

Uppers, Downers, All Arounders, 7th Edition – Instructor's Manual
Chapter 8 - DRUG USE AND PREVENTION: FROM CRADLE TO GRAVE
Overview

This chapter examines current drug use patterns among various age groups, surveys the relationship of drugs to sexual behavior, sexual violence, hepatitis, and AIDS, and explores drugs in the military, and in the workplace. Major elements of drug testing methods are also covered.

Promising methods of drug-abuse prevention are studied including delaying the first use of addictive substances, increasing perceptions of the negative effects of abused drugs, normalizing perceptions of current drug use amongst peers, and enhanced parental involvement in prevention efforts.

PREVENTION

Drug use and abuse affects people throughout their lives, drug prevention and treatment should be available for every stage of life.

Substance abuse prevention ranges from total prohibition, to temperance, to harm reduction, to legalization. The main prevention strategies are supply reduction, demand reduction, and harm reduction.

- Supply reduction aims to limit the amount of drugs available to the user through interdiction, legal penalties, and incarceration.
- Demand reduction tries to reduce craving and drug demand through primary, secondary, and tertiary prevention strategies. Refinements of these strategies include universal, selective and indicated prevention.
- Harm reduction limits the harm addicts do to themselves and to society.

Primary, secondary, and tertiary prevention work best when appropriate education and participation occurs at every age level. A lack of adequate prevention funding makes this a difficult task.

- Primary prevention is aimed at those who are drug naïve or who have merely experimented with drugs. It aims to keep them from ever using or to keep their use experimental and/or to occasional social use.
- Secondary prevention is directed at casual and habitual users to prevent escalation of use to abuse and addiction.
- Tertiary prevention is aimed at heavy users, abusers, and addicts to lead them to recovery and limit the harm they do to themselves. Treatment is the primary component of tertiary prevention.

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Extended Outline

I. INTRODUCTION (pp. 8.2–8.3)

Because psychoactive drugs and addictive behaviors affect people's lives from conception to death, prevention and treatment programs should be available at every stage of life.

PREVENTION

II. CONCEPTS OF PREVENTION (PP. 8.3–8.4)

A. PREVENTION GOALS (p. 8.3)

It is up to each society to decide what it wishes to prevent. Is the society trying to prevent use of any psychoactive drug, trying to ban only illicit drugs, or simply trying to limit the damage caused by use, abuse, and addiction?

Prevention goals are achieved by

- preventing the disease of addiction from ever developing (**primary prevention**);
- stopping inappropriate use as soon as it has begun in "non-dependent users" (**secondary prevention**);
- reversing the progression of abuse and addiction in "dependent users" (**tertiary prevention**).

Prevention efforts must also be targeted towards those who are in recovery (the "never to use again" community) to help them maintain continued abstinence from drugs, alcohol, nicotine or compulsive disorders.

Traditionally, the three methods of achieving prevention goals are:

- **reduce the supply** (e.g. interdiction, legislation, legal sanctions),
- **reduce the demand** (e.g. education, intervention, treatment, individual and community development),
- **reduce the harm** that drugs do to users, friends and relatives of users, and society as a whole (e.g. medication replacement therapy, designated driver program, needle-exchanges, decriminalization).

III. HISTORY (PP. 8.4-8.8)

A. TEMPERANCE VS. PROHIBITION (pp. 8.4–8.5)

Attempts to regulate drugs, particularly alcohol, have wavered between moderation of use (temperance) and outright prohibition. The concept of

complete prohibition, or today's zero tolerance, runs on a 70-year cycle: 1780, 1850, 1920, and 1990.

B. DID PROHIBITION REALLY FAIL? (pp. 3.5–3.6)

The popular belief that Prohibition, (enforced in 1920 and repealed in 1933), was ineffective, has endured for decades. The truth is that Prohibition did reduce health problems, domestic violence, crime, and consumption.

The belief that Prohibition created organized crime is a myth. Criminal organizations existed long before Prohibition but organizational techniques were indeed refined during that era.

Increased tax revenue and the public's desire to drink caused Prohibition's repeal.

C. AMETHYST INITIATIVE (p. 8.6)

In 2008 a petition movement known as the Amethyst Initiative garnered endorsements from the presidents of more than 100 of the nation's leading independent liberal arts institutions. These academic leaders were interested in lowering the drinking age from 21 to 18, the age of consent and the age Americans are granted many other rights. It was also endorsed by the academic community with the hope that it would eliminate their campuses' burden of policing and enforcing underage-drinking laws.

Statistics and studies have clearly demonstrated the positive impact of the National Minimum Drinking Age Act of 1984 that established the nation's minimum drinking age to 21.

D. SCARE TACTICS & DRUG INFORMATION PROGRAMS (pp. 8.6– 8.7)

Concerted attempts to lessen substance abuse didn't begin until the 1960s. Knowledge-based programs were established to teach students about drugs and the associated problems caused by use. It was assumed that the use of scare tactics would reduce drug use. There is little evidence that drug information alone causes changes in behavior. Effective demand reduction prevention efforts decrease drug problems at a fraction of the cost of supply reduction efforts.

E. SKILL-BUILDING & RESILIENCY PROGRAMS (p. 8.7)

Prevention efforts expanded to address the psychological and developmental factors that might predispose individuals to drugs. The more risk factors an individual has the more likely they are to abuse drugs. Increasing skills that effectively address these risks are the aim of several programs.

General competency building; training in self-esteem, in socially acceptable behavior, in decision-making, self-assertion, problem-solving, and vocational skills.

Coping (resistance) skills; developing the self-reliance, confidence, and inner resources needed to resist drug use.

Reinforcing protective factors and resiliency; ways to build on the natural strengths people already have.

Support system development to provide easy access to sympathetic support resources.

For more information and details on programs visit the SAMHSA National Registry of Evidence-based Programs and Practices (www.NREPP.samhsa.gov).

F. CHANGING THE ENVIRONMENT (p. 8.8)

Environmental change comes from community-based systems-oriented programs that get entire neighborhoods to take responsibility for preventing substance abuse. Typical community activities include:

- ◊ assessing the needs of the community and coordinating existing services;
- ◊ changing laws and public policy;
- ◊ increasing funding for family, school, and community prevention services;
- ◊ community-wide training and planning.

G. PUBLIC HEALTH MODEL (p. 8.8)

The public health model considers addiction as a disease in a

- **genetically predisposed host** (the actual user) who lives in a
- **contributory environment** (the actual location and the social network of the host) in which an
- **agent** (the drug or drugs) introduces the disease.

Prevention is designed to affect the relationships among these three factors.

H. FAMILY APPROACH (p. 8.8)

Family support, skills training, and therapy, along with parenting programs, aid in reducing the risk factors that lead to drug abuse and addiction.

IV. PREVENTION METHODS (PP. 8.8–8.16)

A. SUPPLY REDUCTION (p. 8.8.10)

Supply reduction seeks to decrease drug abuse by reducing the availability of drugs through regulation, restriction, interdiction, and law enforcement. Some of the activities include:

- interdicting drug smugglers and increasing law enforcement activities at border crossings;

- interdicting and limiting the supply of precursor chemicals; identifying, disrupting, and dismantling organized crime and gangs;
- enforcing and passing more severe laws;
- disrupting money laundering activities, etc.

Despite these efforts, the overall availability of illicit drugs in the U.S. continues to increase.

1. Legislation & Legal Penalties (pp. 8.10–8.11)

Since the Pure Food and Drug Act of 1906 and the Comprehensive Drug Abuse Prevention and Control Act of 1970, penalties for drug possession and sales have increased.

To curtail drug availability, more severe penalties (longer prison terms, asset forfeiture, heavy fines) were levied against offenders. As a result, the prison population (federal, state, and local) has more than tripled between 1980 and 2006 to approximately 2.3 million. In 2005 nearly 55% of the inmates in federal prisons were there because of drug offenses. Half of all inmates reported drug use while committing the offense that put them in prison.

Disparity in penalties for possession of crack cocaine and powder cocaine disproportionately impacted African American and other minority groups. This was addressed by the Fair Sentencing Clarification Act of 2010.

Most states have mandatory minimum sentencing based upon possession of specific amounts of illicit drugs. Sentencing revision in the 2000s has enabled diversion of drug abusers into treatment rather than prisons.

The epidemic of prescription drug abuse has resulted in states gaining more authority to monitor Schedule II, III, and IV prescribing practices. Medications like ephedrine and pseudoephedrine used as precursors in the illicit manufacture of methamphetamine are now controlled in many states.

As of 2010, 16 states plus the District of Columbia permit medical marijuana. These laws conflict with federal laws which has resulted in confusion about how the state laws impact employment, housing, motor vehicle operations, and many other state/federal regulations

2. Outcomes of Supply Reduction (pp. 8.11–8.12)

Advocates of supply reduction believe strict policies and strong penalties delay the impulse to use, force people into treatment, and keep them there. Some argue that this is a costly approach given the relatively minor impact on the supply.

Drug courts are more frequently used today, avoiding backlogs in the justice system for thousands of arrests for minor drug offenses. First-time offenders are diverted to treatment, shifting a supply reduction technique to a demand reduction strategy.

In 2010 synthetic marijuana chemicals began showing up in “head shops” as herbal incense under trade names like K₂[®] and Spice[®]). This was followed by the introduction of new powerful synthetic stimulants like mephedrone (methylmethcathinone) and MDPV sold as bath salts (trade names: Vanilla Sky[®])

or Ivory Wave®). They were undetected in urine tests and by labeling these products as incense or bath salts, they circumvented drug regulations. States banned these substances allowing them to police supplies as new Schedule I drugs of abuse.

B. DEMAND REDUCTION (pp. 8.12–8.15)

Supply reduction has been only marginally successful so demand reduction has become a more viable option entailing primary, secondary, and tertiary prevention.

Newer concepts of prevention (*universal prevention*) look at developing strategies targeting all members of a community. Those targeted towards specific higher risk populations are known as *selective prevention* and those strategies targeted for active drug abusers are known as *indicated prevention*.

1. Primary Prevention (pp. 8.12–8.13)

Although primary prevention is the most important level of demand it receives the least federal, state, and local funding.

Primary prevention efforts are designed to anticipate and prevent or delay initial drug use. Many studies have demonstrated that the age of first use is the strongest predictor of future drug or alcohol problems.

Its goals are to promote nonuse or abstinence; help young people refuse drugs; delay the age of first use, and encourage healthy nondrug alternatives to achieving altered states of consciousness.

This level of prevention attempts to instill resistance by teaching skills in coping, handling peer pressure, decision making, and other skills to help prevent young people from ever using psychoactive substances. Primary and universal prevention target nonusers of drugs or alcohol.

2. Secondary Prevention (p. 8.14)

Secondary prevention seeks to halt drug use once it has begun and adds intervention strategies to education and skill building.

Drug diversion programs (e.g., drug courts) for first-time drug offenders have proven to be useful and cost-effective. Selective prevention at this level targets non-dependent drug users who have high risk for developing drug dependence such as those who received their first DUI citation or children of addicts.

The lag between first use of a drug and the development of physical and emotional problems makes drug experimenters less likely to believe that information about harmful effects applies to them. This is the biggest challenge to secondary prevention efforts.

3. Tertiary Prevention (pp. 8.14–8.15)

Tertiary prevention seeks to stop further damage from habituation, abuse, and addiction to drugs and to restore an abuser to health. Strategies include:

- group intervention,
- cue extinction therapy,
- family therapy,
- specific relapse prevention and life management skills,
- psychopharmacological strategies,
- promotion of a healthy lifestyle; and
- development of support and aftercare systems.

Indicated and tertiary prevention target dependent drug users. A major problem with this population is the “awareness gap”. Up to 76% of those who are dependent on drugs or alcohol do not recognize their own addiction. Screening, brief intervention and referral to treatment procedures for employment, health care enrollment or auto licensing may close this gap.

Treatment results in abstinence or decreased drug use in 40% to 50% of cases, a steep reduction in crime (74%), and a savings of \$4 to \$20 for every \$1 spent by a community. An estimated 20 million Americans desire treatment but only 1.4 million receive treatment (treatment gap). 20 to 30% of those on a waiting list for treatment follow through and enter treatment.

C. HARM REDUCTION (pp. 8.15–8.16)

Harm reduction focuses on techniques to minimize the personal and social problems associated with drug use rather than making abstinence the primary goal.

Bleach distribution and needle-exchange efforts can reduce the spread of HIV without increasing illegal-drug use. Substituting a legal drug addiction for an illegal one as in methadone maintenance programs is another example.

Programs that are more controversial include

- ◊ responsible use education which accepts some level of experimental or social
- ◊ decriminalization or legalization of all abused drugs;
- ◊ treatment that reduces an addict’s habit to manageable levels;
- ◊ permitting addicts to design and manage their intervention and treatment processes.

These tactics conflict with federal drug policy and spread ambiguity about abuse of drugs. Surveys demonstrate that abuse of drugs increase when perception of drugs as being harmful decreases

V. CHALLENGES TO PREVENTION (PP. 8.16–8.17)

A. LEGAL DRUGS IN SOCIETY (pp. 8.16–8.17)

The social and health problems attributed to alcohol, tobacco, and, to a lesser extent, prescription drug abuse are far greater than those caused by illicit drug

use. These legal drugs are widely available and actively marketed by sophisticated advertising campaigns.

Billions are also spent advertising over-the-counter (OTC) and prescription drugs. This two-tiered approach—acceptable and unacceptable drugs—breeds cynicism and disbelief of prevention messages.

Alcohol and tobacco are successfully marketed to the general public using age and culturally targeted messages at specific populations. Similar methods promoting prevention could result in effective prevention outcomes.

B. CONCLUSIONS (p. 8.17)

One of the realities of prevention is that there is no quick fix. The success of the antismoking effort has taken almost half a century.

- First knowledge must change, then attitudes, and finally practices.
- The job is never complete.
- Over time, prevention efforts become more difficult to sustain.
- No single approach works consistently.

C. FUNDING (p. 8.17)

Prevention is vastly underfunded when compared with society's cost of alcohol and drug abuse. Prevention is not perceived as exciting because the basic message is so simple, and public participation in local and national prevention activities is low.

Exciting or not - prevention programs must be available at every stage of life and they must be:

- cultural and age specific,
- imaginative, accurate, and honest,
- non-judgmental, and
- generously funded and supported.

FROM CRADLE TO GRAVE

V. PATTERNS OF USE (p. 8.17)

A. USE BY RACE & CLASS (p. 8.18)

In 2009, those least likely to have used an illicit drug were Asian Americans (3.7%) American Indians or Alaskan Natives were most likely (18.3%), Whites (9.6%), Blacks (9.6%), and Hispanics (8.8%), had fairly comparable rates of recent illicit drug abuse while persons reporting two or more ethnicities had a current illicit drug use rate of 14.3%.

Alcoholics and addicts live in the inner city but a higher percent live in rural or suburban communities. Many of these individuals number among the most skilled, talented, intelligent, and sensitive individuals in our society.

Intelligence is not a guaranteed protection against addiction.

B. USE BY AGE (pp. 8.18, 8.19)

Over the past 40 years there has been a gradual lowering of the age of drug users. In 2009 the average age of first use of alcohol and most illicit drugs lowered but the average age of first use for cigarettes, methamphetamine, heroin and sedatives increased. The number of Americans 12 and older who used illicit drugs in the past month (21.8 million in a population of 252 million) may seem small; however, they have an exaggerated effect on all levels of society

VI. PREGNANCY & BIRTH (PP. 8.19–8.28)

A. OVERVIEW (pp. 8.19–8.22)

The health of both the mother and the child is compromised when drugs are used or abused during pregnancy. Most psychoactive substances can harm the developing fetus.

In one survey, 18.6% of infants were exposed to alcohol at some time during gestation. As a result, fetal alcohol syndrome (FAS) is the third most common birth defect and the leading cause of mental retardation in the United States. Other results of the survey; 4.5% were exposed to cocaine, 17.4% to marijuana, and 17.6% to tobacco.

Use of drugs in early pregnancy does the most damage to the developing fetus. The costs of caring for a drug exposed infant are three times higher than for an unexposed infant.

1. Maternal Risks (p. 8.20)

Some conditions aggravated by drug use in pregnant women include anemia, sexually transmitted diseases, diabetes, high blood pressure, neurological damage, weakened immune system, and poor nutrition. Infections contracted from IV drug use include hepatitis C, endocarditis, and HIV/AIDS. Eighty percent of children with HIV in the United States were born to mothers who were IV drug abusers or sexual partners of IV drug abusers. A pregnant addict often has had no prenatal care or medical intervention prior to delivery and often lives a chaotic lifestyle.

2. Fetal & Neonatal Complications (pp. 8.21–8.22)

When a pregnant woman uses psychoactive drugs, it is difficult to distinguish the effects of her toxic environment (domestic abuse, stress, poor nutrition) on the fetus from the direct effects of the drug.

Psychoactive drugs easily cross the placental barrier, exposing a fetus to whatever chemicals the mother is using. After birth many drugs taken by the mother pass into the breast milk.

The fetus is most vulnerable during the first 12 weeks but neurological damage can occur throughout a pregnancy if the mother uses drugs. The second trimester involves further maturation, the organs continue to be vulnerable. The third trimester includes maturation of the fetus and preparation for birth. Definite syndromes of neonatal withdrawal, intoxication,

and developmental or learning delays have been attributed to a variety of drugs, including alcohol.

3. Long-Term Effects (p. 8.22)

Research indicates that the majority of drug-exposed babies who receive prenatal, perinatal, and postnatal care, along with continued services, manage to catch up developmentally to non-drug-exposed children after a slow start. Some studies have found persistence of learning disabilities at age seven and beyond.

B. SPECIFIC DRUG EFFECTS (pp. 8.22–8.27)

1. Alcohol (pp. 8.22–8.23)

A number of conditions are grouped under the acronym FASD, or fetal alcohol spectrum disorders. FAS, a birth defect syndrome, is characterized by a definite pattern of physical, mental, and behavioral abnormalities in children born to mothers who drank heavily during pregnancy.

There are a number of other less severe yet more widespread conditions that involve cognitive abilities such as alcohol-related neurodevelopmental disorder (ARND) and alcohol-related birth defects (ARBD), also known as “fetal alcohol effects” (FAE).

Worldwide, from 0.33 to 2.9 cases per 1,000 live births have FAS. The U.S. rate is .50 to 2.0 per 1,000 live births. The incidence of ARND and ARBD is five to 10 times greater than FAS.

Growth problems caused by prenatal alcohol use involve weight, height, and head circumference and can persist into adolescence.

Parental use of alcohol and prenatal alcohol exposure increases the risk of sudden infant death syndrome (SIDS), places the child at a greater risk of being abused (2.7 times), and a 4.2 higher risk of being neglected.

2. Cocaine & Amphetamines (pp. 8.23–8.24)

When cocaine use was at its highest levels, it was estimated that 4.5% of all U.S. infants were exposed in utero.

Cocaine and amphetamines increase heart rate and constrict blood vessels, causing dramatic elevations in blood pressure in both mother and fetus. Third-trimester use of cocaine can induce sudden fetal activity, uterine contractions, and premature labor.

Infants exposed to cocaine during pregnancy often go through a withdrawal syndrome characterized by extreme agitation, increased respiratory rates, hyperactivity, and occasional seizures. Many of the symptoms disappear after a few weeks if the mother’s breast milk is free of stimulants.

A study of 406 children born to 153 meth-abusing women found a disability rate of 33%. This is a huge rate compared to children born to drug free women. Many abnormal neurobehavioral effects improve in the first three years of life.

3. Opioids (pp. 8.24–8.25)

Physical dependence on opioids leads to continuous use, so the effects on the fetus are greater than those associated with binge drugs such as cocaine. Women addicted to heroin, hydrocodone (Vicodin®), oxycodone (OxyContin®), buprenorphine (Subutex®), and other opioids have a greater risk for fetal growth retardation, miscarriage, stillbirth, and abruptio placentae as well as severe infections from intravenous use.

Babies born to heroin-addicted mothers are often premature, smaller, and weaker than normal. A 600% increase in SIDS deaths was found in a study of 16,409 drug-exposed infants.

A majority (60% to 80%) of opioid-exposed infants exhibit the neonatal abstinence syndrome (withdrawal) 48 to 72 hours after birth.

Most cases of neonatal narcotic withdrawal can be treated with good nursing care. Opioid withdrawal in neonates can be fatal.

Sufficient concentrations of opioids in breast milk expose newborns and have resulted in infant overdose deaths.

4. Marijuana (p. 8.25)

Marijuana is used by 5% to 17% of pregnant women. Most marijuana exposure in newborns goes undetected or is masked by the use of other drugs.

Marijuana-exposed children scored lower on verbal and memory performance tests, exhibited impulsive/hyperactive behavior, caused conduct problems, and were easily distracted. Anecdotal reports describe marijuana-exposed babies as showing withdrawal symptoms of abnormal responses to light and visual stimuli, increased tremulousness, “startles,” and a high-pitched cry.

Marijuana use is contraindicated in breast feeding mothers.

5. Prescription & OTC Drugs (p. 8.25–8.26)

OTC and prescribed medications are the most common drugs used by pregnant women. Benzodiazepines at dosages normally safe for the mother accumulate in fetal blood at more dangerous levels than in maternal blood. A withdrawal syndrome, similar to narcotic withdrawal, may also result. The use of benzodiazepines and barbiturate sedatives should be avoided during pregnancy.

Many OTC medications contain stimulants, including caffeine or ephedrine, so their use should be carefully monitored.

6. Nicotine (p. 8.26–8.27)

About 15.5% of pregnant women in 2009 smoked cigarettes. Nicotine and carbon monoxide can cross the placental barrier and reduce the fetal supply of oxygen. The risk of preterm delivery is increased if the mother smokes or is exposed to secondhand smoke. There is a 300% increase in the risk of SIDS in infants whose mothers are heavy smokers. Recent studies indicate that women smokers with a heavy habit are twice as likely to miscarry. Their babies weigh, on the average, 200 grams (7 oz.) less and have increased nervous

nursing (weaker sucking reflex). Long-lasting effects of smoking exposure before birth can include lower IQ and diminished cognitive ability. A study in India found that pregnant women who used smokeless tobacco had a threefold increased risk of stillbirth and were 2 to 3 times more likely to deliver a low-birth-weight baby.

7. Caffeine (p. 8.27)

Studies of pregnant women found caffeine in 75% of infants at birth. Neonates, newborns, and infants have less tolerance for caffeine than adults. Physicians discourage caffeine use during pregnancy.

C. PREVENTION (pp. 8.27–8.28)

A pregnant woman must abstain from all unnecessary drug exposure. Screening instruments and programs are important in identifying AOD use. One effective screening tool is the 4Ps Plus (the woman's **P**arental drug history, **P**artner's drug history, her **P**ast use history and any use during this **P**regnancy). Once AOD use is identified, treatment, brief intervention, and prevention services can be implemented.

Some experts fear that punitive measures for drug-using mothers keep them from prenatal clinics and doctors, and lead them to giving birth outside a hospital to avoid imprisonment or loss of custody.

Professionals call for universal screening of pregnant women along with sufficient prenatal and drug treatment facilities.

VII. YOUTH & SCHOOL (pp. 8.28–8.35)

In spite of all the headlines about crack, LSD, and methamphetamine use among adolescents and college students, the most serious drug problem is alcohol. Tobacco is a close second and marijuana third. Recently, prescription drug use, especially opioids, has become more common. It has been found that the incidents of current or frequent use of illicit drugs in high schools and colleges are underreported. The true value of a youth survey is as a window to reveal trends in drug use, so it is possible to see changes from year to year and determine where our society is headed. An important observation is that when young people perceive drug use to be harmful, abuse of those drugs decrease and vice versa.

A. ADOLESCENTS & HIGH SCHOOL (pp. 8.29–8.33)

1. How Serious Is the Problem? (pp. 8.29–8.30)

Studies show a decrease in high school alcohol consumption over the past 30 years, a similar decrease in cigarette smoking, and a smaller drop in marijuana use. One study determined that

- Substance abuse adds 10% to the cost of elementary and secondary education

- Experimentation at an early age leads to more intensive use. By the 12 grade 85.7% of students who tried cigarettes, were still smoking, 83.3% of those who ever got drunk were still getting drunk, and 76.4% of those who tried marijuana were still using pot.
- If an individual reaches the age of 21 without smoking, using alcohol or other drugs, he or she probably never will.

Much of the alcohol and other drug use in high schools is experimental, social or habitual with bouts of abuse. Most students have not used long enough for addiction to occur. Because they don't have much experience managing their drinking and drug-taking habits, episodes of inappropriate use, including intoxication, drunk driving, and unsafe sex, are more likely.

Adolescents believe they are invulnerable to the consequences of use, this results in a level of concern much lower than that of older users. Alcohol or drug use has catastrophic effects: 70% of teen suicides, 50% of date rapes and 40% of all teen drowning deaths involve alcohol or drug use.

2. Crime (p. 8.30)

The most significant consequence of alcohol and/or drug use by adolescents is involvement with the justice system. More than half of juvenile male arrestees test positive for one or more illegal drugs. The drug found most frequently is marijuana. If authorities also tested for alcohol, the overall figures would be much higher.

3. The Effects of Drugs on Maturation (p. 8.30)

Scientific research indicates that "To reach the emotional maturity of an average 18-year-old it takes 25 years." Drugs delay maturity.

When drugs or alcohol are habitually used in adolescence to avoid stress, to drown out emotions, or as a shortcut to feeling good, young people never fully learn how to deal with life's conflicts without a psychoactive substance.

4. Risk-Focused & Resiliency-Focused Prevention for Adolescents (p. 8.31)

Conditions that put an adolescent at risk for substance abuse and other behavioral addictions include physical, sexual, or emotional abuse, emotional and mental disturbances, lack of self-esteem, exposure to peer group pressure, etc.

Researchers Steven Glenn, Ph.D. and Richard Jessor, Ph.D. believe the following must be in place to help children avoid drug use:

- strong sense of family participation and involvement;
- an established personal position about drugs, alcohol, and sex;
- a strong spiritual sense and community involvement;
- attachment to a clean-and-sober adult role model.

5. Primary, Secondary & Tertiary Prevention for Grades K through 12 (pp. 8.31–8.33)

Prevention programs must be tailored to the specific age group, ethnicity, gender, and culture. Most successful programs are well structured and provide proven content.

Prevention programs can be found through SAMHSA's National Registry of Evidence-Based Programs and Practices. Model prevention programs include s Dare to Be You (DTBY), Family Matter, Lion's Quest Skills for Adolescents, etc.

Primary Prevention. Coordinated efforts among family members, teachers, and other school personnel are valuable. School-based programs teach life skills, resistance education, and/or normative education. LifeSkills Training, taught in grades 7 to 10, focuses on improving social skills and reducing peer pressure to drink.

DARE (Drug Abuse Resistance Education), consists of 16 or 17 weekly one-hour sessions presented to fifth or sixth graders conducted by uniformed police officers.

AMPS (Alcohol Misuse Prevention Study) educates and develops peer resistance skills.

Normative education is a strategy that aims to correct erroneous beliefs about the prevalence and the acceptability of alcohol and/or drug use among peers.

Primary prevention must be on going rather than limited to a one-year attempt at inoculating students against drug and alcohol use.

Because the roots of most addictions are related to family, family-focused primary prevention is a necessary and valuable adjunct to any school-based program.

Secondary Prevention. School-based prevention programs should integrate secondary prevention programs and policies. Junior high and high schools should have clearly stated policies on substance use. Teachers and staff should be able to recognize drug use and be provided with information on how to deal with the consequences.

Tertiary Prevention. This level uses student assistance programs (including counseling and social services), Alateen, other 12-step anonymous meetings, and peer intervention teams, to get drug abusers into early treatment. The honesty of peers is effective in reaching students who are in trouble.

The Positive Behavioral Interventions and Supports (PBIS) provide support for schools that want to establish or strengthens their prevention programs.

A large part of secondary and tertiary prevention is recognizing the signs of drug use in teenagers.

Children of Alcoholics & Drug Abusers. It is estimated that one in four U.S. children under 18 years old are exposed to alcohol abuse or alcohol dependence in their family. Children in homes where alcohol and drug use are common take on certain roles:

The hero (model child), a hardworking student also known as the "chief enabler," who often takes over the duties of dysfunctional parents;

The problem child who experiences multiple personal problems, has a tendency to use drugs, and demands attention;

The lost child who is extremely shy and deals with problems by avoiding family and social activities

The mascot (or family clown) who tries to ease tension by being funny or cute and has trouble maturing.

B. COLLEGE STUDENTS (pp. 8.33–8.35)

Although illegal drugs, particularly marijuana, can be found on most college campuses, alcohol predominates.

1. Prevalence (pp. 8.33–8.34)

The 2009 Monitoring the Future surveys found that

- ◆ *36.9% of full-time college students binge-drink*
- ◆ *3.7% drink heavily on a daily basis*
- ◆ *rates of daily smoking dropped from 15% in 1993 to 8% in 2009.*

A CASA 2007 survey found

- ◆ *Fraternity and sorority members are more likely to drink than nonmembers*
- ◆ *78% of college students who use illicit drugs have sex compared to 44% of those who do not use illicit drugs;*
- ◆ *Consequences of drug and alcohol abuse on campuses include alcohol related injuries and deaths, alcohol-related rapes and sexual assaults, and assaults by binge drinking students.*

A change in federal law makes people ineligible for student financial aid if they have a drug conviction on their record.

2. Secondhand Drinking (p. 8.34)

Many problems that occur on campuses are related to secondhand drinking—the effect binge drinkers and heavy drinkers have on other students. On drinking campuses, 86% of non-binge-drinking students reported being victims of assault and a dozen other provocations due to second-hand drinking.

3. Prevention in Colleges (pp. 8.34, 8.35)

The belief that sowing one's oats in college is a rite of passage to which students are entitled is one barrier to changing the view of a drinking (and drug-using) culture in college.

Normative Assessment. One successful prevention approach is normative assessment. This program aims to change common misperceptions that drug and alcohol use among peers is higher than it really is. Instead of talking about drug and alcohol use, normative assessment emphasizes non-use.

Other Programs. Some campus strategies directed at controlling alcohol use and abuse are:

- regulate campus drinking;
- provide alcohol-, tobacco-, and drug-free dorms, and a social/entertainment/recreational activities;
- prohibit alcohol at campus events;
- enforce campus alcohol/drug policies;
- work with local communities
- strengthen academic requirements, etc.

As most college students mature, their alcohol and drug use decreases.

IX. LOVE, SEX & DRUGS (PP. 8.35–8.48)

Viagra® (sildenafil citrate) Cialis® (tadalafil), and Levitra® (vardenafil) have produced the most sweeping change in the use of drugs to enhance human sexuality even though they have no effect in the absence of sexual stimulation.

Often psychoactive drugs substitute a simple physical sensation or the illusion of one, for more complex (and often more rewarding) emotions, such as desire for intimacy and comfort, love of children, or release from anxiety. Drugs are desirable to a wide range of ages and cultures, particularly if shyness, lack of confidence, aging, or physical changes have diminished one's desire and abilities.

Certain drugs can trigger sexual aggression, sexual harassment, rape, and child molestation. Drugs also encourage high-risk sexual behavior which can spread STDs.

In the 1960s and 1970s, marijuana, amphetamines, and several other psychoactive drugs were readily available, frequently used, and had an effect on sexual activity. A less severe attitude toward sexual activity increased sexual contacts and drug experimentation.

A. GENERAL EFFECTS (p. 8.36)

The main effects psychoactive drugs have on sexual behavior are desire, /excitation, and orgasm. Many addiction counselors observe that clients combine sex and drugs to lower their inhibitions, improve their performance, and increase their fantasies.

Sex and love are complicated processes and so tied to our mental state that people use drugs to shield themselves from their sexuality as well as from emotional involvement.

B. THE DRUGS (pp. 8.37 – 8.42)

Most of the effects on sexuality are from the drugs' disruption of the neurotransmitters serotonin, dopamine, and norepinephrine.

1. Alcohol (pp. 8.37–8.38)

Alcohol's physical effects on sexual functioning are closely related to blood alcohol levels. Its mental effects, however, are less dose related and have more to do with the user's psychological makeup and the setting in which it is used.

Women & Alcohol. Because alcohol diminishes sexual arousal, women can suffer lowered self-esteem and feelings of inadequacy. Typically, alcoholic masks the connection between these feelings and her progressive alcohol use. In one study of chronic female alcoholics, 36% said they had orgasms less than 5% of the time.

Men & Alcohol. Physically alcohol diminishes spinal reflexes, thus decreasing sensitivity and erectile ability. However, alcohol gives men more confidence because it acts on the area of the brain that regulates fight, fright, and fear, thereby promoting aggressiveness. As alcoholism progresses many men feel less sexual. In one early study, impotence was reported in 60% of heavy alcohol abusers.

Adolescents & Alcohol. Risky and reckless behaviors are increased in teens that drink often resulting in unsafe sex. A British study found that 13 and 14 year old children who drank at least once a week were ten times more likely to engage in sex than their nondrinking peers.

2. Cocaine & Amphetamines (p. 8.38)

Initial low-dose increases confidence, prolongs an erection, increases endurance, and intensifies an orgasm. Methamphetamine lasts hours longer than cocaine and thus prolongs the stimulation. Since initial feelings are so pleasurable, users come to depend on the drug to enjoy sex. Continued use sparks the cycle of dysfunction. Pre-existing sexual proclivities are directly related to the effect and the effectiveness of a drug on sex.

In men, heavy or prolonged use often causes difficulty achieving an erection, delayed ejaculation, and a decrease in sexual desire.

3. Tobacco (pp. 8.38–8.39)

Physically, nicotine can both stimulate and relax, depending on the set and the setting. Long-term tobacco use has occasionally been associated with lower testosterone and erectile dysfunction in men and reduced fertility in women. One study found that teens who smoke are more likely to participate in risky sexual behaviors than those who don't.

4. Opioids (p. 8.39)

Downers are often used to lower inhibitions, though the physiological depressive effects often decrease performance and eventually desire. Some users "nod off" during sex, long-term users report impaired performance and decreased sexual drive.

The overall rate of impotence in one study of male addicts was 39%, jumping to 53% when they were high.

5. Sedative-Hypnotics (pp. 8.39–8.40)

Physical depression trumps lowered inhibitions and relaxation and diminishes the ability to perform or respond sexually. Abuse results in sexual dysfunction and apathy toward sexual stimulation.

Most of the short-acting sedative-hypnotics also cause amnesia (e.g., Rohypnol®). Sexual predators use them to seduce and rape, confident that their victims will have no memory of the event.

Flunitrazepam (Rohypnol®). Flunitrazepam, causes profound amnesia and lowered inhibitions as well as a decreased ability to resist a sexual assault. This benzodiazepine is legal in approximately 60 countries, is illegal in the United States.

GHB (gamma hydroxybutyrate). GHB lowers inhibitions and makes sex more pleasurable. Doubling the dose that induces a pleasant effect can disrupt coordination, induce sleep, and has the potential to induce coma within 10 to 20 minutes. GHB also causes amnesia and is used as a “date-rape drug”. Paradoxically, GHB is sold as a Schedule III medication to treat excessive daytime sleepiness under the trade name of Xyrem®.

GBL (gamma-butyrolactone). Sold as a health supplement and found in some paint strippers, this chemical converts to GHB when ingested and thus has the same effects on sex.

6. Marijuana (p. 8.40)

Marijuana, more than any psychoactive drug, illustrates the difficulty in separating the actual effects of use from the influence of the mind-set and setting where the drug is used. In one of the few studies on drugs and sexual function, marijuana was associated with inhibited orgasm but not inhibited desire.

One risk of excessive marijuana smoking is that the user often forgets, or never learns, how to have sexual relations without being high, so the cycle of excess use is perpetuated.

7. MDMA & MDA (ecstasy, rave) (pp. 8.40–8.41)

Users say that MDMA, unlike methamphetamines, calms them, produces warm feelings toward others, and induces a heightened sensual awareness. Although feelings of closeness and sensuality are enhanced, the ability to have an erection and an orgasm are more difficult. The neurological mechanism for some of the effects of MDMA is the manipulation of serotonin. Supposedly, sexual excitement occurs more often when coming down from the drug than while under the influence.

8. PCP (p. 8.41)

PCP is generally not associated with sex, but because it is an anesthetic it has been used to deaden the pain of some unusual sexual practices.

9. LSD (p. 8.41)

The effects of a psychedelic like LSD are so confusing to the senses that it is not considered a sexual enhancer so few controlled studies have been done. The same is true of psilocybin mushrooms and peyote.

10. Volatile Nitrites (amyl, butyl, and others) (p. 8.41)

Volatile nitrites are vasodilators and muscles relaxants. If inhaled prior to orgasm, they seemingly prolong and enhance the sensation. Abused as orgasm intensifiers by both gay and straight individuals in the 1960s, volatile nitrites were dubbed a “love drug.” They intensify orgasm by dilating blood vessels in the penis. They are also used because they relax anal sphincter muscles.

11. Nitrous Oxide (laughing gas) (p. 8.41)

Nitrous oxide is not regarded as a sexually enhancing substance, although reports of sexual arousal, and orgasm have occurred in dentists’ offices while under the influence for a procedure.

12. Psychiatric Drugs (8.41)

When used to treat a mental condition, psychotropic drugs can also affect the sexual functioning of the user. Studies involving tricyclic antidepressants and selective serotonin reuptake inhibitors (SSRIs), have linked them to decreased desire, erectile problems, and delayed orgasm. Antipsychotics, such as thioridazine (Mellaril®), also inhibit erectile function and ejaculation. There are some reports of lithium (used for bipolar disorder) decreasing desire and causing difficulty maintaining an erection.

13. Aphrodisiacs (pp. 8.41–8.42)

Viagra, ° Cialis, ° and Levitra® facilitate the ability to have an erection by enhancing blood flow, but they are not actual aphrodisiacs. Some purported aphrodisiacs are

- Spanish fly (a beetle toxin) or ground rhinoceros horn;
- pheromones, discovered in perspiration, have been shown to increase desire;
- Yohimbine, used in high doses as a treatment for impotence in men, increases blood pressure and heart rate thereby increasing penile blood flow;
- L-dopa, touted as an aphrodisiac during the 1970s.

C. SUBSTANCE ABUSE & SEXUAL ASSAULT (p. 8.42)

One in three women in the United States will be the victim of sexual violence in her lifetime. In one study of sexual assaults, victims reported using drugs or alcohol in 51% of the cases; substance use by the assailants was found in about 44% of the cases. Another study found that approximately 60% of sexual offenders were drinking at the time of the offense.

In most cases, the male user had tendencies toward improper or aggressive behavior, and the alcohol or other drug is the final trigger.

- alcohol lowers inhibitions and muddles rational thought,
- cocaine and amphetamines increase confidence and aggression,

- sedatives lower inhibitions,
- Anabolic steroids increase aggression and irrational behavior,
- marijuana makes users more suggestible to sexual activity.

Date rape is often the result of a man, intending just to have sex, gets angry when he is refused or doesn't get his way and takes what he feels is his right. Rape is motivated by a need to overpower, humiliate, and dominate a victim not a desire to have sex.

Sexual abuse and domestic violence create emotional pain and trauma that intensifies a victim's need to block feelings often leading to drug and alcohol abuse.

D. SEXUALLY TRANSMITTED DISEASES [STDs] (pp. 8.43–8.44)

The CDC estimates that 19 million new cases of sexually transmitted diseases occur each year in the United States, 340 million worldwide. 33.3 million people are living with HIV/AIDS.

1. Epidemiology (p. 8.43)

The four most common sexually transmitted diseases include chlamydia, gonorrhea, syphilis, and trichomonas, others include genital herpes, genital warts, hepatitis B and C, and HIV/AIDS. About 85% of all STDs occur in people between the ages of 15 and 30. Almost half of all teenagers who are sexually active have had chlamydia, the fastest-spreading STD.

The increased risk of STDs, including HIV disease, due to lowered inhibitions or trading sex for drugs is all too common among the drug-abusing population.

The delayed incubation period before STD symptoms appear allows the disease to be unknowingly transmitted to others.

E. NEEDLE-TRANSMITTED DISEASES (pp. 8.44–8.46)

Needles can transmit many of the same illnesses that are transmitted sexually. They can inject substances, such as powdered milk, procaine, or cleansing powder (Ajax) commonly used to cut drugs. Dangerous bacteria and viruses that contaminate the drug, or that remain in the syringe or on other contaminated elements of the needle kit can also be injected.

1. Hepatitis A, B & C (p. 8.44)

Hepatitis A is often transmitted by fecal matter and is associated more with unsafe sex and poor hygiene than with drug use. Hepatitis B and C are more likely to be transmitted by needle. Hepatitis B is marked by inflammation of the liver and general debilitation, but it is more treatable than Hepatitis C. More than 75% of IV drug users test positive for hepatitis B.

The blood-borne hepatitis C virus (HCV) is more dangerous and can cause liver disease, including cancer. Chronic flare-ups can cause inflammation and scarring of the liver.

The positive rate of the hepatitis C virus in IV drug users is 50% to 90%. More than 2.7 to 3.9 million Americans are infected with HCV, and about 12,000 die each year from the disease. Worldwide 270 to 300 million people are infected. Sharing needles is responsible for almost two-thirds of the infections. Sexual transmission of HCV is about 20% of all infections.

2. Abscesses, Cotton Fever & Endocarditis (pp. 8.44–8.45)

Needle use can also cause abscesses at an infected injection site. Needles can inject bits of foreign matter in the bloodstream that can cause an embolism or other conditions such as cotton fever. As veins become hardened or infected due to constant sticking, the user injects into the veins of the legs and then the neck.

Another common complication is endocarditis, a sometimes-fatal condition caused by certain bacteria that lodge and grow in the valves of the heart.

3. HIV Disease & AIDS (pp. 8.45–8.46)

AIDS is fatal because HIV destroys the immune system, making it impossible for the body to fight off serious illnesses.

Introducing a drug intravenously bypasses all the body's natural defenses, such as body hairs, mucous membranes, body acids, and enzymes; and the virus itself destroys the body's last line of defense: the immune system.

In 2009 there were an estimated 33.3 million people worldwide infected with HIV/AIDS, two-thirds live in sub-Saharan Africa. The rate of new infections is going down slowly but 2.6 million new cases were reported in 2009.

1.1 million Americans are infected with HIV or have AIDS, and 617,000 have died from the disease. More than one-third of all AIDS cases in the United States involved IV drug use.

Men who have sex with other men are responsible for transmitting most AIDS cases in the United States. Among women, 75% of the cases are from heterosexual contact often with IV drug users.

F. PREVENTION OF DISEASE (pp. 8.47–8.48)

Communicable diseases start slowly then rage through the most susceptible groups.

Continuing public education and public health prevention activities are crucial to stemming the spread of all STDs including AIDS.

Some strategies include:

- improved diagnosis and treatment
- treatment on demand for drug addiction;
- needle-exchange and condom distribution programs;
- outreach activities to get drug users into treatment;
- education and counseling programs;
- interdiction and law enforcement activities to limit the flow of drugs.

1. Harm Reduction (pp. 8.47–8.48)

In June 2003, the health ministry of Canada approved North America's first legal and safe injection site for illegal-drug users in Vancouver, British Columbia. Addicts were able to shoot up under the supervision of a registered nurse.

In San Francisco, several HIV prevention groups send outreach workers armed with AIDS educational materials, free bottles of bleach, and free condoms, to "shooting galleries," crack houses, "dope pads," and other areas to distribute these materials and provide treatment referrals if requested.

Other groups distribute free needles. Greater tolerance towards relapse has also kept more IV drug users in treatment where they can be continually exposed to HIV prevention strategies.

Studies show that people who test positive for HIV but stay clean-and-sober, maintain a healthy lifestyle with plenty of rest, good food, and exercise will avoid full-blown AIDS for years longer (10 to 20 years in many cases).

Tragically, many countries with the highest HIV/AIDS rates cannot readily afford the very expensive treatment called for in the HIV and AIDS antiretroviral therapies.

IX. DRUGS AT WORK (pp. 8.48–8.50)

From a drug positivity rate of 13.6% in 1988, to a rate of 3.6% in 2009, drug use in companies that conduct drug testing has declined significantly. Drug users avoid applying at companies that have strict drug-free workplace policies and require drug testing.

8.4% of all workers employed full-time are current illicit-drug users while 8.8% report heavy alcohol use.

74.8% of illicit-drug users age 18 or older work full- or part-time, as do 80% of binge drinkers;

60.4% of those actually diagnosed with a substance-abuse disorder are employed.

About 1.6 million workers use illicit drugs and are heavy drinkers.

A. COSTS (pp. 8.48–8.49)

It is estimated that substance abuse costs businesses about \$200 billion per year.

1. Loss of Productivity (p. 8.48)

Compared with a non-drug-abusing employee, a substance-abusing employee is:

- late 3 to 14 times more often;
- absent 5 to 7 times more often.

2. Medical Cost Increases (p. 8.49)

Drug-abusing employees:

- have 3 to 4 times more on-the-job accidents;
- use 3 times more sick leave;
- file 5 times more workers' comp claims;

3. Legal Cost Increases (p. 8.49)

There are

- direct and massive losses from embezzlement, pilferage, and property damaged during the commission of a crime;
- increased cost of security and more lawsuits.

B. PREVENTION & EMPLOYEE ASSISTANCE PROGRAMS (pp. 8.49, 8.50)

Recommendations for a drug-free workforce include

- written policies
- employee assistance programs
- employee awareness and education
- supervisor training
- drug and alcohol testing
- sanctions
- an appeals process
- evaluation

1. Workplace Drug Testing (p. 8.49)

The percentage of positive drug tests among American workers dropped from 13.6% in 1988 to 3.6% in 2009. The most common drug found in those testing positive is marijuana. 26.8% of positive tests were in employees tested for cause, 5.4% for random testing, 5.3% for post-accident testing, 1.5% for periodic testing and only 3.4% for pre-employment testing.

2. Employee Assistance Programs (EAPs) (pp. 8.49–8.50)

Successful EAPs balance the need of management to minimize the negative impact drug abuse has on a business with a sincere concern for the better health of employees. Today, 45% of full-time employees in large companies are covered by EAPs. Self-referral is encouraged but supervisors are trained to recognize problems and make referrals.

An EAP has six basic components:

- prevention/education/training;
- identification and confidential outreach;
- diagnosis and referral;
- treatment, counseling, and a good monitoring system (including drug testing);
- follow-up and focus toward aftercare; and
- a confidential record system and evaluation.

Primary Prevention. Education and training about the impact of substance abuse are provided at every level of a corporation.

Secondary Prevention. Both education and training focus on drug identification, major effects, and early intervention.

Tertiary Prevention. The EAP formalizes its intervention approach, allowing for confidential self-referral, peer referral, and supervisor-initiated referral.

3. Effectiveness of EAPs (p. 8.50)

For every \$1 spent on an EAP, employers save anywhere from \$5 to \$16. The annual cost per employee of providing EAP services ranges from \$22 for an outside program to \$28 for an in-house program.

There are a number of different types of EAPs.

- Internal/in-house programs
- Fixed-fee contracts
- Fee-for-service contracts
- Consortia
- Peer-based programs

X. DRUGS IN THE MILITARY (PP. 8.50–8.51)

From 1980 to 1998, 30-day illicit-drug use dropped from 27.6% to just 2.7% of military personnel. By 2005 that rate had dropped to just 1.11%. The rate of heavy drinking showed a smaller decline, from 20.8% to 15.4%.

The principal reason for the drop was an intensified program of urine testing. The message is zero tolerance. Formerly, drug users were treated and remained in the military, but zero tolerance excludes impaired people and discharge has become the preferred option.

Heavy drinking still occurs at a higher rate: 15.4% in the military vs. 12% in society as a whole. In a recent U.S. Navy study, the prevalence of alcohol abuse was 28.2% of men and 15.1% of women.

The military can discharge anyone whom it deems dangerous to other military personnel, and can conduct testing whenever and wherever it chooses.

Each branch of the service has programs to help control drug and alcohol use.

XI. DRUG TESTING (PP. 8.51–8.56)

Researchers found that while drug testing showed a 66% decrease in positives, self-reported drug use increased by 30%. Drug testing is conducted for

- pre-employment
- for-cause testing,
- random testing,
- periodic testing,
- post-accident testing,
- compliance in addicts who are in treatment, etc.

The federal government issued mandates in 1988 and 1998 for a drug-free workplace. At present the most widespread use of drug testing occurs in the military, the federal government, as a pre-employment requirement, in public-safety positions (mostly transportation), and in drug treatment facilities. Most

medium and large businesses routinely use pre-employment testing to reject drug users. Random testing is conducted in jobs involving public safety.

A. THE TESTS (pp. 8.52–8.53)

Many laboratory procedures test for drugs in the urine, blood, hair, saliva, sweat, and other body tissues. The drugs most often tested for are amphetamines, cannabinoids, cocaine, opioids, phencyclidine (PCP), and of course, alcohol. Other drugs commonly tested for are barbiturates, benzodiazepines, methadone..

1. Thin Layer Chromatography (TLC) (p. 8.52)

TLC searches for a wide variety of drugs and is sensitive to the presence of even minute amounts of chemicals.

2. Enzyme-Multiplied Immunoassay Techniques (EMIT), Radio Immunoassay (RIA), and Enzyme Immunoassay (EIA) (p. 8.52)

All immunoassays use antibodies to seek out specific drugs. EMIT tests are extremely sensitive, quick and easy to conduct, but usually cannot determine the concentration of the drug present.

3. Gas Chromatography/Mass Spectrometry Combined (GC/MS) & Gas Liquid Chromatography (GLC) (p. 8.52)

The GC/MS test is currently the most accurate, sensitive, and reliable method of testing. It uses gas chromatography separation and mass spectrometry fragmentation patterns to identify drugs.

4. Hair Analysis (pp. 8.52–8.53)

Hair samples provide a picture of the degree of drug use over time. Positive immunoassay tests of hair fragments are confirmed by GC/MS. Several tests are done on a single strand of hair so the cost can be high, but hair analysis avoids many specimen manipulation problems associated with urine testing.

5. Saliva, Sweat & Breath (p. 8.53)

Saliva and breath tests are used in spot testing of drivers involved in accidents or suspected of driving under the influence (DUI). Confirmation tests are usually mandatory because of the inaccuracy of the tests and probable court challenges.

B. DETECTION PERIOD (pp. 8.53–8.54)

Many factors influence the length of time that a drug can be detected in someone's blood, urine, saliva, or other body tissues. A predictable drug detection period would be, at best, an educated guess. For urine testing the

three factors that determine drug use are latency, detection period range, and redistribution.

1. Latency (p. 8.53)

Drugs must be absorbed, circulated by the blood, and finally concentrated in the urine in sufficient quantity before they can be detected. This process, called latency, generally takes two to three hours for most drugs except alcohol, which takes about 30 minutes. Chronic daily users have drugs in their system and test positive with no latency.

2. Detection Period Range (p. 8.53)

Once sufficient amounts of a drug reach the urinary tract, the drug can be detected for a certain length of time by urinalysis.

DETECTION PERIOD RANGE CHART FOR URINE TESTING (p. 8.54)

Alcohol	½ to 1 day
Methamphetamines	2 to 4 days
cocaine (coke, crack)	6 to 8 hours
cocaine metabolite	2 to 3 days
Marijuana	
single use	1 to 3 days
casual use,	4 joints/wk 4 to 7 days
daily use	10 to 15 days
chronic, heavy use	1 to 2 months
Heroin/oxycodone	2 to 4 days
Ecstasy	30 to 48 hours

3. Redistribution, Recirculation, Sequestration & Other Variables (p. 8.54)

Long-acting drugs like PCP can be distributed to certain body tissues or fluids, become concentrated and stored, and then be recirculated and reconcentrated in the urine weeks or months after stopping use.

C. ACCURACY OF DRUG TESTING (pp. 8.54–8.56)

There are high rates of false positive and negative test results. For this reason, many companies and agencies use a medical review officer (MRO) to review positive results and rule out any errors in procedure, environmental contamination, or alternative medical explanations. False-positive tests could result from the limitations of testing technology and/or from the mishandling of urine and other specimens. Negative results rather than false positives constitute the bulk of testing errors.

Cheating occurs frequently in testing. Methods include concealing a container of clean urine, ingesting substances to mask detection of drug use, injecting clean urine into the bladder, and catheterization.

The most reliable drug-testing programs include direct observation of the specimen and a rigid chain of custody of submitted samples.

1. Consequences of False Positives & Negatives (pp. 8.55–8.56)

Concerns about false-positive test results are well publicized, debated, and feared. People lose their jobs, are denied employment, are disqualified from the Olympics, or land in prison following an erroneous positive result. Less publicized or feared, but just as critical, are false-negative results that prevent the discovery of drug abuse and feed the strong denial mechanism in the user. Treatment programs use testing early on to overcome denial and dishonesty in addicts.

XII. DRUGS & THE ELDERLY (pp. 8.56–8.60)

A. SCOPE OF THE PROBLEM (pp. 8.56–8.57)

1. Overall Drug Use (p. 8.56)

In 2011, 12% of the U.S. population is 65 years or older, that figure will increase to 21% by 2030. As the senior population grows, the problems with drug overuse, abuse, and addiction will grow as well. Currently four out of five seniors suffer from some chronic disease, by age 65, 83% take at least one prescription drug per day; 30% take eight or more.

2. Chemical Dependency (pp. 8.56–8.57)

Up to 17% of adults 60+ abuse alcohol and legal drugs. In addition to drinking or using socially, some abuse other psychoactive drugs to deal with problems. Physicians have a difficult time identifying alcoholism or drug abuse because many manifestations of drug abuse can be attributed to the other chronic illnesses often present in those over 55.

Because addiction is a progressive illness regardless of age, continued use leads to progressive physiological, emotional, social, family, and spiritual consequences.

B. PHYSIOLOGICAL CHANGES (pp. 8.57–8.59)

The human body's physiological functioning and chemistry become less efficient with age so drugs are more potent in older people.

In addition to alcohol, the drugs most commonly abused by the elderly, are hydrocodone (Vicodin®), narcotic cough syrups, Darvon® and other opioid analgesics, prescription sedatives, and OTC sedatives. There has also been a sharp increase in the use of psychiatric medications. Problems with medications occur when the patient misunderstands dosing directions, especially when several medications are involved.

1. Patterns of Senior Drug Misuse (p. 8.58)

Overuse—taking more or many different types of drugs, than necessary;

Underuse—failure to take a prescribed drug or not taking the correct dosage;

Erratic use—failure to follow instructions;

Contraindicated use—incorrect drug prescribed for the patient;

Abuse and addiction—continued compulsive use of a drug for nonmedical purposes.

2. Common Drugs of Abuse Among Seniors (pp. 8.58–8.59)

Alcohol, nicotine, and caffeine pose the greatest health problems for seniors.

Nicotine. The unhealthy and deadly effects of smoking cannot be overemphasized. 16.5% of those over 50 smoke. About 94% of all 430,000 premature deaths from smoking are people over 50. Smokers have twice the mortality risk of cardiovascular disease than their nonsmoking peers.

Caffeine. The majority of seniors use caffeine daily, with an average consumption of 200 mg per day. Current research indicates that caffeine-related toxicity; anxiety, high blood pressure, heart arrhythmias, insomnia, and irritability in susceptible people occurs at doses as low as 100 mg per day.

Alcohol. About 6% to 11% of seniors admitted to hospitals display symptoms of alcoholism. Age-related physiological changes significantly affect the way an older person responds to alcohol. Impaired co-ordination, fall injuries, confusion, memory problems, digestion problems, severe liver problems, and serious drug-medication interactions are consequences of alcohol abuse

Over-the-Counter Medications. Seniors are the major consumers of OTC medications and dietary supplements. The OTC medications most misused and abused are sedatives, cold and cough aids, and stimulants.

Prescription Drugs. Estimates of seniors abusing these drugs range from 5% to 33%. Abused medications include sedative-hypnotic medications and opioid analgesics (hydrocodone and oxycodone).

Illicit Drugs. Current and past data indicate a low prevalence of illicit-drug use (e.g., heroin, cocaine, meth, and marijuana) by this demographic. This may change as the surviving Baby Boomers reach 65.

3. Factors Contributing to Elderly Drug Misuse & Abuse (p. 8.59)

Aging is associated with disease which disproportionately exposes the elderly to prescription and OTC medications. All too often health care professionals and family members regard symptoms merely as signs of aging, ignoring the potential for drug or alcohol abuse. Physicians often fail to do a thorough history of alcohol or substance abuse.

Current diagnostic criteria for substance abuse are based on younger populations and may not be applicable to seniors.

Of total hospital admissions for the elderly, 20% are directly due to prescription or OTC drug reactions exclusive of alcohol and illicit-drug admissions.

C. PREVENTION ISSUES (pp. 8.59–8.60)

1. Primary Prevention (p. 8.59)

Older people need to be reeducated about the dangers of excessive use of alcohol and other psychoactive drugs. Counseling about these issues should be readily available to the elderly.

2. Secondary Prevention (pp. 8.59–8.60)

Secondary prevention for the elderly must focus on recognizing early stages of alcoholism or drug abuse and employing age-appropriate assessment and intervention tactics. Frequently, there is strong denial by this age group. Alcoholism and addiction are primary diseases that must be treated.

3. Tertiary Prevention (p. 8.60)

This age group is not responsive to abrupt, coercive, confrontational therapies. The pace of therapy has to be slow, patient, and reassuring.

XIII. CONCLUSIONS (pp. 8.60–8.61)

The major challenge of prevention efforts for all ages is to provide accurate measurements of the long-term effectiveness of the strategies involved, not just short-term assessments of how much they learned; learning without action has little impact on the problem. Efforts must be measured in terms of long-term results rather than in terms of short-term activities or process.

A. PROMISING DIRECTIONS (pp. 8.60, 8.61)

- People are exposed to drugs from cradle to grave, prevention efforts must extend over a lifetime.
- Early primary prevention can treat a pregnant woman who uses drugs so that her child is not born addicted.
- The family is an effective prevention delivery system for children.
- Elementary schools can integrate prevention into the curriculum.
- Peer educator programs in middle schools can identify students who are natural leaders to serve as role models.
- High school and college prevention must assume a higher level of sophistication to counter experimentation, social use, and habituation.
- In the workplace, prevention must be continued through EAPs.
- Programs should be developed that address and publicize the health risks of drug use.
- For older people, preretirement and grief counseling can help prevent alcohol and other drug use.
- Prevention must be adapted to the needs of specific audiences.

Chapter 8 - DRUG USE & PREVENTION: FROM CRADLE TO GRAVE

Classroom or Small Group Discussion Topics

1. List each of the six levels of use and ask students to put them in the correct order from low to high usage. (abstinence, experimentation, social use, habituation, abuse and addiction)
2. Suggest prevention education that would be appropriate for each level. What changes/modifications would be effective for different ethnic groups, age groups, or sexes.
3. List, analyze, and discuss various cultural connections between alcohol and a.) holidays, b.) family traditions, c.) sporting events, d.) media portrayal.
4. Assign each group of students one of the populations listed below and have them search online for examples of effective drug abuse prevention campaigns for that group and present their findings to the class. Have them identify any images, copy etc. that indicates the message is tailored for this group.
 - Medical professionals
 - Elderly
 - People who are HIV positive,
 - Factory workers performing dull, repetitive jobs
 - College students
5. Should the elderly or terminally ill people be exempt from drug regulations because their life expectancy is short? Should they be given maximum pain relief and/or whatever pleasure they can gain directly from the drugs? Should controls and safeguards on psychoactive drugs for the aged and terminally be relaxed by staff in hospitals and care facilities?
6. Discuss the differences between the factors that encourage drug use among a.) children, b.) teenagers, c.) college-age students, d.) young adults, e.) middle age and f.) elderly. What factors might lead to drug abuse in these groups?
7. Recognizing that harm reduction or controlled use education is a controversial prevention strategy; discuss what college-level students can do to moderate the dangers to themselves and to others when they abuse alcohol by playing drinking games, chugging or drinking only to get drunk.
8. How do the students react to receiving an injection at the doctor's office (e.g. immunization, blood draw)? What would be necessary (state of mind) to use a needle as a method of drug use?
9. What are the physical and emotional consequences of using drugs to enhance sexuality—short-term and long-term?
10. Some people use drugs to overcome shyness or try to intensify sexual pleasure. What are some nondrug alternatives?

Chapter 8 - DRUG USE & PREVENTION: FROM CRADLE TO GRAVE

Critical Thinking And Class Exercises

1. Discuss the pros and cons of legal penalties and incarceration for a woman who uses drugs during pregnancy.
3. Evaluate the risk that substance abuse prevention education can actually encourage substance abuse. How did drug education affected the students' behavior and attitudes?
4. Conduct a confidential survey about drug use among five friends. Average the results and discuss the findings.
5. Divide the class into three groups and have them discuss the advantages and disadvantages of mandatory drug testing in the work place from the point of view of employees, employers, and the public. What about drug testing or drug searches in schools?
6. Two tactics for secondary prevention of drug abuse among teenagers are peer counseling and alternative activities. Drawing on the experience of students, what kind of peer programs and alternative activity programs work; what kinds don't work?
7. Discuss the use of free needle-exchange programs as a means of preventing the spread of HIV.
8. Divide the class into male and female groups – have them note what they believe to be the differences and similarities in gender attitudes about love, lust and sex.
9. If you knew someone had a sexually transmitted disease and he/she had sex with a friend of yours, what would you do? What if the disease were HIV?
10. Discuss the hypothetical: If a true aphrodisiac were discovered, should it be readily available or controlled by prescriptions only.