Addictive Prescription Drugs and Orange County Seniors

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SUMMARY

Although a considerable amount of research and study has gone into defining critical aspects of prescription drug abuse by the youth and young adults of Orange County, comparatively little is known about this issue among seniors (defined here as those 60 and older). At the same time, those in the upper age ranges have their own high risk factors, and vulnerability to prescription drug misuse or abuse is expected to increase during coming years. The 2010-2011 Grand Jury accessed and analyzed California Department of Justice controlled substance database information regarding the amounts of selected drugs prescribed for County seniors from 2007 to 2010. Findings include the discovery that disproportionate amounts of potentially addictive drugs were prescribed, and the average annual increases in quantities significantly outpaced population growth during the same period. The report concludes with recommendations to the County Health Care Agency for broader data collection, better monitoring of signs of prescription drug misuse, and further research to resolve remaining questions.

REASON FOR STUDY

Widespread concern about prescription drug abuse, especially among adolescents and young adults, seemed to peak during 2009 – 2010. In September of 2010, U.S. Attorney General Eric Holder reported a 400% increase from 1998 to 2008 in hospital admissions for prescription painkiller abuse. He reported that, for the first time, the number of people in the U.S. using prescription drugs for non-medical purposes exceeded the number of people smoking marijuana. (Curran, 2010) However, most of the concern was being generated by research showing large increases in prescription drug abuse among youth and young adults.

Very little is known about the extent and characteristics of prescription drug use, misuse, and possible abuse among seniors. A California Department of Alcohol and Drug Programs (CA ADP) report stated, "…it is apparent from [national] data that hundreds of thousands of older adults misuse prescription drugs for non-medical reasons nationwide,

and that tens of thousands probably do so in California in any given year." (CA ADP, 2009, page 14) For Orange County, almost nothing is known. A search of the Internet revealed only one statistic specific to the County, for self-reported non-medical use of prescription painkillers, but the age bracket was too wide to be useful. (Substance Abuse and Mental Health Services Agency, 2006-2008)

Most of the concern about prescription drug misuse and abuse by seniors is based on broad-based studies and circumstantial evidence:

- Individuals 65 and older represent only 13 percent of the U.S. population, yet they receive one third of all medications prescribed. (CA ADP, 2009)
- Eighty-three percent of people in the U.S. age 60 and older take prescription drugs. (CA ADP, 2009)
- Older patients are more likely to be prescribed long-term and multiple prescriptions, which can lead to unintentional misuse. (National Institute on Drug Abuse, 2011)
- Prescription drug abuse is present in 12–15% of U.S. seniors who seek medical attention. (CA ADP, 2009)
- According to estimates by the U.S. Substance Abuse and Mental Health Services Agency (SAMHSA), alcohol and prescription drug misuse may affect as many as 17% of older adults.
- There were over one million emergency room visits for adverse reactions to drugs made by older adults in 2008.
    - Of those, 61.5% were for persons 65 and older.
    - 61% were for females; 39% for males. (SAMHSA, 2008)
- Regarding detection, it is estimated that while 40% of substance abuse goes unrecognized in patients under the age of 60, 63% goes undetected in patients over 60. (Meyer, 2005)

Another factor of concern frequently reported is the large number of "baby boomers" entering the elderly cohort. In 2008, one in eight Americans was 60 and over, and during the next 20 years the percentage is expected to increase to approximately one in three. For the first time, there will be more people 65 and older than 14 and younger in the U. S. (McElhaney, 2008) Also, those in the baby-boom generation have a lifetime illicit drug use rate higher than those in the previous generation. (CA ADP, 2009)

Therefore, answers were sought for the following questions:

- Regarding seniors in Orange County, what quantifiable, objective data are available, if any, regarding:
    - Kinds of controlled substances commonly prescribed (e.g., pain relievers, tranquilizers, etc.)?

    - Prescription activity (number of prescriptions filled, type of drugs, quantities, and patterns of prescribing)?
    - Trends or changes in patterns of prescribing and/or consumption over recent years?
    - Indications of misuse or abuse (e.g., abnormally high quantities of drugs dispensed, signs of addiction)?
- Are there enough objective data available to support the development or expansion of prescription drug prevention and treatment programs for seniors in Orange County?

METHODOLOGY

Information to help provide answers to the study questions was sought from a number of local, state, and federal sources, including:

- Interviews with knowledgeable sources in relevant programs of the Orange County Health Care Agency:
    - Alcohol and Drug Abuse Services
    - Older Adult Services, specifically the Substance Abuse Resources Team (START)
    - Health Promotion Services, specifically the Alcohol Drug Education & Prevention Team (ADEPT)
- Consultations with a geriatric clinical pharmacist from the County Health Care Agency.
- An interview with drug enforcement officers from the OC Sheriff's Department

Although the following entities are not within the purview of the Grand Jury, they were nevertheless consulted to gain further information on the extent of the problem in this County:

- A request was sent to the California Controlled Substance Utilization Review & Evaluation System (CURES), for data specific to Orange County seniors
- A survey request was sent to hospital emergency rooms operating in the County
- Internet searches of national research and report data-bases, regarding statistics available for Orange County, if any, including:
    - The National Institute on Drug Abuse (NIDA)
    - The Substance Abuse & Mental Health Services Administration (SAMHSA), including:
        - The Drug Abuse Warning Network (DAWN)
        - The National Clearinghouse for Alcohol & Drug Information (NCADI)
    - The Center for Disease Control & Prevention (CDC)

FACTS

Fact: A comprehensive study of this topic was conducted by the Orange County Health Care Agency in 2009, but it focused on youth and young adults; almost nothing is known about this issue among seniors.

Fact: U.S. Census data for the period 2007 – 2010 indicate there were approximately 500,000 individuals in Orange County 60 years of age and older.

Fact: Empirical studies regarding the use of prescription drug medications by seniors have identified numerous high risk factors for accidents, misuse, and abuse.

ANALYSIS

Prescription drug abuse is a substance abuse problem different from the much more widely known and well-established illegal drug trade phenomenon that has plagued the U.S. and other nations for decades. Both kinds of drug abuse involve the misuse or misdirection of specific "controlled substances," but one involves illegally obtained (or manufactured) drugs while the other involves drugs prescribed by a licensed physician or dentist, and dispensed by a licensed pharmacist. Just because the drugs have been prescribed by a family physician and dispensed by a neighborhood pharmacy, it doesn't mean they are any less dangerous than street drugs.

Pharmaceuticals with the highest potential for abuse are those that relieve physical and psychological distress (e.g., pain, stress, anxiety, depression, loneliness) and/or those that produce an intoxication – a recreational "high," with mood-elevation, increased energy, or euphoria. A main characteristic of drugs that produce these effects is they also tend to be highly addictive, physically, psychologically, or both.

Because this study investigates characteristics of prescription drug use among Orange County's seniors, the drugs most likely to be misused or abused by this group were selected for analysis:

- Pain relievers (narcotic opiates, opioid compounds)
- Tranquilizers (central nervous system depressants, specifically benzodiazepines)
- Stimulants (central nervous system stimulants: amphetamines / methylphenidate)

Prescription drug misuse and abuse, as with the larger issue of drug abuse in general, is a complicated and multifaceted problem. Depending upon the age of the abuser, there are a range of antecedents and causes, different sources of supply (both licit and illicit), choice or popularity of drug to abuse, abuser characteristics, U.S. regional differences, and other psychosocial variables. Table 1 sorts some of these variables according to frequently reported age-ranges.

Table 1 – Characteristics of Prescription Drug Abuse According to Age Groups

Age Group	Prescription Drugs Likely to be Abused	Sources of Drugs	Common Non-Medical Uses
Middle School	stimulants, pain relievers, tranquilizers	home (parents' or relatives' pills) peers, street	experimenting, peer pressure, intoxication
High School	stimulants, tranquilizers, sedatives	peers, street, home, Internet	peer pressure, intoxication, experimenting
Young adults & college	stimulants, tranquilizers, sedatives	peers, street, Internet, healthcare MD, doctor shopping	intoxication, studying (cramming), social anxiety, peer pressure
Adults, middle age	tranquilizers, pain relievers, sedatives	healthcare MD, doctor shopping, Internet, peers	intoxication, elevate mood, addiction
Seniors	**pain relievers, tranquilizers**	**multiple healthcare MDs, Internet**	**analgesia, elevate mood, addiction**

Terminology

For many people, prescription drug names are a confusing letter salad of difficult-to-pronounce terms, with origins stemming from medicine, organic chemistry, and pharmaceutical marketing departments. Also, many drugs have both generic and trademark brand names, plus slang terms or street names and/or abbreviations. Finally, drugs usually are classified into categories using technical terms (e.g., opioids, benzodiazepines). For the three groups of drugs that are the focus of this study, Table 2 attempts to translate current pharmaceutical drug terminology into more common language.

Table 2 – Categories and Terms Used for Selected Drugs

Common Group Name	Prescribed to Treat:	Non-Medical Uses/Abuses	Generic Names	Brand Names	Street Names
Pain Relievers, narcotic opiates, opioid compounds	physical, organic pain; tissue damage; post surgeries	mood elevation, recreational high	oxycodone hydrocodone, et al	OxyContin* Vicodin Darvocet et al	Oxy, OC vitamin V
Tranquilizers, benzodiazepines (not Sedatives)	anxiety disorders, psych disorders, insomnia, PTSD	mood elevation, relax social inhibitions	alprazolam, diazepam et al	Xanax Valium et al	tranks candy
Stimulants, psychostimulants	problems of attention, concentration, alertness, narcolepsy, asthma	sustained alertness, mood elevation, dieting, studying	amphetimine methamphetimine, methylphenidate	Dexidrine Ritalin Adderall et al	speed crystal meth crank uppers

*Capitalized brand names indicate they are protected trademarks.

CURES

CURES stands for the Controlled Substance Utilization Review and Evaluation System. Established in 1996 as a pilot project by the California Board of Pharmacy, CURES is a database now maintained by the California Department of Justice, Bureau of Narcotic Enforcement. The database now contains over 86 million records regarding the dispensing of controlled substances within the state on a daily basis. California doctors and pharmacies are required to report to CURES, within seven days, information about the drug dispensed, quantity and strength, patient name and address, and prescriber name and authorization number. This is accomplished electronically at the point of service – the pharmacy. The goal of CURES is to reduce the diversion of pharmaceutical drugs for illegal or non-medical purposes, without affecting legitimate medical practice and patient care, and without compromising patient privacy. This would be accomplished, in part, by identifying "doctor shopping," whereby a patient attempts to obtain illegal quantities of drugs from multiple prescribers, and by detecting excessive prescribing practices by unethical doctors.

The Grand Jury requested from CURES detailed information regarding prescription activity for Orange County seniors (61 years and older), including the number of prescriptions filled for the three classes of drugs described above, for the period from 2007 through 2010. Using the expert advice of a geriatric clinical pharmacist from the County Health Care Agency, Older Adult Services, a detailed analysis of the data was conducted with regard to Orange County seniors.

The CURES data included both number of prescriptions filled and the number of units specified. Units are the number of "pills" – tablets, capsules, etc. Findings are based on the number or units rather than number of prescriptions, as the former is a more precise measure of the amount of drugs prescribed.

The following results are organized by drug category, and they present information regarding the quantity and annual changes in amounts of drugs prescribed during the years 2007 – 2010, in comparison to population growth figures during the same time period for County seniors.

Pain Relievers

This category was further divided into "pure" opioid-based narcotic analgesics, and those that are available as a compound drug – an opioid paired with, for example, an anti-inflammatory agent, such as codeine in combination with acetaminophen (Tylenol). Typical generic names include morphine sulphate, methadone hydrochloride, and oxycodone; typical brand names include OxyContin and Vicodin. Table 3 shows the number of units (pills, tablets, capsules, etc.) of these two groups prescribed to County seniors over the previous four years.

Table 3 - Number of Pain Relievers Prescribed for Seniors in Orange County, 2007 - 2010

Drugs in Millions of Units	2007	2008	2009	2010	Average Annual Increase
Opiates/Opioids	2.46	3.22	3.23	3.81	18.3%
Opioid Compounds	12.38	16.65	15.21	18.02	15.2%
Total Pain Relievers	14.84	19.87	18.44	21.83	15.7%

Table 3 indicates high quantities of pain relievers were prescribed during the period examined, and there were significant increases year over year. By 2010, almost 22 million units of pain relievers were prescribed for County seniors. Six times more opioid combinations were prescribed than single opiates, however both opioid products increased from 15–18% a year. According to U.S. Census data, during the same period of

time, the population of County seniors increased on average 3% per year. The total amount of pain relievers prescribed in 2010 would have provided a prescription of 45 pills for each of the half-million seniors in the County.

Tranquilizers

This group typically contains anti-anxiety medications and muscle relaxants, frequently prescribed for their calming effects. They are different from barbiturate sedatives, also known as hypnotics (or downers, on the street), which are used to induce sleep, anesthesia, and even euthanasia. Sedatives have less potential for abuse because they typically incapacitate the user, and overdoses frequently are fatal, especially in combination with alcohol.

Typical generic and brand names for benzodiazepine tranquilizers include alprazolam (Xanax), diazepam (Valium), and lorazepam (Ativan).

The CURES data showed the amount of tranquilizers prescribed to seniors increased from 9.42 million units in 2007 to 12.68 million units in 2010. The average annual increase during that period was 11.5%, which significantly outpaced senior population growth (3% per year). The number of tranquilizer units prescribed in 2010 would compare to a prescription of 25 pills for every senior in the County.

Stimulants

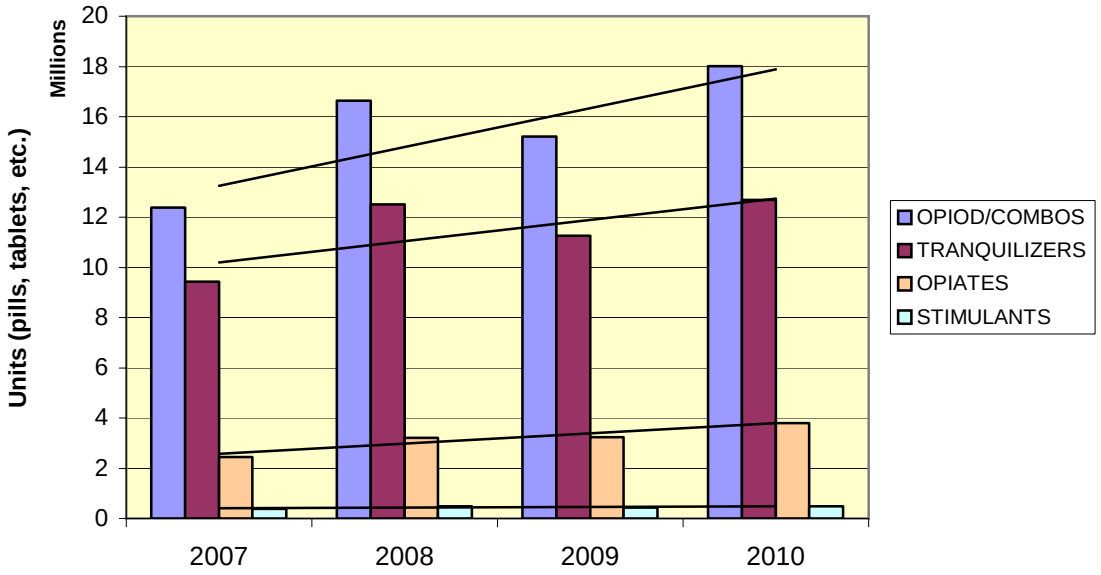
Unlike for other age-ranges, there are relatively few conditions for which stimulant medication is prescribed for seniors. It may be used to treat narcolepsy, a chronic sleep disorder characterized by excessive daytime sleepiness, and sometimes for major depression, when more effective anti-depressants haven't worked. Although it may be counter-intuitive, stimulants are not recommended for age-related dementia, to improve attention or memory, because those difficulties in the elderly are not responsive to psychostimulants.

Somewhat more in line with the limited indications for stimulant medication for seniors, the CURES data showed relatively smaller numbers for both annual quantities prescribed, and year to year annual increases. Units prescribed in 2007 were 383,000, up to 472,000 by 2010. The average annual increase, at 8%, still was more than twice that of senior population growth.

Trends and Issues

Figure 1 shows an overview of both quantities and the relative rates of annual increase for the three classes of drugs prescribed from 2007 to 2010. Opioid compounds account for both the highest number and

Figure 1 - Quantities and Trends of Selected Drugs Prescribed for Orange County Seniors, 2007-2010



steepest rate of increase, with tranquilizers second and pure opiates third. Although the increases in prescribed stimulates still outpaces population growth numbers, the amounts are small compared to the other drugs.

With respect to the pain relievers in particular, the quantities prescribed and the large annual increases noted raise concerns. This primarily is because painkilling medication is not curative – it is prescribed for symptomatic relief. Pain is a symptom of other conditions that have their own causes and treatment. For that reason, and also because of its addictive potential, narcotic pain relievers typically are prescribed in limited quantities over short periods of time. It was noted earlier that the amount of pain relievers prescribed in 2010 was comparable to a prescription for 45 pills for every senior in the County. It is safe to assume that not each of the half million seniors in the County received a prescription for narcotic pain relievers during one year. Therefore the

amounts of pain relievers being prescribed appear to be unaccountably high.

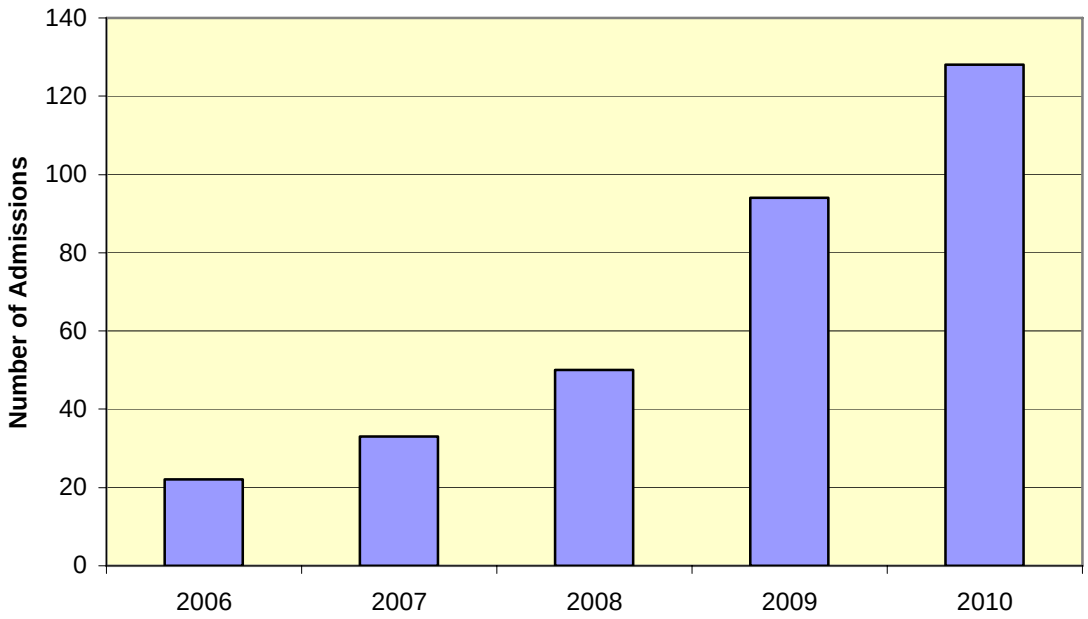
Drug Abuse Warning Network

Does the availability of high quantities of potentially addictive controlled substances for County seniors mean there is a problem of misuse or abuse? Knowing only the amount of drugs *prescribed* does not allow conclusions to be drawn about how the drugs actually are used or misused. Therefore, as one indication of a possible problem, data were sought from local hospital emergency rooms regarding numbers of prescription drug overdoses for seniors, which drugs might be involved, and if there are any recent trends or changes over time.

The Drug Abuse Warning Network (DAWN) is a federal public health data collection system that monitors drug-related emergency department (ED] visits and drug-related deaths, in order to track the impact of drug use, misuse, and abuse in the U.S. In Orange County, only one of the 23 hospital EDs has participated in the DAWN network, and data were requested from that facility to check for possible correlations with the above data analyzed from CURES.

Figure 2 illustrates unspecified prescription-drug-related ED admissions to the participating hospital for overmedication / overdose for seniors age 65 and older, reported to DAWN from 2006 to 2010. Although the specific drugs are not identified for this sample, on a nationwide basis DAWN reports that for prescription-drug-related ED admissions by older adults during the same time period, pain relievers were involved 44% of the time, followed by benzodiazepine tranquilizers at 25%, and antidepressants at 9%. (SAMHSA, 2010) Note these data are for prescription drugs only, not for emergency services due to illicit drugs (e.g., cocaine) or alcohol. Therefore it is reasonable to assume that most of the overdoses involved the drugs studied for this report.

Figure 2 - Admissions for Prescription Drug Overdoses at One ER in Orange County, 2006 - 2010, Seniors 65 years and Older



The graph shows steadily increasing annual numbers from 2006 through 2010 for those 65 and older. Both the amounts and trend are remarkable, from 22 ED admissions for overdoses in 2006, to 128 in 2010. The 2010 number averages to over two admissions a week for prescription drug overdoses.

FINDINGS

In accordance with *California Penal Code* Sections 933 and 933.05, the 2010-2011 Grand Jury requests responses from the agency affected by the findings presented in this section. The responses are to be submitted to the Presiding Judge of Superior Court.

Based on its investigation of addictive prescription drugs and Orange County seniors, the 2010-2011 Orange County Grand Jury has five principal findings:

F.1: Average annual increases in the amount of potentially addictive medications being prescribed for Orange County seniors significantly outpaced population growth.

F.2: By 2010, large quantities of narcotic pain relievers and benzodiazepine tranquilizers were being prescribed for County

seniors. Prescribing trends for these drugs indicate even higher numbers in coming years.

F.3: Data from one hospital emergency room in Orange County showed significant annual increases in admissions for those 65 and older for prescription drug overdoses during the period examined.

F.4: Questions remain regarding the ultimate disposition of the large quantities of pain relievers being prescribed annually for County seniors.

F.5: Little systematic data collection is taking place regarding indicators of prescription drug misuse or abuse (e.g., overdose rates, signs of substance abuse) among the County's seniors.

RECOMMENDATIONS:

In accordance with *California Penal Code* Sections 933 and 933.05, the 2010-2011 Grand Jury requests responses from the agency affected by the recommendations presented in this section. The responses are to be submitted to the Presiding Judge of the Superior Court.

Based on its investigation of addictive prescription drugs and Orange County seniors, the 2010-2011 Orange County Grand Jury has five principal recommendations:

R.1: A comprehensive study of this topic, similar to the one conducted in 2009 by the County Health Care Agency regarding youth and young adults, to focus on County seniors.

R.2: Investigate the possibility of grant money for further study and research, including from major pharmaceutical corporations.

R.3: Promote or increase routine screening of elders for signs of prescription drug misuse or abuse at all County operated or contracted clinics and facilities.

R.4: Incorporate more systematic data collection and analysis during existing County outreach and intervention program efforts, such as by the County Health Care Agency's Older Adult Services, Substance Abuse Resources Team.

R.5: Access and make better use of Orange County-specific prescription drug data from existing governmental databases,

in particular California's Controlled Substance Utilization Review and Evaluation System, and the U.S. Drug Abuse Warning Network.

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REQUIREMENTS AND INSTRUCTIONS:

The California Penal Code Section 933(c) requires any public agency which the Grand Jury has reviewed, and about which it has issued a final report, to comment to the Presiding Judge of the Superior Court on the findings and recommendations pertaining to matters under the control of the agency. Such comment shall be made *no later than 90 days* after the Grand Jury publishes its report (filed with the Clerk of the Court); except that in the case of a report containing findings and recommendations pertaining to a department or agency headed by an elected County official (e.g. District Attorney, Sheriff, etc.), such comment shall be made *within 60 days* to the Presiding Judge with an information copy sent to the Board of Supervisors.

Furthermore, California Penal Code Sections 933.05(a), (b), (c), details, as follows, the manner in which such comment(s) are to be made:

(a) As to each grand jury finding, the responding person or entity shall indicate one of the following:
    (1) The respondent agrees with the finding
    (2) The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefore.

(b) As to each grand jury recommendation, the responding person or entity shall report one of the following actions:
    (1) The recommendation has been implemented, with a summary regarding the implemented action.
    (2) The recommendation has not yet been implemented, but will be implemented in the future, with a time frame for implementation.
    (3) The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a time frame for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency when applicable. This time frame shall not exceed six months from the date of publication of the grand jury report.
    (4) The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefore.

(c) If a finding or recommendation of the grand jury addresses budgetary or personnel matters of a County agency or department headed by an elected officer, both the agency or department head and the Board of Supervisors shall respond if requested by the grand jury, but the response of the Board of Supervisors shall address only those budgetary or personnel matters over which it has some decision making authority. The response of the elected agency or department head shall address all aspects of the findings or recommendations affecting his or her agency or department.

Comments to the Presiding Judge of the Superior Court in compliance with the Penal Code Section 933.05 are requested from the:

Responding Agency	**Findings**	**Recommendations**
Director, Orange County Health Care Agency	**F1, F2, F3, F4, F5**	**R1, R2, R3, R4, R5**