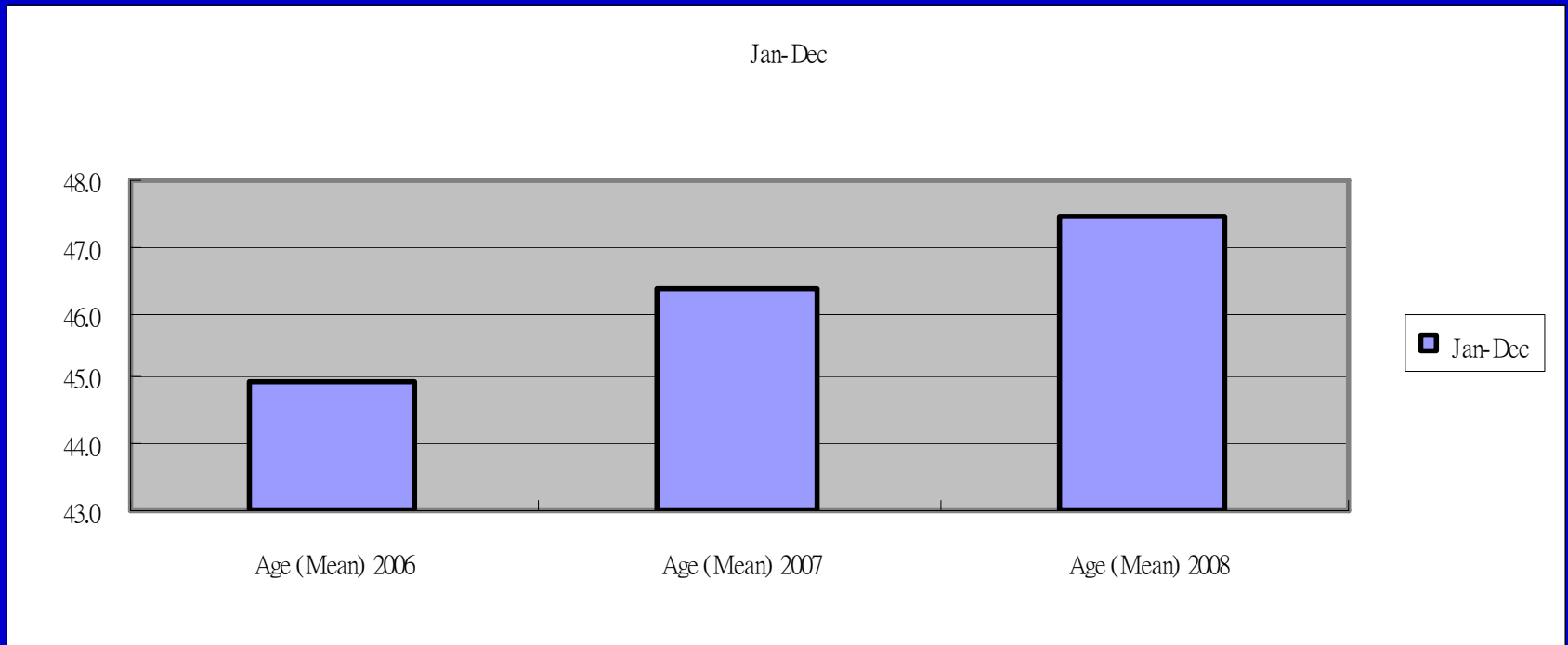
PMH Oncology service started in Q1 2006

Major Trauma Calls (PMH Trauma Team Activation)



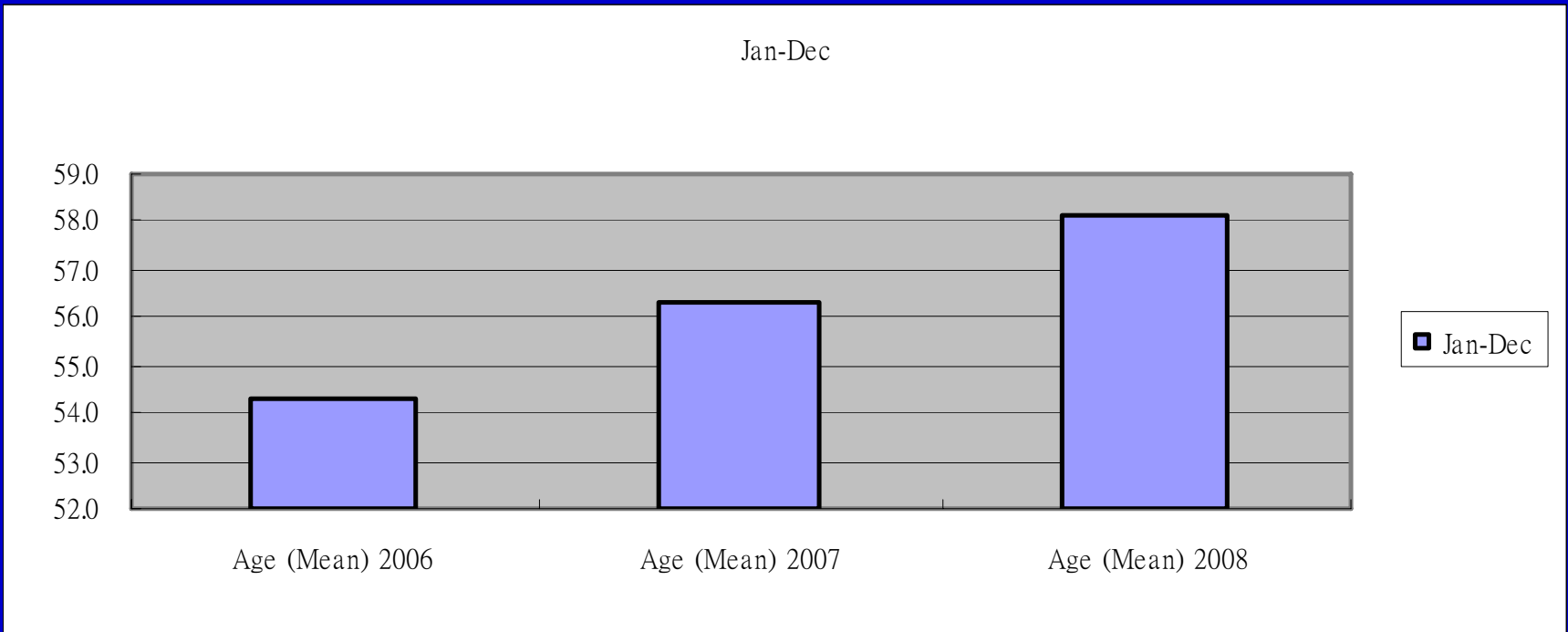
Aging Local Population

- Attendance (Mean Age)



Aging Local Population

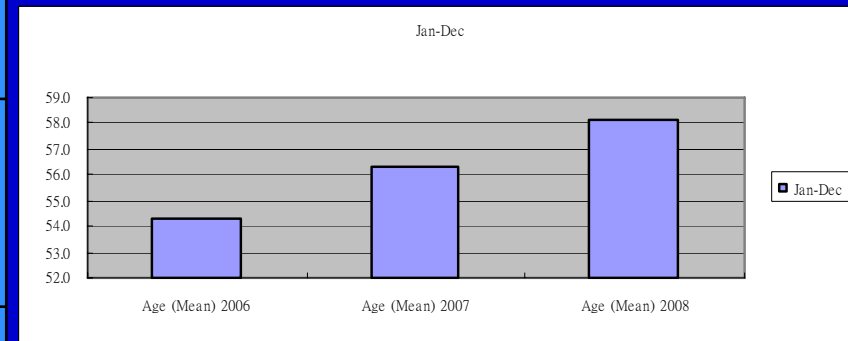
- Admitted cases (All Spec) (Mean Age)



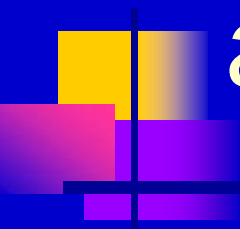
Aging Local Population (More than nature in PMH !)

- Admission (All Specialties) (Mean Age)

	Age (Mean) 2006	Age (Mean) 2007	Age (Mean) 2008
Admitted (All Spec)	54.3	56.3	58.2
Increased		2.0	1.9



Looking at it from other
angles...





Case Mix

Top 20 Principal Diagnosis Group (EMW vs. M&G) (Dec 07-Jan 08)

■ EMW

Number	Admission Specialty (EIS)		EM
	Principal Diagnosis Code (3-digit)	Principal Diagnosis Description (3-digit)	No. of Diagnosis
1	780	GENERAL SYMPTOMS	234
2	786	RESP SYS/OTH CHEST SYMP	126
3	496	CHR AIRWAY OBSTRUCT NEC	95
4	401	ESSENTIAL HYPERTENSION	44
5	486	PNEUMONIA, ORGANISM NOS	44
6	789	OTH ABDOMEN/PELVIS SYMP	43
7	250	DIABETES MELLITUS	42
8	724	BACK DISORDER NEC & NOS	37
9	009	ILL-DEFINED INTEST INF	35
10	854	OTHER BRAIN INJURY	30
11	784	SYMPTOMS INVOL HEAD/NECK	26
12	785	CARDIOVASCULAR SYS SYMP	26
13	599	OTH URINARY TRACT DISOR	25
14	682	OTHER CELLULITIS/ABSCESS	25
15	428	HEART FAILURE	21
16	465	AC URI MULT SITES/NOS	20
17	276	FLUID/ELECTROLYTE DIS	17
18	386	VERTIGINOUS SYNDROMES	17
19	274	GOUT	15
20	008	INTESTINAL INFECTION NEC	14
21	493	ASTHMA	14

■ M&G

Number	Admission Specialty (EIS)		MED
	Principal Diagnosis Code (3-digit)	Principal Diagnosis Description (3-digit)	No. of Diagnosis
1	486	PNEUMONIA, ORGANISM NOS	311
2	496	CHR AIRWAY OBSTRUCT NEC	298
3	780	GENERAL SYMPTOMS	273
4	428	HEART FAILURE	223
5	434	CEREBRAL ARTERY OCCLUS	128
6	786	RESP SYS/OTH CHEST SYMP	106
7	599	OTH URINARY TRACT DISOR	87
8	427	CARDIAC DYSRHYTHMIAS	71
9	038	SEPTICEMIA	66
10	276	FLUID/ELECTROLYTE DIS	61
11	410	ACUTE MYOCARDIAL INFARCT	61
12	585	CHRONIC RENAL FAILURE	61
13	250	DIABETES MELLITUS	56
14	009	ILL-DEFINED INTEST INF	50
15	411	OTH AC ISCHEMIC HRT DIS	47
16	465	AC URI MULT SITES/NOS	44
17	431	ICH, Non-traumatic	40
18	482	OTH BACTERIAL PNEUMONIA	38
19	345	EPILEPSY	35
20	414	OTH CHR ISCHEMIC HRT DIS	34

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Some of the Targeted Condition Groups

Some Targeted Conditions

Chest pain & IHD (Except AMI & AMI complications)	Including:	Ischemic heart disease (IHD) / Angina	410 - 414
		Chest pain of other causes / non-specific	786.5
	Excluding:	acute myocardial infarction	410
		postmyocardial infarction syndrome	411.0
		Aneurysm of heart	414.1
Poisoning & DO	Including:	Poisoning	960 - 979
		Toxic effect (nonmedicinal)	980 - 989
		Accidental poisoning (drugs)	E850 - E858
		Accidental poisoning (other substances)	E860 - E869
Psychiatry & Self-harm	Including:	Mental disorders	290 - 319
		Psychiatric	
		Suicide / self-inflicted injury	E950 - E959
DM Complications (except DKA & Hyperglycemic coma)	Including	DM without mention of complication	250.0
		DM with other specified manifestations	250.8
		DM with unspecified complication	250.9
		Hypoglycemia	251.0, 251.1, 251.2

Pre-EMW

	M&G (Dec 06-Jan 07)			
Condition	Adm No.	Av LOS (Hrs)	Med LOS (Hrs)	Bed-Day
Chest pain & IHD (Except AMI & AMI complication)	684	131.75	53	3754.9
Poisoning & DO	50	234.06	73.5	487.6
Psychiatry & Self-harm	319	168.22	77	2235.9
DM Complications (except DKA & Hyperglycemic coma)	507	217.34	103	4591.3
	1560			11069.7



Post-EMW

■ EMW

	EMW (Dec 07-Jan 08)			
Condition	Adm No.	Av LOS (Hrs)	Med LOS (Hrs)	Bed-Day
Chest pain & IHD (Except AMI & AMI complication)	144	43.49	22	260.9
Poisoning & DO	22	86.23	31	79.0
Psychiatry & Self-harm	91	53.53	30	203.0
DM Complications (except DKA & Hyperglycemic coma)	56	74.77	44.5	174.5
	313			717.4

■ M&G

	M&G (Dec 07-Jan 08)			
Condition	Adm No.	Av LOS (Hrs)	Med LOS (Hrs)	Bed-Day
Chest pain & IHD (Except AMI & AMI complication)	634	136.13	52	3596.1
Poisoning & DO	45	175.76	105	329.6
Psychiatry & Self-harm	172	239.42	112	1715.8
DM Complications (except DKA & Hyperglycemic coma)	383	235.00	123	3750.2
	1234			9391.7



Post-EMW vs. Pre-EMW

	Diff % (M&G)	Diff % (M&G)	Diff % (EMW + M&G)	Diff % (EMW + M&G)
Condition	Adm	Bed-Day	Adm	Bed-Day
Chest pain & IHD (Except AMI & AMI complication)	-7.3	-4.2	13.7	2.7
Poisoning & DO	-10.0	-32.4	34.0	-16.2
Psychiatry & Self-harm	-46.1	-23.3	-17.6	-14.2
DM Complications (except DKA & Hyperglycemic coma)	-24.5	-18.3	-13.4	-14.5
	-20.9	-15.2	-0.8	-8.7

Reattend HA A&E within 48hr (Post-EMW)

	EMW (Dec 07 - Jan 08)
Condition	Reattn %
Chest pain & IHD (Except AMI & AMI complication)	3.47
Poisoning & DO	0.00
Psychiatry & Self-harm	1.10
DM Complications (except DKA & Hyperglycemic coma)	0.00

A&E Reattendance (Hong Kong Wide)

Hospitals	Jan 08	Feb 08	Mar 08	Overall
	4.0	3.6	3.8	3.8
	3.8	3.7	4.3	3.9
	3.3	3.4	3.1	3.3
	2.8	2.8	3.3	3.0
PMH	3.3	3.4	3.0	3.2
	3.1	2.9	3.5	3.2
	4.8	4.9	4.7	4.8
	3.1	3.2	4.0	3.4
	3.2	3.3	3.2	3.3
	3.5	3.7	3.8	3.7
	3.0	2.7	2.9	2.9
	2.9	3.0	5.5	3.9
	3.3	3.3	3.3	3.3
	4.2	3.4	4.3	4.0
	3.5	3.7	3.9	3.7
	2.8	2.4	2.7	2.6
Overall	3.5	3.4	3.7	3.5



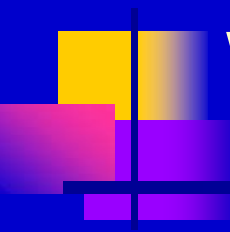
Targets

- ↓↓ A&E admission to other specialties
- ↓↓ special case admission
 - ↓↓ Drug overdose / toxicology
 - ↓↓ Psychiatric (Medical) admission
- Safe discharge & no significant increase in re-attendance
- Sustainability



Pre-requisite

- Manpower adequate
 - Doctors / Nurses / Supporting Staff
- Training of A&E medical and nursing staff
 - New / old
- Equipment adequate (e.g. bedside USG)
- Assess to diagnostic examinations (e.g. CT)
 - Availability of fast-track quota
- Comprehensive clinical guidelines
- Collaboration with other specialities
 - Mandate for mode of service
 - Appropriate experienced staff to assess patients
 - Early FU / Referral channel



There is often more than one
way to do a particular task.....



Impact of EM Ward

- Reduced avoidable admission to other clinical specialties especially M&G
- Enhanced ‘treat & review’ function of A&E
 - Enhanced quality of care
 - Safer A&E practice
- Concentrate patients with disturbing behaviour / drug overdose in EMW
- Others

Emergency Medicine Ward (EM Ward)



Given time, we will grow & mature...

Thank you

