

**Government of the District of Columbia
Department of Mental Health (DMH)**



FY2009

Trend Analysis

- Hospital Statistics -

November 30, 2009

Office of Monitoring Systems (OMS)
Performance Improvement Department (PID)
Saint Elizabeths Hospital (SEH)

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Data Disclaimer

The primary source of data extracted and analyzed herein is Avatar unless otherwise indicated. Additional data sources include the Hospital’s Unusual Incident database, Medmarx (web-based medication variance and ADR reporting database) and the Nursing office’s Restraint/Seclusion Log. Data reflects information as entered in each system by users. The Office of Monitoring Systems (OMS) does not guarantee the accuracy, timeliness, reliability, or completeness of data. However, the OMS has made reasonable efforts to ensure that data and its accompanying information are as accurate and up-to-date as possible at the time of disclosure. The OMS is not liable for any misinterpretation or misuse of the data. However, notification of any errors or questions on data presented in this report can be directed to the Office of Monitoring Systems at Won-ok.Kim@dc.gov.

Executive Summary

The June 25, 2007 Settlement Agreement (Agreement) between the District of Columbia and the United States requires Saint Elizabeths Hospital (Hospital) to regularly track and analyze data for actionable indicators and targets. The leadership of the Hospital further recognized the urgency of performance monitoring using data and the importance of data collection. In response to the need for a regular data reporting mechanism, the Office of Monitoring Systems (OMS) in the Performance Improvement Department (PID) analyzed the Hospital's key available data and published the first edition of the Trend Analysis Report on December 19, 2007 and every two months thereafter until April 2009 when PRISM (Performance Related Information for Staff and Managers) replaced the Trend Analysis Report as the Hospital's primary monthly statistical monitoring report.

PRISM provides the Hospital's key performance related indicators in a visual format on a monthly basis, including trends over a 12 month period. While we believe PRISM is a very effective monitoring tool to present key data that speaks to the quality and quantity of patient care services in a timely manner, there are some areas that are not included in or are limited in PRISM but that need in-depth analysis and attention. The FY2009 Trend Analysis Report is published to serve that need.

Until the Hospital launched its client information management system AVATAR¹ on July 22, 2008, identifying data availability and collecting data in a useful format was a significant challenge to publishing any data report. AVATAR has significantly expanded our data tracking capacity, enabling us to analyze real-time patient data in a variety of areas and it is now an indispensable source of all kinds of information. However, it is still early for AVATAR to be fully functioning and to be capable of maintaining data as efficiently, accurately, and consistently as possible. In fact, the OMS often encountered challenges with data accuracy and timeliness of data entry. While analyzing data for this report, we discovered inconsistencies between our monthly data in PRISM and data re-extracted for the entire fiscal year due in part to delayed or incorrect data entry. Despite such limitations, we believe the level of discrepancies is not significant and we have made our best efforts to reconcile them and provide the most accurate data available. In addition, we sometimes used different data sources if data was not available from AVATAR. Wherever data was extracted from sources other than AVATAR, the source is accordingly identified.

Areas covered in this report include the Hospital's census, admission, discharge and transfer information, demographic characteristics of the patient population, length of stay, readmissions, clinical profile captured in all five axes of DSM-IV-TR, medication related data, and unusual incidents. Analysis results are presented visually in charts or tables, along with bullet points describing key findings and interpretations in every section. Selected highlights of key findings follow.

Census, Admissions, Discharges and Transfers

- During FY09, admissions dropped and discharges exceeded admissions, contributing to a significant reduction of the daily census: 344 as of 9/30/09.

¹ The initial phase of AVATAR covered admissions, billing, laboratory, and medication order/administration. The second phase, which is currently in process, includes all other aspects of the clinical record management, including disciplinary assessments and treatment plans.

- During FY09, the Hospital served a total of 804 unique patients: 457 by Civil and 368 by Forensic, including 21 served by both programs.
- A total of 161 patients experienced at least one inter-unit transfer and of those, 57 were transferred more than once. On average, 22 inter-unit transfers occurred per month.
- There were 161 medical leaves, which were likely transfers to external medical facilities. JHP-2, RMB-2 and RMB-6 reported medical leaves most frequently.

Demographic Characteristics of Patient Population

- The Hospital's population has been aging. Two thirds (66%) of the patients are 50 years or older as of 9/30/09 whereas 55% were in that age group as of November 2007.
- Twelve patients were identified as speaking a language other than English as their primary language.

Length of Stay (LOS)

- LOS increased for both Civil and Forensic patients over the past two years.
- Forensic patients and male patients were likely to remain hospitalized for a longer period than Civil and female patients, respectively.
- Median LOS of the patients discharged during FY09 was 58 days whereas LOS for those remaining in the Hospital as of the end of FY09 was 688 days.

Readmissions

- During FY09, 60% of Civil admissions and 45% of Forensic admissions were readmissions.
- The Hospital's 30-day readmission rate (9.3%) is higher than the national public rate (NPR)² (7.97%)
- One out of five discharges from RMB-6 (an admissions unit) was readmitted within 30 days from discharge and some patients were repeatedly readmitted.
- Patients readmitted tended to have a shorter LOS in their immediate previous hospitalization than that of the general discharged population.

Clinical Profile Identified in each Axis

- Axis I: Of the 344 patients served on 9/30/09, 341 (99%) had at least one psychiatric diagnosis (Axis I). There were 309 (90%) with a psychotic disorder (d/o), 51 (15%) with a cognitive d/o, 39 (11%) with a mood d/o, and 159 (46%) with a substance related d/o.
- Axis II: 163 patients (47%) had at least one diagnosis on Axis II. This number excludes 127 patients who were assessed to have no diagnosis on Axis II (V71.09) and those with diagnosis deferred (799.9). One hundred eleven (111) patients (32%) were diagnosed with a personality d/o, 31 with mental retardation and 27 with Borderline Intellectual Functioning.
- Axis III: 286 patients (83%) had at least one medical condition identified. The most prevalent medical condition was Hypertension (133 or 39%) and 22% were diagnosed to have Type II Diabetes. Twenty-four (24) patients had seizure d/o and 39 patients were diagnosed with Tardive Dyskinesia (TD). While Axis III identified only 54 patients (16%) with Obesity, Body Mass Index (BMI) measures revealed that 104 patients (30%) were obese as their BMI was 30 or higher.
- Axis IV: More than half of the patients experienced problems with their primary support group and/or housing. In particular, three out of four Civil patients were assessed to have a housing problem.

² National Association of State Mental Health Program Directors (NASMHPD) Research Institute, Inc. (NRI) makes aggregate reports based on measurement data collected from a number of state psychiatric hospitals nationwide, publishing 'National Public Rates (NPR)'. The most recent version available includes data measured for March 2009.

- Axis V (GAF): Overall, Civil patients were more likely to have lower GAF scores than Forensic patients. JHP-3 patients had the highest GAF score while RMB-4, 5 and 6 patients had the lowest score at under 30 on average.

Medication and Pharmacy

- During FY09, a total of 386 medication variances (MV) – 32 per month on average – were reported, but the number fluctuated month to month, ranging from three to 80.
- MVs for patients on certain units were reported more frequently than others: RMB-3 had 59 reports and JHP-12 had one incident reported for the entire fiscal year.
- Of the 386 MV reports, 183 were variances that actually occurred. Among those, 60% occurred in the process of prescribing medication and 15% in the administration of medication.
- A significant majority of MVs were discovered by pharmacy personnel as opposed to nursing or physicians.
- During FY09, a total of 62 Adverse Drug Reactions (ADR), which translates into five (5) per month, were reported. The actual monthly number ranged from zero (0) to 15
- Some units reported ADR more frequently than others: there were some units that did not report any ADRs for the entire fiscal year.
- On average, 38 patients (25 in Civil and 13 in Forensic) received three or more STAT medication orders per month.
- During the second half of FY09, a total of 330 possible involuntary emergency medications (55 per month) were ordered³. They were ordered most frequently for patients in RMB-4 and RMB-6.

Unusual Incidents

- Observation of two years of data suggests that UIs may occur more frequently around early spring and fall, and are less likely to occur during summer and winter time.
- A total of 540 patients, two thirds of the 804 patients served during FY09, were involved in at least one UI: Of those, 252 were reported as alleged aggressors for at least one UI.
- Some patients were repeatedly involved in UIs. In FY09, a total of 27 patients were involved in more than 10 UIs, and of those, 10 patients were alleged to be aggressors on more than 10 occasions.
- Over the past three months, half of UIs were reported either on the same day the incident occurred or the following day. Despite progress in timely reporting, 15% of UIs were reported more than five days after their occurrence.
- UIs occur most frequently between 8:00am and 10:00am, and 4:00pm and 6:00pm.
- The Hospital's patient injury rate (1.01) is higher than the NPR (0.40).
- Restraint and seclusion episodes and hours noticeably dropped in April and have remained low since then. The restraint and seclusion hours are much lower than NPR.

The Trend Analysis Report, along with PRISM, is aimed at promoting a data-driven culture wherein hospital staff routinely and proactively use data at all levels to assess service delivery and to develop evidence based strategies to improve patient care and practice. Doing so will support best practices and ultimately improve the quality of services to individuals in our care.

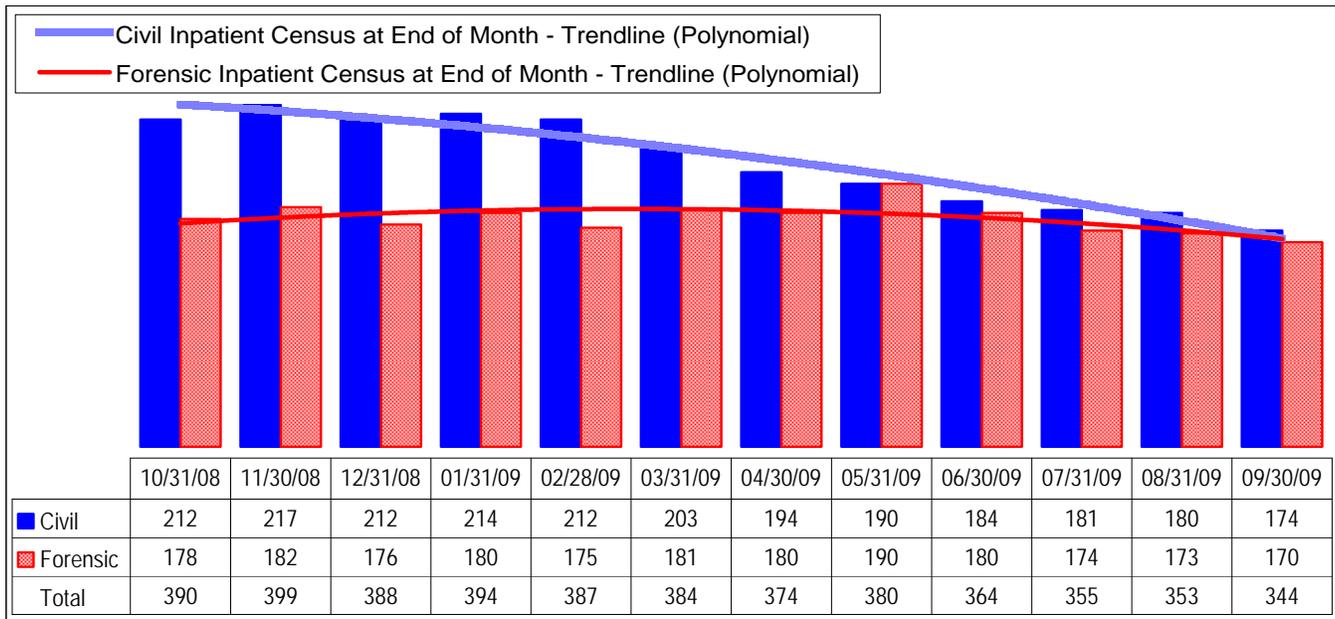
³ AVATAR currently cannot track the actual involuntary emergency medication orders. Instead, STAT order data was analyzed and parenteral tranquilizers, which include Ativan, Chlorpromazine, Fluphenazine (Emergency only), Geodon, Haldol, Haloperidol Lactate (Emergency only), Klonopin and Zyprexa, given as STAT order were identified as possible involuntary emergency medications.

I. Census, Admissions, Discharges, and Transfers

1. SEH Daily Census⁴

- As of 9/30/09, the Hospital was serving a total of 344 inpatients (174 in Civil and 170 in Forensic⁵) on the unit.
- The daily census in Civil significantly declined throughout FY09. The number on 9/30/09 (174) is a 20% decrease (n=43) from 217 patients on 11/30/08.
- The Forensic census ranged between 170 and 190 with no dramatic fluctuation but it was at the lowest level on 9/30/09.

Figure 1. Daily Census at End of Month (FY2009)



- The average number of patients who were on the hospital roles but away from the facility on authorized or unauthorized leave on a given day was about 12 (6 authorized and 6 unauthorized)⁶.

Table 1. Patients on Leave at End of Month (FY2009)

	10/31/08	11/30/08	12/31/08	1/31/09	2/28/09	3/31/09	4/30/09	5/31/09	6/30/09	7/31/09	8/31/09	9/30/09	Average
Authorized Leave													
Civil	3	3	5	10	8	2	1	1	0	1	2	2	3.2
Forensic	1	3	2	0	5	2	2	2	2	4	6	2	2.6
Combined	4	6	7	10	13	4	3	3	2	5	8	4	5.8
Unauthorized Leave													
Civil	6	4	6	6	5	6	5	4	8	5	8	5	5.7
Forensic	0	0	0	0	0	0	0	0	1	1	1	1	0.3
Combined	6	4	6	6	5	6	5	4	9	6	9	6	6.0
Total	10	10	13	16	18	10	8	7	11	11	18	10	11.8

⁴ The daily census does not include patients on authorized or unauthorized leave.

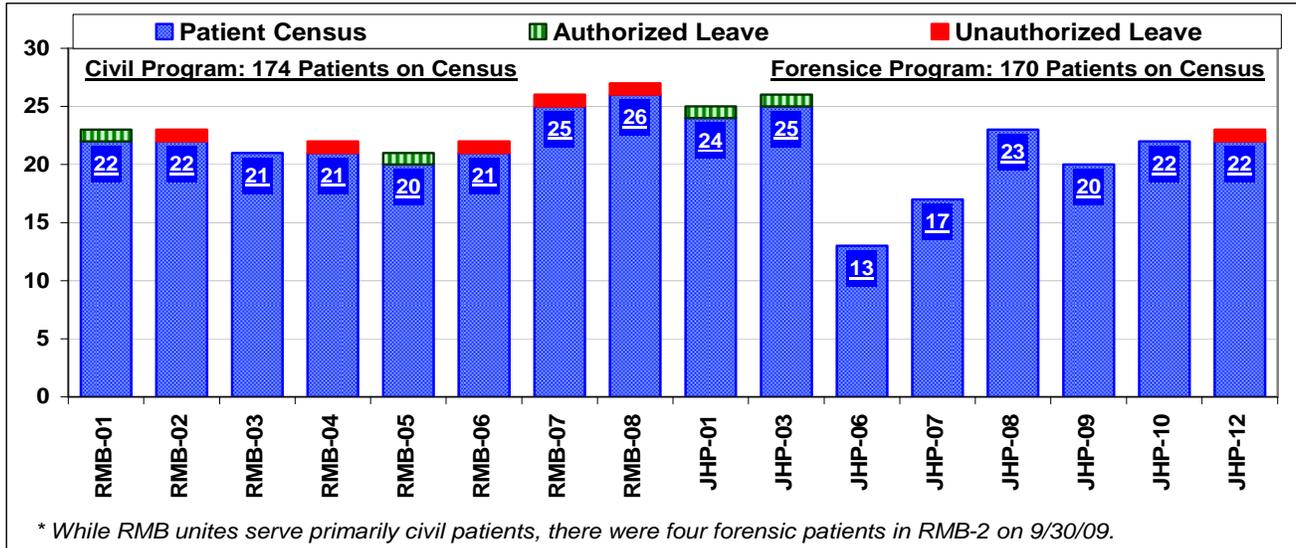
⁵ The Forensic program additionally serves approximately 100 outpatients who have been adjudicated “not guilty by reason of insanity” and currently are on court-ordered conditional release, being served in the community.

⁶ This is not the number of leaves that occurred on a given day but the number of patients on a leave status on a given day.

2. Patients by Program and Unit

- As of September 30, 2009, RMB units were serving 174 Civil patients and four (4) Forensic patients while JHP units were serving 170 Forensic patients⁷. This does not include four (4) patients on authorized leave and six (6) patients on unauthorized leave (elopement).
- Each unit was serving about 22 patients on average, ranging between 13 and 26.

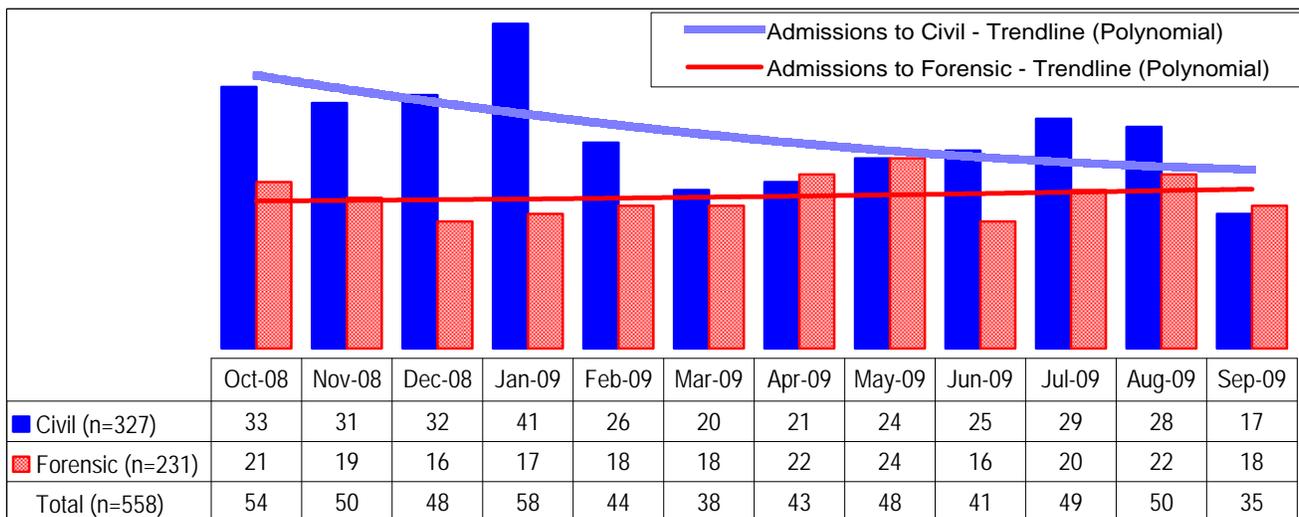
Figure 2. Number of Patients Served by Unit (9/30/2009)



3. Admissions

- The total number of admissions during FY09 was 558 (327 to Civil and 231 to Forensic⁸). This makes about 47 admissions (27 to Civil and 19 to Forensic) per month on average.
- Admission to Civil notably dropped in February. Since then the number of admissions remained under 30 with minor fluctuations. Monthly admissions to Forensic ranged between 16 and 24.

Figure 3. Number of Patients Admitted to SEH (FY2009)



⁷ The Forensic office indicated JHP was serving two Civil patients who were categorized as Forensic patients in Avatar.

⁸ The Forensic number includes post trial patients who returned to the hospital from convalescent leave and one person adjudicated “not guilty by reason of insanity.” The overwhelming majority of admissions were individuals in pre-trial status.

- A majority of Civil admissions were either transfers from another psychiatric unit of a community hospital or those directly sent from CPEP.
- A total of 15 Forensic post-trial patients returned to the Hospital from the community.

Table 2. Admissions by Source (FY2009)

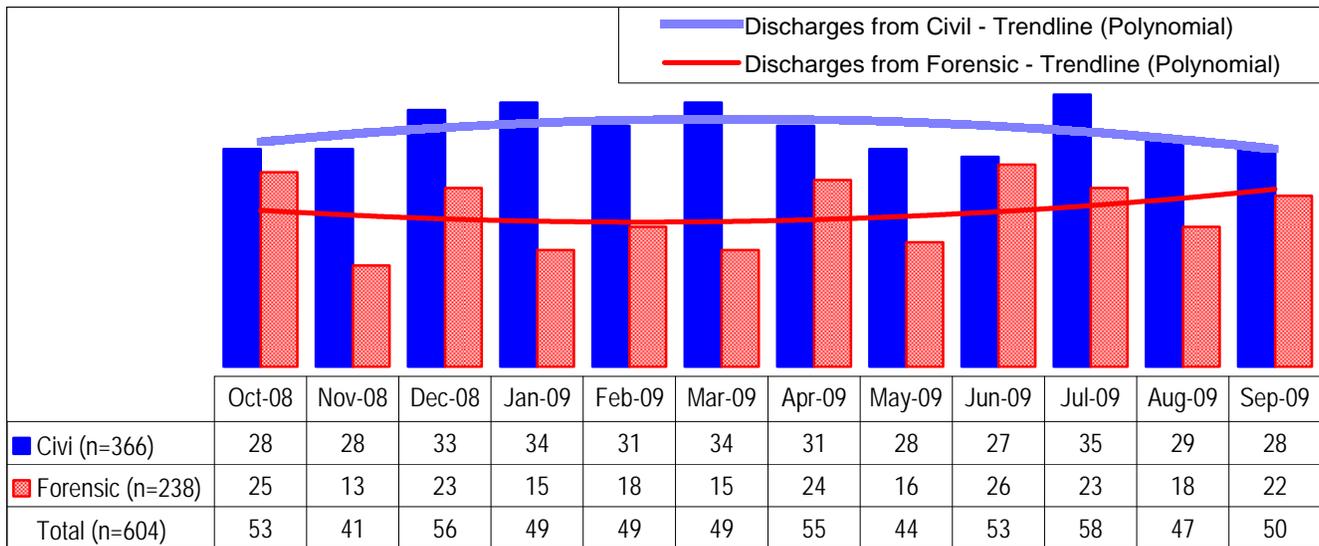
Admission Source	Civil	Forensic	Total	Percent
CPEP	91		91	16.3%
Community Hospital - Medical Unit	31		31	5.6%
Community Hospital - Psychiatric Unit	176		176	31.5%
Community Residential Facility	1	1	2	0.4%
Transfer from Another Health Care Facility		1	1	0.2%
Skilled Nursing Facility (SNF)	2		2	0.4%
Court/Law Enforcement	5	205	210	37.6%
Transfer from Forensic Outpatient (CL) to Inpatient		15	15	2.7%
Other or Not Identified*	21	9	30	5.4%
Grand Total	327	231	558	100.0%

* This includes those whose admission sources were missing or categorized in inactive values.

4. Discharges

- The total number of discharges during FY09 is 604 (366 from Civil and 238 from Forensic), which translates into about 50 discharges (31 from Civil and 20 from Forensic) per month on average.
- The number of monthly discharges remained consistent with minor fluctuations, ranging between 40 and 58.

Figure 4. Number of Discharges by Month (FY2009)



- The primary reason underlying discharges was because hospitalization was no longer clinically needed (35% of the total discharges).
- Forty (40) out of 366 discharges from Civil were against medical advice.
- A total of 27 Forensic patients were identified to have been transferred to the community to be served as outpatients.

Table 3. Discharges by Reason (FY2009)

Discharge Reason	Civil	Forensic	Total	Percent
Against Medical/Agency Advice	40		40	6.6%
Court Ordered Discharge from Civil Inpatient	41	2	43	7.1%
Court Ordered Discharge from Forensic Post-trial (Unconditional Release)		4	4	0.7%
Court Ordered Discharge from Forensic Pre-trial Branch		171	171	28.3%
Discharge to a Medical Facility (Over 72 Hour Rule)	5		5	0.8%
Discharge to Another Mental Health Facility	1		1	0.2%
Other Health Care Services Needed	24	2	26	4.3%
Hospitalization No Longer Clinically Needed	207	6	213	35.3%
Transfer from Forensic Inpatient to Outpatient		27	27	4.5%
Discharge from Unauthorized Leave	6		6	1.0%
Death	4	1	5	0.8%
Other or Data Missing*	38	25	63	10.4%
Grand Total	366	238	604	100.0%

* This includes those whose discharge type information is missing, unverifiable or categorized in inactive values.

5. Admissions vs. Discharges

- Although both admissions and discharges in Civil noticeably decreased from FY08 to FY09, the level of decline was more significant in admissions (34% reduction – from 41 to 27 per month) than that in discharges (23% reduction – from 39 to 30 per month).
- Both admissions and discharges in Forensic slightly increased during FY09 compared with FY08 but they were still lower than those in FY06 and FY07.

Figure 5. Civil Admissions vs. Discharges (Monthly Average, FY2006 ~ FY2009)

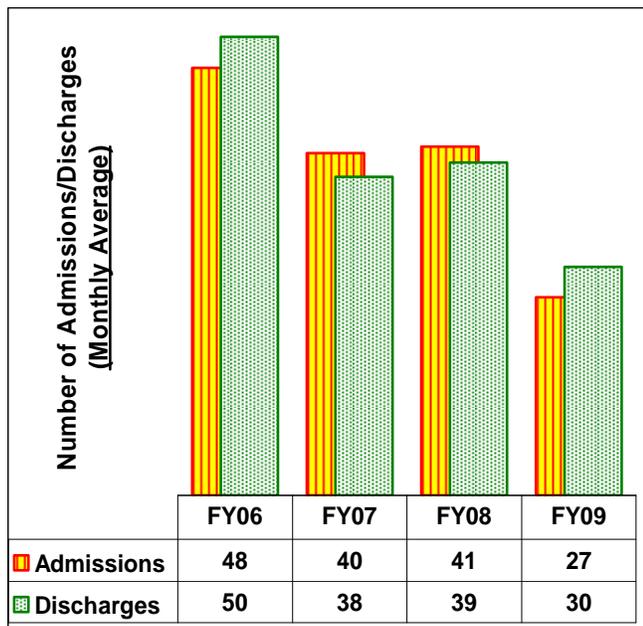
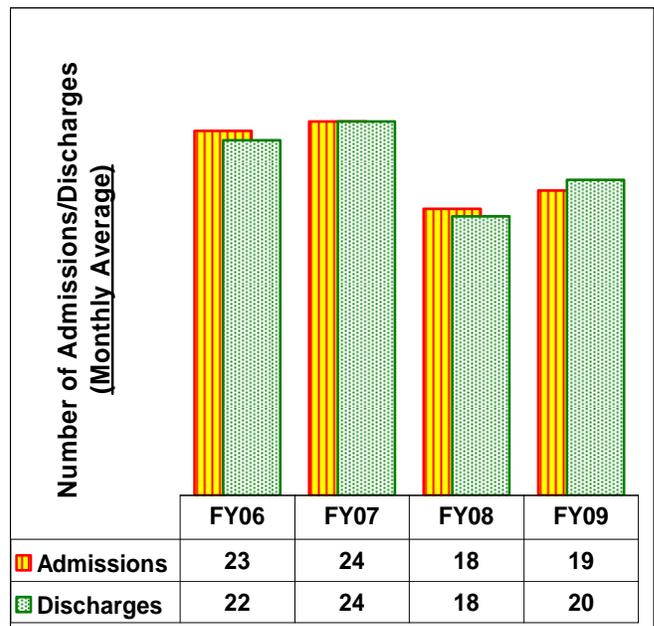


Figure 6. Forensic Admissions vs. Discharges (Monthly Average, FY2006 ~ FY2009)



6. Total Patients Served and Patient Days

- During FY09, the Hospital served a total of 804 unique patients, who stayed in the Hospital at least for one day. Civil served a total of 457 patients and Forensic served a total of 368 patients. Twenty-one (21) patients were served both by Civil and Forensic programs during the year.
- Total number of patient days⁹ for FY09 is 138,639, which translates into about 380 patients served per day on average.

Table 4. Total Patients Served and Patient Days (FY2009)

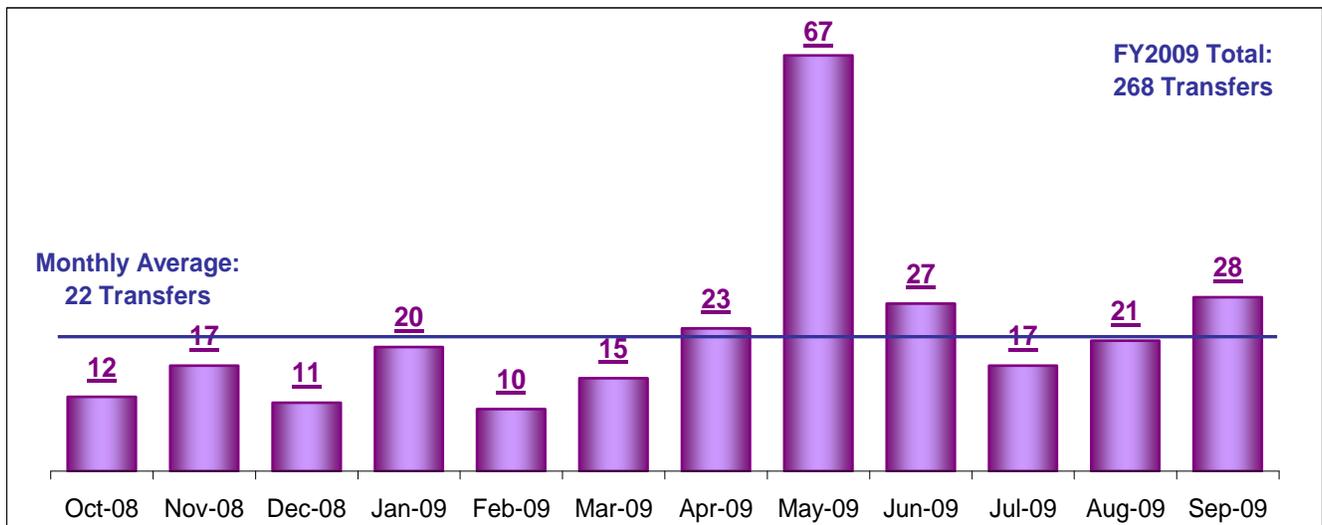
	Program	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Monthly Average	NPR*
Total (Unique) Patients Served >=1 Day	Civil	242	247	251	259	252	247	231	222	231	218	217	206	235	457
	Forensic	204	200	201	196	202	197	203	206	225	198	196	192	202	368
	Total*	446	447	451	454	451	443	432	427	453	416	412	397	436	804
Patient Days	Civil	6395	6423	6672	6731	5974	6561	5919	5917	5463	5686	5803	5277	6068	72821
	Forensic	5698	5456	5605	5688	4956	5599	5456	5808	5642	5521	5383	5006	5485	65818
	Total	12093	11879	12277	12419	10930	12160	11375	11725	11105	11207	11186	10283	11553	138639

* In some months, the total may be fewer than the sum of Civil and Forensic numbers because some patients may have been served by both programs during the month.

7. Inter-Unit Transfers

- During FY09, a total of 268 transfers (22 per month) occurred between units within the Hospital.
- The monthly number of inter-unit transfers ranged between 10 and 28, except in May, when there was a major restructuring of units that resulted in a total of 67 transfers during that month.

Figure 7. Inter-Unit Transfers (FY2009)



- During FY09, a total of 161 patients experienced at least one inter-unit transfer (is it possible to determine how many were forensic changing security levels).

- Of those, 57 patients were transferred more than once, including four (4) patients who were transferred six or more times over the 12 month period.

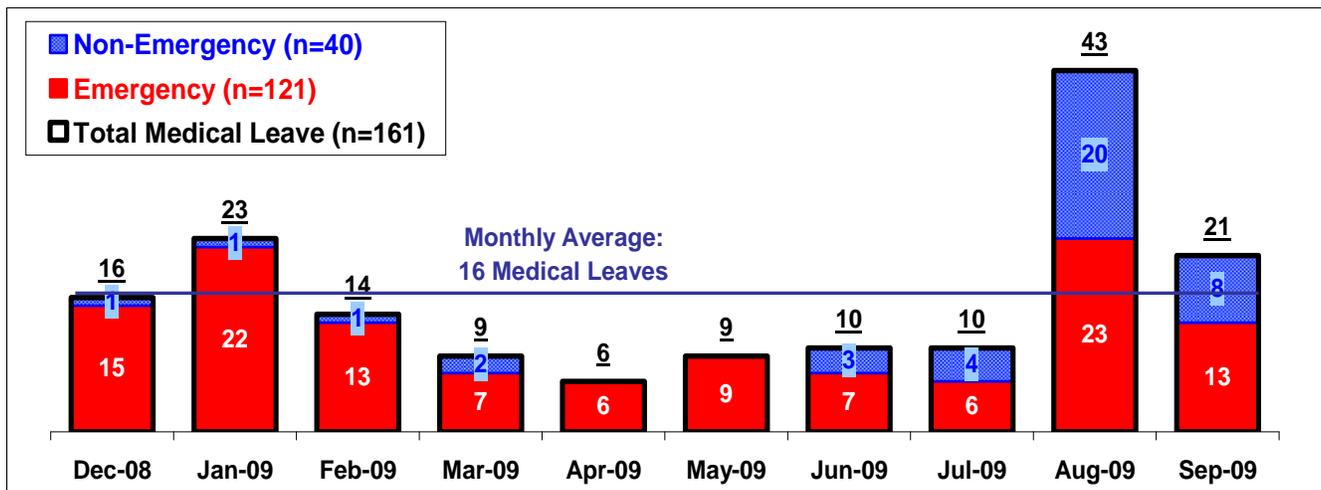
Table 5. Unique Patients Transferred between Units during FY09

Total Number of Inter-Unit Transfers during FY09	Number of Unique Patients Included
Once	104
Twice	33
Three Times	16
4-5 Times	4
>=6 Times	4
Total (experienced at least one transfer)	161

8. Medical Leave (Likely Transfer to External Medical Facility)

- Between December 2008 and September 2009¹⁰, a total of 96 unique patients were documented to have left the Hospital temporarily for a medical reason for a total of 161 times (or 16 times per month). Most of those leaves were likely to be medical transfers to external medical facilities for temporary treatment.
- Of those 161 medical leaves, 75% or 121 were emergency cases.
- The number of medical leaves significantly soared in August.
- Sixteen (16) patients had three or more medical leaves during the 10-month period.
- About one third of medical leaves ended on the same day but another third of medical leaves lasted five (5) days or longer.
- JHP-02, RMB-02, and RMB-06 were the units with most frequent medical leaves.

Figure 8. Medical Leaves: Possible Transfers to Medical Facilities (Dec-2008 ~ Sep-2009)



⁹ Patient days count only those where patients were on the unit and thus included in daily census. They do not include those on authorized or unauthorized leave at 11:59pm on each day.
¹⁰ Prior to December 2008, documentation of medical leaves in AVATAR was scarce and thus 10 month data was selected for this analysis.

Table 6. Unique Patients who had >=1 Medical Leave (Dec-2008 and Sep-2009)

Total Number of Medical Leaves during 10 Months	Number of Unique Patients who had >=1 Medical Leave		
	Any Medical Leave	Emergency only	Non-Emergency only
Once	60	43	27
Twice	20	17	2
Three Times	10	6	3
Four or More Times	6	5	0
Total	96	71	32

Figure 9. Medical Leaves by Length of Leave (Dec-2008 ~ Sep-2009)

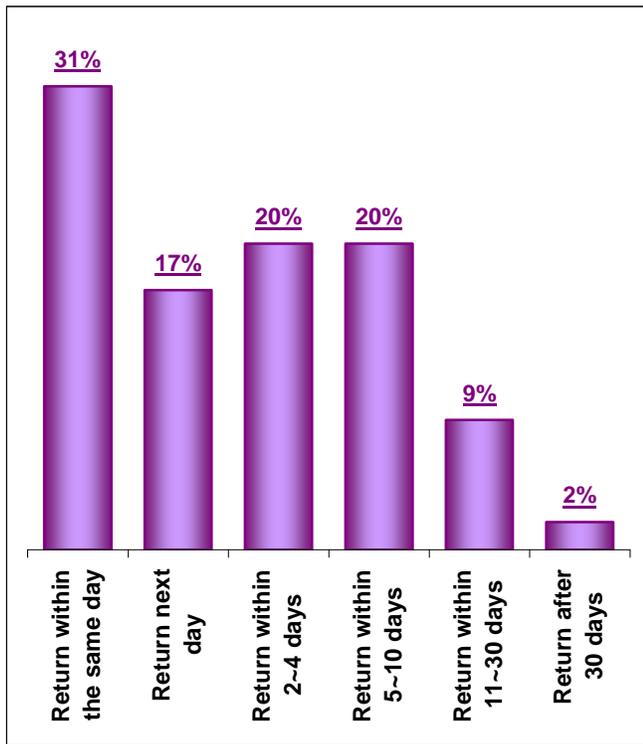
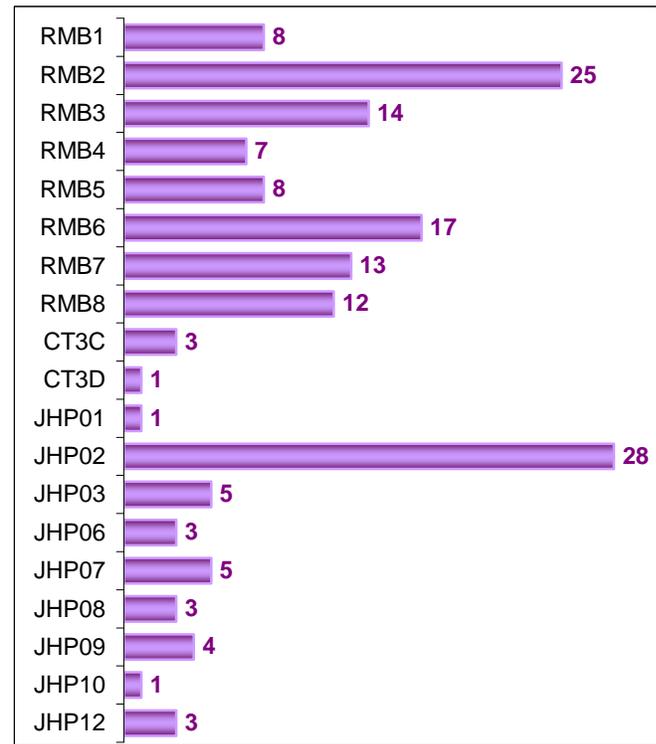


Figure 10. Medical Leaves by Sending Unit (Dec-2008 ~ Sep-2009)

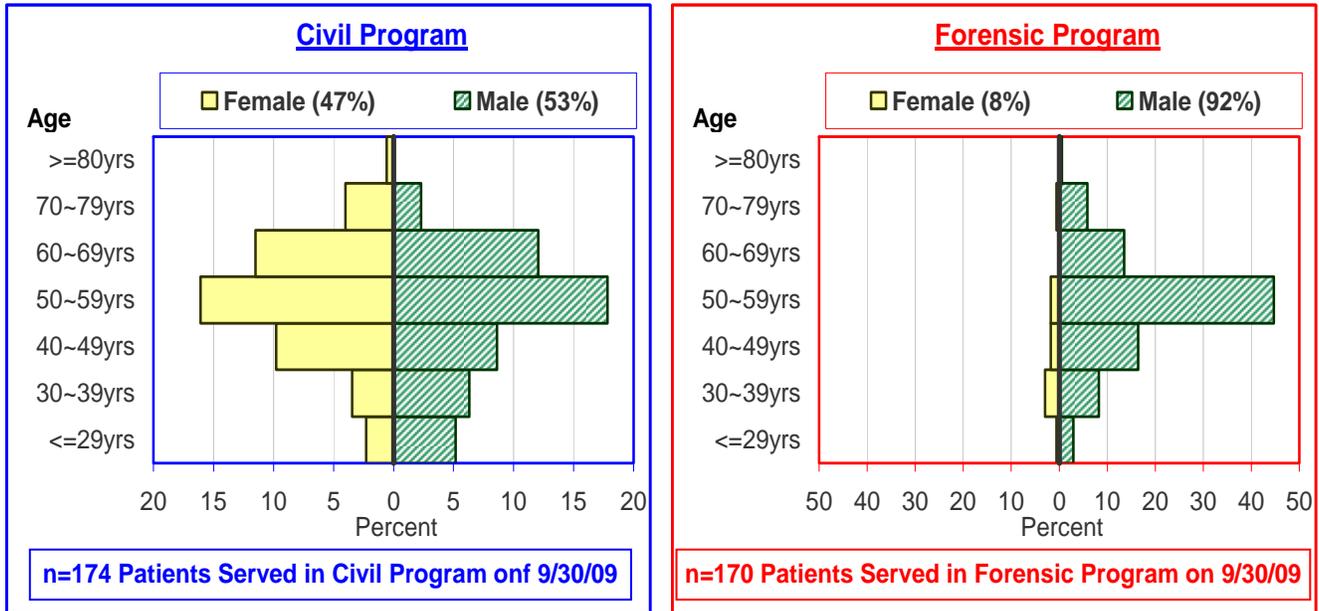


II. Demographic Characteristics of Patient Population

1. Age & Gender Distribution

- Forty percent (40%) of patients are within the 50-59 age range and a significant proportion of patients (25%) are 60 years or older: almost one third of the patients in Civil (31%) and 21% in Forensic are 60 years or older.
- Almost a half (47%) of the Civil patients and 8% of the Forensic patients are female.

Figure 11. Age & Gender Distribution by Program (9/30/2009)

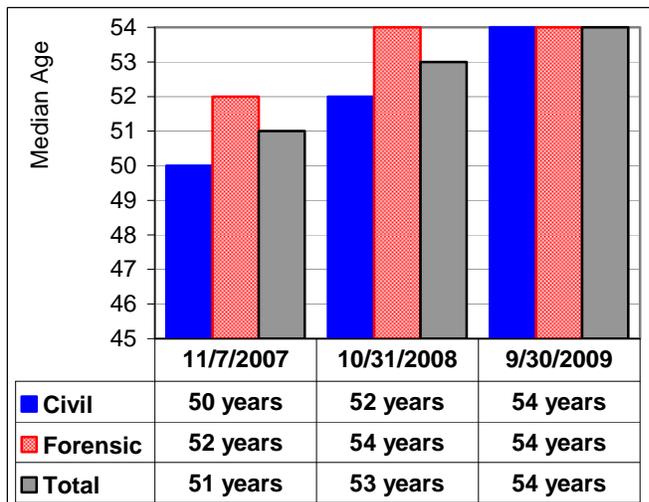


- The Hospital's population has been aging over the past two years. Patients aged 50 years or older vastly increased: from 55% in November 2007 to 66% in September 2009; and the median age increased from 51 years to 54 years old.

Table 7. Change in Age Distribution (2007~2009)

Age Range	11/7/07	10/31/08	9/30/09
<=29yrs	8%	7%	6%
30~39yrs	11%	10%	10%
40~49yrs	25%	19%	18%
50~59yrs	32%	40%	40%
60~69yrs	16%	16%	19%
70~79yrs	6%	6%	6%
>=80yrs	1%	1%	1%
Total	100% (n=432)	100% (n=403)	100% (n=344)

Figure 12. Change in Median Age (2007~2009)



2. Primary Language

- A majority of the patients residing in the Hospital speak English as their primary language.
- There are 12 patients who have been identified to speak a language other than English as their primary language. Of those, five speak Spanish, three Vietnamese, one Chinese and the other three speak some other languages (none of above).

Table 8. Primary Language of Patients (9/30/2009)

Primary Language	Civil	Forensic	Total	
English	166	154	320	
Other than English	Spanish	2	3	5
	Vietnamese	3		3
	Chinese	1		1
	Other	2	1	3
Sub-Total	8	4	12	
Not Identified		12	12	
Grand Total	174	170	344	

3. Legal Status

- One hundred fifteen (115) patients, which is one third of the patients served by the Hospital, are those who were adjudicated to be not guilty by reason of insanity.
- Forty-four (44) patients have voluntary legal status, 35 are committed inpatients, 41 are committed outpatients¹¹, and 44 patients are subjected to pre-trial examination.
- There are four patients whose legal status information was missing in the AVATAR.

Table 9. Legal Status of Patients (9/30/2009)

Legal Status	Number of Patients
Committed Inpatient	35
Committed Outpatient	41
DC Examination	44
DC Mentally Incompetent	8
Dual Commitment (NGBRI/Criminal conviction)	1
Emergency	48
Not guilty by reason of insanity - DC	101
Not guilty by reason of insanity - US	12
Not guilty by reason of insanity - USVI	2
Sexual Psychopath (Miller Act)	4
Voluntary	44
No Data Entry	4
Total	344

¹¹ The legal status of these patients is committed outpatient but they are currently being served as inpatients at the Hospital.

III. Length of Stay

1. Length of Stay of Current Population

- The length of stay (LOS) for Forensic patients is much longer than that of Civil patients: the median¹² LOS is 482 days (16 months) for Civil patients and 1985 days (65 months) for Forensic patients
- Male patients are likely to stay in the Hospital for a longer period than female patients. The median LOS for female patients is 346 days (11 months) whereas that for male patients is 1195 days (39 months).
- The median LOS increased for both Civil and Forensic patients over the past two years: as of 9/20/2009, the median LOS is 688 days (23 months), which is 201 days longer than the median LOS for those being served at the Hospital two years ago (487 days or 16 months on 11/7/2007).
- The median LOS is longest among those with legal status of not guilty by reason of insanity and sexual psychopath (Miller Act) in Forensic programs. Patients in voluntary legal status also tend to stay for a longer period of time than others.

Figure 13. Median Length of Stay by Program and Gender (9/30/2009)

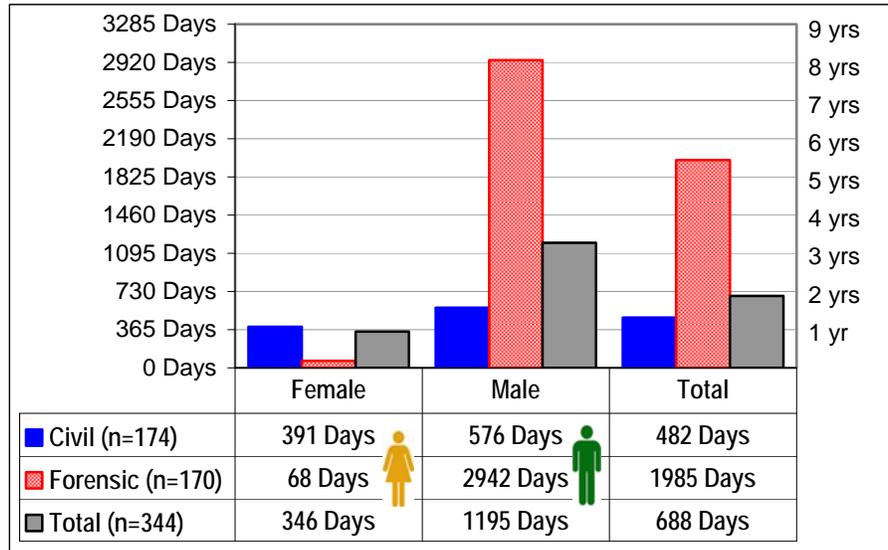
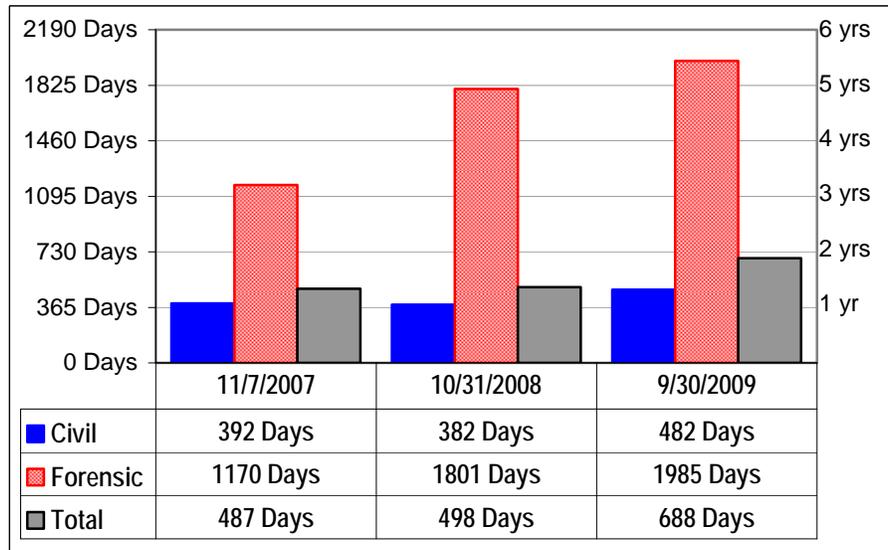
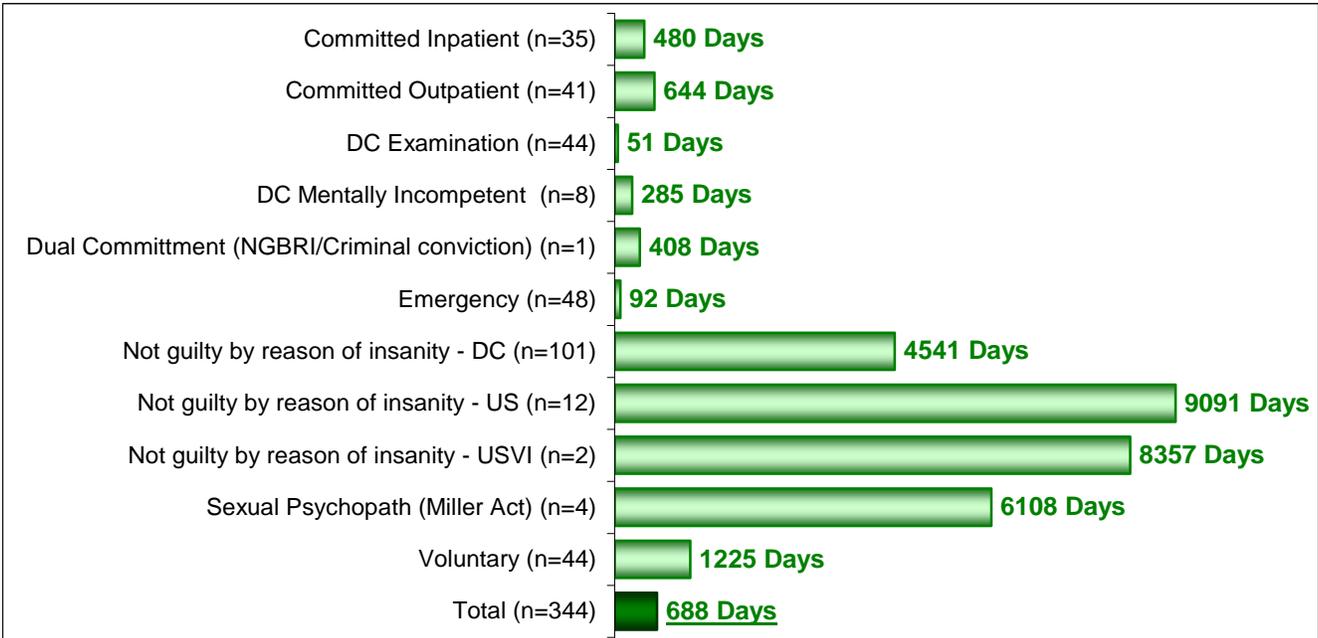


Figure 14. Change in Median Length of Stay (2007~2009)



¹² The median is the middle value of the set when they are ordered by rank, separating the higher half of a sample from the lower half, whereas the average is the arithmetic mean that is computed by dividing the sum of a set of terms by the number of terms. The average is not appropriate for describing skewed distributions as it is greatly influenced by outliers. For example, a few cases with extremely high LOS can skew the average LOS higher. The median is often used as a better measure of central tendency as it is influenced less than the average by outlier observations.

Figure 15. Median Length of Stay by Legal Status (9/30/2009)



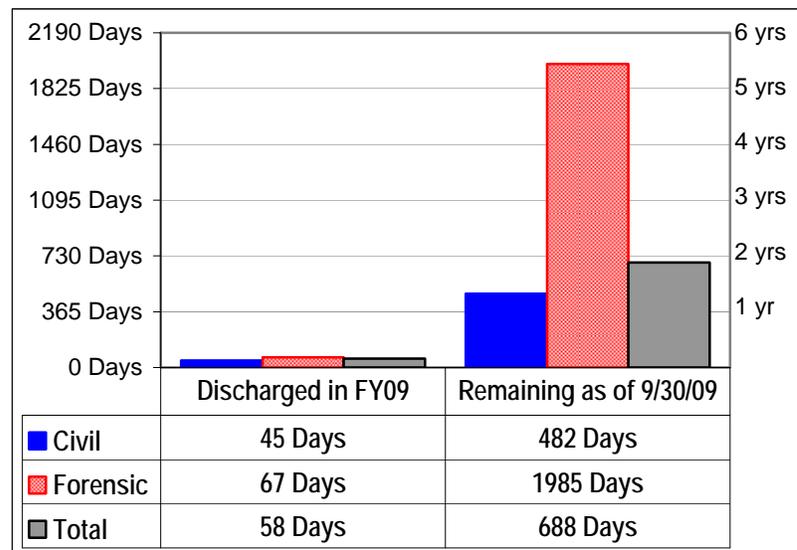
2. Length of Stay of Discharged Population

- The length of stay for discharged population is far much shorter than the LOS of those who are remaining in the Hospital.
- The median LOS of those who left the Hospital in FY09 was 45 days for the Civil program and 67 days for the Forensic program (mostly discharged from the pre-trial branch). The median LOS of the current inpatient population remaining in the Hospital as of 9/30/2009 is 482 days (16 months) for Civil and 185 days (66 months) for Forensic.

Table 10. Median vs. Average Length of Stay of Discharged Population (FY2009)

Program	Median	Average	Maximum
Civil (n=366)	45 Days	225 Days	6284 Days
Forensic (n=238)	67 Days	351 Days	9674 Days
Total (n=604)	58 Days	275 Days	9674 Days

Figure 16. Comparison of Median LOS between Discharged and Remaining Patients (FY2009)

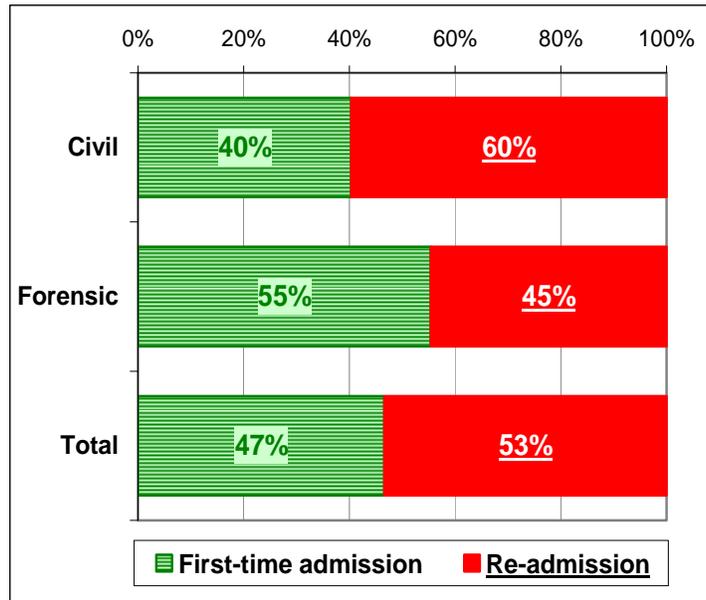


IV. Readmissions

1. First-time Admissions vs. Readmission

- Of the total of 558 admissions made in FY09, 53% or 298 were re-admissions, in which admitted patients had been previously served by the Hospital.
- During FY09, three out of five admissions to Civil (60%) and 45% of admissions to Forensic were re-admissions.

Figure 17. First-time Admission vs. Readmission (FY2009)



2. Readmission Rate¹³

- During FY09, almost one out of ten discharges (9.3%) returned to the Hospital within 30 days from discharge (30-day readmission rate) and more than one out of four discharges (26.6%) returned within 180 days from discharge (180-day readmission rate).
- The 30-day re-admission rate of the Hospital is higher than the national trend that's been reported by the NRI, according to which, the 30-day admission rate of the state psychiatric hospitals included in its survey as of March 2009 was 7.97%.
- Some patients were repeatedly re-admitted. The 56 30-day re-admissions were made by 47 unique patients, of which eight (8) were re-admitted within 30 days more than once during FY09. One of them was readmitted three times within 30 days following discharge.

Table 11. Readmission Rate (FY2009)

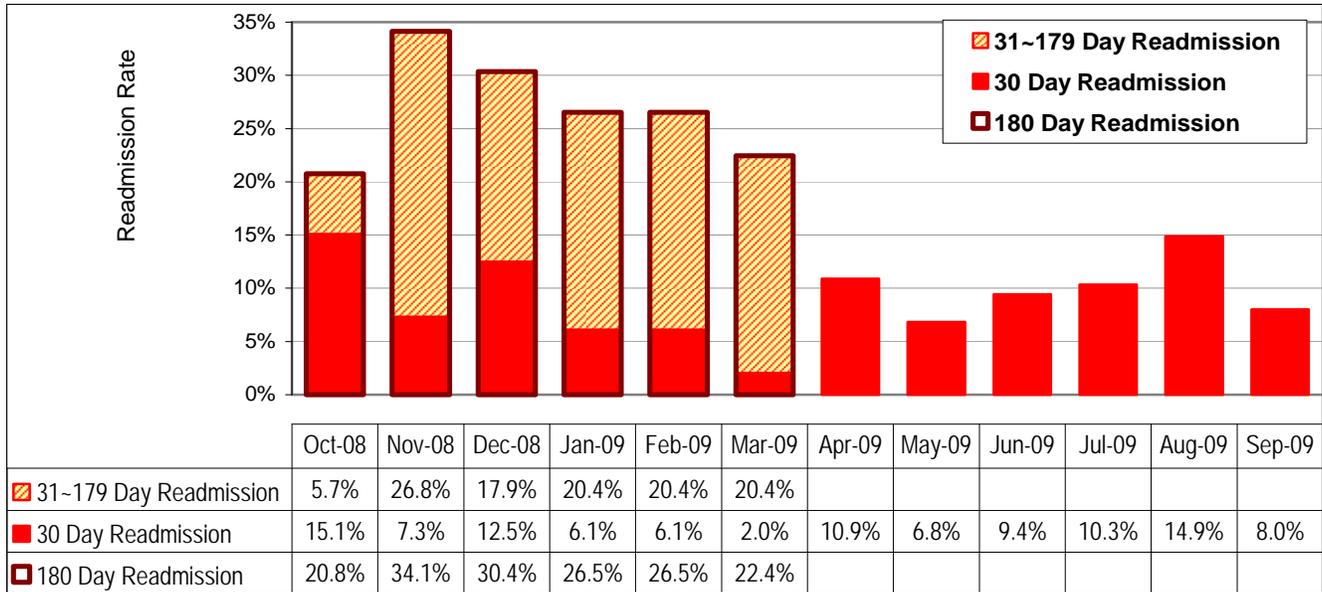
Category	Data Observed	Total Discharges	Readmission		Unique Patients	Patients with >= 2 Readmissions
			Number	Rate		
30-day Readmission	FY09 (12mths)	604	56	9.3%	47	8
180-day Readmission*	FY09-1H (6mths)	292	79	26.6%	65	12

* It is the result of observing discharges that occurred during the first half of FY09 (Oct-2008 ~ Mar-2009)¹⁴.

¹³ 30-day readmission rate is calculated by dividing the total number of patients readmitted within 30 days of discharge by the total number of hospital discharges. It is more commonly used as a quality indicator that measures the pattern of returns of discharged patients

¹⁴ Analyzing the readmission rate requires us to observe discharge cohort data retrospectively. Fore example, for the 180-day readmission rate, we have to observe those who have been discharged for 180 days from the discharge date. For this report, we observed and analyzed only those who were discharged for the first six months of FY09.

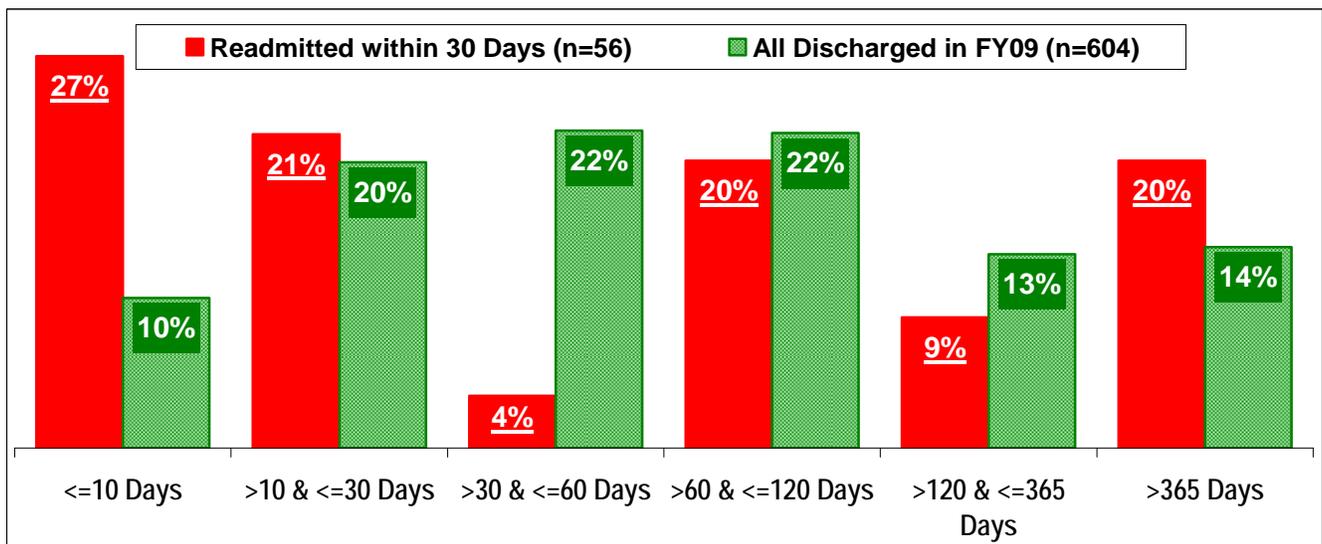
Figure 18. Monthly Trend of Readmission Rate (FY2009)



3. Characteristics of Patients Readmitted

- Patients who are readmitted tend to have had a shorter length of stay in their previous episode. Almost half of those readmitted within 30 days (48%) stayed 30 days or less in their previous hospitalization whereas only 30% of all discharges had LOS of 30 days or less. Also, the median LOS of readmitted population is 37 days while that of all discharged population was 58 days.
- Of the 56 readmissions, 24 were those discharged from RMB-6 a major admission unit. Almost one out of five discharges from RMB-6 (19%) was readmitted within 30 days after discharge.
- There is no significant difference in age and gender between readmitted population and all discharged population. The median age of readmissions is 48 while that of all discharged population is 47. The gender ratio of female and male for readmissions is 44% vs. 46% while that for all discharges is 41% vs. 49%.

Figure 19. Length of Stay at Discharge from Episode before Readmission (FY2009)

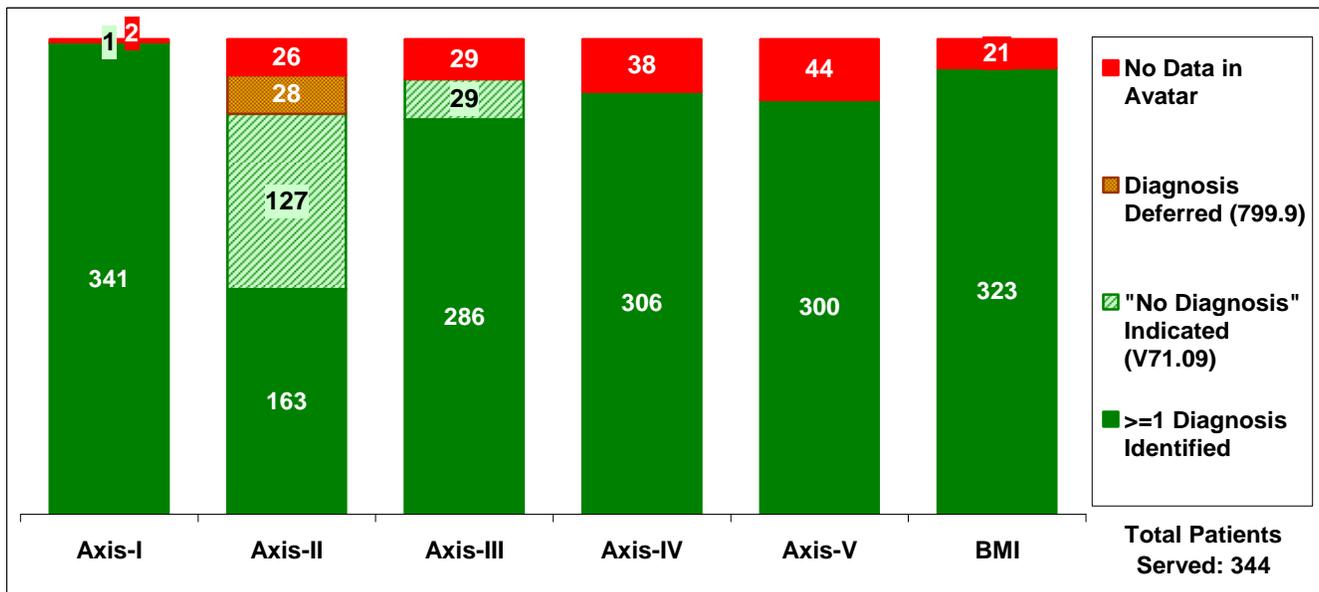


V. Clinical Profile of Patient Population

1. Patients with Diagnosis Identified in each Axis

- **Axis I:** Of the total of 344 inpatients served as of 9/30/2009, 99% or 341 patients had at least one psychiatric diagnosis in Axis I identified. One patient was indicated to have 'No Diagnosis on Axis I (DSM-VI Code V71.09)' and the other two had no documentation on Axis I in AVATAR.
- **Axis II:** 47% or 163 patients had one or more diagnoses identified in Axis II, 127 were indicated to have 'No Diagnosis on Axis II (DSM-VI Code V71.09)', 28 had 'Diagnosis Deferred on Axis II (DSM-VI Code 799.9)', and the remaining 26 had no documentation on Axis II in AVATAR.
- **Axis III:** 83% or 286 patients had at least one identified medical condition or physical disorder identified. 29 patients were indicated to have no Axis III condition and the other 29 had no documentation in AVATAR.
- **Axis IV:** 89% or 306 patients had at least one identified psychosocial and environmental problem.
- **Axis V:** Global Assessment of Functioning (GAF) score was available from 87% or 300 patients and 44 patients do not have GAF score documented in AVATAR.
- **Body Mass Index (BMI):** Weight and height information necessary to calculate BMI was documented and available in AVATAR for 87% or 300 patients.

Figure 20. Number of Patients by Diagnosis Identified and Available (9/30/2009)



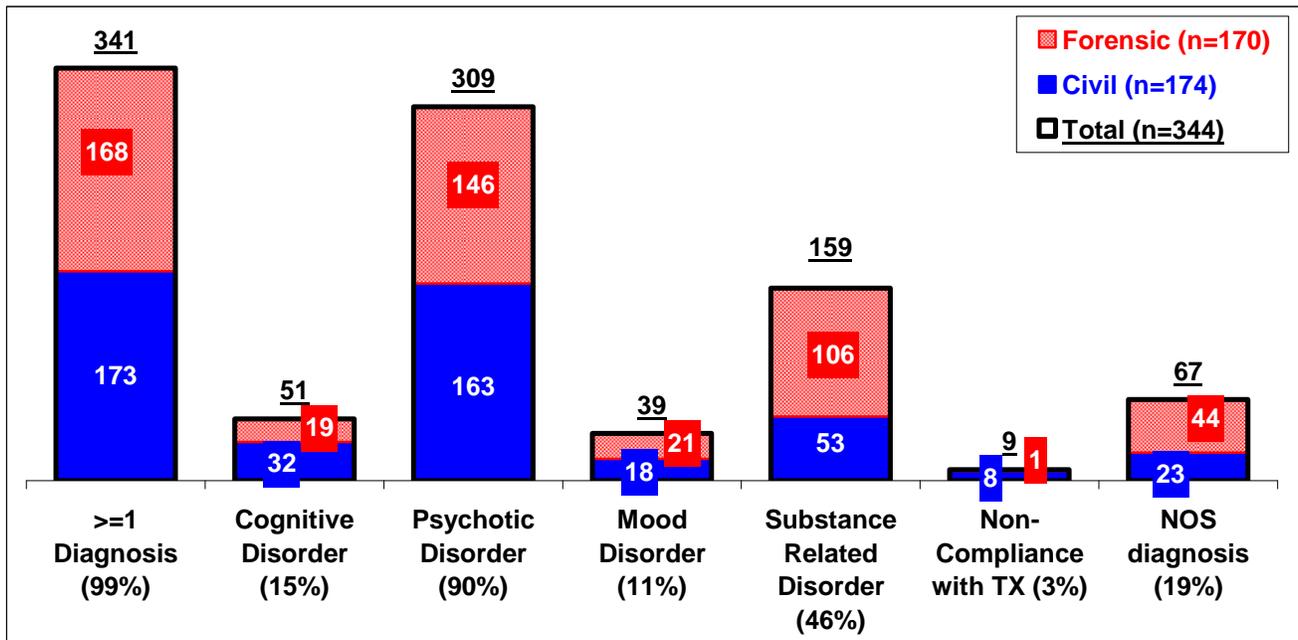
2. Psychiatric Disorders (Axis I)

- A total of 309 patients, which account for 90% of the total patients served (344), were diagnosed to have a psychotic disorder – schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder and all other psychotic disorders¹⁵.
- Fifty-one (51) patients (11%) had a cognitive disorder, which includes delirium, dementia, and amnestic and other cognitive disorders.

¹⁵ Axis I diagnoses were grouped as guided by the DSM-IV-TR Classification of the American Psychiatric Association.

- Thirty-nine (39) patients (11%) had a mood disorder, which includes depressive disorders and bipolar disorders.
- A total of 159 patients (46%) were diagnosed as having a substance related disorder.
- Diagnoses of substance related disorders were more prevalent among Forensic patients than Civil patients. Three out of five Forensic patients (62%) had a substance related disorder diagnosed whereas 30% of Civil patients had a substance related disorder diagnosed.
- A total of 67 patients were diagnosed as “not otherwise specified (NOS)”¹⁶ on at least one of their diagnoses in Axis I.
- There were nine (9) patients who were identified as ‘Noncompliance with Treatment (DSM-IV code V15.81)’¹⁷ and eight (8) of them were being served in Civil.

Figure 21. Patients with Diagnosis in Axis I (9/30/2009)



3. Personality Disorders and Mental Retardation (Axis II)

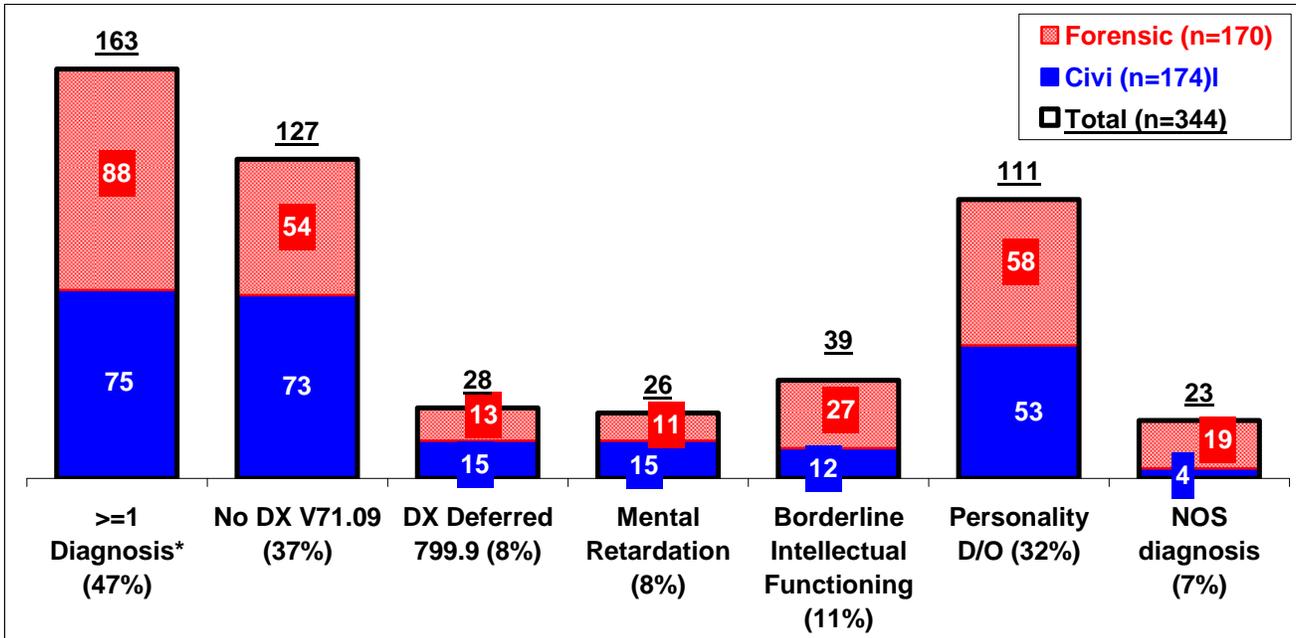
- A total of 111 patients (32%) had a personality disorder diagnosed.
- Thirty-one (31) patients were diagnosed with Mental Retardation (DSM-VI Code 317~319)
- Twenty-seven (27) patients were diagnosed with ‘V62.89 Borderline Intellectual Functioning’¹⁸.
- A total of 23 patients (19 in Forensic program and 4 in Civil program) had a NOS diagnosis.

¹⁶ Enough information available to indicate the class of disorder that is present, but further specification is not possible, either because there is not sufficient information to make a more specific diagnosis or because the clinical feature of the disorder do not meet the criteria for any of the specific categories in that class. (DSM-IV-TR, American Psychiatric Association.) The most frequent NOS diagnoses among SEH patients include ‘298.9 Psychotic Disorder NOS’, ‘294.8 Dementia NOS’ and ‘294.9 Cognitive Disorder NOS’

¹⁷ “This category can be used when the focus of clinical attention is noncompliance with an important aspect of the treatment for a mental disorder or a general medical condition. The reasons for noncompliance may include discomfort resulting from treatment, expense of treatment, decisions based on personal value judgments or religious or cultural beliefs about the advantages and disadvantages of the proposed treatment, maladaptive personality traits or coping styles, or the presence of a mental disorder. This category should be used only when the problem is sufficiently severe to warrant independent clinical attention.” DSM-IV-TR, American Psychiatric Association.

¹⁸ “This category can be used when the focus of clinical attention is associated with borderline intellectual functioning, that is, an IQ in the 71–84 range.” DSM-IV-TR, American Psychiatric Association.

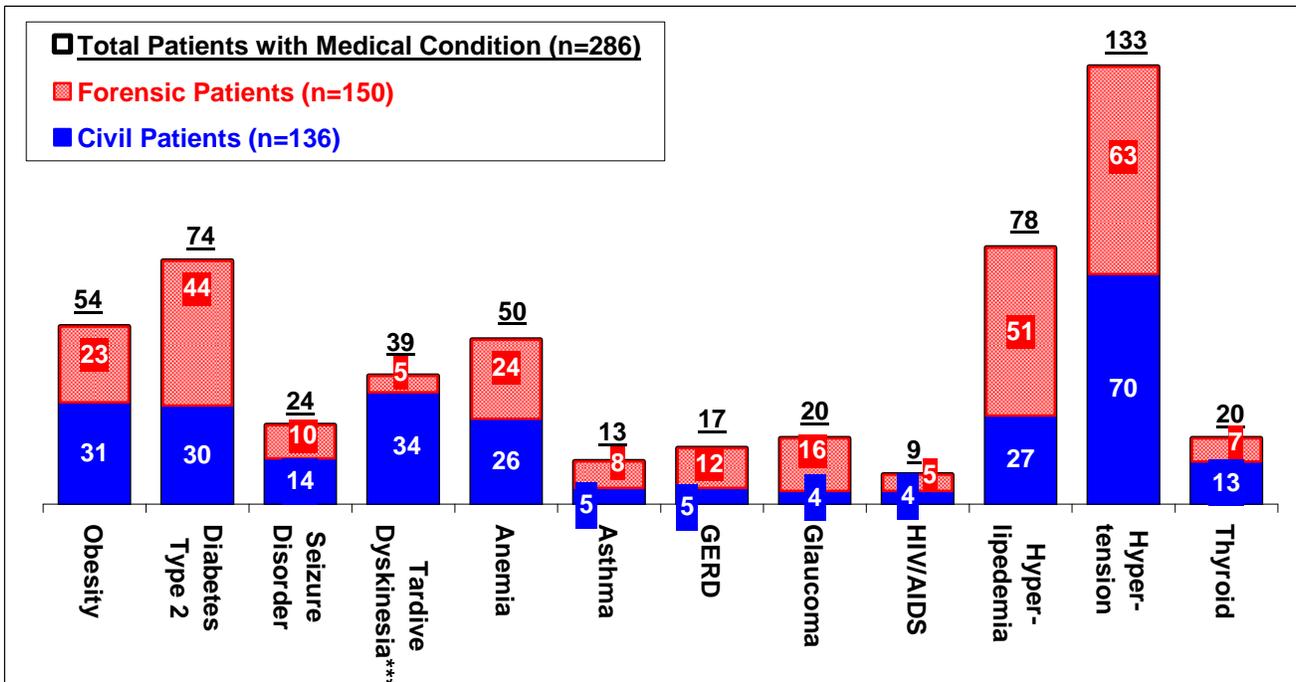
Figure 22. Patients with Diagnosis in Axis II (9/30/2009)



4. Acute Medical Conditions and Physical Disorders (Axis III)

- The most prevalent medical condition is 'Hypertension' (169 patients or 39%).
- More than one out of five patients (74 patients, 22%) were diagnosed to have 'Type II Diabetes'.
- Fifty-four (54) patients (16%) were diagnosed with 'Obesity'. This is much smaller than the number of obesity projected from the Body Mass Index (BMI) calculation, which revealed that 104 patients (30%) were obese as their BMI was 30 or above (See page 26).
- Twenty-four (24) patients were diagnosed as having 'Seizure Disorder'.

Figure 23. Patients in Major Medical Conditions (9/30/2009)

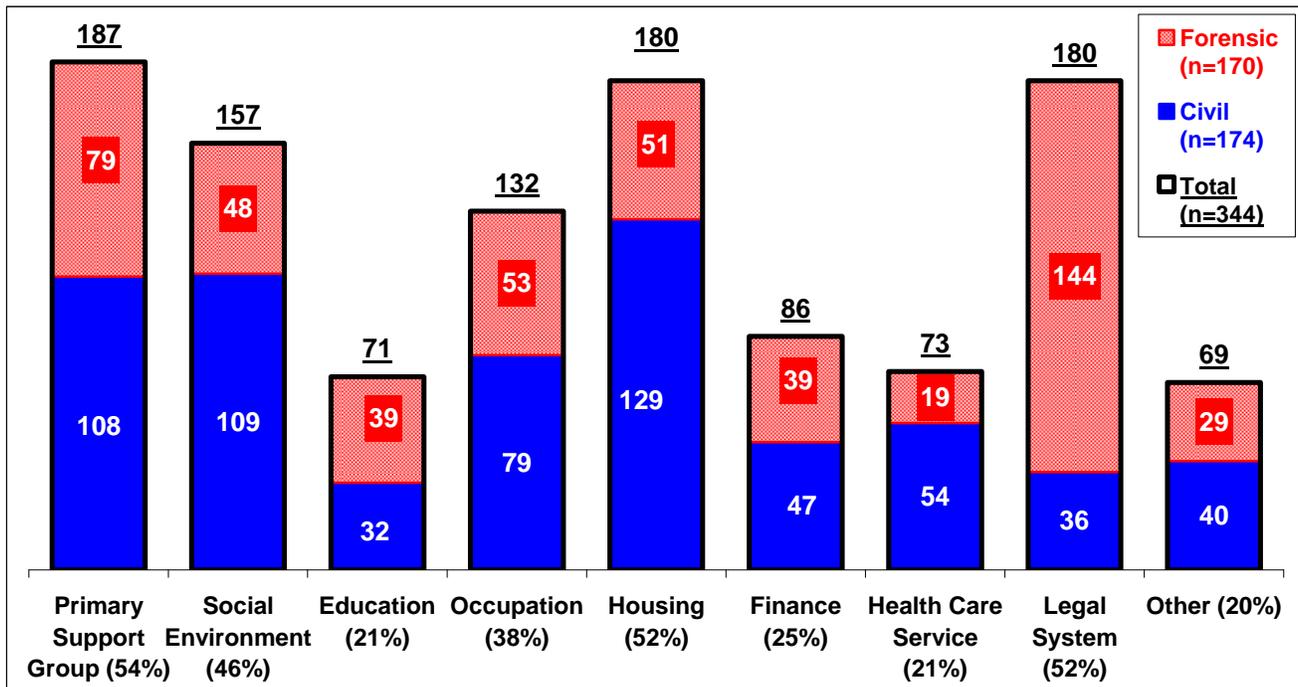


- Thirty-nine (39) patients were identified to carry Tardive Dyskinesia (TD)¹⁹ (34 in Civil and five in Forensic).

5. Psychosocial and Environmental Factors Contributing to the Disorder (Axis IV)

- Problems with Housing, Social Environment, and Primary Support Group were the major psychosocial and environmental factors affecting Civil patients. Particularly, 74% of Civil patients were diagnosed as dealing with a housing problem.
- An absolute majority of Forensic patients had ‘problems related to interaction with the legal system or crime’ identified as a contributing factor. Problem with Primary Support Group was another factor prevalent among Forensic patients.

Figure 24. Patients with Psychosocial/Environmental Problems (Axis IV) Identified (9/30/2009)



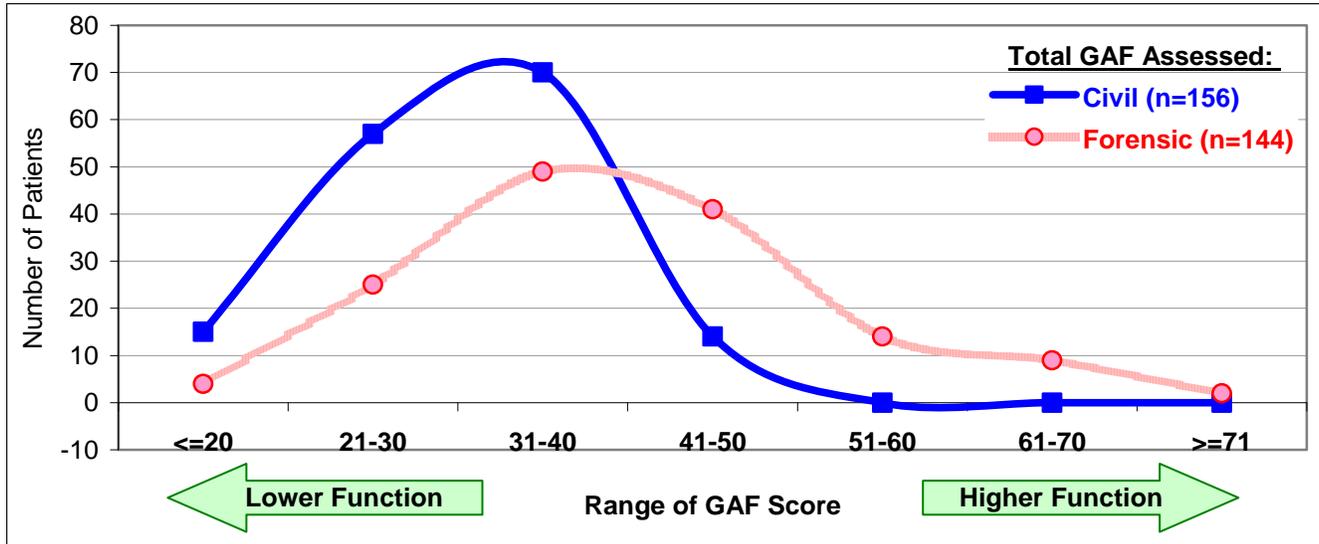
6. Global Assessment of Functioning [GAF] (Axis V)²⁰

- Overall, the level of functioning for Civil patients is lower than that for Forensic patients. Of the 156 Civil patients whose GAF score have been identified, 142 (91%) have their current score 40 or below, which indicates major Impairment in several areas of functioning (31~40) or inability to function in almost all areas (21~30).
- Forensic patients show a relatively wide distribution of GAF scores, including those with moderate or mild symptoms.
- The average GAF score of Civil patients is 31.6, which is notably lower than that of Forensic patients (41.2).

¹⁹ “Tardive dyskinesia is a neurological disorder caused by the long-term use of neuroleptic drugs, or anti-psychotic medications. Neuroleptic drugs are generally prescribed for psychiatric disorders, as well as for some gastrointestinal and neurological disorders. The prevalence of tardive dyskinesia is estimated to be 10 to 20 percent of individuals treated with anti-psychotic medications. The elderly are more susceptible to persistent and irreversible TD than younger people.”
National Mental Health Association.

- JHP-3 patients marked the highest GAF score while RMB-4, 5 & 6 patients were showing the lowest score at under 30 on average.

Figure 25. Distribution of GAF Score (9/30/2009)

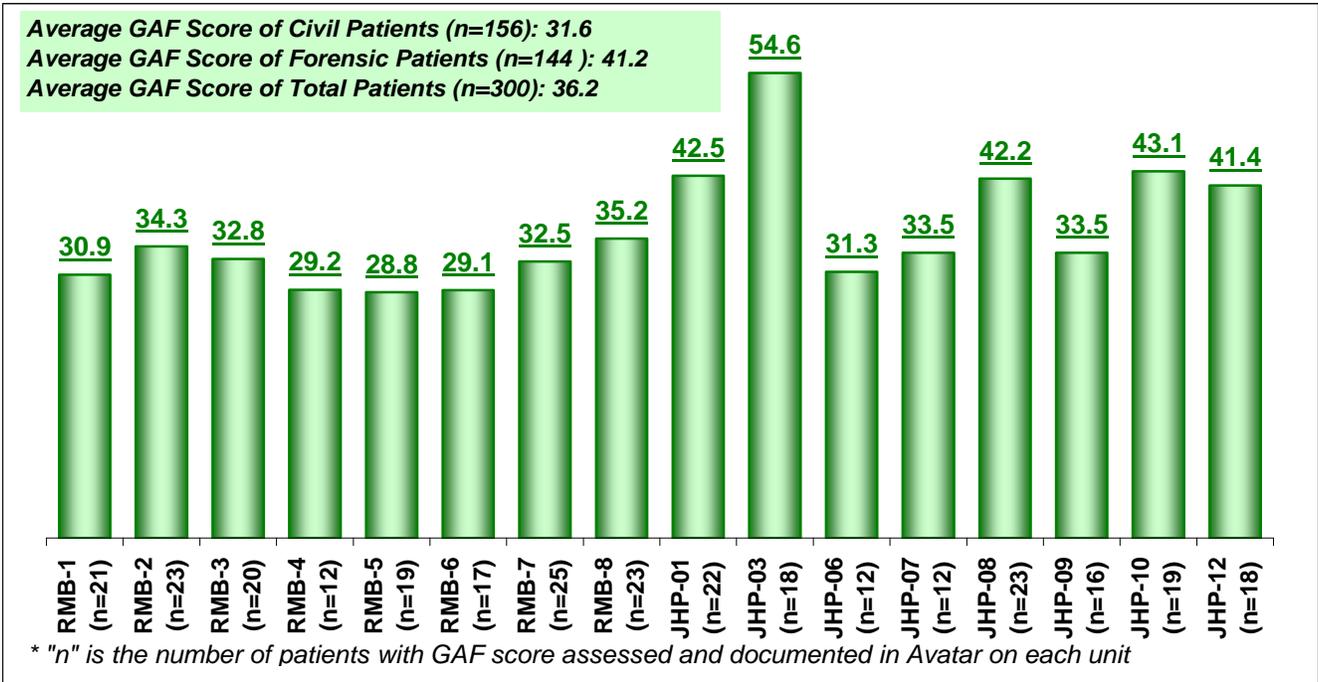


Reference: GAF scale chart, Dr. Ray Wintker of the Murfreesboro VAMC

Domain	Symptom Severity	Level of Functioning
1 ~ 10	Persistent danger of severely hurting self or others or serious suicidal act with clear expectation of death.	Persistent inability to maintain minimal personal hygiene
11 ~ 20	Some danger of hurting self or others or Gross impairment in communication	Occasionally fails to maintain minimal personal hygiene
21 - 30	Behavior is considerably influenced by delusions or serious impairment in communication or judgment	Inability to function in almost all areas
31 - 40	Some impairment in reality testing or communication	Major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood
41 - 50	Serious symptoms	Any serious impairment in social, occupational, or school functioning
51 - 60	Moderate symptoms	Moderate difficulty in social, occupational, or school functioning
61 - 70	Some mild symptoms	Some difficulty in social or occupational functioning, but generally functioning pretty well, has some meaningful interpersonal relationships.
71 - 80	If symptoms are present, they are transient and expectable reactions to psychosocial stressors	No more than slight impairment in social, occupational, or school functioning
81 - 90	Absent or minimal symptoms, Generally satisfied with life. No more than everyday problems or concerns.	Good functioning in all areas, interested and involved in a wide range of activities, socially effective,
91 - 100	No symptoms	Superior functioning

²⁰ GAF is a numeric scale (0 through 100) used by mental health clinicians and doctors to rate the social, occupational and psychological functioning of adults. Higher scores indicate better functioning.

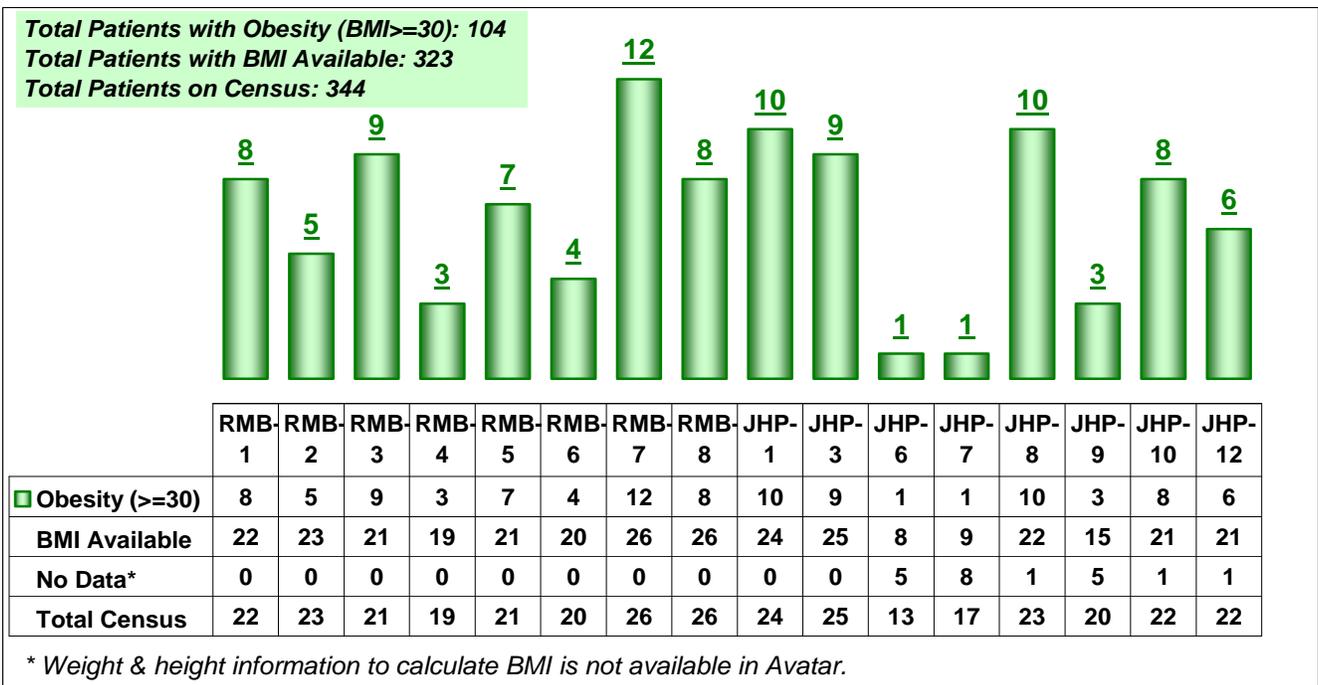
Figure 26. Average GAF Score by Unit (9/30/2009)



7. Body Mass Index (BMI) and Obesity

- At least 104 patients, which account for 30% of the total patients served, have obesity according to BMI measure findings.
- RMB-7, JHP-1, and JHP-10 have the most patients with obesity.
- Weight & height data was frequently missing for patients in pre-trial units (JHP-6/7 and JHP-9).

Figure 27. Patients with Obesity: BMI >=30 (9/30/2009)

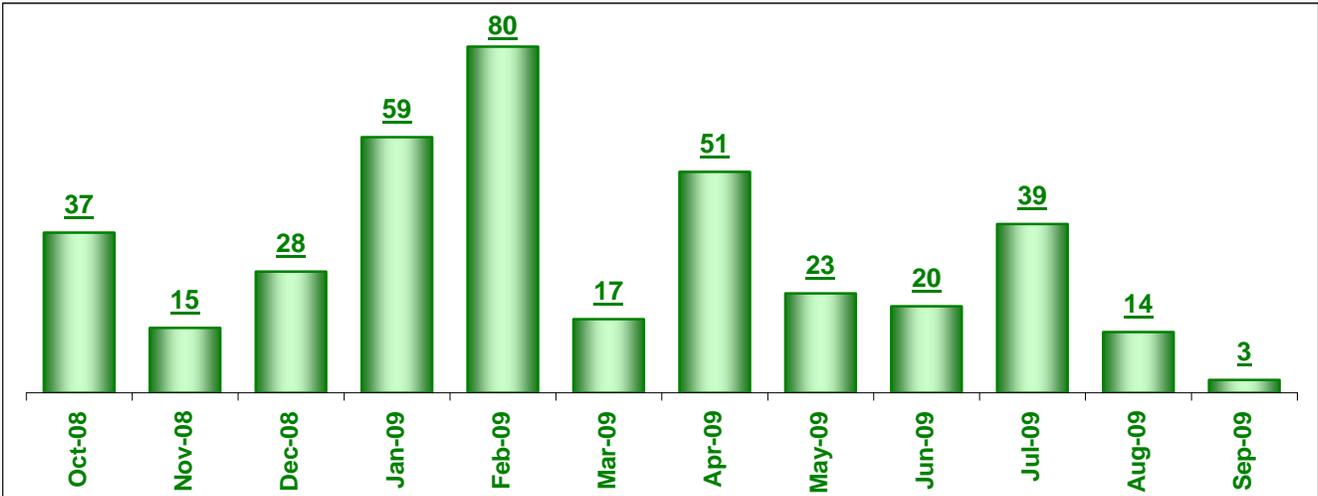


VI. Medication and Pharmacy

1. Medication Variances (MV)²¹

- During FY09, a total of 386 medication variances (32 per month on average) were reported.
- The number of reported MV incidents varied month by month, ranging from three (3) to 80.

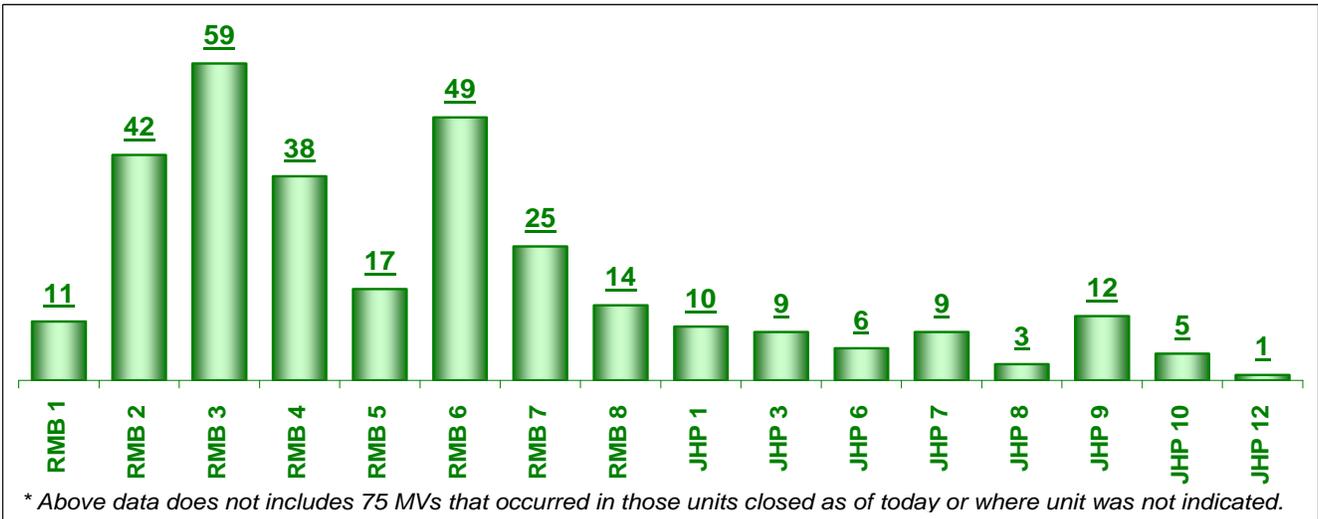
Figure 28. Volume of Reported Medication Variances (FY2009)



Data Source: MEDMARX²²

- Patients from certain units were more frequently reported than patients in other units. Some of the JHP units had only few MV incidents reported throughout the entire fiscal year.
- RMB-3 patients had the most MV incidents reported (59) for and JHP-12 had the least (1).

Figure 29. Medication Variances by Unit (FY2009)



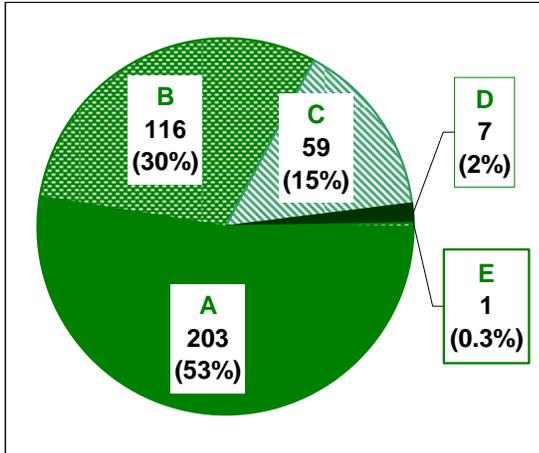
- Of the 386 reports, 203 (53%) were those where no actual variances occurred but it had the capacity to cause a variance (Category A).

²¹ It is an equivalent term of 'medication error', which is defined as "any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer." –National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP).

²² An internet-based medication variance and drug reaction reporting database many hospitals and health care systems use to document and track medication variances and ADRs and the Hospital has been participating since April 2007.

- Of the remaining 183 MVs that actually occurred, 116 cases did not reach patients (Category B), 59 cases reached the patient but did not cause the patient harm (Category C), seven (7) required monitoring and intervention to preclude harm (Category D), and one resulted in temporary harm to the patient (Category E).

Figure 30. Outcomes (Category) of Medication Variances (FY2009)



Category Descriptions

- A** Circumstances or events that have the capacity to cause error.
- B** An error occurred, but the error did not reach the patient.
- C** An error occurred that reached the patient, but did not cause patient harm.
- D** An error occurred that reached the patient and required monitoring to confirm that it resulted in no harm to the patient, and/or required intervention to preclude harm.
- E** An error occurred that may have contributed to or resulted in temporary harm to the patient and required intervention.

- Of the 183 MVs that actually occurred (Category B–E), 109 (60%) variances developed during medication prescribing process, 29 (16%) in administering process, and another 29 (16%) in transcribing/documenting process.
- A significant majority of MVs were discovered/reported by Pharmacy Personnel (327 or 85% of the total 386 MVs reported) and reports made by nursing staff and physicians composed only 8% and 4%, respectively.

Figure 31. MV by Type (FY2009)

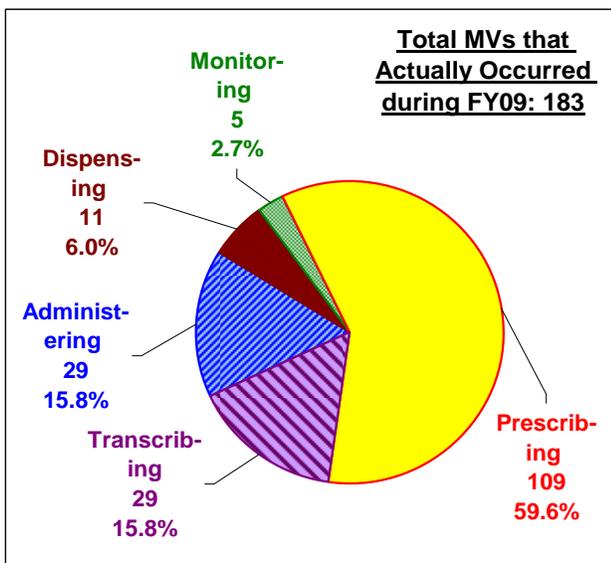
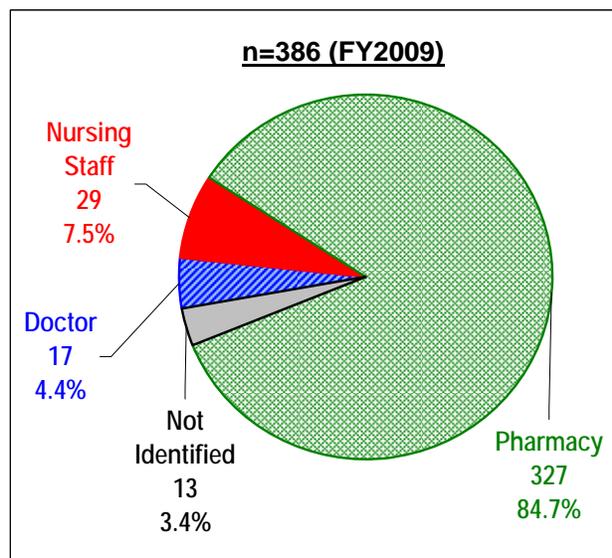


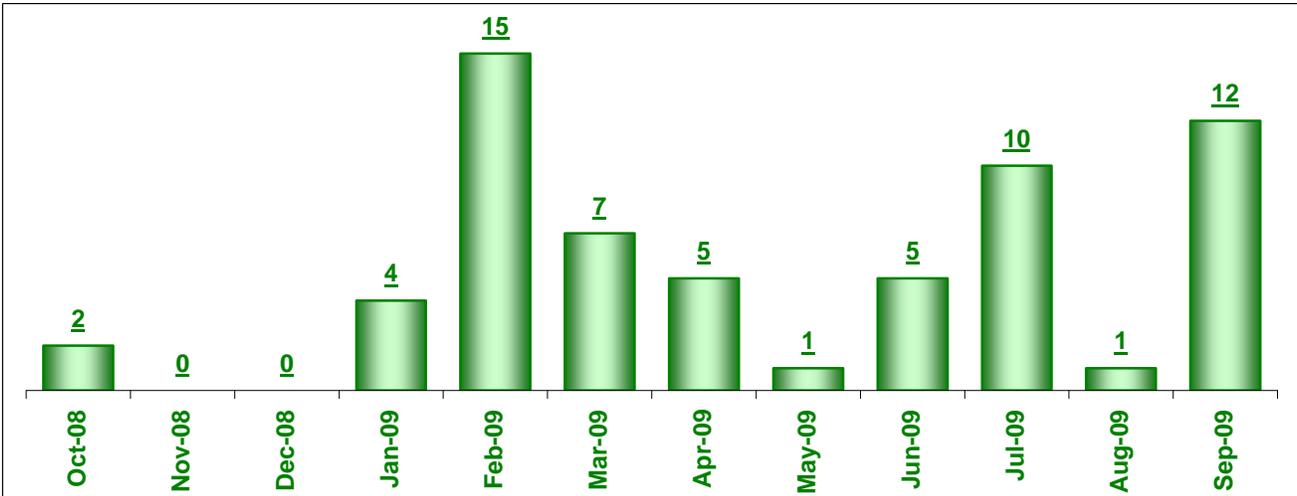
Figure 32. MV by Reporter (FY2009)



2. Adverse Drug Reaction (ADR)²³

- During FY09, a total of 62 ADRs – five (5) per month on average – were reported.
- The monthly number of reported ADRs ranged from zero (0) to 15.

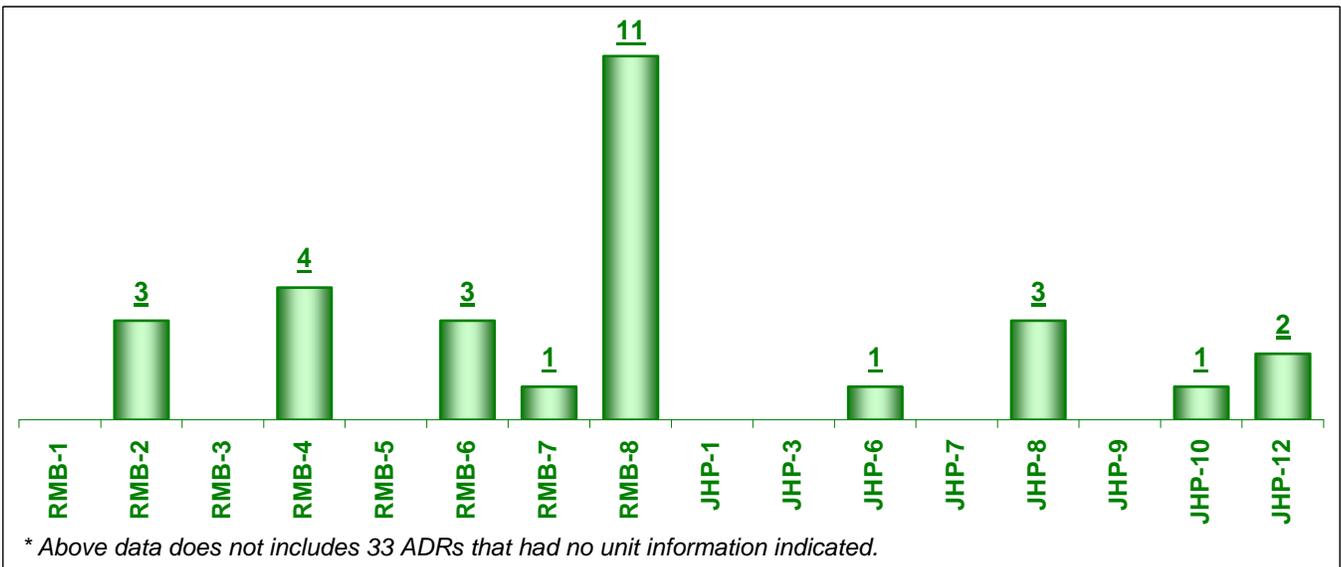
Figure 33. Volume of Reported ADRs (FY2009)



Data Source: MEDMARX²⁴

- Data on the number of ADRs by unit suggests that ADRs may not be consistently reported throughout the hospital.
- RMB-8 had the most ADRs reported (a total of 11) while several units did not have any ADRs reported for the entire fiscal year.

Figure 34. ADR Reports by Unit (FY2009)



²³ A Suspected Adverse Drug Reaction is a "noxious and unintended response to any dose of a drug (or biologic) product for which there is a reasonable possibility that the product caused the response. In this definition, the phrase 'a reasonable possibility' means that the relationship cannot be ruled out. – Food and Drug Administration proposed definition, Federal Register, 3/14/2003 (Volume 68, Number 50)

²⁴ An internet-based medication variance and drug reaction reporting database many hospitals and health care systems use to document and track medication variances and ADRs and the Hospital has been participating since April 2007.

- Of the 62 ADRs, 18 or 29% were considered not serious while 33 needed intervention to prevent incapacity (53%), five (5) cases (or 8%) accompanied other medically important conditions, and three (3) cases were life-threatening.

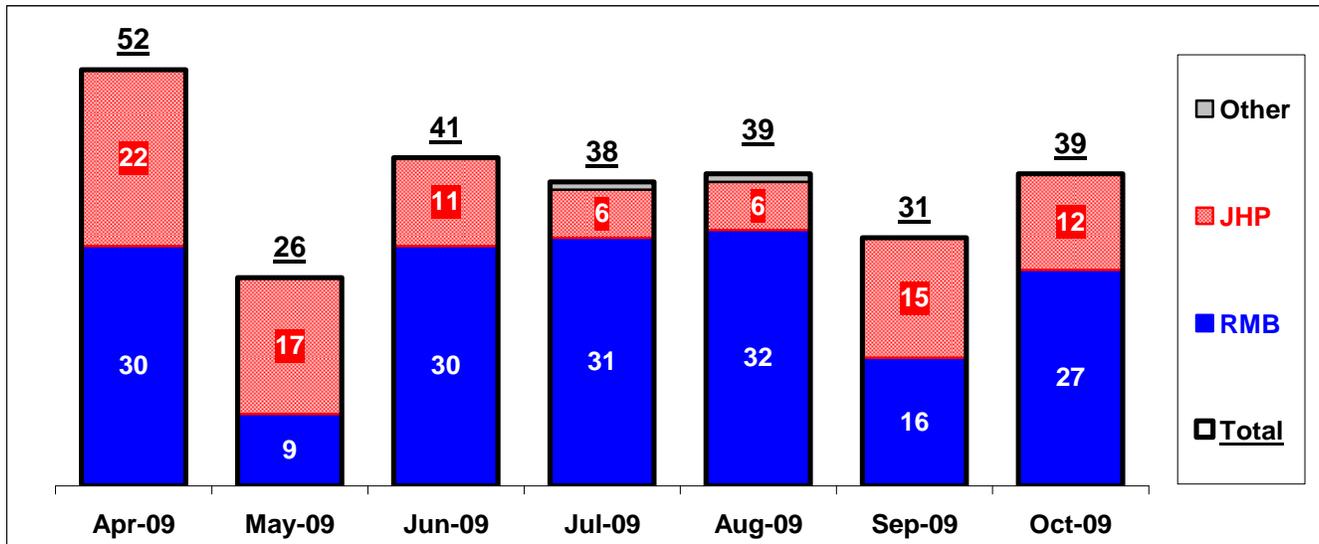
Table 12. Reported ADRs by Severity & by Month (FY2009)

Severity	Total	Percent
Results in death	0	0%
Is life-threatening	3	5%
Requires initial/prolonged hospitalization	1	2%
Is a congenital anomaly or birth defect	0	0%
Other medically important condition	5	8%
Intervention to prevent incapacity	33	53%
Results in persistent/significant incapacity	2	3%
<i>Not serious (none of the above apply)</i>	18	29%
Total*	62	100%

3. STAT and Involuntary Emergency Medication

- Between April and October 2009, the average number of patients who received three or more STAT²⁵ medication orders each month was 38.
- STATs were ordered more frequently among RMB patients than JHP patients. On average, 25 patients in Civil and 13 patients in Forensic received three or more STAT medication orders each month.

Figure 35. Patients with Three or More STAT Orders (Apr-2009 ~ Sep-2009)



- The number of possible Involuntary Emergency Medication (IEM) Orders was tracked by observing the number of tranquilizers to be given by injection as STAT orders²⁶ over the past six months.
- The average number of possible IEM orders was 55 per month: 35 among the RMB patients and 20 orders among JHP patients.
- IEM orders were often given to some patients repeatedly. During the last quarter of FY09, between July and September 2009, a total of 147 possible IEMs were ordered for a total of 84 unique patients.
- During the last three months of FY09, IEMs were ordered most frequently for patients in RMB-4 and RMB-6.

²⁵ STAT means 'medication to be given immediately'.

²⁶ AVATAR currently cannot track the actual involuntary emergency medication orders. Instead, STAT order data was analyzed and parenteral tranquilizers, which include Ativan, Chlorpromazine, Fluphenazine (Emergency only), Geodon,

Figure 36. Monthly Trend of Involuntary Emergency Medication Orders (Apr-2009 ~ Sep-2009)

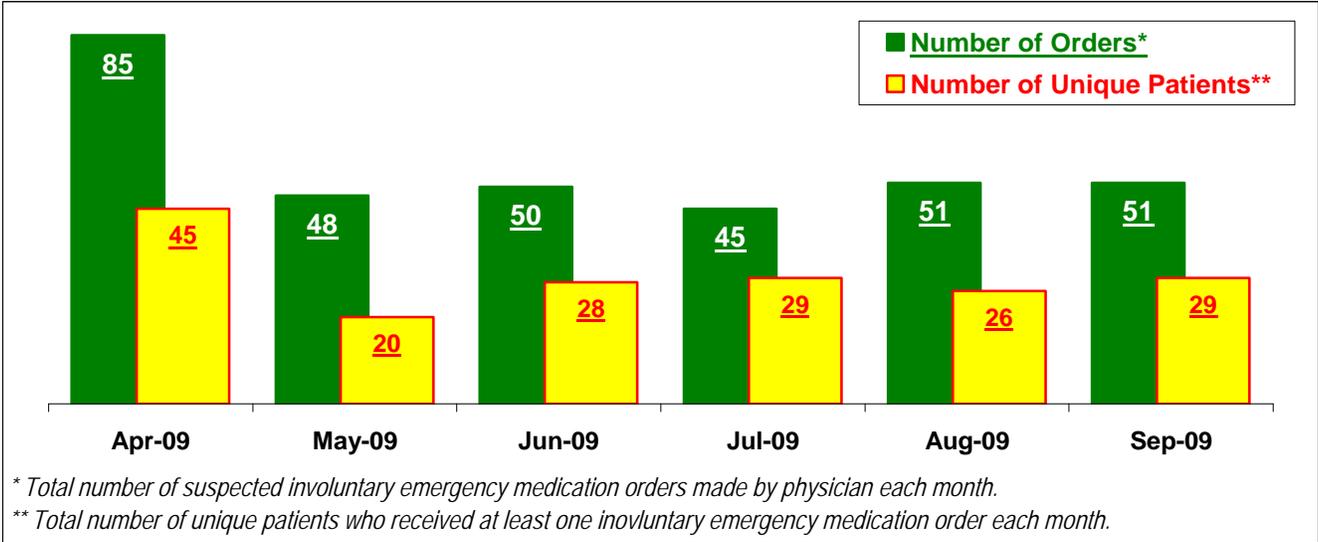
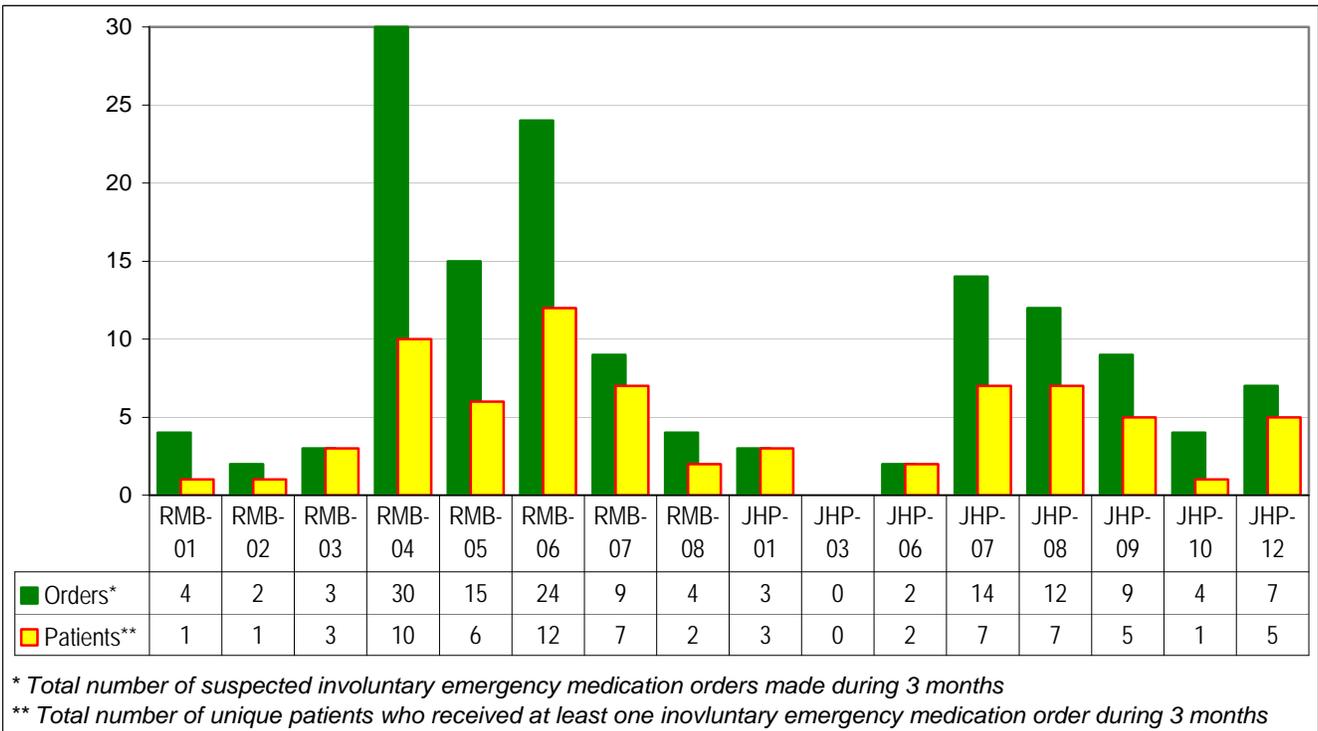


Figure 37. Involuntary Emergency Medication Orders by Unit (Jul-2009 – Sep-2009)



Haldol, Haloperidol Lactate (Emergency only), Klonopin and Zyprexa, given as STAT order were identified as possible involuntary emergency medications.

VII. Unusual Incidents

Data Source: Unusual Incidents Database, PID

1. Number of Unusual Incidents (UI)

- A total of 1425 incidents (119 per month on average) were reported to have occurred during FY09, and of those, 1342 (94%) were those where at least one patient was involved.
- In FY09, the monthly number of incidents was at the highest level in October (158) and March (157) and at the lowest level in September (93) and between May and July (96~102)
- Observation of two years of UI data revealed that UIs tended to occur more frequently around early spring and fall and less frequently during summer and winter time.

Figure 38. Number of Reported Unusual Incidents (FY2008 & FY2009)

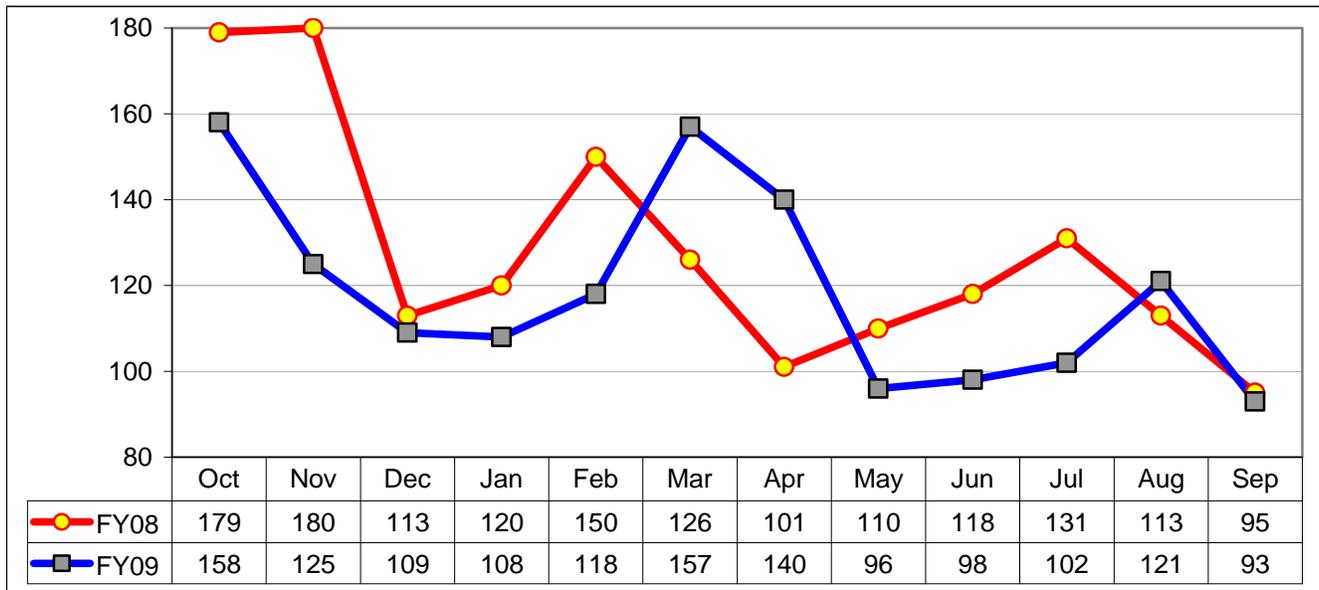


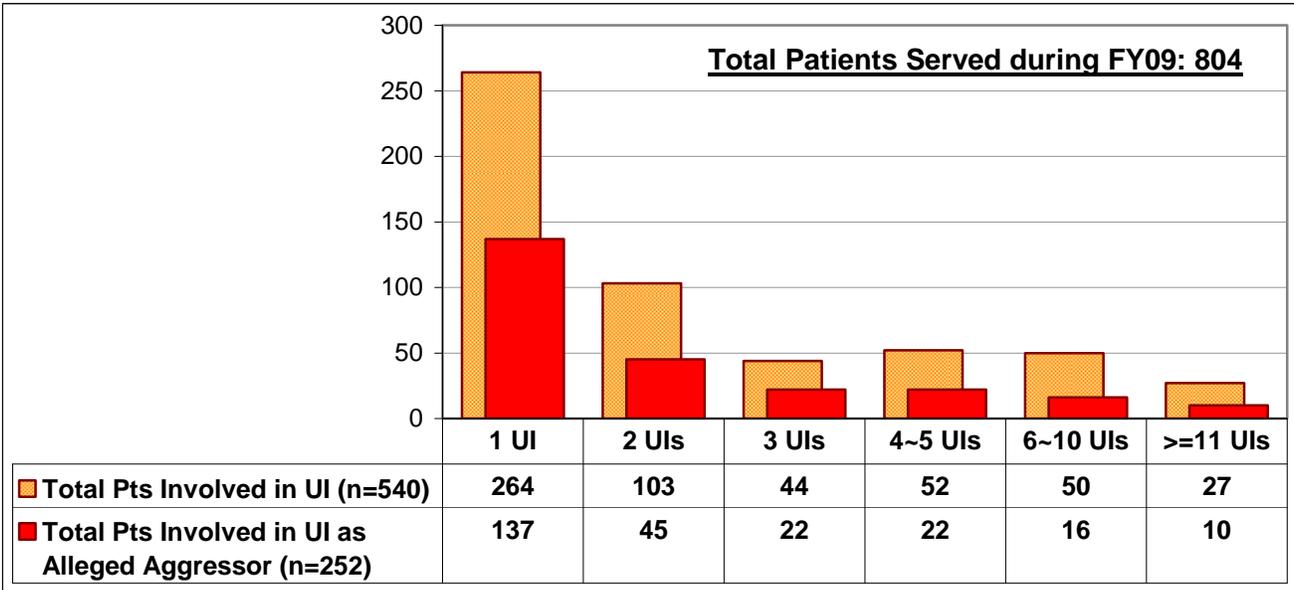
Table 13. Number of Incidents by Patient Involvement (FY2009)

Patient Involvement	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Total	Monthly Average	Percent
Patient Involved	149	117	101	101	111	149	130	94	91	98	114	87	1342	112	94%
No Patient Involved	9	8	8	7	7	8	10	2	7	4	7	6	83	7	6%
Total	158	125	109	108	118	157	140	96	98	102	121	93	1425	119	100%

2. Patients Involved in UI

- A total of 540 unique patients were involved in at least one incident during FY09. They compose 67% of the total inpatients (804) served by the Hospital at least for one day during this fiscal year.
- Of the 540 patients, 252 patients (47%) were reported as alleged aggressors at least for one incident.
- A total of 276 patients were involved and reported in more than one incident during FY09 and of those, 27 patients each involved in a total of more than ten (10) incidents. They include 10 patients who were alleged to be aggressors for more than 10 incidents.

Figure 39. Number of Unique Patients by Frequency of UI Involvement (FY2009)



3. Time Lag between Incident and Reporting

- During FY09, almost half of the incidents (643 or 45%) were reported to the Risk Manager on the same day or next day of the incident occurrence.
- The percentage of incidents reported within one day increased throughout the year. For the first and second quarter of FY09, 44% and 39% were reported within one day. For the third and fourth quarter, 48% and 50% were reported within one day
- The median time lag between the date of incident and the date the report was submitted was six (6) days in January 2008 and two days for the first three quarters of FY09, between October 2008 and June 2009. The median time lag for the last quarter of FY09 was one day.
- Despite such significant progress, many incidents are not still reported timely. For the 4th quarter of FY09, 15% were reported in six days or later after incident occurrence.

Table 14. Time Lag between Incident and Reporting (FY2009)

Time Lag ²⁷	1 st Quarter		2 nd Quarter		3 rd Quarter		4 th Quarter		FY09 Total	
	#	%	#	%	#	%	#	%	#	%
0~1 Day	174	44%	149	39%	161	48%	159	50%	643	45%
2 Days	68	17%	53	14%	45	13%	41	13%	207	15%
3 Days	40	10%	53	14%	41	12%	24	8%	158	11%
4~5 Days	63	16%	61	16%	40	12%	46	15%	210	15%
6~10 Days	26	7%	45	12%	27	8%	21	7%	119	8%
11~30 Days	16	4%	21	5%	18	5%	16	5%	71	5%
31~42 Days	5	1%	1	0%	2	1%	9	3%	17	1%
Total	392	100%	383	100%	334	100%	316	100%	1425	100%
Average Length (Days)	3.5 Days		3.4 Days		3.1 Days		4.6 Days		3.6 Days	
Median Length (Days)	2.0 Days		2.0 Days		2.0 Days		1.0 Days		2.0 Days	

²⁷ The time lag has been calculated by subtracting the time an incident actually occurred from the time the report was received by the Risk Manager.

4. UI by Type

- Assault/altercation (31.8%), physical injury (17.7%), medical emergency (11.2%), psychiatric emergency (10.9%), and falls (10.2%) are the most frequently reported incidents.
- The frequency of assault/altercation report somewhat declined in the past few months: during the 4th quarter of FY09, assault/altercation constituted 27% of all UIs whereas they used to be 35% of UIs during the 1st quarter of FY09.
- An absolute majority of reported incidents are considered to be major incidents but more than half of them are low in severity level.

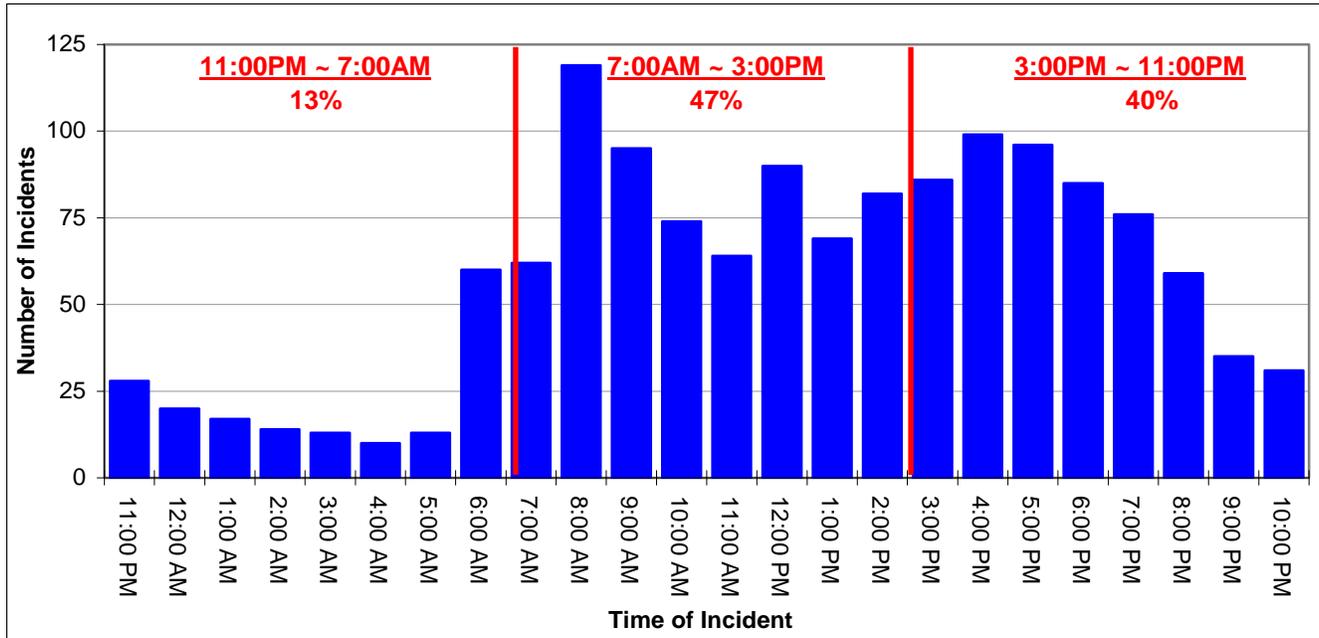
Table 15. Number of Incidents by UI Type (FY2009)

UI Type Category	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Total	Monthly Average	Percent	
Abuse/Neglect/Exploitation	10	8	2	4	9	7	9	7	11	5	9	7	88	7	6.2%	
Assault/Altercation	49	51	37	29	39	50	47	39	28	31	22	31	453	38	31.8%	
Contraband	11	9	3	6	6	7	3	3	2	1	5	3	59	5	4.1%	
Crime	2	0	0	0	0	1	3	0	0	0	0	0	6	0.5	0.4%	
Death	0	1	0	0	0	0	1	1	2	0	0	0	5	0.4	0.4%	
Environment	1	0	0	1	2	7	1	1	0	0	6	0	19	1.6	1.3%	
Falls	19	13	11	14	7	12	16	16	9	10	11	8	146	12	10.2%	
Fire	0	0	1	0	1	1	1	0	0	7	1	0	12	1.0	0.8%	
Medical Emergency	19	16	20	13	18	14	13	11	10	7	6	12	159	13	11.2%	
Medication Variance	1	2	1	1	4	4	3	1	19	4	19	4	63	5	4.4%	
Physical Injury	23	23	26	17	16	32	26	13	16	18	26	16	252	21	17.7%	
Psychiatric Emergency	13	16	6	9	13	19	22	11	9	16	10	12	156	13	10.9%	
Reportable Disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
Restraint/Seclusion	7	8	2	9	6	9	6	2	4	7	4	4	68	6	4.8%	
Security Breach	3	7	2	1	1	2	5	0	3	1	2	3	30	3	2.1%	
Suicide Attempt/Gesture	1	0	0	0	1	0	0	0	1	3	0	0	6	0.5	0.4%	
UL/Disappearance	22	8	14	11	10	7	10	7	12	6	14	6	127	11	8.9%	
Vehicle Accident	1	0	0	0	0	0	1	0	1	0	0	0	3	0.3	0.2%	
Other	10	2	9	15	13	27	25	16	16	18	16	18	185	15	13.0%	
Total*	158	125	109	108	118	157	140	96	98	102	121	93	1425	119	100.0%	
>=2 Categories	26	30	21	19	21	38	38	25	25	23	28	27	321	27	22.5%	
Major Incidents	72 46%	94 75%	88 81%	89 82%	81 69%	124 79%	127 91%	93 97%	96 98%	100 98%	115 95%	91 98%	1170 82.1%	98 82.1%	N/A	
Severity	High	10	21	12	12	3	9	3	4	3	8	5	5	95	8	6.7%
	Medium	89	56	43	43	44	52	38	30	36	39	35	47	552	46	38.7%
	Low	59	48	54	53	71	96	99	62	59	55	81	41	778	65	54.6%

5. UI by Time and Location

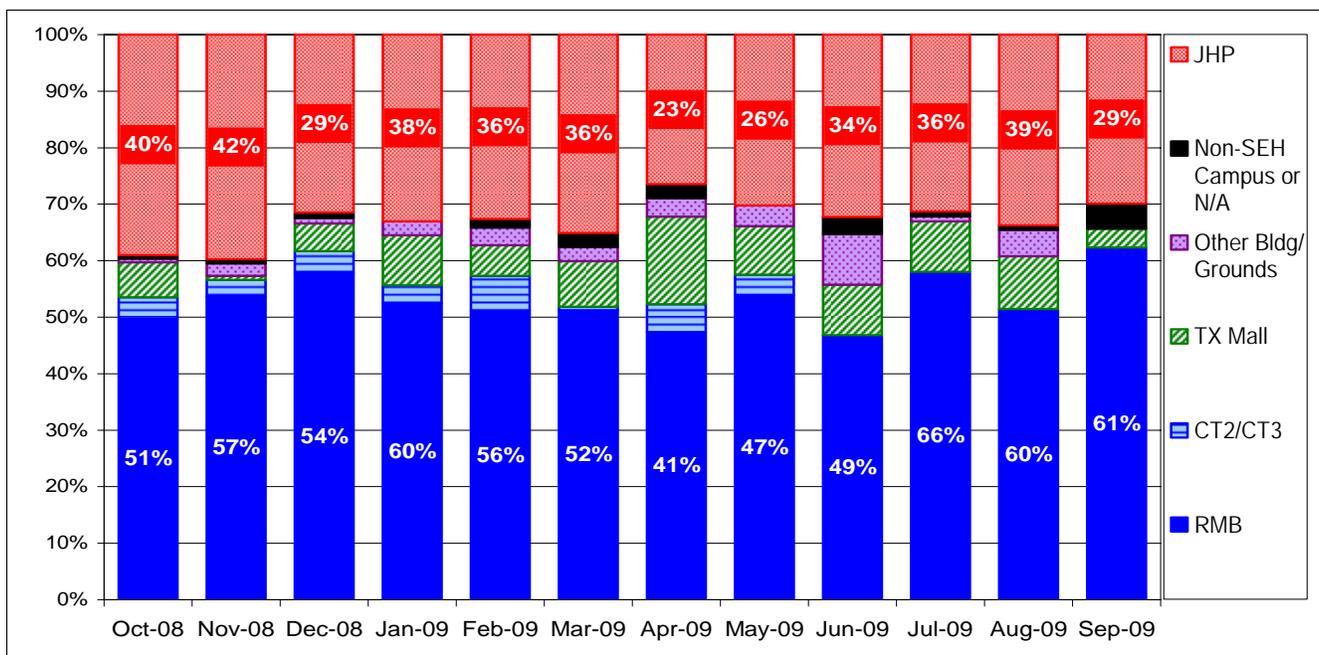
- Most of UIs took place during the day shift (47%) and the evening shift (40%).
- UIs tend to occur most frequently between 8:00 am to 10:00 am. They slow down a little bit and rise again at noon. The frequency of UIs declines in the early afternoon but starts increasing in the late afternoon. Then, it visibly drops after 9:00pm through 6:00am in the morning.

Figure 40. Major Incidents by Time and Shift (FY2009)



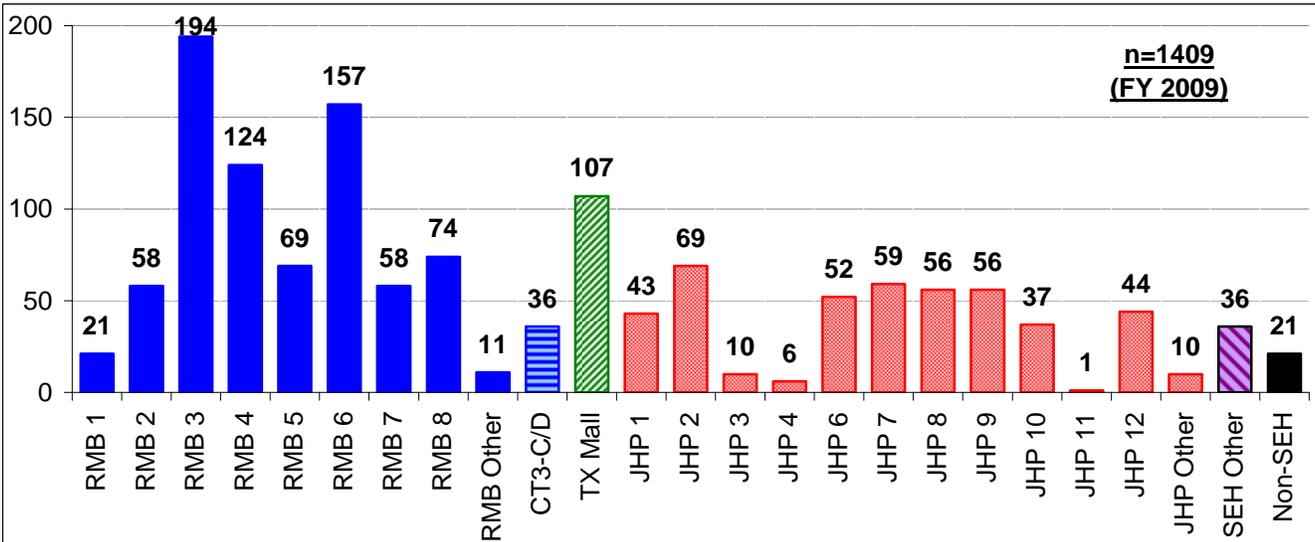
- During FY09, more than half of the UIs (55%) took place at RMB. Particularly for the past few months, more than three out of five UIs were reported to occur at RMB. The proportion of UI frequencies in RMB increased over time, which may be due in part to better reporting.

Figure 41. Unusual Incidents by Location (FY2009)



- Over one third (34%) of the UIs took place at RMB-3, RMB-4 and RMB-6.
- RMB-1 and JHP-3 and JHP-4 had the fewest UI reports.

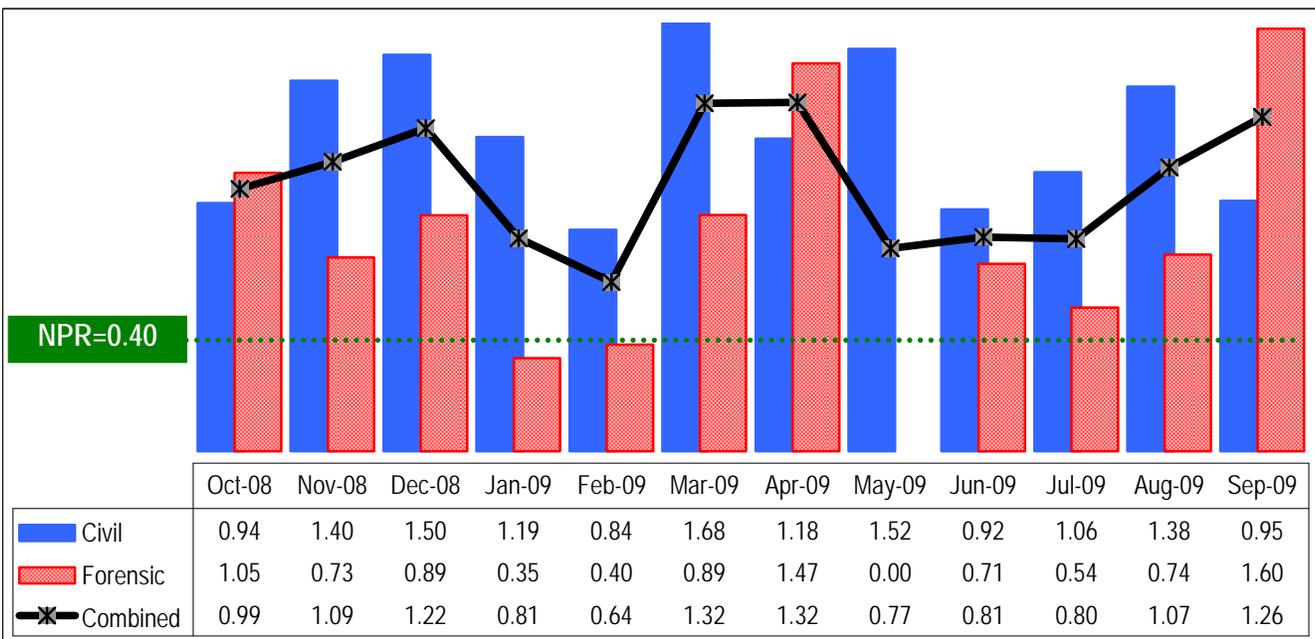
Figure 42. Unusual Incidents by Unit (FY2009)



6. Patient Injury

- A total of 140 patients (89 in Civil and 51 in Forensic) were reported to have been injured during FY09. This makes the patient injury rate of 1.01 per 1000 patient days.
- The patient injury rate of the Hospital is much higher than that of the national public rate of 0.40.

Figure 43. Patient Injury Rate (FY 2009)



7. Restraint and Seclusion²⁸

- The total number of restraint and seclusion episodes for FY 2009 is 84 and 37, respectively, which translates into the monthly average of 7 and 3. This is a significant reduction from FY2008, when the monthly average of restraint and seclusion episodes was 18 and 7, respectively.
- A majority of restraint and seclusion episodes occurred in Civil.
- The frequency of restraint and seclusion episodes and hours visibly dropped in April and remained low since then.

Figure 44. Total Number of Restraint Episodes (FY2008 & FY2009)

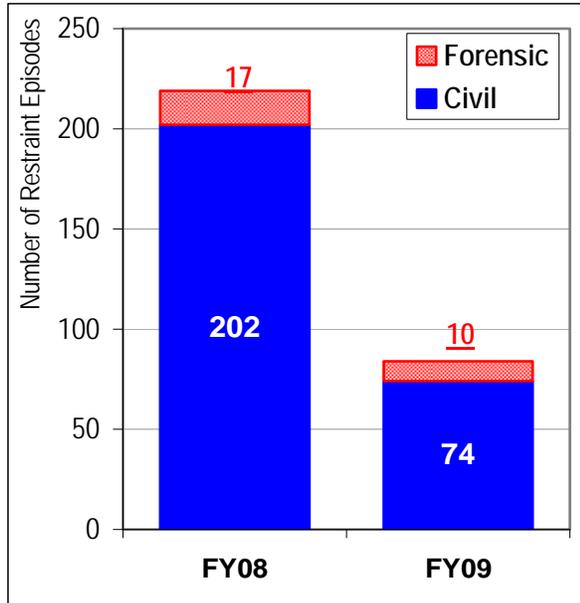


Figure 45. Total Number of Seclusion Episodes (FY2008 & FY2009)

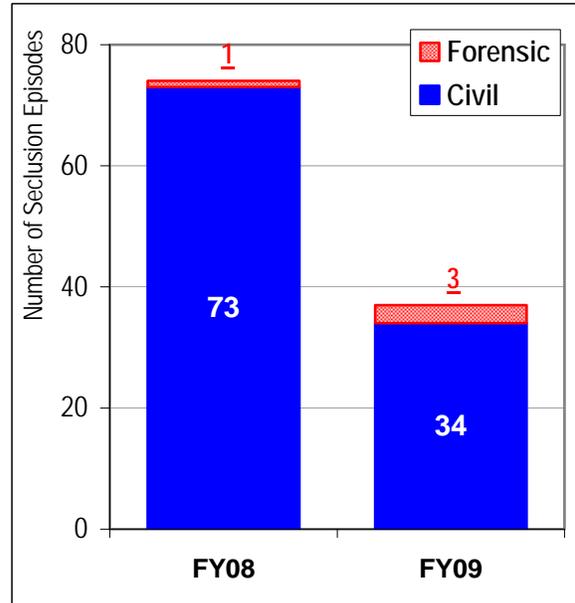
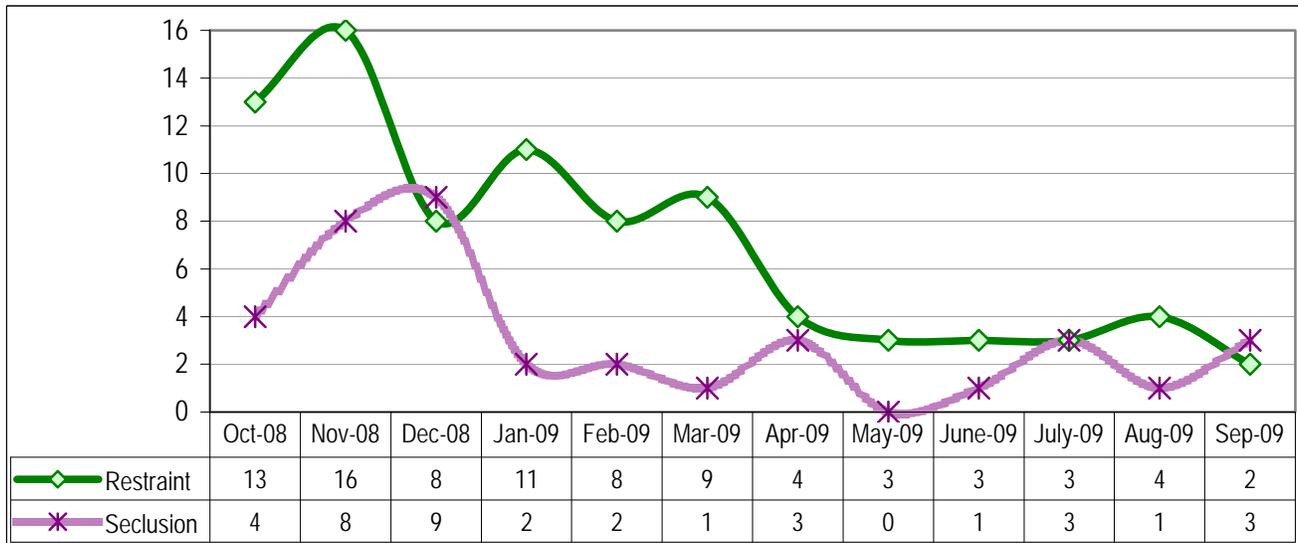


Figure 46. Monthly Trend of Restraint and Seclusion Frequency (FY2009)



²⁸ Data source for this section is the seclusion/restraint log, which may or may not include those episodes reported as UI. While PID reconciles the log and UI data at the end of every month, numbers may not be the same between two data sources for some months if any episodes are not reported in one of them.

- The restraint and seclusion hours of the Hospital (0.03 and 0.02 per 1000 patient hours) is much lower than that of the National Public Rate (NPR), which is 0.72 and 0.50, respectively, as of March 2009.

Table 16. Restraint and Seclusion Episodes by Program (FY2009)

Restraint		Program	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Monthly Average	Total
Number of Restraint Events	Civil		13	15	8	10	8	9	1	2	0	2	4	2	6.2	74
	Forensic		0	1	0	1	0	0	3	1	3	1	0	0	0.8	10
	Total		13	16	8	11	8	9	4	3	3	3	4	2	7.0	84
Number of Unique Patients Restrained	Civil		9	11	3	8	5	6	1	2	0	2	4	2	4.4	
	Forensic		0	2	0	1	0	0	3	1	2	1	0	0	0.8	
	Total		9	13	3	9	5	6	4	3	2	3	4	2	5.3	
Total Restraint Hours (h:mm)	Civil		17:15	16:20	9:00	12:00	7:30	10:45	2:00	2:00	0:00	2:15	4:00	2:00	7:05	85:05
	Forensic		0:00	1:00	0:00	1:00	0:00	0:00	2:40	0:10	2:30	2:00	0:00	0:00	0:46	9:20
	Total		17:15	17:20	9:00	13:00	7:30	10:45	4:40	2:10	2:30	4:15	4:00	2:00	7:52	94:25
Restraint Hours Rate	Civil		0.11	0.11	0.06	0.07	0.05	0.07	0.01	0.01	0.00	0.02	0.03	0.02	0.05	
	Forensic		0.00	0.01	0.00	0.01	0.00	0.00	0.02	0.00	0.02	0.02	0.00	0.00	0.01	
	Total		0.06	0.06	0.03	0.04	0.03	0.04	0.02	0.01	0.01	0.02	0.01	0.01	0.03	

Seclusion		Program	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Monthly Average	Total
Number of Seclusion Events	Civil		4	8	9	2	2	1	3	0	1	3	1	0	2.8	34
	Forensic		0	0	0	0	0	0	0	0	0	0	0	3	0.3	3
	Total		4	8	9	2	2	1	3	0	1	3	1	3	3.1	37
Number of Unique Patients Secluded	Civil		2	3	4	2	2	1	3	0	1	3	1	0	1.8	
	Forensic		0	0	0	0	0	0	0	0	0	0	0	2	0.2	
	Total		2	3	4	2	2	1	3	0	1	3	1	2	2.0	
Total Seclusion Hours (h:mm)	Civil		3:15	9:30	35:35	8:00	1:45	0:20	3:45	0:00	1:00	3:00	2:00	0:00	5:40	68:10
	Forensic		0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	3:30	0:17	3:30
	Total		3:15	9:30	35:35	8:00	1:45	0:20	3:45	0:00	1:00	3:00	2:00	3:30	5:58	71:40
Seclusion Hours Rate	Civil		0.02	0.06	0.22	0.05	0.01	0.00	0.03	0.00	0.01	0.02	0.01	0.00	0.04	
	Forensic		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	
	Total		0.01	0.03	0.12	0.03	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.02	

- Over two thirds (67%) of restraint and seclusion episodes took place at RMB 3 and RMB 6.
- Almost half of the (46%) of restraint and seclusion episodes took place in the day shift between 7:00 am to 3:00 pm.