Alcohol Prevention in the Workplace:
The Role of the Occupational and Environmental Health Nurse

by

Saundra L. Trouslot

A Master’s Paper submitted to the faculty of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Masters of Public Health in the Public Health Leadership Program.

August 2014

Approved by:

____________________________________
Susan A. Randolph, Advisor

____________________________________
Judith Ostendorf, Reader
ABSTRACT

Alcohol abuse impacting the workplace is not a new concept. In the late 1940s and early 1950s, the National Council on Alcoholism and Drug Dependence Inc. (NCADD) (n.d.) proposed that the workplace was the perfect setting to assist with alcohol dependency problems. From this, the first Employee Assistance Programs (EAPs), known as Occupational Alcoholism Programs at the time, were founded. Prevention and early intervention of alcohol-related problems have the potential to affect not only the workplace, but also society as a whole. Of the millions of individuals in the U.S. workforce, approximately 15 million or 6.6% of full-time and 4.9% of part-time employees admit to being heavy drinkers (NCADD, n.d.). In 2006, the reported estimated costs associated with alcohol abuse in workplace were approximately $223.5 billion (CDC, 2012a). Even with EAPs in the workplace, the costs and injury associated with alcohol abuse continue to rise.

A change is needed and the answer may lie in the role and guidance of the occupational and environmental health nurse (OEHN). As a workplace advocate, the nurse can be instrumental in planning, implementing, and evaluating alcohol education and prevention programs, which can decrease the mounting costs to organizations from employee alcohol use and abuse.
ACKNOWLEDGEMENTS

First and foremost I would like to give thanks to NIOSH for giving me this opportunity to follow my dreams and accomplish this goal. Next, I would like to thank Susan Randolph for her guidance and mentoring. Thank you for believing in me at times when I didn’t even believe in myself. Above all, I want to thank my children, who hung in there with me through some very trying and difficult times and who without their patience this journey would not have been made possible.
# TABLE OF CONTENTS

Abstract........................................................................................................................................... ii

Acknowledgements........................................................................................................................... iii

Table of Contents ............................................................................................................................ iv

List of Figures ..................................................................................................................................... vii

List of Tables .................................................................................................................................... viii

Chapters:

I. **INTRODUCTION** ...................................................................................................................... 1

   Overview of Alcohol, Alcohol Use, and Alcohol Abuse............................................................ 1

      Alcohol Tolerance...................................................................................................................... 1

      Alcohol Dependence................................................................................................................. 3

      Alcohol Use Disorders.............................................................................................................. 3

      Binge Drinking......................................................................................................................... 5

   Purpose of Paper ......................................................................................................................... 5

II. **LITERATURE REVIEW** ....................................................................................................... 7

    Scope of the Problem.................................................................................................................. 7

    Prevalence of Alcohol Use and Abuse in the U.S. ................................................................. 7

    Prevalence of Alcohol Use and Abuse in the U.S. Workforce ............................................. 7

    The Aging Workforce............................................................................................................... 8

    Younger Workers..................................................................................................................... 9

    Risk Factors for Alcohol Abuse and Dependence............................................................... 10

    Age at First Use....................................................................................................................... 10
Alcohol Use and Genetics ............................................................. 13
Biological Link and Alcoholism .................................................. 13
Alcohol Use and Socioeconomic (SES) Risk Factors ..................... 15
Exceeding Drinking Limits .......................................................... 16
Workplace Stressors ................................................................. 17
   Long Hours and Shiftwork ...................................................... 17
   The Work-Family Conflict ..................................................... 18
   Worker Alienation ............................................................... 18
High Risk Occupations and Alcohol Use ..................................... 21
Alcohol Impact on the Workplace ............................................... 22
   Absenteeism and Presenteeism ............................................. 22
   Occupational Injuries, Accidents, and Fatalities .................. 23
   Alcohol Use/Abuse Impact on the Workforce ...................... 26
Federal Laws and Regulations Regarding Alcohol in the Workplace .. 28
   Drug-Free Workplace Act of 1988 ...................................... 28
   U.S. Department of Transportation (DOT) .......................... 29

III. WORKPLACE ALCOHOL PREVENTION PROGRAMS .................. 30
   Policy Development ............................................................. 30
   Primary Prevention ............................................................ 32
   Secondary Prevention .......................................................... 32
      Employee Assistance Programs .................................... 33
      EAP Confidentiality ....................................................... 35
   Tertiary Prevention ............................................................ 35
IV. ROLE OF THE OCCUPATIONAL AND ENVIRONMENTAL HEALTH NURSE IN WORKPLACE ALCOHOL PREVENTION........................................37

Scope of Practice........................................................................................................38

OEHN Roles ..................................................................................................................38

Case Manager..............................................................................................................38

Health Promotion Specialist .......................................................................................38

Educator .........................................................................................................................39

Establishing an Alcohol and Drug-Free Workplace ......................................................40

The Nursing Process ......................................................................................................40

Assessment/Diagnosis ..................................................................................................41

Outcomes/Planning .......................................................................................................42

Implementation ..............................................................................................................42

Evaluation ......................................................................................................................43

V. CONCLUSIONS AND RECOMMENDATIONS......................................................46

References....................................................................................................................50
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>A Comparison Between DSM-IV and DSM-5 Alcohol Use Disorders</td>
<td>4</td>
</tr>
<tr>
<td>1.2</td>
<td>Prevalence of Binge and Heavy Drinking Among Adults in the United States,</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>1993-2009</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Percentages of Age at First Alcohol Use Among Adults Aged 21 or Older, by</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Gender: 2003</td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>Percentages of Age at First Use Among Adults Aged 21 or Older, by</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Race/Ethnicity: 2003</td>
<td></td>
</tr>
<tr>
<td>2.3</td>
<td>Percentages of Past Year Alcohol Dependence or Abuse Among Individuals</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Providing “Age at First Use” Data, Aged 21 or Older: 2003</td>
<td></td>
</tr>
<tr>
<td>2.4</td>
<td>Hypothesized Measurement and Structural Model of Indirect Effect of WFC and</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Alcohol Use</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>Unstandardized Results from the Structural Portion of Path Coefficient for the Effect</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>of Distress on Alcohol Use</td>
<td></td>
</tr>
<tr>
<td>2.6</td>
<td>Proportion of the Australian Workforce Aged 14 Years and Over, Drinking at Risk</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>of Harm in the Short-Term</td>
<td></td>
</tr>
<tr>
<td>2.7</td>
<td>Blood Alcohol Levels Associated with Physical and Mental Impairment</td>
<td>27</td>
</tr>
<tr>
<td>3.1</td>
<td>Past Month Heavy Alcohol Use Among Full-Time Workers Aged 18 – 64,</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>2002 – 2004</td>
<td></td>
</tr>
<tr>
<td>4.1</td>
<td>CDC Framework for Program Evaluation</td>
<td>44</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>2.1</td>
<td>Self-Reported Alcohol-Related Absenteeism and Illness/Injury Absenteeism in the Australian Workforce by Alcohol Consumption Category</td>
<td>25</td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION

Approximately 8.8% of full-time workers in the United States (U.S.) admit to some form of heavy alcohol use and/or abuse (Substance Abuse and Mental Health Services Administration [SAMHSA], 2007). Heavy or at risk alcohol use is defined as consuming more than 4 drinks per day or 14 drinks per week for men and 3 drinks per day or more than 7 drinks per week for women (National Institutes of Health [NIH], n.d.). Workplace alcohol prevention and intervention programs have the potential to reach a wide range of audiences and impact employers, employees, and the U.S. population as a whole. As of 2007, existing workplace alcohol programs have the capability of reaching approximately 9.0% of Americans who need alcohol rehabilitation and treatment, leaving nearly 20.5 million untreated (SAMHSA, 2013).

Alcohol abuse in and out of the workplace is responsible for many negative workplace outcomes including reduced productivity, lowered job performance, absenteeism, presenteeism, workplace injury, and at times death. Therefore, employers have a vested interest in keeping employees alcohol free and healthy (SAMHSA, 2013).

Overview of Alcohol, Alcohol Use, and Alcohol Abuse

Alcohol Tolerance

Alcohol tolerance is defined as the body’s ability to metabolize, excrete, and rebound from the effects of alcohol consumption. Given chronic or heavy use of alcohol, the human body, specifically the liver, begins to develop a functional tolerance to increasingly larger quantities of alcohol (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 1995). As functional tolerance is developed, the metabolic pathways in the liver stimulated by moderate alcohol usage
become impenetrable, which allows for a more rapid metabolism of alcohol. Consumption of larger and larger amounts of alcohol is needed before intoxication develops (NIAAA, 1995).

There are five types of tolerance (NIAAA, 1995):

1. Functional Tolerance -
   A developed tolerance to compensate for a disruption in behavior and bodily functions caused by increasingly greater quantities of alcohol consumption.

2. Acute Tolerance -
   A tolerance developed to assist in overcoming behavior and bodily malfunctions within a single drinking episode regardless of blood alcohol content (BAC).

3. Environmental Tolerance -
   The development of functional tolerance based on the administration of alcohol in a particular environment or accompanied by the same cues. Alcohol consumption in a different setting or a change from normal may contribute to functional tolerance.

4. Learned Tolerance -
   A behaviorally augmented tolerance developed when consuming alcohol while habitually performing a routine task.

5. Metabolic Tolerance -
   A tolerance resulting from an increasingly rapid elimination of alcohol from the body.

The NIAAA (1995) conducted a study showing the link between alcoholic and nonalcoholic fathers and their sons. Sons of alcoholic fathers in the study consistently displayed an increasingly greater level of functional tolerance during alcohol consumption than did the
nonalcoholic participants. The results show a definitive familial and/or genetic predisposition to alcohol tolerance, contributing to an increased risk for alcoholism or alcohol dependency (NIAAA, 1995).

**Alcohol Dependence**

Alcohol dependence manifests itself in similar ways as tolerance to alcohol. The level of alcohol tolerance does not define alcohol dependency. However, the two frequently go hand-in-hand and as tolerance increases, alcohol dependence becomes increasingly probable.

**Alcohol Use Disorders**

The two basic types of alcohol use disorders are alcohol abuse and alcohol dependence, otherwise known as alcoholism. The NIAAA (n.d.a) define both disorders as “medical conditions that doctors can diagnose when a patient’s drinking causes distress or harm” (para 1). Separating the two, the NIH (2010) gives the following DSM-IV and DSM-5 (Diagnostic and Statistical Manual of Mental Disorders) criteria for diagnosis of these two forms of alcohol consumption disorders individually (Figure 1.1). Alcohol abuse is defined as anyone meeting any one or more of the abuse criteria of the DSM-IV within a 12-month period. Alcohol dependence/alcoholism is defined as anyone meeting any three or more of the DSM-IV dependence criteria during the same 12-month period of meeting the ‘alcohol abuse’ criteria (NIH, 2010). Alcohol dependence, being considered the more serious of the two disorders, is characterized as a disease. Individuals diagnosed with alcohol dependency are more likely to exhibit psychological signs associated with dependence such as cravings, the inability to cease once drinking has begun, increased alcohol tolerance, and displaying symptoms associated with physical dependence such as nausea, diaphoresis, and extremity and/or entire body tremors.
FIGURE 1.1
A COMPARISON BETWEEN DSM-IV AND DSM-5 ALCOHOL USE DISORDERS

<table>
<thead>
<tr>
<th>DSM-IV</th>
<th>DSM-5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Any 1 = ALCOHOL ABUSE</strong></td>
<td><strong>Any 2 = ALCOHOL ABUSE</strong></td>
</tr>
<tr>
<td>Recurrent alcohol use resulting in a failure to fulfill major role obligations at work, school, or home (e.g., repeated absences or poor performance related to alcohol use; alcohol-related absences, suspensions, or expulsions from school; neglect of children or household).</td>
<td>Alcohol is often taken in larger amounts or over a longer period than was intended. (See DSM-IV, criterion 7.)</td>
</tr>
<tr>
<td>Recurrent alcohol use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by alcohol abuse).</td>
<td>There is a persistent desire or unsuccessful efforts to cut down or control alcohol use. (See DSM-IV, criterion 8.)</td>
</tr>
<tr>
<td>Recurrent alcohol-related legal problems (e.g., arrests for alcohol-related disorderly conduct). <strong>This is not included in DSM-5</strong></td>
<td>A great deal of time is spent in activities necessary to obtain alcohol, use alcohol, or recover from its effects. (See DSM-IV, criterion 9.)</td>
</tr>
<tr>
<td>Continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the alcohol (e.g., arguments with spouse about the consequences of intoxication, physical fights).</td>
<td>Craving, or a strong desire or urge to use alcohol. <strong>This is new to DSM-5</strong></td>
</tr>
<tr>
<td><strong>Tolerance, as defined by either of the following:</strong></td>
<td><strong>Tolerance, as defined by either of the following:</strong></td>
</tr>
<tr>
<td>a) A need for markedly increased amounts of alcohol to achieve intoxication or desired effect</td>
<td>a) A need for markedly increased amounts of alcohol to achieve intoxication or desired effect</td>
</tr>
<tr>
<td>b) Markedly diminished effect with continued use of the same amount of alcohol</td>
<td>b) A markedly diminished effect with continued use of the same amount of alcohol (See DSM-IV, criterion 5.)</td>
</tr>
<tr>
<td><strong>Withdrawal, as manifested by either of the following:</strong></td>
<td><strong>Withdrawal, as manifested by either of the following:</strong></td>
</tr>
<tr>
<td>a) The characteristic withdrawal syndrome for alcohol</td>
<td>a) The characteristic withdrawal syndrome for alcohol (refer to criteria A and B of the criteria set for alcohol withdrawal)</td>
</tr>
<tr>
<td>b) Alcohol is taken to relieve or avoid withdrawal symptoms</td>
<td>b) Alcohol (or a closely related substance, such as a benzodiazepine) is taken to relieve or avoid withdrawal symptoms. (See DSM-IV, criterion 6.)</td>
</tr>
<tr>
<td>Alcohol is often taken in larger amounts or over a longer period than was intended.</td>
<td>The presence of at least 2 of these symptoms indicates an Alcohol Use Disorder (AUD).</td>
</tr>
<tr>
<td>There is a persistent desire or unsuccessful efforts to cut down or control alcohol use.</td>
<td>The severity of the AUD is defined as:</td>
</tr>
<tr>
<td>A great deal of time is spent in activities necessary to obtain alcohol, use alcohol, or recover from its effects.</td>
<td><strong>Mild:</strong> The presence of 2 to 3 symptoms</td>
</tr>
<tr>
<td>Important social, occupational, or recreational activities are given up or reduced because of alcohol use.</td>
<td><strong>Moderate:</strong> The presence of 4 to 5 symptoms</td>
</tr>
<tr>
<td>Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol. (See DSM-IV, criterion 11.)</td>
<td><strong>Severe:</strong> The presence of 6 or more symptoms</td>
</tr>
<tr>
<td><strong>Any 3 = ALCOHOL DEPENDENCE</strong></td>
<td><strong>Any 3 = ALCOHOL DEPENDENCE</strong></td>
</tr>
<tr>
<td>Alcohol is often taken in larger amounts or over a longer period than was intended.</td>
<td>Recurrent alcohol use in situations in which it is physically hazardous. (See DSM-IV, criterion 2.)</td>
</tr>
<tr>
<td>There is a persistent desire or unsuccessful efforts to cut down or control alcohol use.</td>
<td>Recurrent alcohol use in situations in which it is physically hazardous. (See DSM-IV, criterion 2.)</td>
</tr>
<tr>
<td>A great deal of time is spent in activities necessary to obtain alcohol (e.g., driving long distances), use alcohol, or recover from its effects.</td>
<td>Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol. (See DSM-IV, criterion 9.)</td>
</tr>
<tr>
<td>Important social, occupational, or recreational activities are given up or reduced because of alcohol use.</td>
<td>Tolerance, as defined by either of the following:</td>
</tr>
<tr>
<td>Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol. (See DSM-IV, criterion 11.)</td>
<td>a) A need for markedly increased amounts of alcohol to achieve intoxication or desired effect</td>
</tr>
<tr>
<td>Withdrawal, as manifested by either of the following:</td>
<td>b) A markedly diminished effect with continued use of the same amount of alcohol (See DSM-IV, criterion 5.)</td>
</tr>
<tr>
<td>a) The characteristic withdrawal syndrome for alcohol (refer to criteria A and B of the criteria set for alcohol withdrawal)</td>
<td>a) The characteristic withdrawal syndrome for alcohol (refer to criteria A and B of the criteria set for alcohol withdrawal)</td>
</tr>
<tr>
<td>b) Alcohol (or a closely related substance, such as a benzodiazepine) is taken to relieve or avoid withdrawal symptoms. (See DSM-IV, criterion 6.)</td>
<td>b) Alcohol (or a closely related substance, such as a benzodiazepine) is taken to relieve or avoid withdrawal symptoms. (See DSM-IV, criterion 6.)</td>
</tr>
</tbody>
</table>

Source: NIH, 2010
Binge Drinking

A third disorder, binge drinking, unrecognized within the confines of the DSM, accounts for 90.0% of the alcohol consumed by youth under the age of 21 (Centers for Disease Control and Prevention [CDC], 2012a). Although unrecognized as an abuse or dependence disorder, 92.0% of excessive or heavy drinkers report binge-drinking episodes at least once every 30 days (CDC, 2012a).

The NIH (n.d.) defines binge drinking as

…drinking so much within about 2 hours that blood alcohol concentration (BAC) levels reach 0.08g/dL. For women, this usually occurs after about 4 drinks and represents approximately 29% of individuals with excessive alcohol use and for men, after about 5 alcoholic drinks representing approximately 43% of excessive drinkers. (para 8)

According to the CDC (2012a), “binge drinking is the most common pattern of excessive alcohol use in the United States” (para 1). The CDC (2012a) conducted a study to compare the percentage of binge and heavy drinkers in the U.S. between 1993 and 2009 (Figure 1.2). The study showed that both binge and heavy drinking remained fairly consistent throughout those years. However, the percentage of binge drinking in the population was considerably higher than heavy drinking.

Purpose of Paper

The purpose of this paper is to describe the effects of alcohol use and dependency in the U.S. workforce and society as a whole and justify the need for worksite prevention and employee assistance programs. The role of the occupational and environmental nurse will also be discussed.
FIGURE 1.2

PREVALENCE OF BINGE AND HEAVY DRINKING AMONG ADULTS IN THE UNITED STATES, 1993 - 2009

Source: CDC, 2012a
CHAPTER II
LITERATURE REVIEW

Scope of the Problem

Prevalence of Alcohol Use and Abuse in the U.S.

Alcohol use is extremely commonplace in society. According to The National Survey on Drug Use and Health (NSDUH) in 2012, 51.3% of 12 years and older individuals were considered regular drinkers, consuming at least 12 drinks in the previous year equating to 135.5 million current U.S. drinkers (SAMHSA, 2013). The CDC (2012a) states that over half of the U.S. population drank some form of alcoholic beverage in the last 30 days; furthermore, “5% of the total population drank heavily, while 17% of the population binge drank” (para 1). Of these individuals, an estimated 8.5% acknowledged experiencing some form of alcohol use disorder within the past 12 months (4.7% abuse, 12.5% dependence) and 30.3% will eventually suffer from an alcohol use disorder in their lifetime (CDC, 2012a). As of 2010, the U.S. was only capable of helping 9.0% of Americans requiring alcohol use disorder treatment, leaving 20.5 million individuals still in need (CDC, 2012a).

Prevalence of Alcohol Use and Abuse in the U.S. Workforce

Alcohol use and dependence in the workplace no longer constitutes only alcohol consumed directly before or during formal working hours. It includes the effects of alcohol consumed up to 12 hours prior to a work shift resulting in the hangover affect and any potential problems from dependence associated with alcohol withdrawal (CDC, 2012a). Of all the available hallucinatory psychoactive substances, alcohol is the most used and abused substance amongst the global workforce (Bellew, St. George, & King, 2012).
While the U.S. legal drinking age is 21, onset of alcohol use disorders among employees begins around age 12 (NIH, 2010). Furthermore, rates of alcohol abuse are highest among individuals 16 - 25 years of age, the age group with the largest percentage of individuals entering the workforce (U.S. Department of Labor, n.d.b). With alcohol and substance abuse among the employed beginning at such a young age, companies large or small easily justify the need to implement a program.

The Occupational Safety and Health Act of 1970 states that all working men and women are assured safe and healthful working condition free from recognized hazards that are causing or likely to cause death or physical harm. In addition, “employees must comply with all rules and regulations, and orders which are applicable to their own actions and conduct” (U.S. Department of Labor, 1996, para 16). According to the SAMHSA (2008), “76 percent of people with drug or alcohol problems are employed” (para 2). The WHO (2011) states that globally, alcohol is the world’s number one risk factor for premature work-related death among employed individuals between the ages of 25 - 59 years.

The Aging Workforce. The American industrialized workforce mirrors the global aging population trend. In the U.S., 93 million people are over the age of 45, representing 44.0% of the population. By the year 2050, this number is projected to climb to 170 million individuals over the age of 45 (53.0% of the population) (Wegman & McGee, 2004).

The baby boomer generation has grown up and are all now age 45 and above. The manufacturing world is calling this aging worker population the Gray Shift, when by 2015 one-third of the U.S. workforce will be 55 and over (Hagman, 2013). This aging workforce has a greater risk for experiencing stressful life events in respect to their health, family, and economic (financial) and employment stability (Hagman, 2013). Given these stressors, the aging worker
may be more inclined to use alcohol as a coping mechanism for the mounting mental, emotional, and physical stressors. The Moderation Model by Frone (1999), in which individuals believe that alcohol consumption promotes relaxation, alleviates negative emotions, and eases stress directly associated with the work-family conflict, shows a direct association between aging, increased life stressors, and increased alcohol in the aging worker.

Frone (1999) found that individuals often show a positive association between drinking and outcomes directly related to relief from workplace stressors. As the global population ages, alcohol use and dependence in the workplace is also predicted to increase. The baby boomer generation as a whole has higher rates of substance use, including alcohol, than any other previous generation. Currently, these alcohol-related problems account for more than $60 billion a year in related hospital costs (Bamberger, Sonnenstuhl, & Washdi, 2006).

Younger Workers. Younger workers between the ages of 18 and 25 are an integral part of today’s workforce. In 2006, 22.4 million of the labor force consisted of individuals aged 16 - 25 years (Bray, Galvin, & Cluff, 2011). Of this population, 26.2% of 16 - 18 year olds and 69.5% of 21 - 25 year olds reported more than one episode of alcohol consumption in the past month (Bray et al., 2011). Addiction or alcohol abuse by association is a frequent phenomenon for younger adults; in addition, this age group has a tendency to exhibit increasingly riskier behaviors than other populations. With familial alcohol use disorders such as functional tolerance, this population is at a greater risk for alcohol abuse than any other generation as a whole (NIAAA, n.d.a). According to the NIAAA (2006), not only are young people drinking; “it’s the way they drink that puts them at a greater risk for alcohol-related problems” (p. 1).

Young adulthood is a time when individuals are more easily influenced by friends and peers. Young people tend to drink more heavily in their late teens and early adulthood when
drinking is more likely to be heavy drinking and binge drinking. When individuals enter either college or the workforce, this can be a very vulnerable time when the influence of peers can be overwhelming and drinking may be a key to acceptance. According to the NIAAA (2006), young adults immediately employed full-time after high school showed a large increase in current drinking. However, they tend to show a modest decrease in heavy drinking. While social drinking is generally accepted as evidenced by Yelp Inc.’s incorporation of an iPad monitored employee keg refrigerator, heavy and binge drinking are unacceptable and even discouraged (Nowinski, 2012).

**Risk Factors for Alcohol Abuse and Dependence**

Risk factors and determinants of alcohol abuse and dependence are not limited to, but include, age at first use, genetic predisposition, biological, socioeconomic factors, psychological, exceeding drinking limits, and stress (International Center for Alcohol Policies, 2009). Each risk factor will be discussed.

**Age at First Use**

According to the NSDUH, a correlation has been shown between the age of first alcohol consumption and alcohol dependence later in life based on gender (Figure 2.1) and nationality (Figure 2.2) (SAMHSA, 2004). Males consistently consumed more alcohol at younger ages than females (SAMHSA, 2004). However, females consumed more alcohol when their intake occurred at age 18 years or older.

When nationality was the leading factor, variations before the age of 12 were very small, but as age increased (12-14 years) Caucasians had the highest alcohol use and Asians remained almost negligible. With greater increases in age (21 years and older), Asians had an increase in alcohol consumption with all other nationalities showed a decline (SAMHSA, 2004).
FIGURE 2.1
PERCENTAGES OF AGE AT FIRST ALCOHOL USE AMONG
ADULTS AGED 21 OR OLDER, BY GENDER: 2003

Source: SAMSHA, 2004
FIGURE 2.2
PERCENTAGES OF AGE AT FIRST USE AMONG ADULTS
AGED 21 OR OLDER, BY RACE/ETHNICITY: 2003

Source: SAMSHA, 2004
The survey asked participants to report not only first age of alcohol use, but also alcohol use in the last year (Figure 2.3), alcohol use in the last month, and any symptoms of alcohol dependence in the last year. The study revealed that the earlier the first use or consumption of alcohol, the greater the potential for alcohol dependence later in life (SAMHSA, 2004).

**Alcohol Use and Genetics**

Although genetics is listed as a risk factor, the exact genes involved in alcohol dependence and abuse are unknown. Even though no true genetic link has been definitively defined, it is generally accepted that alcohol problems run in families (U.S. Department of Health and Human Services [DHHS], 2000a). McGue, Slutske, Taylor, and Lacono (1997) showed an alcoholic familial link or history to be a “well-established risk factor for the development of alcoholism” (p. 516). An earlier study by Molina, Chassin, and Curran (1994) showed that genetics is not the only cause; behavior and environment are also key factors along with genetics. The study found that children of alcoholic parents are exposed to a much higher level of direct alcohol risk factors, such as watching parents drink. These children have a greater prevalence of alcohol abuse later in life. When these risk factors are coupled with predisposed genetics factors as mentioned by McGue et al. (1997), individuals with a family tie to alcohol are two to four times more likely to consume alcohol and develop various alcohol use disorders and/or dependence (SAMHSA, 2004).

**Biological Link and Alcoholism**

Gender is a key factor that influences alcohol use and drinking behavior. According to Nolen-Hoeksema and Hilt (2004), women have a tendency to drink less than males and have significantly less alcohol-related problems. Men, all nationalities included, on average consume 4 or more alcoholic beverages at one sitting. It is often argued that the gender differences
FIGURE 2.3
PERCENTAGES OF PAST YEAR ALCOHOL DEPENDENCE OR ABUSE
AMONG INDIVIDUALS PROVIDING “AGE AT FIRST USE” DATA,
AGED 21 OR OLDER: 2003

Source: SAMHSA, 2004
associated with alcohol have a psychological link for women and biological link for men (Nolen-Hoeksema & Hilt, 2004). There are greater implied social sanctions against drinking placed on women compared to men. According to Wilsnack (1996), “In a national survey, women judged that 50% of other people would strongly disapprove of a woman getting drunk at a party but only 30% would strongly disapprove of a drunken man” (as cited in Nolen-Hoeksema & Hilt, 2004, p. 987).

Individuals have used alcohol to psychologically cope and reduce stress since the introduction of alcohol. In recent studies, however, evidence is inconsistent in showing that stress reduction alone is responsible for alcohol use. The U.S. DHHS (2000a) noted that consuming alcohol as stress relief is almost always accompanied by at least one risk factor such as biological or family history. The study also found that individuals without accompanying risk factors who were skilled in diverse coping mechanisms for stress reduction had little to nonexistent alcohol use as a means for stress reduction (U.S. DHHS, 2000a). The U.S. DHHS (2000a) also found that women, who were instructed on the use of daily journaling as a coping mechanism for everyday stressors, consumed far less alcoholic beverages during high-stress events.

**Alcohol Use and Socioeconomic (SES) Risk Factors**

According to Van Oers, Bongers, Van de Goor, and Garretsen (1999) of the Addiction Research Institute in the Netherlands, the link between SES and alcohol use can be directly correlated to education level. The authors concluded that the higher the completed level of education, the lower the level or prevalence of abstinence. These results were seen in men and women alike and the higher the education level, the smaller the gender gap in relation to abstinence (Van Oers et al., 1999). Society has shown an overall increased acceptance of alcohol
consumption in women of higher SES groups within the workforce (Van Oers et al., 1999). This acceptance has contributed to increased alcohol use and may have increased women’s choice to use as alcohol as workplace stress coping mechanism. Van Oers et al. (1999) also reported that no significant differences in education level and excessive drinking among males were found. For both men and women, psychological alcohol dependence was more prevalent in groups of lower SES. In men, alcohol-related health problems were directly correlated to a lower SES whereas drunkenness and hangovers were more prevent for women in the higher SES populations (Van Oers et al., 1999).

Exceeding Drinking Limits

According to U.S. Department Agriculture (USDA) (2005), the lowest risks associated with alcohol consumption occur when it is consumed in moderation. Moderate alcohol consumption is defined as no more than one drink a day for women and 2 drinks per day for men, and any amount above this limit is considered hazardous to the human body (U.S. USDA, 2005). Individuals who exceed these limits only one time per week, have a 37.0% greater chance of alcohol abuse and/or alcoholism, and as the use and number of drinks increase, so do the risks (CDC, 2014b). The prevalence of alcohol dependence increased to 41.0% with a daily or almost daily increase in alcohol consumption (CDC, 2014b). In addition, individuals who regularly exceed daily limits and at substantially higher levels are at an even higher risk than the average above-limit drinker. The risks for developing alcohol dependence are greater and the risks for developing a serious alcohol-related illness skyrocket at these levels. Excessive alcohol use is defined as men who regularly exceed 8 drinks a day or 50 drinks a week, and women who regularly exceed 6 drinks a day or 35 drinks a week (National Health Service, 2012).
Workplace Stressors

Alcohol is used to help manage stress and negative emotions that occur as a result of adverse work environments (NIAAA, 2012). The workplace has become more demanding, complex, and overtly stressful. In addition, jobs are often diverse, complicated, and place high demand on the workforce. Workers may feel the pressure at work which creates high levels of individual stress. This type of atmosphere, when managed correctly, can increase production rates and employee satisfaction; however, if not managed correctly, there is a critical point at which the effects are reversed and workers are pushed to a breaking point resulting in diminished returns and/or decreased production.

The work-stress paradigm shows that negative stress coping mechanisms, such as alcohol use, can be directly correlated to a negative work environment (Wolff, 2013). “Alcohol use in the workplace is directly related to absenteeism, work performance decrements, workplace safety issues, employee turnover, and increased healthcare costs” (Wolff, 2013, p. 1).

Long Hours and Shiftwork. A significant stressor recognized and correlated to alcohol dependency is long work hours and shiftwork. Individuals who work over 50 hours per week are three times more likely to exhibit serious alcohol-related problems such as heavy drinking and dependence (Gibb, Fergusson, & Horwood, 2011). In many work environments, the more acceptable the alcohol use among the employees, the greater the chance of alcohol dependence. It is not clear whether this direct result of the nature of the work and the related stress, or a direct result of a more accepting, more alcohol friendly environment. According to Gibb et al. (2011), in many workplaces, such as, the hospitality sector, the corporate sector, and many times the military sector, this may be an ingrained culture.
The Work-Family Conflict. An additional category of stress affecting workers is the work-family conflict (WFC). This occurs when the demands of job begin to interfere and conflict with the demands of family-life or home-life.

The interface of work with family life and vice versa, is known as the Work Family Conflict and is a particularly important stress-related construct to consider as a potential influence on drinking behavior related to how it impacts both the workplace and health outcomes for employees. (Wolff, 2013, p. 3) (Figure 2.4)

Wolff (2013) explains that this stress often leads to severe distress resulting in depression which is directly associated with alcohol use and dependence. A national sample of the American workforce showed that 90.0% of men and 95.0% of women reported a need for more family time and decreased work-time (Wolff, 2013). In addition, job dissatisfaction was related to problem drinking to reduce negative feelings, and individuals who felt distress related to WFC were also more likely to use alcohol as a coping mechanism to reduce stress (Wolff, 2013) (Figure 2.5).

Worker Alienation. Worker alienation and alcohol use, as a means of coping, has been of interest and concern for many years. Workers who experience repetitive simple work, passive work, or have low-income, non-creative, and low decision-making jobs have a tendency to suffer from job alienation (Greensberg & Grunberg, 1995). To overcome or negate these feelings, employees in these positions often turn to alcohol for relief. A study of various job positions showed a direct relationship between passive jobs associated with work alienation and heavy drinking (Gimeno, Amick, Barrientos-Gutierrez, & Manione, 2009). In addition, “low job complexity combined with low constraint related to frequent drinking” (Gimeno et al., 2009, p. 310).
FIGURE 2.4
HYPOTHEZIZED MEASUREMENT AND STRUCTURAL MODEL
OF INDIRECT EFFECT OF WFC AND ALCOHOL USE

FIGURE 2.5
UNSTANDARDIZED RESULTS FROM THE STRUCTURAL PORTION OF
PATH COEFFICIENT FOR THE EFFECT OF DISTRESS ON ALCOHOL USE

An overall higher level of alcohol dependency, showing an overlap in many areas of job stress, incorporated both heavy and frequent drinking associated with any level of high job strain (Gimeno et al., 2009).

**High Risk Occupations and Alcohol Use**

Many high-risk occupations report exceptionally high levels of alcohol abuse and dependency. Of the numerous causes of alcohol dependency in these professions, Post Traumatic Stress Disorder (PTSD) tops the list. According to SAMHSA (2007), law enforcement, professional firefighters, military personnel, restaurant personnel, and bartending staff rank among the highest at-risk professions for alcohol abuse and dependency. New York City law enforcement personnel, professional firefighters, and emergency medical technicians saw a 50.0% increase in the number of individuals treated yearly for alcohol dependency in the first 10 years since September 11, 2001, and of these cases, nearly 85.0% were congruently treated for PTSD (Bickman & Armstrong, 2011).

Professional firefighting is regarded as one of the most dangerous and hazardous occupations in the U.S. Bureau of Labor Statistics (2013). The U.S. Bureau of Labor Statistics (2013) reported that job-related harm and injury are 4.5 times more likely for firefighters than any other profession in the private sector. The U.S. Bureau of Labor Statistics (2013) also reported that firefighters are 3.5 times more likely to die in an occupational fatality compared to with any other occupation.

Due to the types of stressors law enforcement and firefighters face on a routine basis, they are twice as likely to suffer from alcohol dependency (U.S. Bureau of Labor Statistics, 2013). Since alcohol is widely accessible and legal, it has historically been seen as an acceptable means to reduce stress in this population (U.S. Bureau of Labor Statistics, 2013).
Alcohol Impact on the Workplace

An investigation into the social and economic costs of alcohol abuse found that yearly costs related to “healthcare, criminal justice system costs, motor vehicle crashes, property damage and lost worker productivity” (Harwood, Fountain, & Livermore, 1998, p. 364) were in excess of $148 billion. A subsequent study in 1998 by the U.S. DHHS (2000b) found the similar costs were $184 billion. In 2006 the costs rose to $223.5 billion, which equated to $750 per each individual in the country and approximately $1.90 of every drink consumed (CDC, 2014a). Alcohol abuse is responsible for nearly double the number of deaths (third leading cause of death in America) than drug overdose; however, drug overdoses tend to receive more publicity (Szalavitz, 2011).

The impact of alcohol use and dependence on the workplace is astronomical. The misuse of alcohol by employees has the potential to injure not only the employee, but undermine productivity and the safety of other employees. In 2004, 19.2 million (15.3%) U.S. workers admitted to being impaired by alcohol at work, at least one time in the last year (Working Partners, 2007). In addition, 9.2% of workers reported being hung-over and 7.1% admitted to alcohol use during work, usually during lunch breaks. Increased healthcare costs and lost productivity due to alcohol use is costing the nation over $276 billion per year (Working Partners, 2007). Healthcare costs for employees with alcohol dependency are twice the costs of any other employee; in addition, individuals who abuse alcohol are 3.5 times more likely to cause workplace accidents and injuries (Working Partners, 2007).

Absenteeism and Presenteeism

Worker absenteeism places a heavy burden on the workplace and productivity. In 2003, lost productivity revenue as a result of employee absenteeism was estimated at $225.8 billion
annually or $1,685 per employee annually (Bacharach, Bamberger, & Biron, 2010). Episodes of heavy drinking resulting in hangovers, compared to other forms of alcohol consumption, could be directly correlated to employee absenteeism (Roche & Pidd, 2006). More importantly, employees who “very occasionally, (i.e., yearly)” (Roche & Pidd, 2006, p. 2) drank large amounts were almost twice as likely to call in sick. The effects of employee absenteeism is felt not only by the employer, but also all employees who must take on additional work, work longer hours, and assume greater responsibility due to absent employees and lost productivity (Figure 2.6).

Alcohol related work absences increased with higher levels of risky consumption, respondents who drank at short-term and long-term risky or high risk levels were significantly more likely than low risk drinkers to have missed a work day due to the alcohol use in the previous three months. (Roche & Pidd, 2006, p. 2) (Table 2.1) Heavy drinking episodes can also result in presenteeism. Presenteeism related to alcohol consumption occurs when an employee shows up for work either drunk or hung over, resulting in subpar performance.

Although difficult to measure, the direct results of presenteeism are considered to be greater than those of absenteeism. The effects of working in a hung over state may include, but are not limited to, falling asleep, lower production output, poor work quality, conflicts with supervisors and coworkers, and increased accidents and injuries (International Center for Alcohol Policies, 2009).

Occupational Injuries, Accidents, and Fatalities

Alcohol is one of the leading causes of occupational injury (Gmel & Rhem, 2003). Defined as a depressant, alcohol slows down the brain function and affects how the body
FIGURE 2.6
PROPORTION OF THE AUSTRALIAN WORKFORCE AGED 14 YEARS AND OVER, DRINKING AT RISK OF HARM IN THE SHORT-TERM

Source: Roche & Pidd, 2006
TABLE 2.1

SELF-REPORTED ALCOHOL-RELATED ABSENTEEISM AND ILLNESS/INJURY ABSENTEEISM IN THE AUSTRALIAN WORKFORCE BY ALCOHOL CONSUMPTION CATEGORY

<table>
<thead>
<tr>
<th></th>
<th>Alcohol-related Absenteeism &gt; 1 day Missed</th>
<th>Illness/Injury Absenteeism &gt; 1 day Missed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Short-term Risk</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Abstainer</th>
<th>31.6%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>35.1%</td>
</tr>
<tr>
<td>Low Risk</td>
<td>0.8%</td>
<td>40.9%</td>
</tr>
<tr>
<td>Yearly Risky</td>
<td>2.5%</td>
<td>48.1%</td>
</tr>
<tr>
<td>Yearly High Risk</td>
<td>3.5%</td>
<td>46.5%</td>
</tr>
<tr>
<td>Monthly Risky</td>
<td>5.9%</td>
<td>50.8%</td>
</tr>
<tr>
<td>Monthly High Risk</td>
<td>10.0%</td>
<td>44.0%</td>
</tr>
<tr>
<td>Weekly Risky</td>
<td>12.6%</td>
<td>54.6%</td>
</tr>
<tr>
<td>Weekly High Risk</td>
<td>24.3%</td>
<td>39.7%</td>
</tr>
</tbody>
</table>

|                    | Total 3.5%       | 39.7%          |

<table>
<thead>
<tr>
<th></th>
<th>Long-term Risk</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstainer</td>
<td>0%</td>
<td>31.6%</td>
</tr>
<tr>
<td>Low Risk</td>
<td>2.6%</td>
<td>39.9%</td>
</tr>
<tr>
<td>Risky</td>
<td>11.5%</td>
<td>44.7%</td>
</tr>
<tr>
<td>High Risk</td>
<td>18.4%</td>
<td>43.3%</td>
</tr>
</tbody>
</table>

|                    | Total 3.5%       | 39.7%                                     |

Source: Roche & Pidd, 2006
responds overall to stimuli. Approximately 20.0 to 25.0% of occupational accidents and injuries are alcohol-related and in some instances, such as the Exxon Valdez oil spill, the repercussions are felt worldwide and decades later (International Center for Alcohol Policies, 2011).

Blood alcohol levels (BAC) show how and at what levels alcohol affects the human body (University of Rochester, 2011). In addition, BACs provide a greater understanding of how and why employees under the influence of alcohol are twice as likely to be involved in or cause workplace injuries, accidents, and fatalities (Figure 2.7). In 2004, there were an estimated 3.4 million occupational injuries (5,702 deaths) in the U.S. requiring emergency room admissions; this equals approximately 2.5 admissions for every 100 full-time employees, and of these admissions, 35.0% were alcohol-related (CDC, 2007).

**Alcohol Use/Abuse Impact on the Workforce**

Alcohol use in the workplace affects job performance and workplace behavior. Roman and Blum (2002) identified the following job performance changes associated with alcohol use:

- Lack of focus and decreased concentration,
- Decreased productivity,
- Increased absenteeism and/or presenteeism,
- Increased errors,
- Increased risky behavior,
- Extended breaks and/or lunch break,
- Decreased or varying quality of produced products, and
- Decreased safety for oneself and co-workers.

In addition, the following workplace behavior changes due to alcohol use were identified:
FIGURE 2.7
BLOOD ALCOHOL LEVELS ASSOCIATED WITH PHYSICAL AND MENTAL IMPAIRMENT

BAC 50mg

Mental Impairment
~ Slurred speech
~ Unsteady gait
~ Drowsiness
~ Impaired reasoning and memory
~ Reduced perception
~ Decreased concentration

BAC 30mg

CNS Impairment
~ Decreased Cognitive Function
~ Decreased motor coordination
~ Changed sensory perception

Effects on occupational Performance
~ Decreased visual acuity and breadth of vision
~ Decreased visual clarity and focus
~ Decreased reaction time
~ Decreased sound and visual discrimination

Source: University of Rochester, 2011
• Increased overall complaints and blaming,
• Increased avoidance and alienation,
• Increased time off,
• Decline in personal appearance, and
• Theft.

Not only does alcohol use impact the workplace, it also has a direct impact on the individual employee. The WFC is directly affected with heavy alcohol use. When the family life of an employee is affected due to alcohol use, there is almost always a direct effect on the work-life as well.

Federal Laws and Regulations Regarding Alcohol in the Workplace

Drug-Free Workplace Act of 1988

In March 1989, Congress enacted the Drug-Free Workplace Act of 1988 as a part of anti-drug legislation. The Act requires all Federal grantees and some Federal contractors to document that they maintain a drug-free facility or workplace. The Act does not apply to any sub-contractors or sub-grantees. Requirements for organizations are (U.S. Department of Labor, n.d.a):

1. Publish and give a policy statement,
2. Establish a drug-free awareness program,
3. Notify employees,
4. Notify the contracting or granting agency,
5. Impose a penalty on or require satisfactory participation, and
6. Make an ongoing, good faith effort to maintain a drug-free workplace (by meeting requirements of the Act).
Although the Drug-Free Workplace Act of 1988 does not specifically spell out or list alcohol as a drug, all Federal entities are required to comply with the Act and specifically include alcohol as part of their employee Drug-Free Workplace Policy.

Outside of Federal employers and any contractors required by law to maintain a drug-free workplace, the majority of U.S. employers are not required maintain a drug-free workplace or drug test their employees. Although many states grant the legal right to employers to drug test employees, there are many states and local governments that prohibit drug testing within the workplace (U.S. Department of Transportation, 2014).

**U.S. Department of Transportation (DOT)**

The Omnibus Transportation Employee Testing Act of 1991 established comprehensive drug and alcohol testing regulations for the following DOT agencies.

1. Federal Aviation Administration – Employers and employees in the aviation industry
2. Federal Motor Carrier Safety Administration – Employers and employees in the commercial driving industry
3. Federal Railroad Administration – Employers and employees in the railroad industry
4. Federal Transit Administration – Employers and employees in the mass transit industry
5. Pipeline & Hazardous Materials Safety Administration – Employers and employees in the pipeline industry

The DOT regulations were the first to specifically require alcohol testing as well as drug testing. According to the U.S. DOT, “the regulations ensure that aircraft, trains, trucks and buses are operated in a safe and responsible manner” (2014, para 1).
CHAPTER III
WORKPLACE ALCOHOL PREVENTION PROGRAMS

The workplace is an opportune setting for the prevention and education about alcohol use disorders, since a large percentage of adults who are at risk for alcohol problems are employed (Working Partners, 2007). In 2007, approximately 30.2 million full-time adult workers were binge drinkers and 8.8 million (79.6%) were heavy drinkers (Working Partners, 2007) (Figure 3.1). Some employees may not be aware of alcohol prevention programs; therefore, primary prevention in the workplace has the potential to reach audiences including employees and employers, which benefits society as a whole (Genevieve & Bennett 2009).

Policy Development

The development of a detailed worksite alcohol and drug policy is the most significant and important step of primary prevention and in the implementation of an alcohol free program (U.S. Department of Labor, 2014).

The following questions will assist in the development of a well-tailored and individualized policy.

1. Who will be covered by the policy?
2. When will the policy apply?
3. What behavior will be prohibited?
4. Will employees be required to notify management of drug-related convictions?
5. Will the policy include searches?
6. Will the program include drug testing?
7. Who will be covered by the policy?
FIGURE 3.1
PAST MONTH HEAVY ALCOHOL USE AMONG FULL-TIME WORKERS
AGED 18 – 64, 2002 – 2004

Source: Genevieve & Bennett, 2009
8. When will the policy apply?
9. What behavior will be prohibited?
10. Will employees be required to notify management of drug-related convictions?
11. Will the policy include searches?
12. Will the program include drug testing?
13. What will the consequences be if the policy is violated?
14. Will there be Return-to-Work Agreements?
15. What type of assistance will be available?
16. How will employee confidentiality be protected?
17. Who will be responsible or enforcing the policy?
18. How will the policy be communicated to employees?

**Primary Prevention**

Primary prevention in the workplace is often overlooked, but is more cost-effective (Genevieve & Bennett, 2009). The workplace may not be viewed as a conducive site for alcohol prevention since alcohol is a legal substance, and the majority of the workforce are of drinking age and may not want to be told not to drink. However, when primary prevention is integrated in combination with health promotion and employee education, individuals are more open and receptive to change and prevention measures (Genevieve & Bennett, 2009). Incorporating health promotion and education provides workers with the skills necessary to cope more effectively rather than turn to alcohol. This creates a healthier and happier alcohol-free workplace.

**Secondary Prevention**

In the past 25 years, more workplaces have implemented intervention programs to treat alcohol and other drug abuse (AOD) with the goal of “human resource conservation” (Roman &
Blum, 2002, p. 49). While primary prevention aims to prevent problems from arising, the goal of secondary prevention is to identify, intervene, and treat existing problems. The most common form of secondary intervention used in addressing alcohol-related problems is the Employee Assistance Program (EAP).

**Employee Assistance Programs**

In the U.S., large and small companies understand the benefits and need for EAPs. In 2008, the Employee Assistance Program Association stated, “97 percent of companies employing more than 5,000 employees have existing EAPs in place and those companies with 1,001 – 5,000 employees, 75 percent have an EAP and 75 percent of those with 251 – 1,001 employees incorporate an EAP” (EAP Consultants, 2014, para 6).

The five most common categories of EAPs are (Roman & Blum, 2002):

1. Internal Company Programs – usually have accompanying on-site assistance programs with addiction providers.
2. External Programs – include the use of off-site EAP vendors and providers.
3. Integrated Programs – incorporate a combination of internal on-site and external off-site programs and providers.
4. Consortia – include a conglomeration of several companies contributing to one common EAP (usually organized through health coalitions).
5. Peer Assistance Programs – use highly trained and qualified co-workers working with EAP staff to deliver EAP services.

The goals of an EAP are 1) prevent loss of employment, 2) maintain continued career progression, and 3) have no loss of or interruption in productivity (Roman & Blum, 2002).

Essential components that should be included in an EAP are (U.S. Department of Labor, n.d.c):

- A policy statement,
- Consultation and training of supervisors and managers,
• Promotion of the program within the workplace,
• Employee EAP educational programs,
• Problem identification and interdisciplinary referral services, and
• Case management and maintenance of providers qualified in the treatment of alcohol abuse.

A correctly developed and maintained EAP should effectively manage workplace alcohol-related problems as well as educate employees on management of workplace stress and personal stressors (U.S. Department of Labor, n.d.c). According to the U.S. Department of Labor (n.d.c), effective EAPs target two areas: 1) employee job performance with a decline pattern not explained by job circumstance, and 2) employees who are aware of problems not yet affecting job performance.

There are three main routes in which employees are referred to an EAP: 1) self-referral, 2) manager referral, and 3) informal referral (U.S. Department of Labor, n.d.c). Wrich (1973) proposed the idea of self-referral, hoping to increase the credibility of the newly formed EAP.

Manager referral can be either informal or formal. Informal referrals occur without the generation of official paperwork. Most self-referrals are initially recognized and recommended by the supervisory informal referrals. Approximately 80.0% of all alcohol referrals are through informal referral, with self-referral included in the 80.0%. The additional 20.0% are initiated via formal referral (NIH, 2010).

Formal referrals are required when, through a coordinated assessment with an EAP representative, a decline in job performance is detected and the employee refuses help or denies performance problems. Referral to an EAP may be required in place of disciplinary action such
as employment termination. However, the choice remains with the employee and is never mandated, although lack of participation may result in termination.

**EAP Confidentiality**

The true success of an EAP lies strongly within a company’s ability to maintain employee confidentiality. Laws regarding employee confidentiality differ from state to state and each company must consider the following implications when designing a program (Employee Assistance Professionals Association, 2010):

1. State mandated reporting and laws,
2. Labor agreements,
3. Safety of all employees,
4. Drug testing laws and regulations,
5. Company policy, and
6. Federally mandated regulations.

A written confidentiality policy must be included within the domains of the EAP. “Program success and credibility hinge on the maintenance of confidentiality” (Employee Assistance Professionals Association, 2010, p. 21)

**Tertiary Prevention**

Alcohol dependence is a disease and should be managed as such. The goal of tertiary prevention is employee treatment, rehabilitation, maintenance, and alcohol relapse prevention, while facilitating a safe-return-to-work. Tertiary care is frequently conducted on-site within the confines of the EAP or through external sources. This type of care usually includes referral to specialists and is voluntary for the employee; however, lack of treatment may result in loss of employment.
Brun & Martel (2010) recommend that tertiary prevention include regular ongoing contact and monitoring of the employee. The follow-up should be long-term and collaborative, involving EAP personnel, supervisory personnel, union personnel (if applicable), and any external providers. Therefore, the necessary foundation for a partnership of health and well-being for the employee and employer is established (Brun & Martel, 2010). In some cases, the employee may qualify for leave under the Family Medical Leave Act. Each case should be considered and evaluated on a case-by-case basis. According to the U.S. Department of Labor (1995), any employee who meets the necessary guidelines to qualify for FMLA due to substance abuse (alcohol included) will be granted time away from work for treatment under direction of a healthcare provider.
CHAPTER IV
ROLE OF THE OCCUPATIONAL AND ENVIRONMENTAL HEALTH NURSE IN WORKPLACE ALCOHOL PREVENTION

The American Association of Occupational Health Nurses (AAOHN), the professional association for OEHNs, defines the role of the OEHN as a professional nurse in health promotion responsible for creating healthy and productive workplaces that (2012c):

- support, promote, and actively engage workers to improve their health,
- identify organizational barriers and influence changes to create a healthy organizational culture,
- identify and implement innovative ways to impact the demands of work and personal life, and
- improve energy, resilience, and productivity, which can positively impact health care costs and business success.

In addition to health promotion, the OEHN role is further defined as “maintenance of worker health, prevention of illness and injury, and protection from occupational and environmental hazards” (AAOHN, 2012c, p. 2). Using the OEHN in a proactive role to assist in company success by maintaining a healthy productive workforce is “the foundation of corporate success” (AAOHN, 2012c, p. 1).

The World Health Organization (WHO) (1999) stated, “Occupational health nurses, as the largest single group of health professionals involved in delivering health services at the workplace, have an important role to play in the workplace health management” (p. 2). Using health promotion and primary prevention strategies, the OEHN can contribute to organizational
success through increased productivity, decreased absenteeism, and decreased employee turnover by maintaining a healthy, drug and alcohol-free workplace. In addition, the OEHN can make an impact on society through decreased healthcare and disability costs with the improvement of health and rehabilitation program in the work environment (WHO, 1999).

**Scope of Practice**

The AAOHN is responsible for developing and maintaining the standards for the OEHN scope of practice. The scope of practice states that the OEHN should “collaborate with workers, employers, members of the occupational health and safety team and other professionals to: 1) identify health and safety needs, 2) prioritize interventions, 3) develop and implement interventions and programs, and 4) evaluate care and service delivery” (AAOHN, 2012d, p. 3).

**OEHN Roles**

The OEHN can function as a case manager, health promotion specialist, and educator for employees referred to the alcohol prevention program.

*Case Manager.* Case management is:

a process of coordinating comprehensive healthcare services, following illness or injury, to achieve optimum quality care delivered in a cost-effective manner. The process integrates assessment, planning, implementation, and evaluation components.

Occupational and environmental health nurses as case managers provide all or a portion of these services in addition to coordination of all care delivered. (AAOHN, 2012a, p. 1) The nurse, through expertise and clinical skills, can effectively educate employees on alcohol prevention and intervene when necessary, by initiating EAP referral.

*Health Promotion Specialist.* Workplace health promotion is seen as a “modern corporate strategy, which aims at preventing ill health at work and enhancing health promotion potential
and wellbeing in the workplace” (Page, 2011, para 8). The OEHN working with the occupational health team, using health and productivity management (HPM), can address all aspects of worker health to include alcohol prevention and intervention programs. Documented benefits resulting from workplace health promotion by an OEHN regarding alcohol awareness and education are “decreased absenteeism, reduced healthcare claims, decreased turnover, increased productivity, and increased organizational effectiveness” (WHO, 1999, p. 21).

**Educator.** The OEHN should incorporate alcohol prevention into regular employee training. Education on lifestyle changes such as exercise and proper nutrition will assist in stress reduction, healthier lifestyle choices, and in reducing risky behaviors such as drinking alcohol (Genevieve & Bennett, 2009). At the very minimum, the U.S. Department of Labor (n.d.a) recommends alcohol and drug-related education include:

- The requirements of the organizations drug-free policy,
- The prevalence of alcohol and drug abuse and their impact on the workplace,
- How to recognize poor performance related to alcohol abuse,
- Disease progression related to alcohol, and
- Available resources and assistance.

In addition, Roman & Blum (2002) recommend employee alcohol prevention education include education on off-the-job drinking, the hangover effect, and the impact of these have in the workplace.

To ensure compliance with workplace alcohol policies, the OEHN should regularly train supervisors in the basics of the organization policies and their role in implementing the policies (U.S. Department of Labor, n.d.b). According to the U.S. Department of Labor (n.d.b), supervisors should be trained in the organizations alcohol and drug-free policy, the supervisor’s
responsibility regarding the policy and how to recognize and refer employees with alcohol and drug-related job issues.

**Establishing an Alcohol and Drug-Free Workplace**

Establishing a worksite substance abuse program requires a collaborative multidisciplinary approach. The OEHN has close contact with employees (line to management) and has ample opportunity to provide education and instruction on existing workplace policies, alcohol use education, drug testing policies, and EAP opportunities. In addition, the OEHN is in the “critical role and best position to identify determinants of health and wellness” (AAOHN, 2012c, p. 2), while assisting in the development of lifestyle changes and aligning the program for organizational success.

Because of the occupational health nurses close association with the workers, and knowledge and experience in the working environment, they are in a good position to identify early changes in working practices, identify workers concerns over health and safety, and by presenting these to management in an independent objective manner can be the catalyst for changes in the workplace that lead to primary prevention. (WHO, 1999, p. 30)

**The Nursing Process**

The American Nurses Association (ANA) (2014) explains how nurses, regardless of specialty, can and should use the nursing process to deliver care. “The common thread uniting different types of nurses who work in varied areas is the nursing process-the essential core of practice for the registered nurse to deliver holistic, patient-focused care” (ANA, 2014, p. 1).

Five steps are involved in the nursing process (AAOHN, 2012d; ANA, 2014):
1. Assessment – data collection based on psychological, sociocultural, physiological, spiritual, economic and health status of the client.

2. Diagnosis – analysis of assessment data for diagnosis formulation.

3. Outcomes/planning – comprehensive short-term and long-term goals based on assessment and diagnosis, specific to client(s).

4. Implementation – implemented interventions to attain desired outcomes identified in outcome goals.

5. Evaluation – systematic and continuous evaluation of intervention responses and progress toward desired outcomes.

The OEHN is the key to success through a comprehensive multidisciplinary approach of occupational and environment health programs that use the nursing process. The OEHN promotes “better worker health, decreases health-related costs, improves employee moral, increases productivity, decreases absenteeism, and facilitates continuity of care” (AAOHN, 2012b, p. 1). “By using the nursing process, the nurse contributes to workplace health management and by so doing helps to improve the health of the working population at the enterprise level” (WHO, 1999, p. 31).

Assessment/Diagnosis. Assessment is the first step of the nursing process. Each organization is different so the approach to alcohol prevention will be unique to that setting. The OEHN should perform a review of current workplace policies, programs, services, and benefits available to employees and their dependents (CDC, 2013a). Investigation and analysis of trends in illness and injury is imperative to promote worker health and safety and determine correct methods for health promotion (AAOHN, 2012b). The OEHN “has a prominent role in assessing the needs of individual and groups, and has the ability to analyze, interpret, plan and implement
strategies to achieve specific goals” (WHO, 1999, p. 31). A workplace assessment provides an overall picture of what alcohol policies and programs exist, the available resources, the needs of the population, and what can be improved (CDC, 2013a).

Methods to assist in data collection in the assessment phase are site visits, employee surveys, healthcare benefits and claims, as well as time and attendance records. Areas requiring evaluation can be divided into 4 sections: 1) workplace customs and practices, 2) workplace conditions, 3) external factors, and 4) workplace control factors (Australian Government, 2014). In-depth and complete data collection and assessment will assist in the success the alcohol prevention program (CDC, 2013a).

Outcomes/Planning. Once the assessment is complete and data analyzed, the OEHN begins the planning phase. As stated by the WHO (1999), the OEHN is in the position to oversee all health promotion and prevention programs. Planning for alcohol prevention should be interdisciplinary, build on existing programs, use available resources, and incorporate multiple educational methods meeting the needs of diverse populations (CDC, 2013b). Planning is crucial to the success of the program and the individual. “Building a program that is based on the needs of the employer and employees will put the program on solid footing and enhance participation and long-term sustainability” (CDC, 2013b, p. 1). Determining what alcohol prevention and education, health promotion, and intervention strategies will be needed should be based on accumulated data from assessment. In addition, program goals will reflect available resources and employee/employer needs based on assessment.

Implementation. Once assessment and planning are complete, the next step is implementation of alcohol prevention programs and interventions. Implementing alcohol prevention in health and productivity management (HPM) provides for prevention and early
intervention. Prevention and early intervention cost-benefit rations for alcohol and substance abuse range from 1:2 to 1:10, which means that, for every $1 spent in prevention, save $2 to $10 savings in costs associated with alcohol abuse (i.e., healthcare, criminal and justice, and lost productivity) (Miller & Hendrie, 2008).

Evaluation. Evaluation helps define and justify the value of a program and should be based on the principles of quality improvement (WHO, 1999). The OEHN should begin the evaluation process in the planning phase and build it into the alcohol prevention program. The CDC (2012b) defines program evaluation as “a systematic examination of the implementation and results of strategies and interventions with the aim of using findings to improve those actions” (para 3). The nursing process uses evaluation as a continuous/ongoing tool to determine client status and nursing care effectiveness (ANA, 2014).

Use of guiding framework will allow for an evidence-based and structured evaluation (WHO, 1999). The CDC (2012b) “framework for program evaluation”, gives six steps and four standards for the OEHN to evaluate programs (Figure 4.1). “A strong evaluation approach ensures that the following questions will be addressed as part of the evaluation so that the value of program efforts can be determined and judgments about value can be made on the basis of evidence” (CDC, 2012b, para 7).

- What will be evaluated?
- What aspects of the program will be considered when judging program performance?
- What standards or level of performance must be reached for the program to be considered successful?
- What evidence will be used to indicate how the program has performed?
FIGURE 4.1

CDC FRAMEWORK FOR PROGRAM EVALUATION

Source: CDC, 2012b
• What conclusions regarding program performance are justified by comparing the available evidence to the selected standards?
• How will the lessons learned from the inquiry be used to improve public health effectiveness?

Integration of evaluation in the planning phase helps determine the type of programs needed, available resources, what senior leaders should be involved, benchmarks, evidence for competency, and lessons learned. With guiding framework the OEHN can determine the effectiveness of in-place alcohol prevention and intervention programs.

The role of the OEHN is ever changing and developing. With improvement in practices, new research, new information, and changing workplaces and technology, the OEHN has an obligation to update knowledge, maintain competence, and deliver high quality nursing practice, while meeting the needs of the organization and employees (WHO, 1999).
CHAPTER V
CONCLUSIONS AND RECOMMENDATIONS

Alcohol abuse is a serious workplace concern. U.S. costs associated with the negative outcomes of alcohol-related problems increased 3.8% per year on average between the years of 1992 ($142 billion) and 1998 ($184.6 billion) (Genevieve & Bennett, 2009). In 2006, these costs rose to $223.5 and $420 billion in varying states (CDC, 2014a). This is more than a 50.0% increase in less than 10 years. In addition to the astronomical costs, alcohol use disorders in the workplace are associated with absenteeism, lost productivity, presenteeism, increased healthcare costs, increased employee turnover, increased rate of accidents, injuries, and even death (Gibb et al., 2011).

In the U.S., great strides are being made in occupational health prevention (alcohol included) as seen by the 2010 passing of Title IV (prevention of chronic disease and improving public health) of the Affordable Care Act. The Surgeon General, realizing the need for action and understanding the benefits of prevention, put in place the National Prevention Council action plan: Implementing a national prevention strategy. The plan “outlines the federal commitment to implementing the vision, goal, priorities and recommendations of the first ever National Prevention Strategy” (National Prevention Council, 2012, p. 1). It will assist in moving an American health system based on sickness and disease, to one based on wellness and prevention. The plan acknowledges the benefits of a strong healthy workforce, free from injury and illness, and the need for health promotion and prevention to achieve this. “The U.S. DHHS and the U.S Department of Labor undertake innovative efforts to integrate prevention into government workplaces” (National Prevention Council, 2012, p. 7). Recognizing the large percentage of time
Americans spend at work, and “as the nations largest employer, the federal government” (National Prevention Council, 2012, p. 7) the U.S. DHHS and U.S. Department of Labor implemented occupational health, wellness, and prevention in the workplace in the form of physicals, immunizations, vision, and health screening. In addition, health risk appraisals including lifestyle demographics of tobacco and alcohol use have been implemented as well (National Prevention Council, 2012).

The industry environment of occupational health is evolving and is becoming more proactive with an increased emphasis on prevention. The WHO (2014) recognized this need and saw the approaching concept in the late 1990s: “The workplace has been established as one of the priority settings for health promotion into the 21st century. The workplace directly influences the physical mental, economic and social well-being of workers and in-turn the health of the families and society” (para 1).

Employee Assistance programs are the most traditional and common intervention used in the workplace to address alcohol related problems (Roman & Blum, 2002). The goal of the EAP is to prevent the loss of employment and/or career, while preventing an interruption or decrease in employee productivity, therefore, saving both employee and employer costs associated with loss of employment. While EAPs have been shown to save far more than they cost and are effective in treating existing alcohol problems, the goal of the EAP in secondary prevention, is to treat and reduce existing problems, not prevent them from happening. Incorporating chronic disease prevention as a complement to traditional methods such as EAP, could potentially save individual states billions of dollars per year in medical costs and lost productivity (Saporta, 2013).
With organizations looking for new ways to decrease costs and increase workplace health, prevention is the solution through the investment in health programs for all workers (AAOHN, 2012c). Health promotion programs that include alcohol prevention, as a complement to EAPs using the HPM, are key. As professional healthcare providers, OEHNs are “recognized as leaders in workplace health and safety” (AAOHN, 2012c, p. 1) and are crucial to the health of an organization. Organizations are now looking to the OEHN as experts in managing not only the health of the employee, but their families and the organization itself (AAOHN, 2012a).

The OEHN plays a major role in the management of alcohol prevention in the workplace. A comprehensive worksite based alcohol education and prevention using HPM has the ability to educate the workforce, identify the at-risk employee, prevent future problems, and intervene to treat employees with existing alcohol problems. The OEHN is well prepared to develop, implement, and manage a comprehensive and successful workplace alcohol prevention program (AAOHN, 2012b). The nurse takes into account all stakeholders inside and outside the organization when planning, developing, and implementing a company alcohol prevention program (WHO, 1999). Outcomes from alcohol prevention education should result in greater employee health, improved mental health, maintained employability, reduced healthcare costs, a healthful supportive environment for all employees, improved social communication, and societal cohesion (WHO, 1999).

Addressing all aspects of health promotion and disease prevention that includes alcohol abuse creates a “culture of health” (AAOHN, 2012c, p. 1) that will assist in eliminating negative outcomes such as absenteeism and decreased productivity. Programs designed around health promotion and alcohol education may also assist in creating positive lifestyle changes that result in decreased alcohol abuse by workers. An example is using health risk appraisals that focus on a
reduction in drinking to assist in alleviating identified chronic health problems. This type of prevention program may motivate employees to change their overall drinking patterns. Roman and Blum (2002) recommended that “the nesting of alcohol issues within larger health concerns is a highly effective means of motivating behavioral change toward less risky drinking and a healthier lifestyle in general” (para 34). As part of an interdisciplinary occupational health team, OEHNs can make a significant contribution in attaining and maintaining this type of culture. The resulting benefits are seen in the economic health of the organization, the health of the employee population, and in the overall increased economy of a society (WHO, 1999).

With a country now focused on prevention and wellness, the OEHN is in the ideal position to educate organizations on the benefits of prevention in the workplace. An alcohol-free workplace supports increased productivity, profitability, employee morale, and retention. The OEHN as a case manager, health promotion specialist, and educator holds the key to success and no other health professional is more qualified and competent to fill this role.
REFERENCES


