Riverside County Department of Mental Health

Adverse Incident Morbidity/Mortality Report

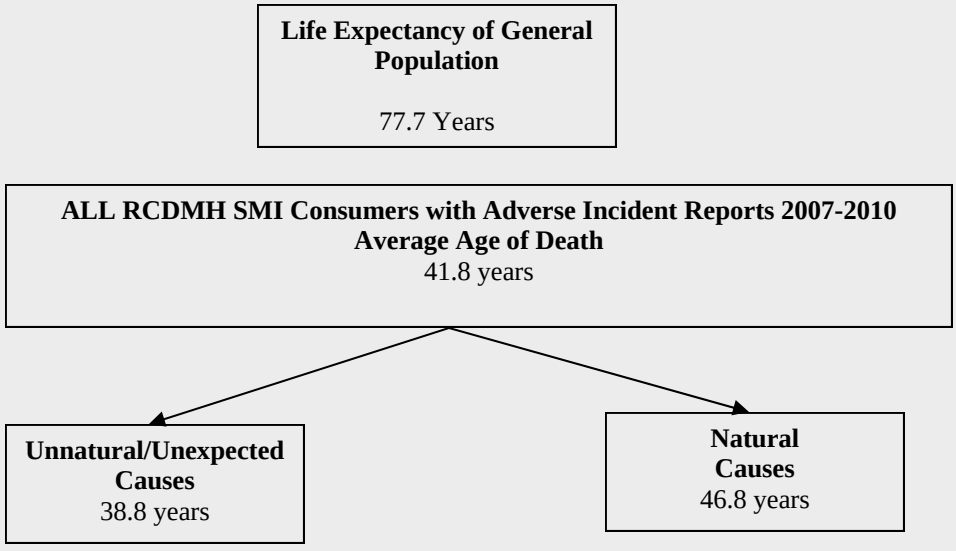
Includes Adverse Incident Data from 1/2007—5/2010

Introduction

People with serious mental illness (SMI) die, on average, 25 years earlier than the general population. According to the 2006 morbidity and mortality report by the National Association of State Mental Health Program Directors (NASMHPD), suicide and injury account for approximately 30-40% of excess mortality. Sixty (60%) percent of premature deaths in persons with schizophrenia are due to medical conditions such as cardiovascular, pulmonary and infectious diseases.

Riverside County Department of Mental Health (RCDMH) provides mental health services for over 30,000 consumers with SMI annually and collects data for adverse incidents that occur among these consumers. The adverse incident data includes morbidity and mortality, as well as strategic approaches implemented to prevent the reoccurrence of such incidents.

Two hundred and six adverse incidents were reported for RCDMH consumers from January 2007 to May 2010 with 145 resulting in death. A review of these files indicated that the average age of death was 41.8 years. Among these SMI consumers, the life expectancy of those who died from natural causes (46.8 years) was approximately 8 years more than those who died from unnatural/unexpected causes (38.8 years). On average RCDMH consumers with SMI who had an adverse incident resulting in death, from January 2007 to May 2010, had a life expectancy that was approximately 36 years less than the general population. According to the Center for Disease Control and Prevention (CDC), the average life expectancy for the general population is 77.7 years. This supports the fact that people with serious mental illness (SMI) die 25 or more years earlier, on average, than the general population.



This report presents a brief review of the data collected from adverse incident reports for RCDMH consumers with SMI served by RCDMH, from January 2007 - May 2010.

DEMOGRAPHICS

Trend

Data collected from adverse incidents reported from RCDMH consumers indicated an 88% increase in reported adverse incidents from 2007 (n=48) to 2009 (n=90). However, thus far in 2010 (5 months), the data is showing a decrease in reported incidents relative to previous years (at the same point in time - 5 months into the year). (See trend line in Fig.1)

Fig. 1

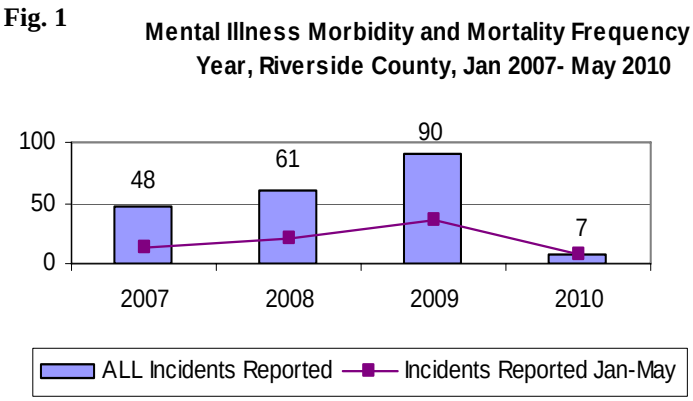
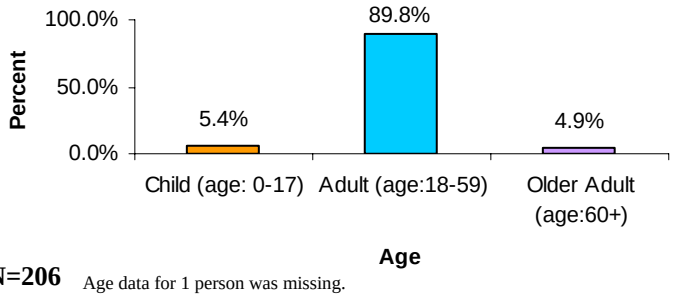


Fig. 2 Morbidity and Mortality Frequency by Age, Riverside County Jan 2007- May 2010



N=206 Age data for 1 person was missing.

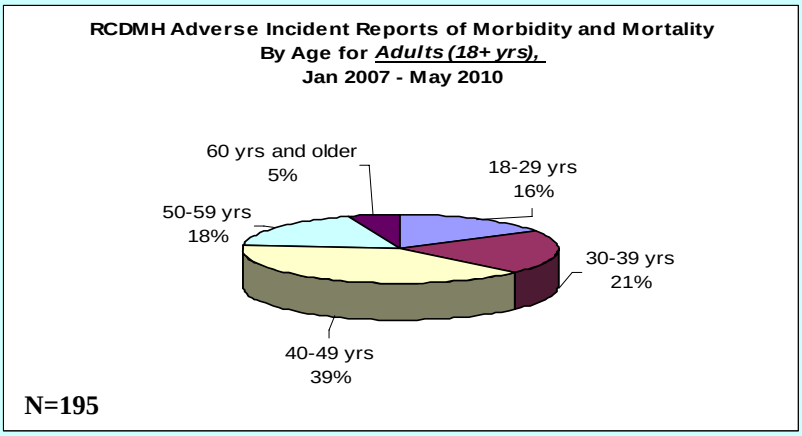
Age

From January 2007 to May 2010, there were a total of 206 adverse incidents reported among RCDMH mental health consumers resulting in death or illness. Of these, 184 (90%) occurred in adults (18-59 years) (Fig.2).

Age

For adult RCDMH consumers for whom adverse incidents were reported, the 40-49 age category comprised the largest proportion (39%) of adverse incidents reported, followed by the 30-39 age category at 21%. The 60 and older age category had the least amount of reported adverse incidents (5%) throughout the 2.5 year period (January 2007 - May 2010) (Fig.3).

Fig.3.



N=195

Table 1. Adverse Incident Reports for RCDMH by Age, Jan 2007 - May

Age	18-29	30-39	40-49	50-59	60+	Total
# reported	32	40	76	36	10	**195**

DEMOGRAPHICS

Gender

More adverse incidents were reported for RCDMH male consumers between January 2007 and May 2010. The male-to-female ratio for adverse incidents reported during this time period is approximately 2:1 (Fig.4).

Fig. 4

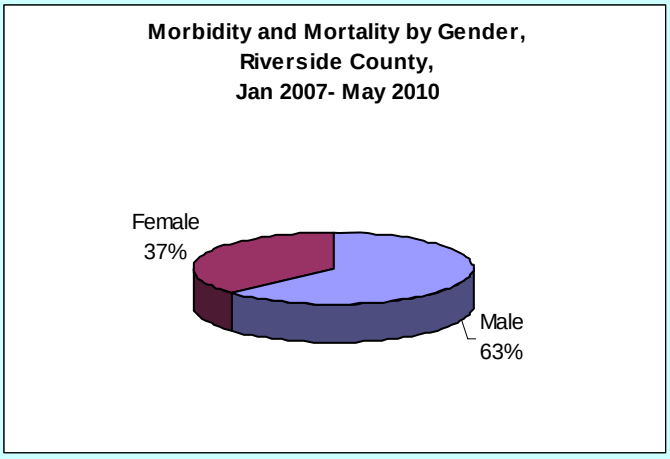
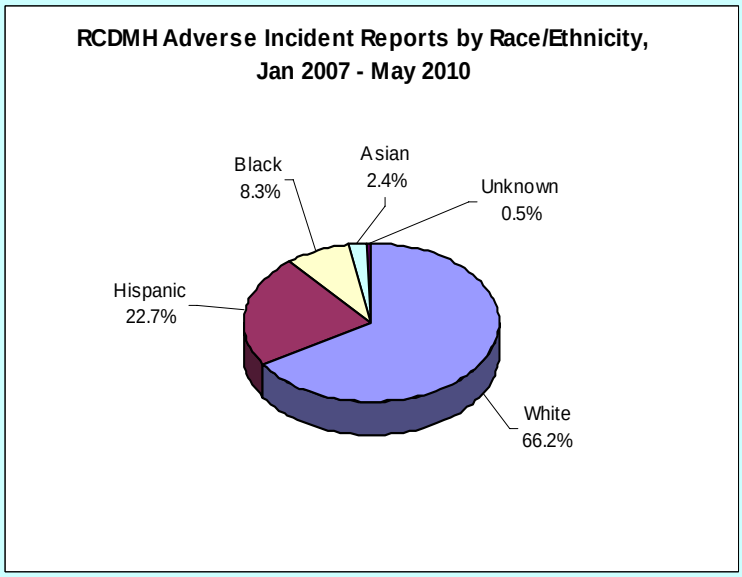


Fig 5: RCDMH Adverse Incident Reports by Race/Ethnicity, January 2007– May 2010.



Race/Ethnicity

Whites had the highest percentage (66.2%) of reported adverse incidents over the 2 1/2 year period from Jan 07 - May 2010, followed by Hispanics/Latino (22.7%) (Fig 5).

Geographic Distribution

A review of the adverse incident reports among RCDMH consumers from January 2007 - May 2010, by region, indicated a greater number of cases in Mid-County, while the least number of incidents reported occurred in the West region of the county (Table 2).

Table 2: RCDMH Adverse Incident Reports by RCDMH Dept. Regions, Jan 2007– May 2010.

Region	Cases Reported
Desert	62
Detention	8
Mid-County	91
Older Adult	5
Substance Abuse	4
West	29
Unknown	7
Total	**206**

MORTALITY

Two hundred and six (206) adverse incidents were reported for RCDMH consumers from January 2007 to May 2010; 145 resulted in death. Adverse incidents resulting in a fatality comprised 70% (n=145) of all adverse incidents reported for RCDMH consumers during this time period. Of these 145 deaths, 62% (90) were from unnatural causes and 38% (55) were from natural causes. Suicide and accidental related deaths accounted for 86% of unnatural deaths (40%-suicide and 46%-accidental death) (Tables 3).

Table 4 shows the breakdown of deaths from unnatural causes as reported on adverse incident reports for RCDMH consumers for each year from 2007 to 2010 (5 months in 2010).

Table 4

Year	'07	'08	'09	'10	Total
# Deaths	29	27	32	2	**90**

Table 3 Deaths from Unnatural Causes

Cause of Death	#	%
Suicide	36	40.0%
Drowning	1	1.1%
Homicide Victim	4	4.4%
Accidental Death	41	45.6%
Other Death	3	3.3%
Unknown/Undetermined	5	5.6%
Total	**90**	**100.0%**

Suicide

Intentional overdose and hanging accounted for 67% of all reported adverse incidents for RCDMH consumers resulting in death (Table 5).

In addition, suicide attempts accounted for 39% of adverse incidents that did not result in death. (See table 10 on page 8)

Table 5 Deaths from Suicide

Suicide Method	#	%
Intentional Overdose	12	33.3%
Unknown/Undetermined	1	2.8%
Hanging	12	33.3%
Jump from high place	1	2.8%
Jump in front of a moving vehicle	2	5.6%
Self-Inflicted gun shot	4	11.1%
Other self-inflicted injury	2	5.6%
Other suicide method	2	5.6%
TOTAL	**36**	**100.0%**

Case reviews are conducted on all adverse incident reports to identify issues or areas for improvement. Review of cases identified areas for improvement in several categories for 16 of the 36 suicide cases reported. For these 16 cases, 44 issues were identified. Table 6 shows the issues that comprise 75% of issues identified (multiple issues were identified for some consumers). Client scheduling or lost to follow-up, inadequate medication monitoring, polypharmacy, coordination with PCP and other accounted for the remaining issues.

Table 6: Issues Identified	#	%
Inadequate coordination of care with PCP or other medical services	7	15.9%
Inadequate referral for Co-occurring Disorders (MH/SA) treatment	6	13.6%
Client non-compliance with treatment recommendation	5	11.4%
Prescribing controlled substances to a known substance abusing client	5	11.4%
Inadequate risk assessment	5	11.4%
Inadequate identification of a Substance Abuse or Dependence Disorder	3	6.8%
Inadequate coordination of care with another RCDMH provider or service entity	2	4.5%

Action taken:
After reviewing the adverse incident reports, one or more of the following actions were taken where needed: staff education, a memo of concern sent to the clinician and/or policy changes are implemented. In some cases all three actions were taken simultaneously.

MORTALITY Cont'd.

Accidental Death (excluding suicide, homicide or drowning)

Of the 90 reported adverse incidents resulting in death from unnatural causes, 41 were accidental. Of these, 27 (65.9%) were from accidental overdose (Table 7).

Issues Identified:
Mortality case reviews identified areas for improvement for 18 of the 41accidental deaths reported. The issues listed in table 8 comprise 72% of all issues identified. Client scheduling or lost to follow-up and inadequate medication monitoring accounted for the remaining issues.

Table 7 Death by Accident

Type of Accident	#	%
Accidental overdose	27	65.9%
Other	6	14.6%
Fall in front of the a moving vehicle or object	4	9.8%
Auto Accident	3	7.3%
Fall from high place	1	2.4%
TOTAL	**41**	**100.0%**

Table 8: Issues Identified	#	%
Inadequate coordination of care with the PCP or other medical provider	6	18.8%
Inadequate referral for Co-Occurring Disorders (MH/SA) treatment	5	15.6%
Inadequate follow-up after missing appointment or "no show"	4	12.5%
Client non-compliance with treatment recommendation	4	12.5%
Inadequate risk assessment	3	9.4%
Prescribing controlled substances to a known substance abusing client	2	6.3%
Inadequate identification of a Substance Abuse or Dependence Disorder	2	6.3%
Psychotropic medication polypharmacy	2	6.3%

Action taken:
Actions taken after review of some of these case files included: staff education, a memo expressing concern sent to the clinician and/or policy changes. In some cases two or more actions were taken.

Death by Natural Causes

Deaths from natural causes accounted for 40% (55) of the 145 deaths reported as adverse incidents. Diseases of the circulatory system (cardiovascular and pulmonary) accounted for approximately half (49.1%) of all deaths from natural causes, as reported on the adverse incident reports, for RCDMH consumers (Table 9 on page 7). Research has shown that cardiovascular, pulmonary and infectious diseases account for approximately 60% of deaths among persons with SMI.

Issues Identified:
Thirty-two issues were identified for 18 of the 55 who died from natural causes. The following accounts for almost three quarters (72%) of the 32 issues identified:

- 6 (18.8%) received inadequate monitoring of psychotropic medications;
- 5 (15.6%) were non-compliant with treatment recommendations;
- 5 (15.6 %) did not receive adequate services for coordination of care with PCP;
- 4 (12.5 %) missed appointments or were "no shows"; and
- 3 (9.4%) inadequate coordination of care with another RCDMH provider or service entity.

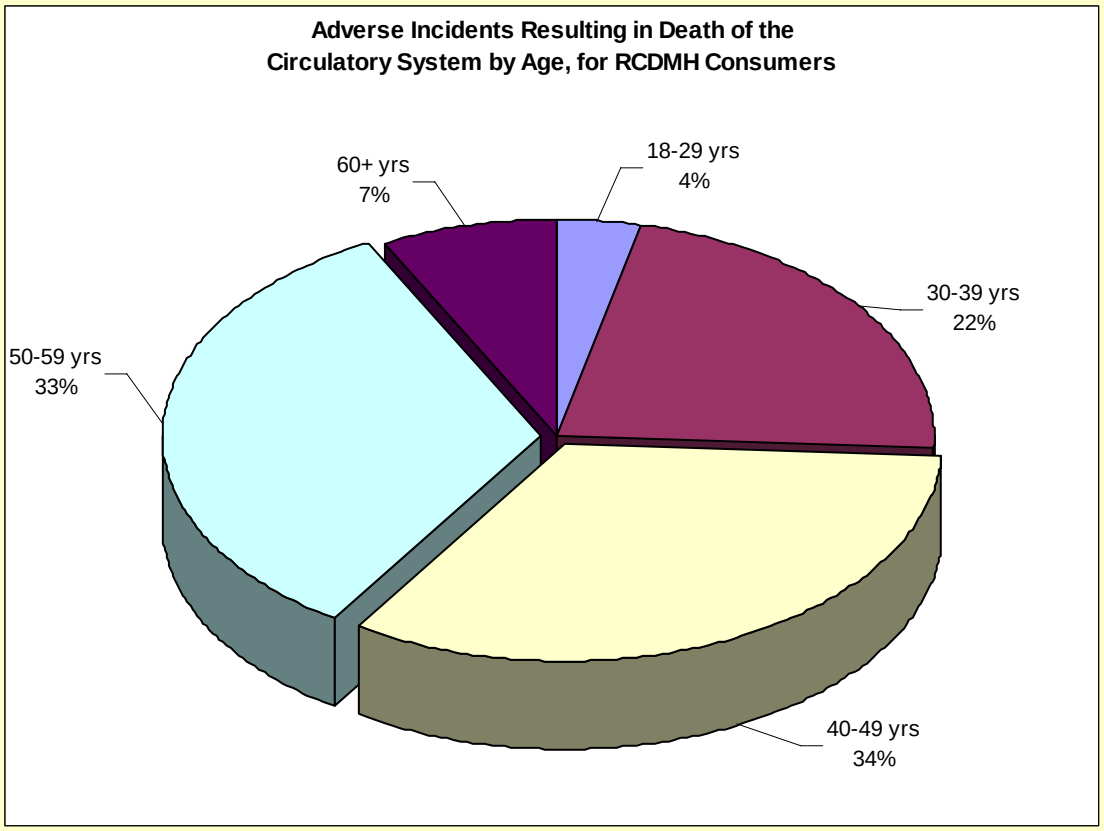
Delay in scheduling appointment, inappropriate prescribing of medication, inadequate risk assessment, polypharmacy, and inadequate identification of a substance abuse or dependence disorder and "other" accounted for the remaining issues.

MORTALITY Cont'd.

Table 9 Death from Natural Causes

Cause of Death	Frequency	Percent
Infectious and Parasitic (001-139)	4	7.3%
Neoplasms (140-239)	3	5.5%
Endocrine, Nutritional, and Metabolic Diseases and Immunity Disorders (240-279)	2	3.6%
Diseases of the Nervous System and Sense Organs (320-389)	3	5.5%
Diseases of the Circulatory System (390-459)	**27**	**49.1%**
Diseases of the Respiratory System (460-519)	5	9.1%
Diseases of the Digestive System (520-579)	5	9.1%
Diseases of the Genitourinary System (580-629)	3	5.5%
Unknown/Undetermined	3	5.5%
TOTAL	**55**	**100.0%**

Fig.6



Of the 27 adverse incidents reported where disease of the circulatory system was the cause of death, 18 (67%) were between the ages of 40-59.

OTHER ADVERSE INCIDENTS

Reports for non-fatal adverse incidents, that occurred between January 2007 and May 2010 for RCDMH consumers indicated that suicide attempts comprise approximately one-third (39.3 %) of this category (Table 10).

Table 10 Other Adverse Events	Frequency	Percent
Suicide Attempt	24	39.3%
Other Adverse Treatment Related Incident	10	16.4%
Serious Assault with Injury to Perpetrator	9	14.8%
Serious Assault with Injury to Victim	6	9.8%
Homicide Perpetrator	5	8.2%
Other	4	6.6%
Homicide Attempt Perpetrator	2	3.3%
Client Injury (Self Injurious Behavior/ Non-Suicidal)	1	1.6%
Total	**61**	**100%**

Issues Identified:

Review of cases on non-fatal incidents showed 44 issues were identified for almost fifty percent (26) of the 61 non-fatal adverse incidents reported. The following comprised 89% of all issues identified:

- 7 (15.9%) received inadequate risk assessment;
- 6 (13.6%) were non-compliant with treatment recommendations;
- 5 (11.4%) received inadequate referral for Co-Occurring Disorder (MH/SA) disorder;
- 5 (11.4%) missed appointments or were “no shows”;
- 4 (9.1%) inadequate coordination of care with the PCP or other medical provider;
- 4 (9.1%) inadequate coordination of care with another RCDMH provider or service entity;
- 4 (9.1%) prescribing controlled substances to a known substance abusing client;
- 2 (4.5%) inadequate identification of a substance abuse or dependence disorder; and
- 2 (4.5%) delay in client getting an appt. within a reasonable time.

Psychotropic polypharmacy and inadequate monitoring of medications and other accounted for the remaining issues.

All ISSUES IDENTIFIED

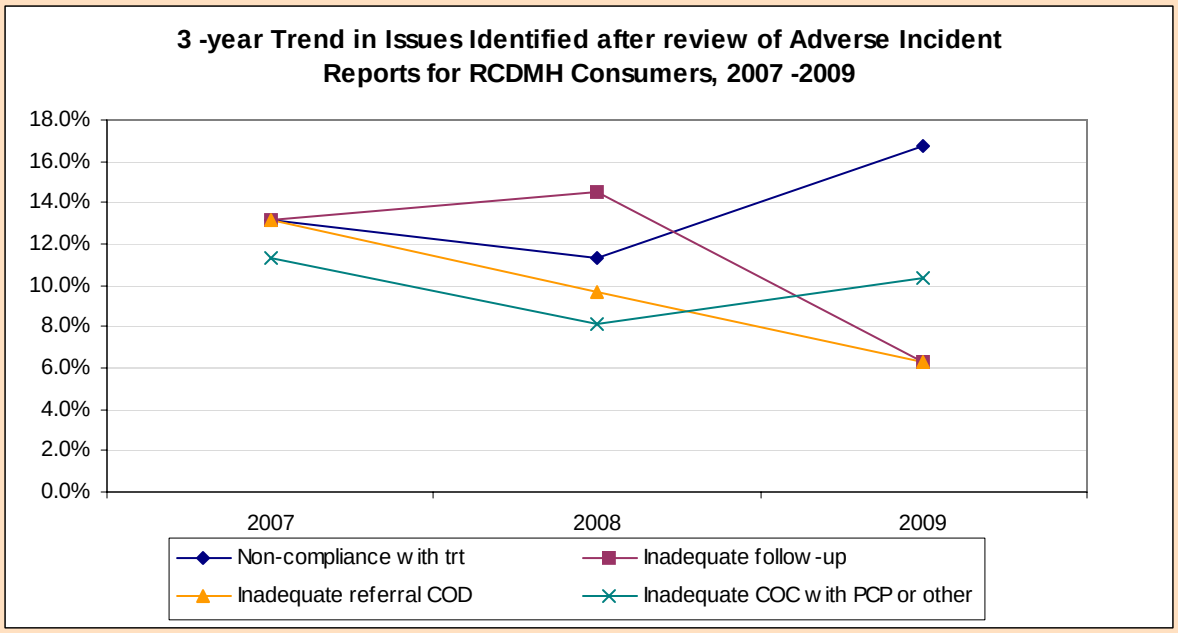
The following table is a summary of all issues identified upon review of adverse incident reports. Of the 206 adverse incident files reviewed, areas for improvement/issues were identified for 88 (42.7%) of the adverse incidents. For 45 of the 88 with identified issues, multiple concerns were noted. A total of 165 issues were identified (Table 11).

Client's non-compliance with treatment recommendations, inadequate follow-up after missing an appointment or no-show and other issues accounted for approximately one-third of the issues identified (Table 11).

Table 11 Issues Identified from Adverse Incident Case Reviews	Number	Percent
Client non-compliance with treatment recommendations	23	13.9%
Other	21	12.7%
Inadequate follow-up after missing appointment or no-show	19	11.5%
Inadequate referral for Co-Occurring Disorders (MH/SA) treatment	16	9.7%
Inadequate coordination of care with the PCP or other medical provider	16	9.7%
Inadequate coordination of care with another RCDMH provider or service entity	11	6.7%
Prescribing controlled substances to a known substance abusing client	11	6.7%
Inadequate risk assessment	11	6.7%
Inadequate monitoring of psychotropic medications	10	6.1%
Inadequate identification of a Substance Abuse or Dependence Disorder	9	5.5%
Delay in client getting an appt. within a reasonable time	6	3.6%
Psychotropic medication polypharmacy	5	3.0%
Other inappropriate prescribing of psychotropic medications	3	1.8%
Client lost to follow-up/ unable to locate	3	1.8%
Adverse medication reaction	1	0.6%
Total	**165**	**100.0%**

ISSUES IDENTIFIED Cont'd

Fig. 7



The graph above is a 3-year trend of the top 4 issues (excluding "other") identified from 2007-2009. Total issues identified per year: 2007 (N=53); 2008 (N=62); 2009 (N=48). Percentages are calculated from the total number of issues identified for each year.

Inadequate referral for Co-Occurring Disorders
The percentage of issues identified with inadequate referrals for COD decreased overall from 2007 to 2009. In 2007, this category comprised 13.2% of all issues identified for adverse incident reports that year. This decreased by more than 50%, with only 6.3% being identified, for this category, out of all issues identified in 2009 (Fig. 7).

Inadequate follow-up after missing appointment or no-show
The percentage of issues identified for inadequate follow-up after missing an appointment or 'no-show' also decreased overall from 2007 to 2009. In 2007, this category comprised 13.2% of all issues identified for adverse incident reports that year. It increased slightly to 14.5% in 2008, but decreased by more than 50%, with only 6.3% being identified for this category out of all issues identified in 2009 (Fig. 7).

Client non-compliance with treatment recommendations; and
Inadequate coordination for care with the PCP or other medical provider
Issues identified for these two categories followed a similar trend from 2007 to 2009. Both decreased from 2007 to 2008, but increased significantly in 2009 (Fig.7).