The New Face of Drug Abuse:
Impact on your Children, Family, and Community

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**Impact of Prescription Drug Abuse:**
- Illegal use of these drugs is responsible for multiple overdoses and fatalities
- Opiate addiction is blamed for causing a surge in crime:
  - Robberies and break-ins at pharmacies
  - Drug shoppers scamming doctors
  - Harassments, assaults, and robberies of patients leaving drugstores
  - Shoplifting and burglaries to support addiction
  - Domestic violence and abuse

**Who’s at risk, who are the most vulnerable?:**
- **Adolescents** - Sharp increase in 12 to 17 yr. olds and the 18 to 25 yr. olds
- **Women** - Increase rate of use in younger women
- **Older adults** - 17% of 60+ yr. olds may be affected by prescription drug abuse

**Why are Prescription Drugs so Popular?**
*Legal, Easy to Obtain, Cheap and Safe & Non-addictive*
- Legal: Perception that there is less legal risk than illicit drugs
  - Federal law does not distinguish between CI & CII drugs
- Easily obtainable:
  - From users, diverters, clinics, hospitals, Emergency Departments and practitioners and easy to steal
- Cheap: Low or no co-pay cost; may motivate people to use or sell PD’s
- Safer and Non-addictive:
  - Easily identity and less stigma than street drugs
  - Higher purity and less risky
  - Less HIV or hepatitis risk
  - Easier to use, no IV injecting but what about tolerance…and addiction!

**Commonly Misused and Abused Prescription & OTC Drugs**
- **Substance misuse** is use of a drug that varies from a socially or medically accepted use.
- **Substance abuse** - any use of drugs that cause physical, psychological, economic, legal or social harm to the individual user or to others affected by the drug use's behavior.

**Opioids/Opiates examples:**
- **Codeine, Vicodin, Percocet, OxyContin**
  - **Codeine** – used for mild to moderate pain
    - Robitussin A-C; Cheracol; terpin hydrate w codeine
      - A popular drug of abuse: A 4 oz bottle contains enough for a pleasurable experience
      - Initially available OTC, now restricted because of abuse
      - *Popular to mix with soft drink or sports drink or vodka*
  - **Dextromethorphan (DXM)**
    - An effective antitussive agent; therapeutic dose is 15-30mg 3-4x/day
    - Abused on the street; a.k.a. DXM or Robo; abusers use 300-900 mg (3-9 oz.) all at once
    - Produces hallucinations or dissociative “out-of-body” effects similar to PCP or Ketamine:
      - Stimulation, loss of coordination, visual and auditory hallucinations
  - **DXM Effects/Signs & Symptoms**
    - Pupil dilation, skin sensitivity, alters tactile (touch) sensations
    - Confusion, disorientation, lack of coordination, reduced agility
    - Robotic, zombie-like walking, "robo-walk"; Dizziness, nausea, vomiting, fever, tachycardia;
      - Dissociative effects may last 6 hours; Hangover/depression lasting 1-2 days
  - **Hydrocodone** - (Lorcet, Vicodin)
    - Moderately strong opiate, very widely abused
      - *Combination drugs 5/500, 10/650 w/acetaminophen*
Oxycodone - a strong analgesic

**Combination drugs:**
- Percodan - w/aspirin; Percocet, Tylox - w/acetaminophen
  - Pharmacy price: $0.60 each; Street value: $10 each

**OxyContin** - a highly potent oxycodone CII analgesic - a time release preparation
  - Used for severe pain expected to last for extended periods
  - Boon for patients suffering from cancer, crippling arthritis and other severe chronic pain problems - time release prep gives extended pain relief

**When Abused Oxy Gives a Powerful High**
  - Abusers grind pills up and snort or inject material to get the drug all at once
  - “Oxy or OC’s” gives a “heroin-like” high

**New Formulations: Tamper Resistant Coating (i.e. polymer coated or gelatinized)**
  - Coating makes pills sticky so they can’t be ground up for snorting or dissolved for injected; “OxyNeo’s”, “OP’s”

**Oxycodone IR’s (immediate release) CII**
  - Abuse of the 30 mg tabs has increased, i.e. Roxycodeone 30mg, A.k.a. “Roxies”
  - Non-combination drug; scheduled in CII

**Fentanyl (Sublimaze, Duragesic)**
  - A very fast acting, CII, IV analgesic
  - Fentanyl patches provide long-lasting pain relief
  - IV use by addicts commonly causes OD
  - Addict seeks intense high; a step away from fatal respiratory depression
  - Street chemists are mixing Fentanyl with heroin

**Heroin** - most infamous product of opium poppy
  - Current resurgence in use: white powder & black tar heroin
  - High purity and skyrocketing profits
  - *Cheaper than “Oxy” and other pain meds*

**Serious Complications of IV use**
  - Grinding up pills and injecting suspension is extremely risky
  - Pill components do not dissolve well:
    - *Particles may clog blood vessels and block blood flow*
    - Particles irritate blood vessels and may cause vascular inflammation and permanent damage; watch for track marks
  - Dangers of injection: Damage to blood vessels, viral infections, hepatitis B and HIV, bacterial infections, meningitis, osteomyelitis, endocarditis, abscesses, gangrene

**Signs & Symptoms of Opioid Abuse**
  - Pupils constrict, miosis
  - Breathing slows, lowered respiratory rate
  - Flushing of the skin, sweating, itching
  - Lowered blood pressure and pulse
  - Dry Mouth – Xerostomia
  - Sedation, drooping eyelids, head nodding
  - Diminished sensitivity to pain
  - Dizziness, confusion, memory problems
  - Nausea, vomiting, constipation
  - Nasal redness and/or small particles in nostrils
  - Shortened straw or rolled up bill for snorting
  - Track marks from IV injections
  - Finding plastic bags, balloons or foil an/or burnt bottoms on spoons

**The effects on breathing can be extremely dangerous** - Overdose can be lethal; breathing slows to the point that it ceases. *It can happen with first time use.*
  - **Medical intervention is critical**
What happens in the brain when someone misuses or abuses drugs?

**Brain Reward Pathway** - *Mesolimbic Dopamine Pathway/Circuit*

- **Mesolimbic system** contains the brain's reward circuit, regulates our ability to feel pleasure; also regulates emotions and motivations, particularly those related to survival, such as fear, anger, and is involved in early learning and memory processing.
- **Nucleus Accumbens (NAc)** is the “Pleasure Center” and is activated by pleasurable behavior.
- **Prefrontal Cortex (PFC)** seat of judgment, reasoning, problem solving; enables us to assess situations, make decisions, plan for the future and keeps our emotions and desires under control (governs impulsivity, aggression)

*Psychoactive Addictive Drugs Act on this Pathway*

*The Wow!!!” is a big reason people take drugs but other things happen…*

Psychoactive addictive drugs act on the Brain Reward Pathway increasing the release of dopamine and other neurotransmitters affecting multiple areas in the brain.

There is no safe “High”
What happens with continued use; increased quantity/frequency of use?

Tolerance and withdrawal
A physiological state of adaptation to a drug or alcohol usually characterized by the development of tolerance to drug effects and the emergence of a withdrawal syndrome during abstinence of the drug.

Addiction or Chemical Dependency
A disease characterized by continued use and abuse of a drug despite recurring negative consequences in a person's life

Loss of control over taking a substance
A behavioral pattern of drug use, characterized by overwhelming involvement with the use of a drug (compulsive use), the securing of its supply, and a high tendency to relapse after withdrawal.

American Society of Addiction Medicine – 2011 definition
Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.
Addiction is characterized by inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one’s behaviors and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death.
**Risk Factors for Alcohol/Drug Use**

*Individual/Family/School/Community/Environmental*

- Favorable attitude toward alcohol and other drugs
- Family history of drug abuse
- Availability and cost of alcohol and other drugs
- Early onset of use
- Family conflict or stress, chaotic home and abuse
- Poor parent-child relationship:
  - Lack of caring and support
  - Lack of monitoring and supervision
  - Inconsistent or excessive discipline
- Parental attitudes about drug use
- Association with drug-using peers
- Lack of involvement in school/community
- Little commitment to academic achievement
- Portrayal of ATOD on T.V. and in the movies
- Poor enforcement of laws concerning alcohol and illegal drug use
- Advertising impact on norms and behavior
- Web sites popularize and glamorize drug use and promote various drug cultures

**Brain Maturation in Adolescents and Young Adults**

*Recent brain imaging research shows that brain development is ongoing during adolescence and continues into the early twenties*

**Research Conclusions:**

1. Young brains are more susceptible to drug use than adults
2. Drug use may impact normal brain development and maturation:
   - Learning ability and emotional development
3. Implications of these studies are enormous for parents

*Young adults may be less likely to develop serious alcohol and other drug problems if the age of first use is delayed beyond childhood or adolescence*
Alcohol – Most widely abused OTC drug

2012 National Survey on Drug Use and Health – Alcohol Use

By 12th grade, almost two-thirds of students have used alcohol in the past year
41% are current drinkers and 23% are binge drinkers

Teens who binge drink:
- Are 5X more likely to have sex
- 18X to smoke cigarettes
- 4X to smoke marijuana
- 4X to get into physical fights w other teens
- Have a higher rate of suicide
- Causes them to make rash and dangerous decisions; loss of internal control
- Alcohol leading cause of accidents, murder and rape among teens
- Alcohol causes 150,000 ER visits by teens

THE MOST DANGEROUS DRUG OF ALL

Impairment Consequences of Alcohol Misuse and Abuse

Impairment - any slowing of thought or physical reaction beyond the initial relaxation effect of alcohol

Blood Alcohol Concentration 0.08%: Physical and mental impairments, decreased coordination, decreased mentation, poor judgment, labile mood

BAC .01 - .05%
- 0.01% sense of relaxation, feeling of well-being, mild euphoria
- 0.025% impairment begins: divided attention problems, impaired eye/balance coordination, slower eye tracking ability
- 0.05% impaired cognitive functions and coordination, information-processing problems, impaired visual perception, increased reaction time
Women attain higher peak blood alcohol levels after drinking than men:
• Women have higher fat-to-water ratio than men
• Diminished “first pass alcohol metabolism”
Canada’s Low-Risk Alcohol Drinking Guidelines

Drinking is a personal choice. If you choose to drink, these guidelines can help you decide when, where, why and how.

Your limits:
Reduce your long-term health risks by drinking no more than:

For Men: 15 drinks a week, with no more than 3 drinks a day most days.
No more than 4 drinks on any single occasion
For Women: 10 drinks a week, with no more than 2 drinks a day most days.
No more than 3 drinks on any single occasion

Plan non-drinking days every week to avoid developing a habit

Special occasions
Reduce your risk of injury and harm by drinking no more than 3 drinks (for women) or 4 drinks (for men) on any single occasion

Plan to drink in a safe environment. Stay within the weekly limits outlined above

A drink is defined as: 341 ml 5% alcohol beer, cider or cooler; 142 ml 12% alcohol wine; 43 ml 40% distilled alcohol

When zero’s the limit
Do not drink when you are:
- Driving a vehicle or using machinery and tools
- Taking medicine or other drugs that interact with alcohol
- Doing any kind of dangerous physical activity
- Living with mental or physical health problems
- Living with alcohol dependence
- Pregnant or planning to be pregnant
- Responsible for the safety of others
- Making important decisions

Safer drinking tips
- Set limits for yourself and stick to them
- Drink slowly. Have no more than 2 drinks in any 3 hours.
- For every drink of alcohol, have one non-alcoholic drink.
- Eat before and while you are drinking.
- Always consider your age, body weight and health problems that might suggest lower limits.
- While drinking may provide health benefits for certain groups of people, do not start to drink or increase your drinking for health benefits

Pregnant? Zero is safest
If you are pregnant or planning to become pregnant, or about to breastfeed, the safest choice is to drink no alcohol at all.

Delay your drinking:
Alcohol can harm the way the body and brain develop. Teens should speak with their parents about drinking. If they choose to drink, they should do so under parental guidance; never more than 1–2 drinks at a time, and never more than 1–2 times per week. They should plan ahead, follow local alcohol laws and consider the Safer drinking tips listed above.
Youth in their late teens to age 24 years should never exceed the daily and weekly limits outlined in Your limits above.


http://www.ccsa.ca/Resource%20Library/2012-Canada-

**Low Risk Drinking Limits**

**MEN:** Not over 3 drinks/day or 15/week
Not over 4 on any single occasion
(Not to exceed 1 drink an hour)

**WOMEN:** Not over 2 drink/day or 10/week
Not over 3 on any single occasion
(Not to exceed 1 drink an hour)

**Heavy or At-Risk Drinking**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Per day</th>
<th>Per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>&gt; 4 drinks</td>
<td>&gt; 15 drinks</td>
</tr>
<tr>
<td>Women</td>
<td>&gt; 3 drinks</td>
<td>&gt; 10 drinks</td>
</tr>
</tbody>
</table>

(Exceeding one drink an hour)

**Binge drinking**

No drug produces such a variety of physiological disturbances and tissue damage as alcohol when it is abused:

**Chronic alcohol use may result in:**

- Memory loss, impaired judgment, headaches, depression, anxiety, blackouts, insomnia
- Cancers of the mouth, throat, esophagus
- Heart disease, high blood pressure, stroke, breast cancer
- Liver disease, liver & pancreatic cancer
- Chronic stomach problems, GI bleeding, diarrhea, ulcers, malnutrition
- Impotency, reproductive disorders
- Muscle damage, osteoporosis

**Alcohol & cancer risks**

Increases the risk of cancers:
- Mouth, throat, esophagus, stomach, intestine, & colon

“Even moderate drinking can raise the long-term risk of some types of cancer”
- Mouth, throat, larynx, esophagus, colon, liver, pancreas, and breast.

Am. J. Epidemiology 174(9):1044-1053, 2011
How to Prevent Alcohol and Other Drug Health and Impairment Problems

What We Can Do!
- **Know the Risk Factors - See p5**
- **Adopt a Risk/Resiliency Approach**
- **Look for Signs and Symptoms**
- **Give Prevention Messages**

Resiliency/Protective Factors:
- A sense of purpose and future
- Healthy expectations and a positive outlook
- Having an opportunity to contribute and be seen as a resource
- Effectiveness in work, play and relationships
- Self-esteem and an internal locus of control
- Problem solving/critical thinking skills
- Self-discipline
- A relationship with a caring adult role model
- Supportive networks and social bonds
- A sense of humor
- Norms and public policies that support non-use

Signs and Symptoms of Drug Use
Behavioral changes – erratic behavior
Pay attention to child’s attitude
- Argumentative, hostile
Disregard for household rules, curfews
Isolating and withdrawing from family and friends
Change in friends, deteriorating relationships
Evidence of lying or secrecy
Decline in academic performance
Decreased interest in sports, activities
Changes in weight, eating/sleeping patterns
Depression and fatigue
Missing household money, medication or alcohol
Bloodshot eyes or consistently runny nose, coughing, bronchitis
- Use of incense or deodorizers, eye drops, odors on clothing, hair or in bedroom
Dizzy and trouble walking
Difficulty in remembering recent events
Carelessness with grooming
Drug paraphernalia
- Clothing, posters, jewelry,... promoting drug use
General Approach to Prevention Messages:

- Support healthy lifestyle choices for the individual and the family: doing well in school, getting a job, and being productive. Encourage good health habits (e.g., eating a healthy low fat diet, exercising, stress reduction, getting enough sleep, relaxing, bonding activities with family and friends.

- Incorporate age and gender-appropriate prevention activities wherever possible. Look for teachable moments

For Parents:

- Understand the resiliency factors and support your adolescents in school performance, setting goals, positive expectations, structuring free time, evaluating peer groups, build self-esteem, become involved in community service, enhance social skills, and decision-making ability.

- Educate your children/adolescents about the risks of drug use: impairment risks – judgment problems, drinking/driving, increased risks for accidents, risky sexual practices; health risks and life consequences; doing poorly in school, not attaining goals; It’s illegal.

Tips for Parents:

- Be a good listener

- Give clear no-use messages about alcohol and other drugs

- Help your child deal with peer pressure to use drugs

- Get to know your child’s friends and parents

- Monitor your child’s whereabouts

- Supervise teen activities

- Maintain an open and honest dialogue with your child

<table>
<thead>
<tr>
<th>Past Month Substance Use</th>
<th>Strongly Disapprove</th>
<th>Somewhat Disapprove or Neither Approve nor Disapprove</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana</td>
<td>4.9%</td>
<td>26.9%</td>
</tr>
<tr>
<td>Cigarettes</td>
<td>8.3%</td>
<td>45.3%</td>
</tr>
<tr>
<td>Alcohol</td>
<td>13.0%</td>
<td>40.0%</td>
</tr>
</tbody>
</table>
Talk to your child about the dangers of drug use:

High potency:
- Altered state – no longer in control
- Disinhibitory effect

Adulterant
- Unpredictable effects

Problems in sporting activities:
- Decreased coordination and performance ability
- Reduced exercise tolerance

High risks for:
- Impairment and accidents
- Health problems
- Addiction
  - Effects on the mind and emotions

Educational campaigns that stress personal responsibility and immediate health and impairment dangers of alcohol and other drugs use are effective prevention tools

For Parents continued:

- Talk to adolescents about their intentions and attitudes, their friends and peer pressure: "Do any of your friends use alcohol or other drugs?" "Have you ever been tempted to try alcohol or drugs with your friends?" (Role-play situations of refusing to use ATOD.) The importance of role-playing drug refusal situations with your adolescents is very important.

Recognize your own use as a risk factor for future drug use in your children. It you use alcohol follow the Canada’s Low-Risk Alcohol Drinking Guidelines.

References and Additional Reading

Drug Information Web Sites:

- [www.drugabuse.gov](http://www.drugabuse.gov)
- [www.drugfree.org](http://www.drugfree.org)
- [www.samhsa.gov](http://www.samhsa.gov)
- [www.casacolumbia.org](http://www.casacolumbia.org)

The CASA report: “Family Matters: Substance Abuse and The American Family” 2005 publication can be obtained off the National Center on Addiction and Substance Abuse at Columbia University Web Site: [http://www.casacolumbia.org/](http://www.casacolumbia.org/)

High Society: How Substance Abuse Ravages America and What to Do About It by Joseph A. Califano, Jr. Published by Public Affairs Press 2007

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