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MORTALITY SPECIAL INCIDENTS

Semi-Annual Report Submitted to the California Department of Developmental Services

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INTRODUCTION AND BACKGROUND

This report summarizes mortality rates between January and June 2015 for DDS consumers living in the community. It compares mortality rates across recent years and identifies months in which mortality rates were unusually high.

DDS can use this report to track mortality rates over time and monitor the effectiveness of risk management activities.

As one element of risk management and quality assurance, the California Department of Developmental Services (DDS) and California's network of regional centers monitor the occurrence of adverse events, captured through Special Incident Reports (SIRs), to identify trends and develop strategies to prevent and mitigate risks. As required by Title 17, Section 54327 of the California Code of Regulations, vendors and long-term health care facilities report occurrences of suspected abuse, suspected neglect, injury requiring medical attention, unplanned hospitalization, and missing persons if they occur when a consumer is receiving services funded by a regional center (under vendored care). In addition, *any occurrence* of consumer mortality or a consumer being the victim of a crime must be reported whether or not it occurred while the consumer was under vendored care. Mission Analytics Group (Mission) develops this report along with several others under a risk management contract with DDS.

This report summarizes mortality rates for DDS consumers between January and June 2015. There are two main goals of this report:

1. Update time trends in mortality rates from our earlier reports to include data through June 2015. DDS can use this report to observe long-term trends in statewide mortality rates, comparing the most recent six-month period to previous six-month periods.
2. Identify months in which statewide mortality rates were unusually high. For those months showing a statewide spike in mortality rates, we conduct additional analyses. By doing so, we can detect patterns that may lead to strategies to prevent similar events in the future.

The rates and graphs presented in this report were constructed using data from the SIR System since 2002. These data are augmented with three additional data sources maintained by DDS:

1. The Client Master File (CMF)
2. The Client Development Evaluation Report (CDER)
3. The Purchase of Service

This report presents findings based on statistical analyses that measure a consumer's risk of experiencing a special incident. Further details are found at the bottom of each subsequent page.

Changes in the Mortality Incident Rate

Table 1: Reported Deaths for DDS Consumers, January–June 2015 Compared with Previous Periods

	Jan–Jun 2014 (Last Year)	Jul–Dec 2014 (Last Period)	Jan–Jun 2015 (This Period)
Number of Consumers	**268,204**	**274,074**	**280,847**
Number of Reported Deaths	**959**	**880**	**975**
Deaths per 1,000 Consumers	**3.58**	**3.21**	**3.47**

Key Findings:

- The number of deaths per 1,000 consumers is higher in this period than in the July-December 2014 period, at 3.47 compared with 3.21. This difference is not statistically significant.
- The mortality rate however is lower in this period than in the same period one year ago. This difference is statistically significant.

More About These Data

This report summarizes mortality rates for consumers living in the community (i.e., consumers receiving services from a regional center who do not reside in a developmental center or state-operated facility).

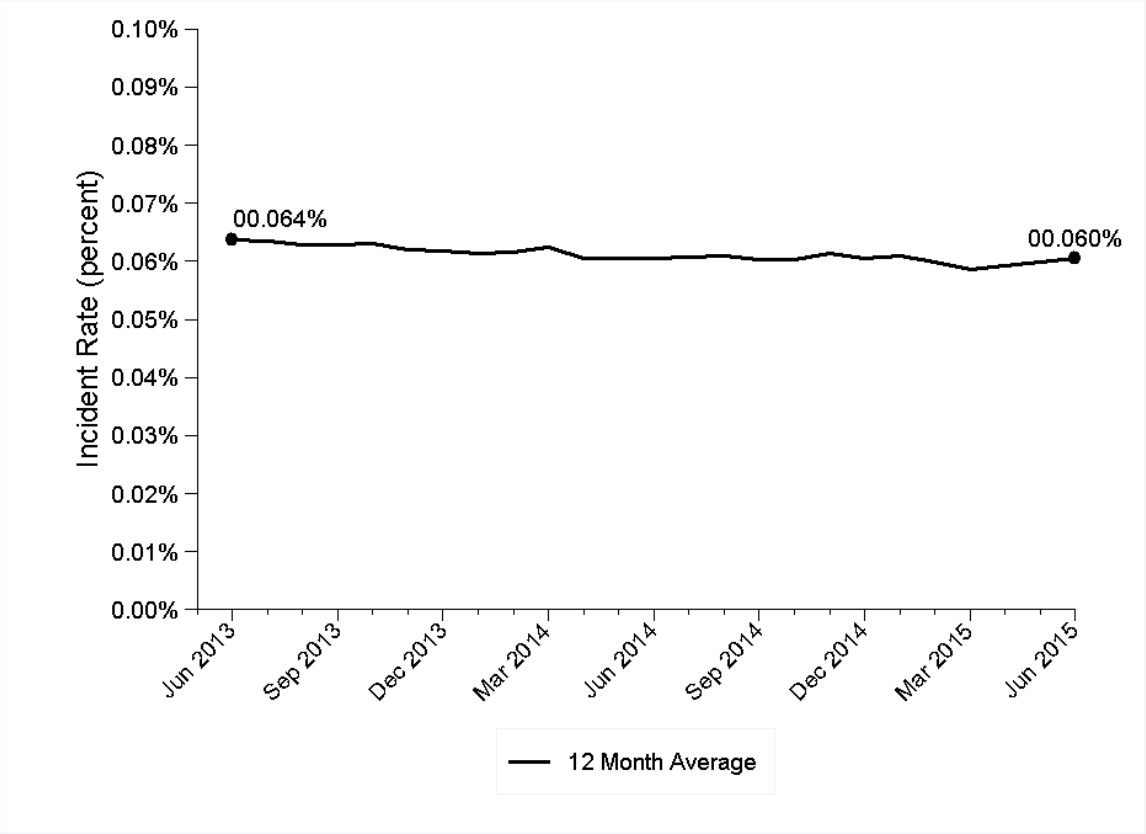
Number of Consumers refers to the average number of consumers served by regional centers in each month during the six-month period. This total is less than the number of all consumers served by regional centers at any time during the six-month period. The number of consumers reported for January-June 2014 and July-December 2014 is lower than previously reported due to data cleaning of records for non-active clients.

Deaths per 1,000 Consumers is calculated by dividing the number of reported deaths by the number of consumers, multiplied by 1,000.

The data used to generate this report were provided to Mission in September 2015. Although all deaths are reportable as special incidents, it may take time for deaths among consumers not under vendored care to be reported to the regional centers by parents/guardians. For this reason, it is common that additional mortality incidents are entered into the SIR System over time. Thus, the number of reported deaths may rise slightly as additional mortality data are reported to DDS. This is most likely to affect the count for the most recent period, but counts for earlier periods are also updated over time.

Trend of Mortality Incident Rate

Figure 1: Mortality Incidents, Statewide Case-Mix Adjusted Monthly Trend DDS Consumers since June 2013



Key Findings:

- The moving average is slightly lower than it was two years ago.
- Over the past two years, the trend in the statewide average monthly mortality rate has remained relatively constant.

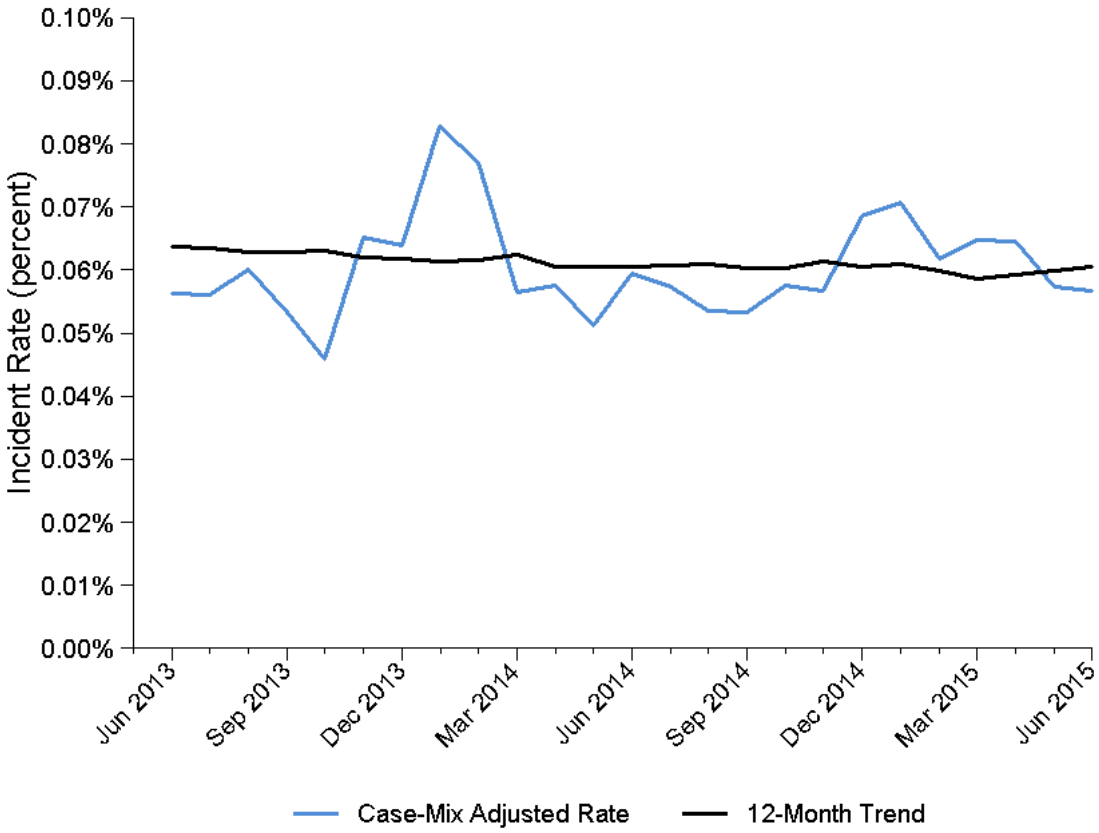
More About These Data

The line in Figure 1 represents a 12-month moving average for all DDS consumers. It is calculated by taking an average of statewide mortality rates from the most recent 12-month period.

The line in Figure 1 also accounts for the differences in the characteristics of the consumer population over time. This approach, called "case-mix adjustment," controls for consumer characteristics and removes these effects from the calculated trend. For example, the share of the population over the age of 65 might increase, which would cause mortality rates to increase.

Trend of Mortality Incident Rate

Figure 2: Statewide Mortality Rates, DDS Consumers
Case-Mix Adjusted Monthly Rates since June 2013



Key Findings:

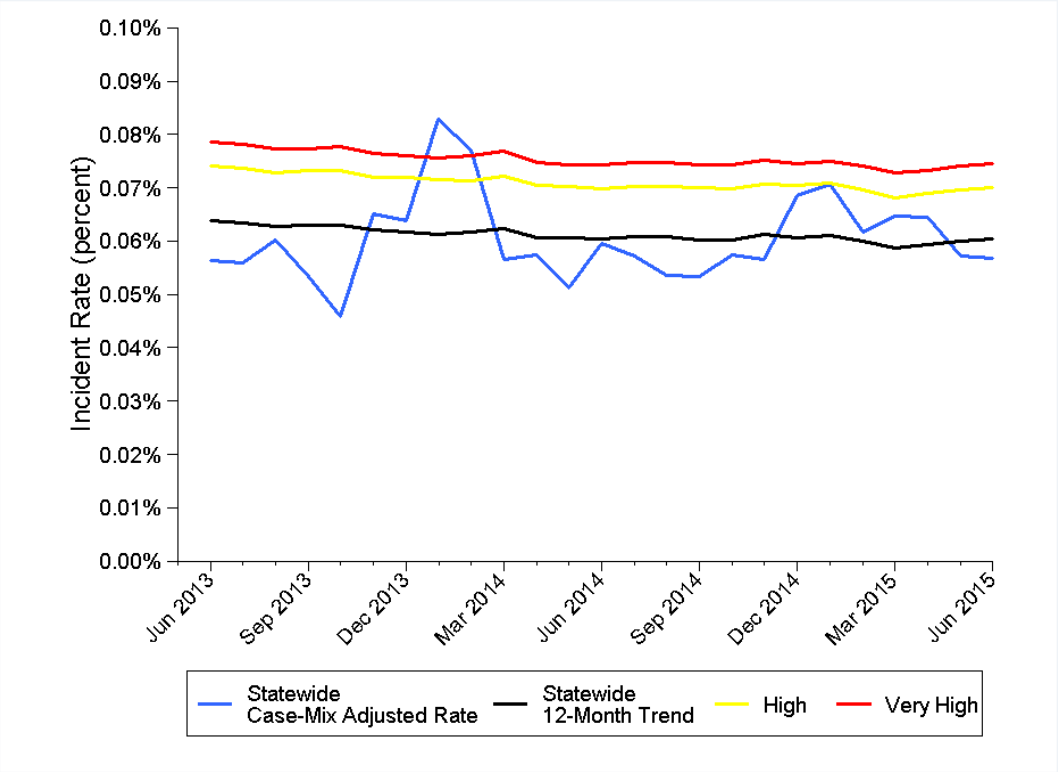
- Mortality rates were above the long-term trend from December 2014 through April 2015. During the month of May and June, the mortality rate decreased to a level that is slightly below the long-term trend.
- Additional deaths will likely be included as mortality reviews are completed over time and may increase the rate (see “More About These Data” on page 2).

More About These Data

The line in Figure 2 is case-mix adjusted, accounting for changes in the consumer population. See the “More About These Data” section on page 3 for further details.

Mortality Incident Rate over Time

Figure 3: Statewide Mortality Rates, DDS Consumers
Case-Mix Adjusted Monthly Rates since June 2013



Key Findings:

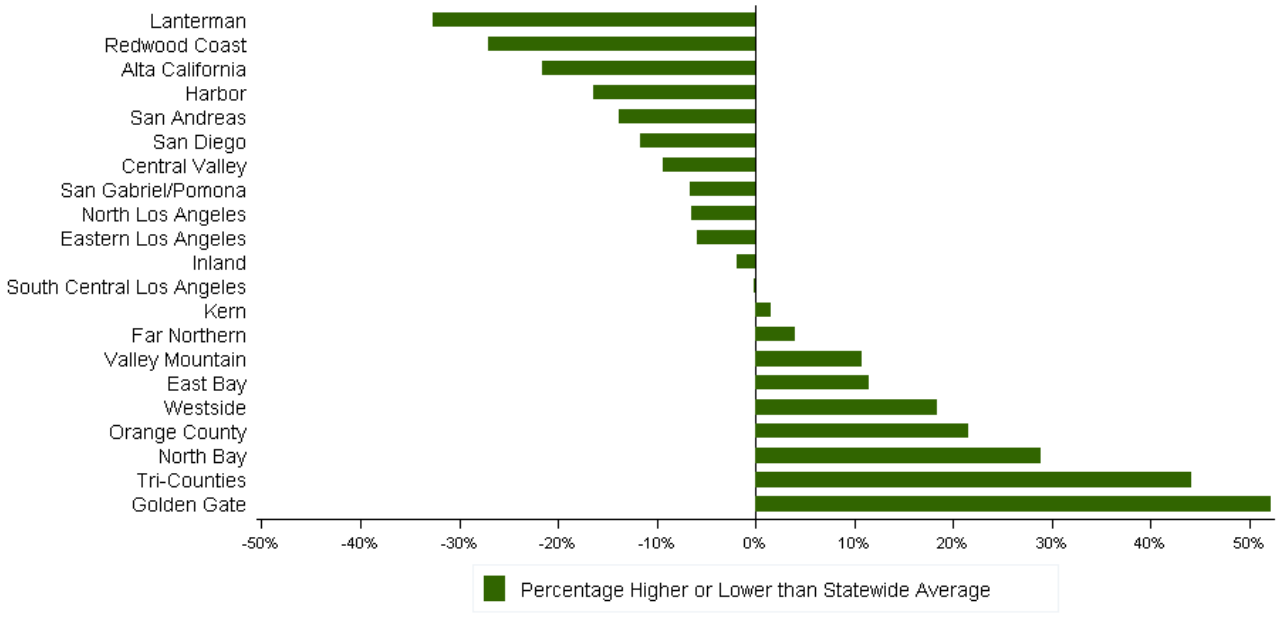
- Although the statewide mortality rate was above its long-term trend for most of the period, the rate remained well below the "high" threshold.
- None of the 21 regional centers had a quarterly spike in mortality incidents during the January-June 2015 period.

More About These Data

The updated mortality risk model includes all consumers age three years and over living in the community, regardless of residence status. Residence type (including no residential services) is included as a risk factor in calculating adjusted rates. Figure 3 identifies mortality incident rates that are unusually high and therefore classified as a "spike." A rate that rises above the yellow line in a given month will occur randomly in only one month out of 20 (less than 5% of the time) and is considered "High." A rate that rises above the red line in a given month will occur randomly less than 1% of the time. Rates above the red line, therefore, are very unlikely to be chance events and are classified as "Very High."

Mortality Incident Rate by Regional Center

Figure 4: Mortality Rates by Regional Center Compared with Statewide Average
July 2015 – June 2015



Key Findings:

- For July 2014–June 2015, the adjusted regional center mortality rates ranged from nearly 33% below to 52% above the statewide average.
- Golden Gate Regional Center (GGRC) has the highest mortality rate, far above the second highest regional center. As of June 2013, GGRC was close to the statewide average, but the gap between its mortality rate and the statewide average has increased over the last four semi-annual periods. This increase has been gradual, so no individual quarter has had a spike in mortality SIRs compared to GGRC's trend. See page 9 for follow up activities.

More About These Data

The percentages above are case-mix adjusted, meaning that they account for differences in the characteristics of the consumer population over time. See page 3 for more details.

Mortality Incident Rate by Age and Residential Setting

Table 2: Breakdown of Reported Deaths by Age and Residence Type
DDS Consumers Age 3 and Up,

January–June 2015 Compared with Same Period Last Year

Characteristics in CMF	Share of Consumers (%)	Number of Deaths	Deaths/1,000 Jan–Jun 2015	Change from Jan–Jun 2014
Age				
3 to 13	31%	55	0.7	-9%
14 to 21	20%	53	1.1	-30%
22 to 31	19%	111	2.3	10%
32 to 41	11%	95	3.6	10%
42 to 51	8%	120	5.8	-4%
52 to 61	7%	195	**11.1**	-19%
62+	4%	299	29.9	13%
Residency Type				
Family Home	75%	319	1.7	-6%
CCF	10%	212	8.9	15%
ILS/SLS	10%	105	4.2	-2%
SNF/ICF	3%	251	29.6	3%
Other	2%	41	8.8	-26%

Bold indicates a statistically significant difference at the 95% confidence level.

Key Findings:

- Consumers that are 52 to 61 years of age had a mortality rate that was 19% lower than in the same period last year. This change was statistically significant.
- Mortality rates decreased for consumers less than 21 years of age, but the changes were not statistically significant in these age categories.

More About These Data

The rates shown above are raw rates and do not account for changes in consumer characteristics. CCF: Community Care Facility. ILS/SLS: Independent Living Setting or Supported Living Setting. SNF/ICF: Skilled Nursing Facility or Intermediate Care Facility. ICF includes ICF/Developmentally Disabled, ICF/Developmentally Disabled–Habilitation, and ICF/Developmentally Disabled–Nursing. Other: Settings such as hospitals, community treatment facilities, family home agencies, rehabilitation centers, psychiatric treatment centers, and correctional institutions. Statistical significance is tested based on a difference in binomial distribution.

Mortality Incident Rate by Diagnosis

Table 3: Breakdown of Reported Deaths by Diagnosis
DDS Consumers Age 3 and Up,
January-June 2015 Compared with Same Period Last Year

Characteristics in CDER	Share of Consumers (%)	Number of Deaths	Deaths/1,000 Jan–Jun 2015	Change from Jan–Jun 2014
Diagnosis				
Mild to Moderate ID	48%	477	4.0	0%
Profound to Severe ID	9%	313	13.6	2%
Unspecified ID	8%	40	2.2	-13%
Cerebral Palsy	14%	256	7.2	0%
Autism	31%	39	0.5	-10%
Epilepsy	16%	336	8.7	8%

Bold indicates a statistically significant difference at the 95% confidence level.

Key Findings:

- Compared with the same period a year ago, the mortality rate was 13% lower for consumers with an unspecified intellectual disability and 10% lower for consumers with autism. Neither of these differences is statistically significant.
- Compared with the same period a year ago, the mortality rate was 8% higher for consumers with epilepsy. This change is not statistically significant.

More About These Data

The rates shown above are raw rates and do not account for changes in consumer characteristics. Most categories above are not mutually exclusive, as consumers may have more than one diagnosis. Percentages, therefore, do not add up to 100%.

Key Findings and Activities

Mortality continues to be a critical focus for risk assessment and mitigation.

Discovery Activities:

- Given the increasing mortality rate at GGRC, especially relative to the statewide rate, Mission has conducted additional discovery activities regarding mortality SIRs at GGRC. Mission completed a review of all mortality SIRs at GGRC from July 2013 to December 2014, with a particular focus on identifying care sensitive issues. Mission is now working with GGRC to conduct additional analyses and technical assistance to investigate its increase. Mission will develop an initial technical assistance report next semi-annual period.
- There was no statistically significant statewide increase in mortality rates during this period. Therefore, no additional discovery activities are planned.

Monitoring Activities:

- *Follow-Up on Long-Term Increases in Mortality Rates*: Each quarter, Mission distributes a report to each regional center summarizing trends and changes in mortality rates. These reports identify long-term changes in incident rates as well as monthly spikes. Mission has developed a method to follow up with regional centers experiencing long-term increases in mortality rates by analyzing their rates and proposing appropriate follow-up measures.

- *Reporting Back by Regional Centers*: Regional centers experiencing spikes in special incident rates provide structured feedback to DDS describing any follow-up measures taken to address the spikes. This information on how regional centers respond to long-term trends may be used to develop strategies on how to mitigate risk to consumers statewide. No Regional Centers experienced a spike in mortality SIRs this semi-annual period.