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# Alcohol and Drug Abuse

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# Introduction and Overview

- Substance abuse is a complex and wide-ranging subject, a common problem seen in underwriting and a medical problem dating back as far as Biblical times
- To help us focus, we will explore the two most common aspects of the problem in the U.S. – alcohol abuse and prescription opioid abuse
- Understanding these two problems will allow us to gain insight into our approach to most of the substance abuse problems we encounter in an underwriting environment

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# Goals

- Review the scope of alcohol and prescription opioid abuse problems
- Discuss the health effects, both unfavorable and favorable, of these substances
- Look at the clinical screening and tests as well as treatment for these problems

# Goals

- Present an approach to underwriting and classifying risk in individuals with these problems
  - Distinguish acceptable and appropriate use of these substances from at-risk use or abuse, dependence and addiction
  - Explore the various definitions, tests and other criteria that help us make these decisions
  - Look at a rational approach to ratings based on our assessment

# Scope of Alcohol-Related Problems

- Almost 75% of adults in the U.S. use at least some alcohol
- About 10% of Americans can be classified as problem drinkers
- About 40% of traffic fatalities are alcohol-related
- 80,000 deaths a year in the U.S. are alcohol-related
- The costs of alcohol problems in the U.S. were estimated at $223.5 billion in 2006

# Adverse Health Effects

- Short-term
  - Acute hepatitis
  - Acute pancreatitis
  - Esophagitis and gastritis with GI bleeding
  - Alcohol poisoning (2200/year; 76% age 35-64, 76% men per CDC)
  - Seizures
  - Accidents
  - Mental health problems
    - Depression, suicide
    - Domestic abuse

# Adverse Health Effects

- Long term
  - Hypertension
  - Stroke
  - Cardiomyopathy
  - Cirrhosis
  - Chronic pancreatitis
  - Gastroesophageal reflux disease (GERD)
  - Brain atrophy
  - Peripheral neuropathy

# Adverse Health Effects

- Long term *(continued)*
  - Osteoporosis
  - Cancers
    - Head and neck cancers (throat, larynx)
    - Esophageal
    - Liver
    - Likely breast and colon
  - Cardiac arrhythmias

# Adverse Health Effects

- Worsens treatment of diabetes and other disorders
- Interacts with many prescription medications (opioids, anti-epileptics, antidepressants, anticoagulants, antibiotics, beta-blockers)
- Poor nutrition and vitamin deficiency
- Fetal alcohol syndrome in pregnant women

# Positive Health Effects

- Light to moderate drinking is associated with favorable cardiovascular outcomes
  - Defined as 2 drinks/day for males and 1 drink/day for females
  - Type (i.e., wine, beer, liquor) does not matter
  - *May* increase HDL, reduce thrombosis and inflammation
  - “French paradox”
- Caution
  - These benefits are modest at best
  - The AHA does *not* recommend starting drinking for these benefits
  - A true alcohol-addicted individual cannot drink without problems

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# Distinguishing Harmful from Non-Harmful Use/Abuse

- This is the key to underwriting this impairment
  - The bulk of this talk will explore the various definitions, screening tests, lab tests and other data that help us make the distinction between moderate alcohol consumption, at-risk drinking and alcohol abuse/dependence
  - The definition of alcohol abuse sometimes relates to the perspective of the observer, clinician or underwriter; objectivity is important

# Definitions

- Alcohol use is often defined by number of drinks or “units,” and we will use the term drinks for the remainder of this presentation
- A unit represents one “standard” drink (approximately 10-14g of alcohol)
  - 1 ½ ounces of liquor
  - 4 ounces of wine
  - 12 ounces of beer
- Tolerance refers to the condition whereby an increasing dose of the substance is needed to achieve the same effect

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# Definitions

- World Health Organization (WHO)
  - Hazardous drinking – at risk for adverse consequences from alcohol
  - Harmful drinking – alcohol is causing physical or psychological harm
- National Institute on Alcohol Abuse and Alcoholism
  - Men <65: ≥14/week or ≥4 per occasion
  - Women <65: ≥7/week or ≥2 per occasion
  - Men and women >65: >1/day

# Definitions

- Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) – Alcohol Use Disorder
  - At least 2 of the following events in a year
    - Recurrent use resulting in failure to meet major role obligations
    - Recurrent use in hazardous situations
    - Craving, or a strong desire to use alcohol
    - Continued use despite social or interpersonal problems caused or exacerbated by alcohol use
    - Great deal of time spent obtaining alcohol, using it or recovering from its effects
    - Drinking more or longer than intended

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# Definitions

- DSM-5 – Alcohol Use Disorder
  - 2 or more of the following events in a year (continued)
    - Tolerance; increased amounts to achieve effect, diminished effect from the same amount
    - Withdrawal; characteristic withdrawal syndrome for alcohol or alcohol or a closely related substance such as a benzodiazepine used to relieve or avoid symptoms
    - Important activities given up or reduced because of alcohol
    - Persistent desire or unsuccessful efforts to cut down or control alcohol use
    - Use continued despite knowledge of having a physical or psychological problem caused or exacerbated by alcohol

# Clinical Screening Questions

- AUDIT
  - 10-question screen takes about 5 minutes
  - Asks about patterns of use, amounts, frequency and any related problems
  - AUDIT-C is an abbreviated form with 3 questions
- CAGE – 4 questions
  - Has anyone been **C**oncerned about your drinking?
  - Have you been **A**nnoyed when criticized about your drinking?
  - Have you ever felt **G**uilty about your drinking?
  - Have you ever had a drink in the morning to steady your nerves or get rid of a hangover? (**E**ye-opener)

# Clinical Screening Questions

- Michigan Alcohol Screening Test (MAST)
  - Focuses more on alcohol dependence and problems associated with drinking
  - A short version is available (SMAST)
  - A geriatric version is available (MAST-G)
- The National Institute on Alcohol Abuse and Alcoholism recommends the AUDIT
- Most commonly we see either AUDIT or CAGE in APSs, but unfortunately we rarely see any screening questionnaires at all

# Laboratory Tests

- Gamma-Glutamyl Transferase (GGT)
  - Very sensitive to alcohol use but not very specific
  - Because of the non-specificity clinicians rarely use this test and tend to dismiss the result
- Aspartate Aminotransferase (AST) and Alanine Aminotransferase (ALT)
  - So-called liver function tests are also not very specific
  - An AST/ALT ratio >1 is a red flag and much more specific for alcohol-related liver damage

# Alcohol Markers

- Carbohydrate-Deficient Transferrin (CDT)
  - Indicates the use of 50-80g of alcohol per day (5-6 drinks/day) for the preceding two weeks
  - Very specific but variable sensitivity depending on lab, other underlying impairments, age and gender
  - Sensitivity increases with elevated GGT
  - Specimen hemolysis or delays in processing can result in false positives
  - This is the only lab test currently approved by the FDA for alcohol screening
- Hemoglobin-Associated Acetaldehyde (HAA)
  - By-product of alcohol metabolism
  - Not approved by the FDA

# Other Findings

- High-density lipoprotein (HDL) elevation
- Mean corpuscular volume (MCV) elevation (usually mild, 100-108)
- Smoking
- Triglycerides elevation
- MVR
- Financial
- Physical findings generally don’t appear unless liver disease is advanced
- Insurance alcohol questionnaires

# APS

- Alcohol “criticism”
  - Amount of alcohol reportedly used
  - Actual recommendation to reduce or eliminate alcohol use
  - May also be colored by the experiences of the provider and by the context of the situation
- “Social history”
  - Often will give information on smoking and alcohol use
  - Also may note marital status and employment status as well as socio-legal problems

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# Other Considerations

- Social and employment effects
- Family history
- Financial problems
- Legal problems
- Driving problems
- Medical issues/associated impairments
  - Hypertension
  - CAD
  - Liver disease/hepatitis
  - Neuropathy
  - Diabetes
  - Depression

# Treatment

- Detoxification
- In-patient vs. outpatient
- Behavioral counseling/addiction specialists
- Support and accountability groups
  - 12-step programs/Alcoholics Anonymous
  - Faith-based and culture-based organizations
  - Optimally lifetime attendance
- Medications
  - Disulfiram (Antabuse)
  - Naltrexone
  - Acamprosate (Campral)
  - Off label—Nalmefene (Selincro; not available in the USA), Topiramate (Topamax), Valproic acid (Depakote)

# Rating

**Current Use**

- General approach
  - No single finding or test will give us the means to properly risk-classify these individuals
  - We need to look at all the available information
- Consider amount of alcohol used
- Consider the pattern of alcohol use or abuse
- Consider gender
  - While more men have alcohol problems than women, women are more susceptible to the effects of alcohol
- Consider the other factors involved

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# Patterns of Use and Abuse

- Alcohol use
  - Can include intermittent or “social” drinking
  - Usually low-risk if driving not involved and no other problems are associated
- Alcohol abuse without dependence
  - Excessive consumption and often has associated social and legal problems
  - Requires a rating
- Alcohol dependence
  - Definite excess consumption with significant mental and physical problems
  - Highly rated to decline

# Patterns of Use and Abuse

- "Binge" drinking
  - Drinking to the point of drunkenness or obvious intoxication
  - Amount depends on build, gender and tolerance and is difficult to quantify
  - Up to 1/6 of adults in the U.S.
  - High risk, usually requires additional debits or decline depending on frequency of binges and amount of alcohol used
    - Accounts for ½ of the 80,000 deaths in the U.S. attributed to alcohol
    - Arrhythmias/myocardial infarction
    - Accidents and suicides
    - Alcohol poisoning
    - "Blackouts"/amnesia

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# Recovery

- Consider years of abstinence
- Consider relapses
- Consider any current drinking
  - With history of dependence and any current drinking generally an offer cannot be made
- Association with other substance abuse (polydrug abuse)
  - Generally we cannot make an offer unless there is a long history of successful abstinence

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# Introduction:
# Prescription Opioid Abuse

# Introduction

- Austin Box was a linebacker for the University of Oklahoma football team
- He was a starter and considered a pro prospect
- He suffered a number of injuries during his career but continued to play through many of these
- On May 19, 2011, at the age of 22, he collapsed at a friend’s house and later died
- According to a report in USA Today, his autopsy revealed the presence of oxymorphone, morphine, hydrocodone, hydromorphone and oxycodone as well as alprazolam, an anxiolytic
- The cause of death was said to be pulmonary edema and aspiration pneumonia from mixed drug toxicity

# Scope of the Problem

- Prescription opioid abuse is a major topic of discussion in the current medical literature and is reaching staggering proportions
- Increasing prescriptions for opioid pain relievers (OPR)
  - Sales of OPR in 2010 were 4 times what they were in 1999
  - Total amount by weight amounted to 710mg for every man, woman and child in the U.S. in 2010
  - This level is enough to medicate every adult in the U.S., with a typical dose of 5mg of hydrocodone every 4 hours for one month
  - Sales continue to increase unabated

# Scope of the Problem

- Increasing incidence of overdoses
  - 1.2 million emergency room visits in 2009 were related to prescription drug use and misuse; a large portion of these were for OPRs
  - This rate has doubled since 2004
  - 4.8% of Americans age $\geq$12 used OPRs non-medically

- Increasing incidence of deaths associated with prescription opioid use
  - OPRs were associated with 14,800 deaths in the U.S. in 2008
  - This rate has quadrupled since 1999
  - Exceeds the deaths due to heroin and cocaine combined

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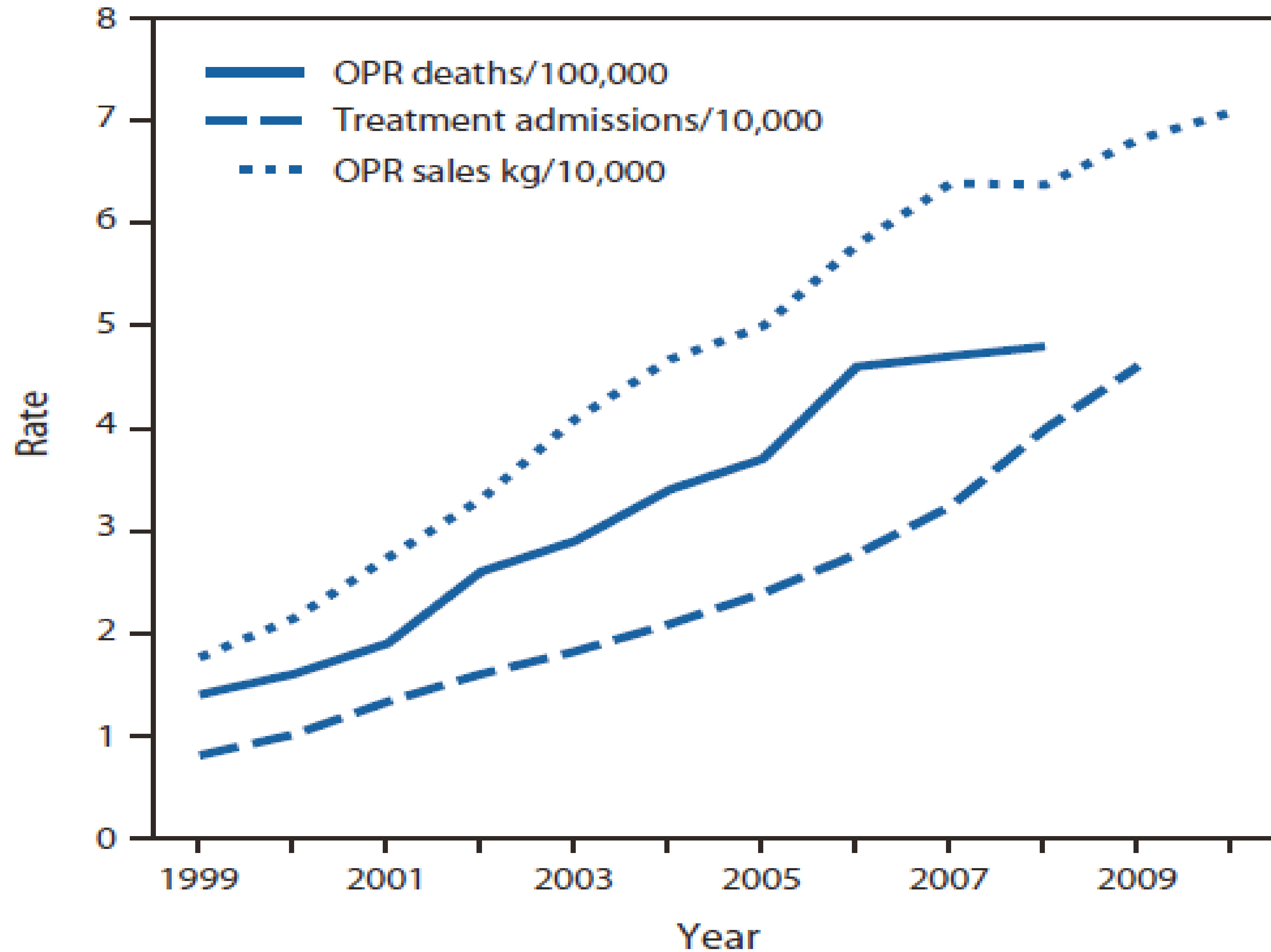


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# Changes in Prescribing Patterns

- Previously, opioids were not indicated in the long-term treatment of chronic pain
- This philosophy changed drastically in the late 1990s and into 2000
  - New pain management guidelines from the Joint Commission for the Accreditation of Healthcare Organizations (JCAHO) in 2000
  - In 2001 California mandated all licensed physicians (except radiologists and pathologists) take a full-day course on “pain management”
  - The self-report of pain was to be treated above any other considerations
- Patient satisfaction surveys and Internet physician ratings became powerful determinants of a physician’s payment and business
- Addiction counseling and treatment is time-consuming, poorly reimbursed and often unavailable, while treatment with opiates is profitable and pain clinics are ubiquitous

Editorial in New England Journal of Medicine

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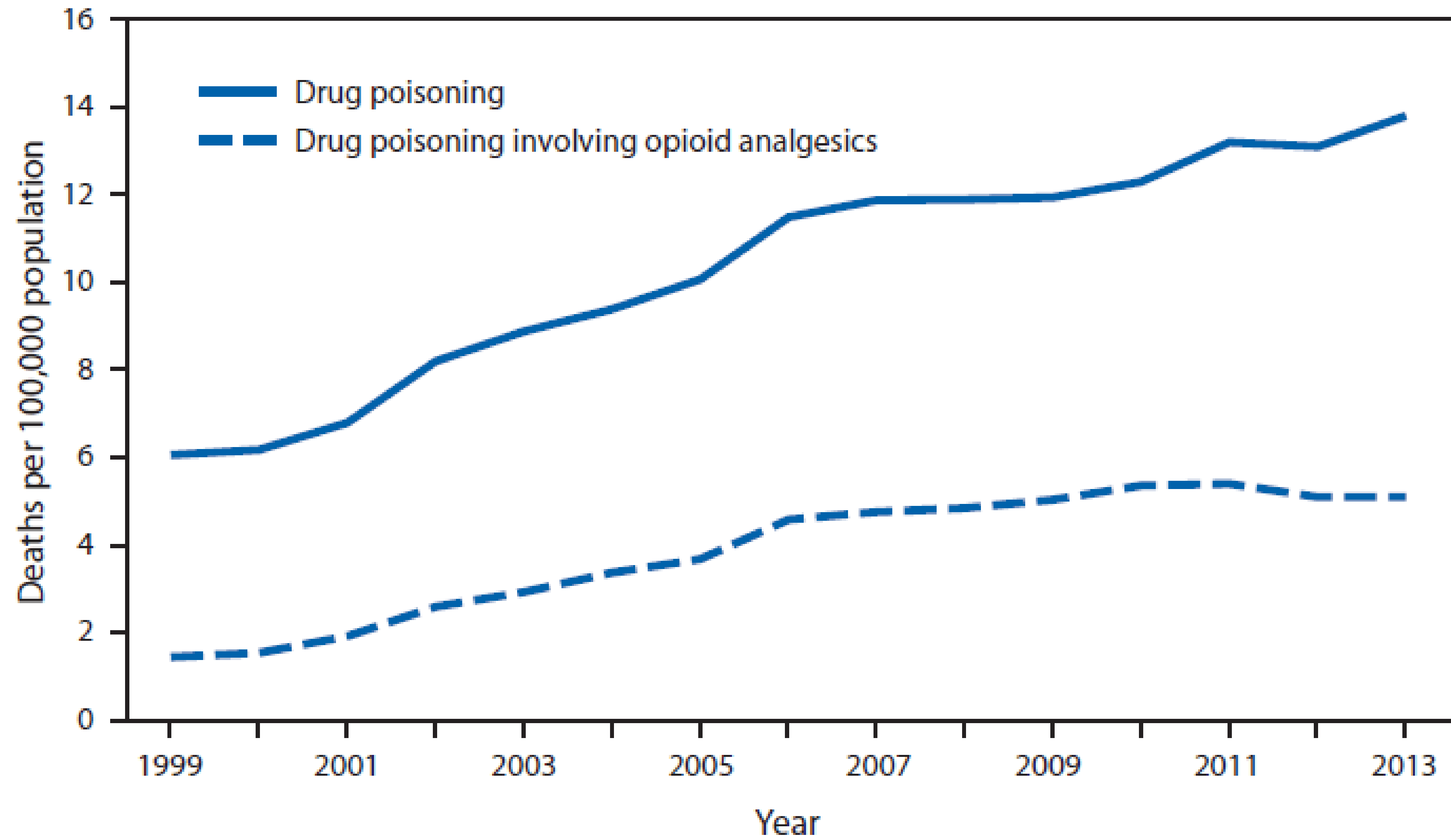
# Additional Reasons

- Oxycontin was marketed as a non-addicting opioid pain reliever based on industry-sponsored trials
- NSAIDs have been shown to be associated with a higher risk of coronary artery disease and stroke
  - “Selective” COX -2 inhibitors (Vioxx, Celebrex) vs. “non-selective”
  - All have some risk
    - Vioxx > Celebrex
    - ibuprofen > naproxen
  - Risk with short-term as well as long-term use
  - Most significant with history or multiple other risk factors

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# Medications

- Morphine (MS Contin)
- Hydromorphone (Dilaudid, Exalgo)
- Oxycodone (Percodan, Oxycontin)
- Fentanyl (Duragesic)
- Hydrocodone (Vicodin, Lortab, Norco)
- Oxymorphone (Opana)
- Levorphenol
- Codeine
- Pentazocine (Talwin)
- Propoxyphene (Darvon)
- Meperidine (Demerol)
- Tramadol (Ultram)
- Tapentadol (Nucynta)

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# Medications

- Methadone (Dolophine)
  - Previously used in treatment of narcotic addiction rather than for pain relief
  - Now is more frequently being used in chronic pain settings
    - Relatively poor choice for this given variable pharmacodynamics due to active metabolic byproducts
    - Many state and other formularies require it in these settings due to its low cost despite a significantly increased incidence of overdoses
    - Regardless of the indication for which it is being used, it suggests a higher-risk situation
- Opioid agonist/antagonists
  - These are used in treatment of addiction though also are used in pain treatment
  - Buprenorphine (Butrans), Butorphenol, Naloxone, Naltrexone
  - Suboxone (buprenorphine/naloxone) is used primarily for the treatment of opiate addiction and its use requires special surveillance

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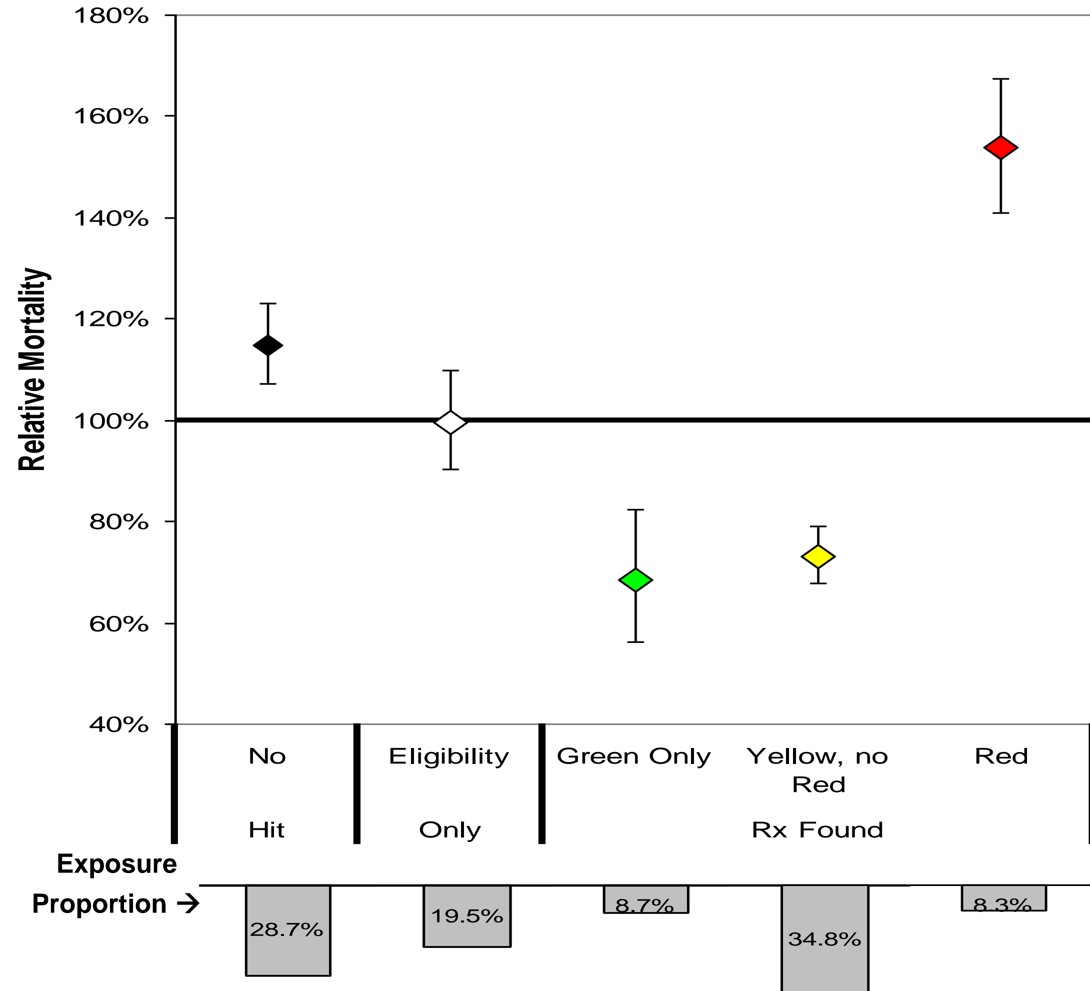
# RGA Prescription Database

- RGA did a mortality study on prescription databases for an outside client
- Drugs were stratified into color-coded risk categories; narcotics were in the “red,” or highest risk, category
- There was a slight increase in mortality in those with no pharmacy data available
- There was a significant increase in mortality in the high-risk group
- Mortality increased with the number of prescriptions

# Drug Risk Assignment

- Each drug was assigned either a “green,” “yellow,” or “red” color based on anticipated risk, prior to study being performed
- The risk categories included both mortality and morbidity factors

# Mortality Study Results




- No Hit: Slightly worse than average
- Eligibility Only: About average
- Green/Yellow Only:
- Significantly better than average
- Red: Significantly worse than average

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# What Do the Colors Mean?

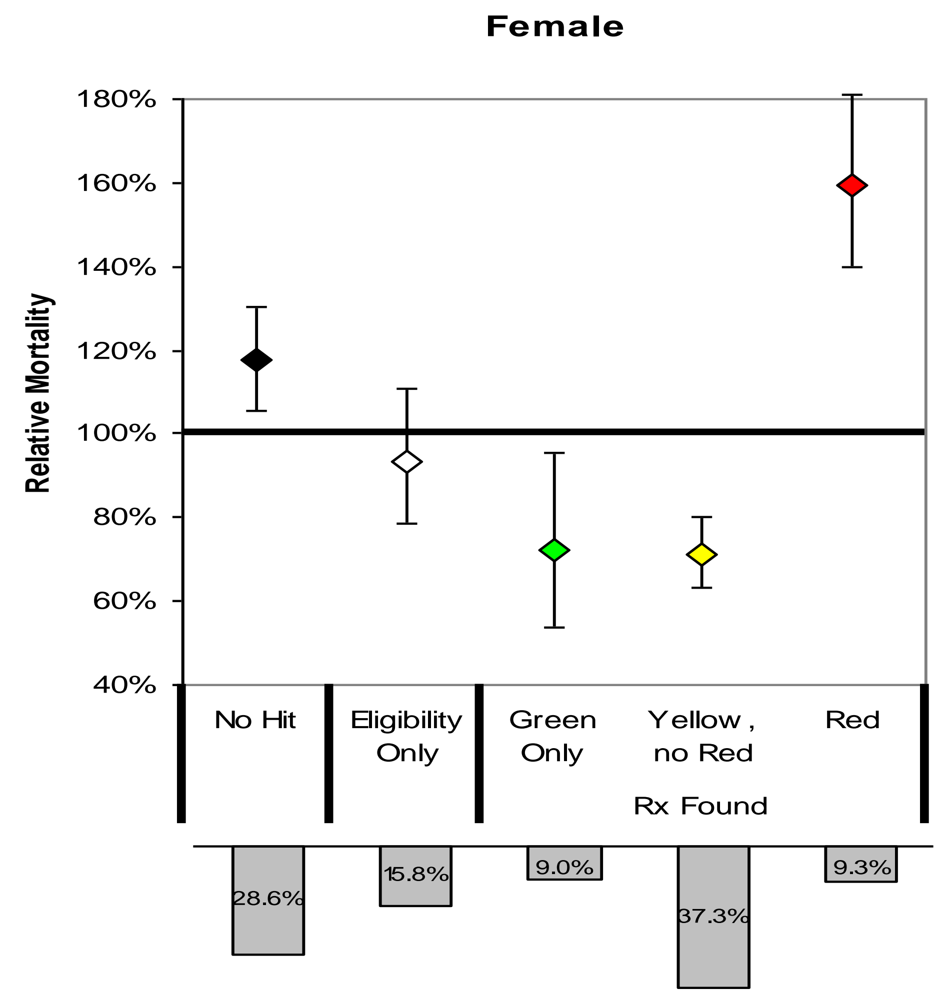
- **Red** – These drugs are closely associated with conditions known to have additional mortality, or the drug itself may have serious potential side-effects

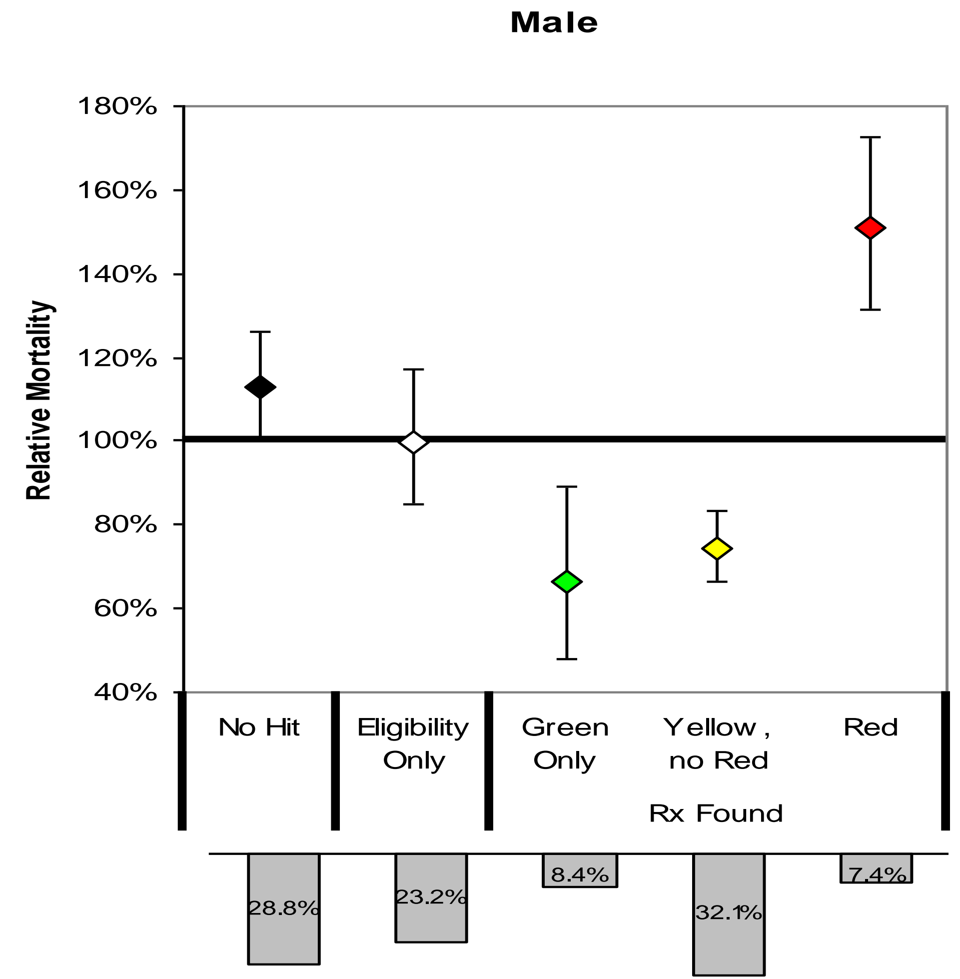
  Does not necessarily mean the case needs to be declined!

- **Yellow** – These drugs are used for conditions that if untreated would result in worse than average mortality, but their use may suggest good medical care with subsequent mortality improvement

- **Green** – These drugs are usually used for relatively minor conditions, and are not known to commonly have serious adverse reactions

# Gender

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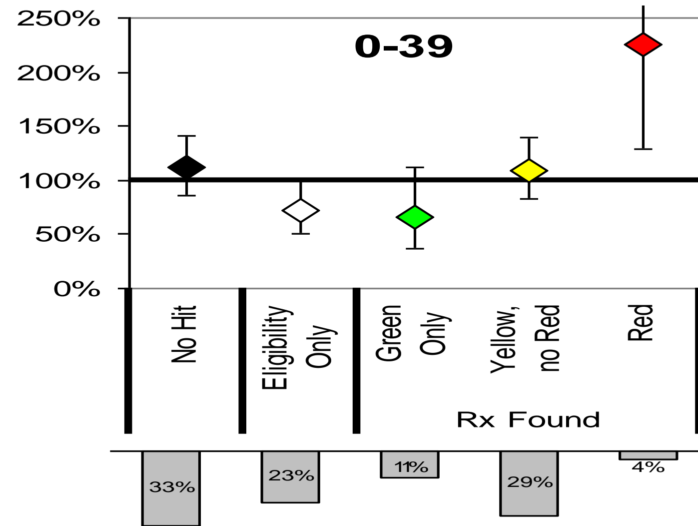
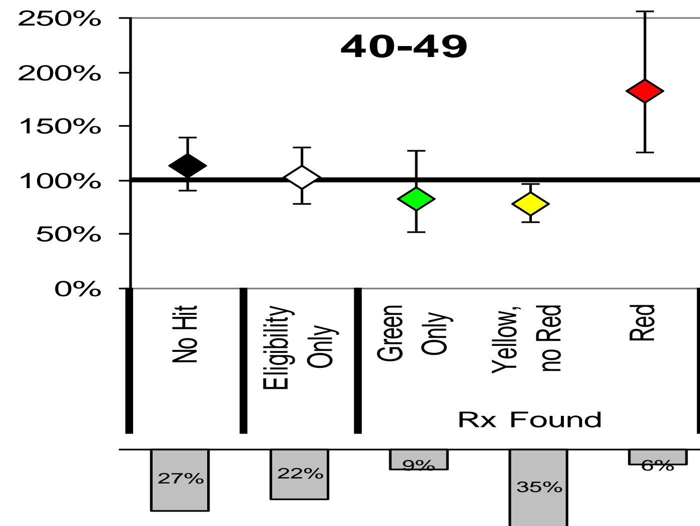
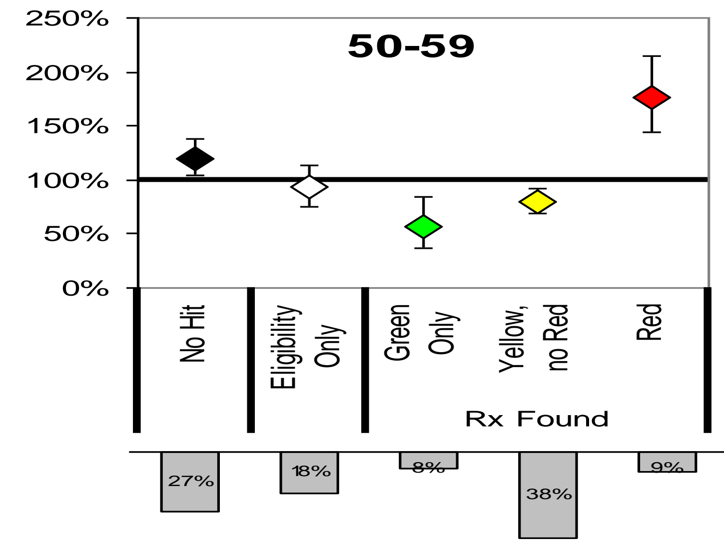
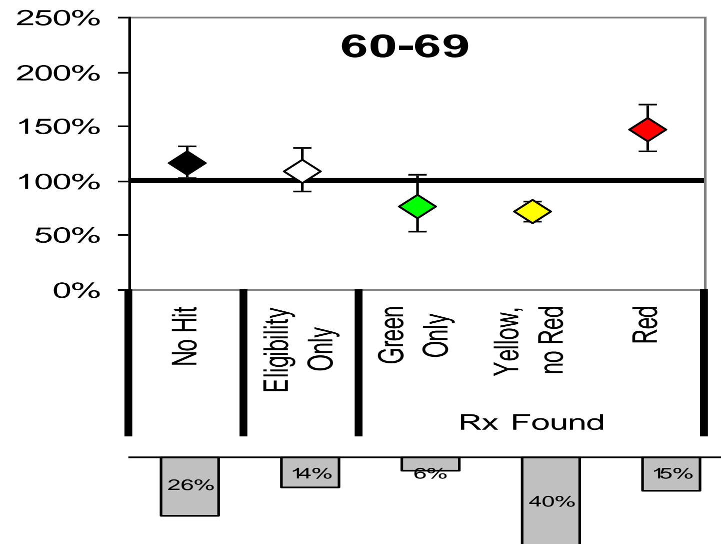
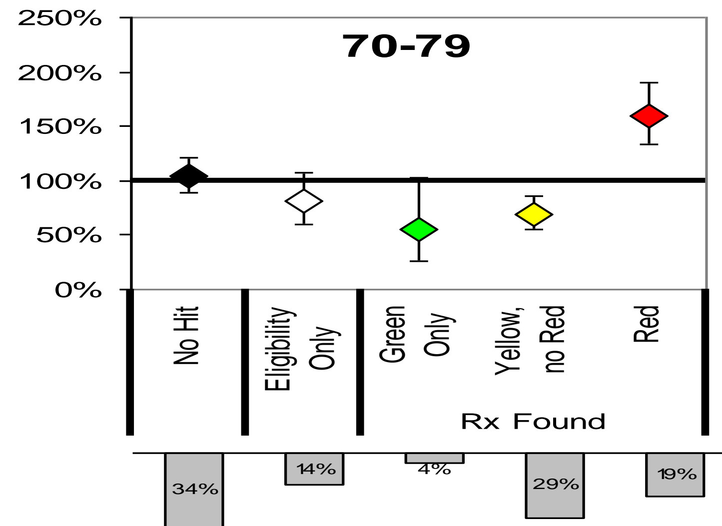
# Age

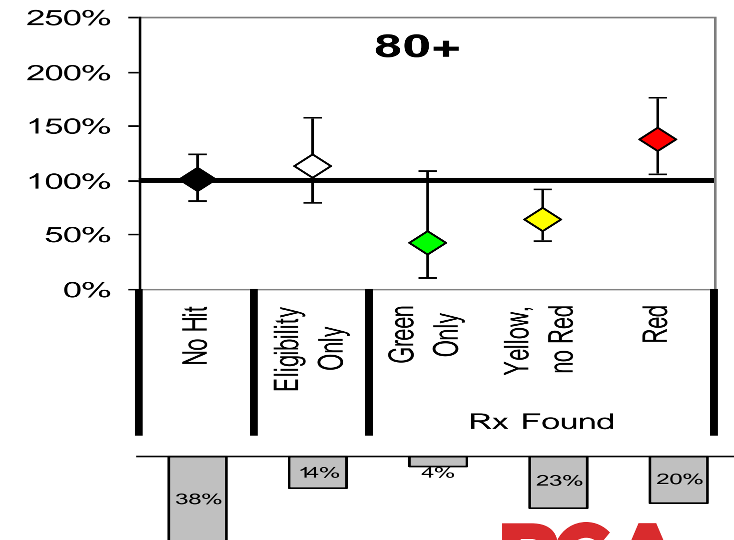
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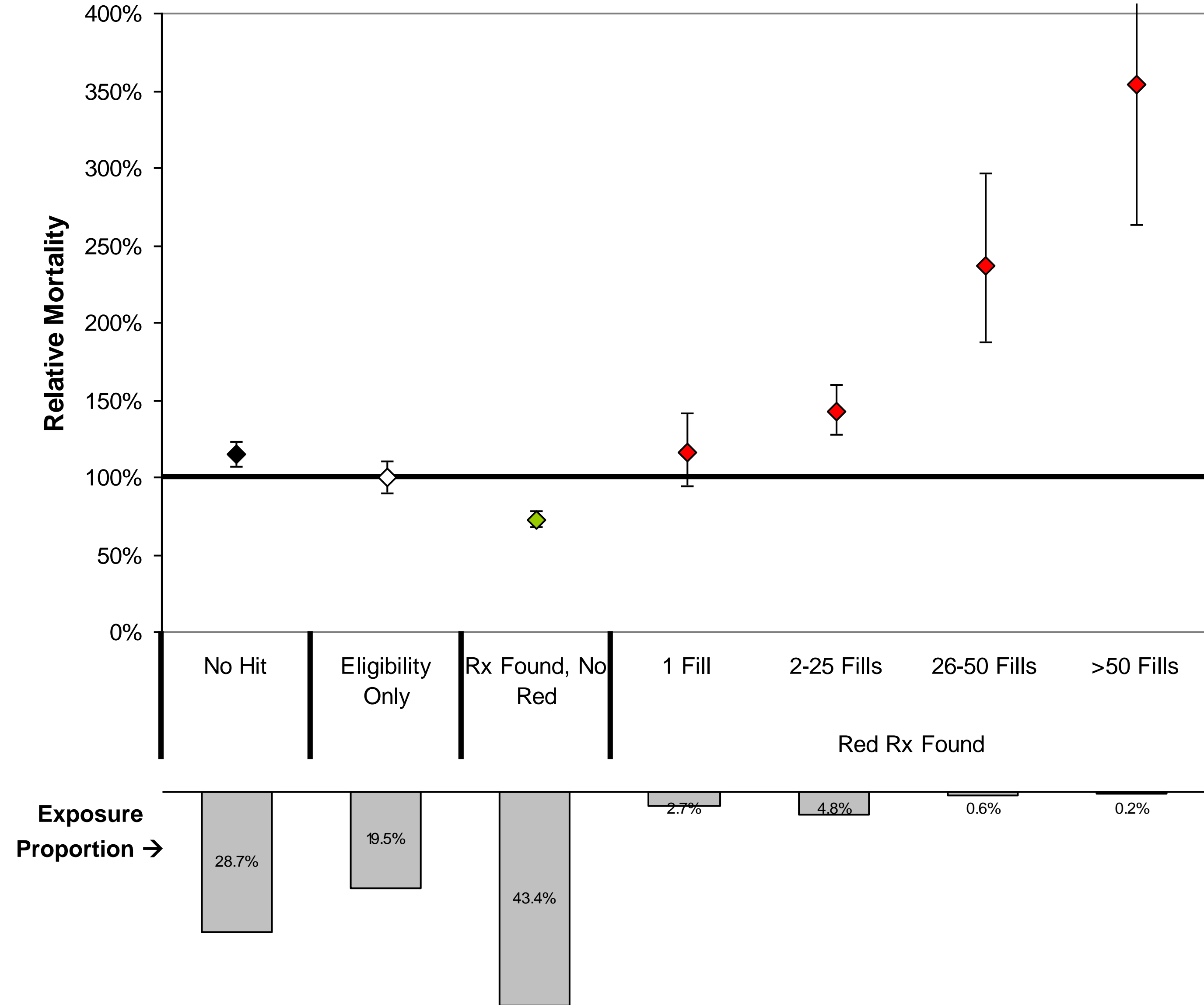
# Red Fill Frequency



# Approach to Underwriting

- MVR
- Financials
- APS
  - Indications
  - Stability of dose if chronic
  - Use of other sedating substances (i.e., alcohol, marijuana)
  - Pain contracts
  - Use of pain specialists or pain clinics (+/-)
    - Little evidence this improves outcomes
    - ABC News reported there are more pain clinics in Florida than McDonald's franchises
  - Recognize the dilemma doctors face in treating pain adequately yet avoiding long-term problems

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# Approach to Underwriting

- Prescription data
  - Number of refills (risk increases as number of refills increases)
  - Number of different narcotics prescribed
  - As-needed vs. scheduled vs. both (combination of both is highest risk)
  - Other types of psychoactive or sedating medications (i.e. muscle relaxers, sleeping pills, anxiolytics, antidepressants, medical marijuana)
  - Multiple prescribers

# Approach to Underwriting

- Distinguish appropriate from inappropriate use
  - Temporary vs. chronic use
  - Multiple doctors/prescriptions
  - Forged or altered prescriptions
  - Applicant wants more pills than doctor is willing to prescribe
  - Applicant “loses” prescription
  - Applicant uses other people’s meds
  - Criticism
  - Past history of alcohol or drug abuse
  - Use of Methadone or Suboxone
  - Pain management specialist or pain contracts

# Approach to Underwriting

- Red flags
  - Multiple driving infractions
  - Accidental injuries
  - Young males
  - Affluent, high-profile
  - Erratic behavior/deterioration in work or school performance
  - Arrhythmias
  - Multiple prescribers
  - Multiple other psychoactive and/or sedating medications
  - “Allergies” to numerous analgesics other than the drug of choice
  - Financial problems
  - Hepatitis
  - Route of administration other than oral (e.g., patch, IM, IV, pr)

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# Ratings

- Short-term or episodic (as-needed or prn) use without criticism or inappropriate use can generally be rated quite favorably
- Chronic use with stable doses and no criticism or inappropriate use can also be rated favorably
- Current chronic use with criticism, inappropriate use or other red flags is usually highly rated to decline
- Caution is warranted in individuals with a history of depression even if the depression is not ratable

# Ratings

- Cross-addiction
  - Other drugs
  - Alcohol
  - Very high risk/decline
- Recovery
  - Generally long-term recovery is not achieved without an initial in-patient treatment regimen followed by continued counseling and support group attendance like Narcotics Anonymous
  - Generally long postpone period before consideration is possible

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# Summary

- Alcohol and drug abuse is an ever-increasing problem encountered by underwriters, with significant mortality implications
- Distinguishing appropriate and inappropriate use is the key to underwriting these individuals
- A number of factors identify inappropriate and high-risk use, and these cases are generally rated or declined
- Recovery is possible, but postpone periods are required before we can reconsider

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# Questions?

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