Sandra grew up in a nice neighborhood, attended a private school, and graduated from college. She had been dabbling in drugs since high school but did not discover heroin until her senior year in college. After graduation, she relocated to a fast-paced city just to be close to drug activity. She obtained a good job but lost it within a year due to absences and poor performance. When she discovered that she was pregnant, she began a methadone program and entered a sober home, but relapsed anyway. To avoid another relapse, she entered a residential program which was effective, along with the methadone maintenance, in controlling her illicit drug use. Still, Sandra feels she has lost so much of what she valued and she is worried about maintaining abstinence and providing for her baby when she leaves the hospital.

At 28 weeks pregnant, Tiffany presents to a neighborhood health clinic with cramps. She has not started prenatal care and has a 3-year-old with her. The fathers of both children are in prison. Tiffany smokes 2 packs of cigarettes daily, drinks a six-pack of beer several times a week, and occasionally uses cocaine. She grew up in foster care and has never had a fixed address.

Josh is seven days old and weighs 5 pounds. He’s in the neonatal care unit experiencing the symptoms of opioid withdrawal. His mother, Mary, followed her doctor’s advice and took methadone during her pregnancy instead of continuing heroin use. Now Josh must be weaned from the methadone. Mary understands his pain. Still, hearing his high-pitched cries is agonizing. Josh is swaddled and held in a spot with dim lights and gentle music.

Della started abusing prescription pain medication and smoking marijuana in her teen years. She still functioned and was employed. She quit illicit drug use during her first pregnancy. She relapsed and later discovered that she was pregnant again. This time, she could not quit.

Substance use in pregnancy can cause medical complications depending on how substances are administered. Pregnant women who abuse substances, including legal substances such as alcohol and nicotine, have a greater-than-normal risk of medical complications. These women should be monitored regularly for signs of anemia, poor nutrition, increased blood pressure, hyperglycemia, sexually transmitted diseases, hepatitis, and preeclampsia. Infections such as Hepatitis B and C, tetanus, and cellulitis can be profoundly harmful to both women and their fetuses, especially if unrecognized and untreated (Treatment Improvement Protocol Series, No. 43).

Illicit drug use in the United States is increasing, according to the National Institute on Drug Abuse (2015). In 2013, an estimated 24.6 million Americans aged 12 or older—about 9.4% of the population—used an illicit drug within the past month. In 2003, the percentage was 8.3. The increase is mainly due to increased use of marijuana (19.8 million users—about 7.5% of those over age 12 compared to 14.5 million or 5.8% in 2007).

Legal substances also impact pregnancy. Alcohol is a widely-used substance by women of child-bearing age. In a national sample, 17.9% of pregnant women were found to drink alcohol during the first trimester of pregnancy. The numbers drop to 4.2% in the second trimester and 3.7% in the third trimester (SAMHSA, 2013). Over 20% of the population smokes cigarettes. In a national sample, 18.9% of pregnant women were smoking cigarettes (Havens et al., 2009). Legally-prescribed substances and medications can be misused or, even if taken as prescribed, may affect the developing fetus.

Substance use in pregnancy has also changed over the past three decades. The incidence is believed to be increasing and the substances used also change (Keegan et al., 2010). Each year in the United States, an estimated 400,000 to 440,000 infants (10-11% of all births) are affected by prenatal alcohol or illicit drug exposure (National Center on Substance Abuse and Child Welfare). According to Young and Gardner (2007), more than 7 million children and youth under age 18 have been exposed prenatally if nicotine and alcohol are included along with use of illicit substances and misuse of prescription medications. Most are not detected at birth and leave the hospital without any follow-up or services.

About half of pregnancies in the United States are unintended. Women who abuse substances are at even higher risk of continued on page 2
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unintended pregnancies (Grant et al., 2014). Women who don’t plan on pregnancy may be using alcohol or other substances during the early months of pregnancy without realizing they are pregnant. The majority of women stop risky behaviors and substance use as soon as they learn they are pregnant. Women who continue to use may be undetected about the negative effects of substances on the fetus or they may be addicted and unable to quit use without additional support and treatment (Virginia Department of Behavioral Health & Developmental Services, 2014). Pregnant women who are unemployed, unmarried and experiencing current psychopathology are at greater risk of continued use of substances (Havens et al., 2009).

In 2012, the substance used by the largest number of pregnant women was tobacco, followed by alcohol and then illicit drugs (National Center on Substance Abuse and Child Welfare). Changes in the type of substances used by pregnant women have been noted. The 2010 National Survey on Drug Use and Health found decreasing numbers of pregnant women abusing alcohol while drug abuse increased (Virginia Department of Health, Office of the Chief Medical Examiner, 2015). A 2013 report by SAMHSA on trends in substance use among women pregnant at treatment entry documented a decrease in alcohol use (from 46.6% in 2000 to 34.8% in 2010) while the percentage reporting drug abuse but not alcohol abuse increased from 51.1% in 2000 to 63.8% in 2010. Non-pregnant women showed a similar pattern.

Determining effects of substance use during pregnancy use is complicated. Women who use one substance only may be less frequent than women who combine use of several substances. For example, women who use opiates are likely to also use tobacco, alcohol, and cocaine, all of which also have potentially negative effects on the fetus. For women who use cocaine, the majority also use alcohol, tobacco and marijuana. Sometimes one substance is mixed with another. For example, heroin may contain amphetamine. Intravenous drug use is becoming more common and has additional risk factors, for example infections such as cellulitis and HIV which further complicate pregnancy (Keegans et al., 2010; Shankaran et al., 2004). Maternal nutrition and health status affect the developing fetus and interact with substance use as women who are abusing substances may have nutritional deficiencies (Huestis & Choo, 2002).

Substance use is associated with a number of other factors that can negatively affect maternal prenatal care. Mothers who use substances have been found to be more likely to have no partner, receive Medicaid, have lower SES, and have less education than abstainers. Substance-using women may start prenatal care later and attend a lower percentage of prenatal visits (Nguyen et al., 2010).

Exposure to substances in utero can affect individuals across the lifespan (National Institute on Drug Abuse, 2011). Estimating the full extent of the consequences of maternal drug abuse is difficult for many reasons. According to the Centers for Disease Control (2014), little is known about the use of most medications during pregnancy. Less is known about use of illicit substances. Factors that can determine the effects include: dose (how much is taken); when during the pregnancy the substance is taken; the mother’s other health conditions; and other substances taken or used. As noted above, multiple individual, family, and environmental factors (including but not limited to nutritional status; when prenatal care was begun; socioeconomic conditions) can make it difficult to tease out the effects of substances. Conversely, some effects from drug exposure are believed to be mitigated by positive and supportive home environments and quality parenting.

Even with challenges, there is some consensus about some of the possible effects of substance use in pregnancy. The projected effects can differ by the type of substance, so the next sections will discuss findings about a particular substance or class of substances.

Opides

Opiates include morphine, codeine, heroin, methadone, fentanyl, oxycodone, and hydromorphone. The principal action of opioid drugs is pain relief but euphoria and dissociation can also occur, promoting recreational use. Common side effects include sedation, respiratory depression and constipation. Use of opiates is linked to increased risk of serious infectious diseases, especially if used intravenously. Individuals addicted to prescription opioid pain relievers sometimes switch to heroin because it produces similar effects and may be cheaper and easier to obtain (Mactier, 2013; National Institute of Drug Abuse).

According to a review by Wilder, Lewis & Winhusen (2015), the percentage of pregnant women who use opioid drugs has tripled in the ten years between 2002 and 2012 with 1.2% of all pregnant women reporting opioid use in 2012. Certain subgroups appear to be at higher risk. For example, a Canadian study (Kelly et al., 2011) found 17.2% of neonates in their study of First Nations population in Ontario were exposed to narcotics. According to Winklbaur et al. (2008), for illicit drug use in pregnancy, opiates use is the second only to marijuana use and is almost four times greater than use of cocaine.

Opiate-abusing mothers tend to have decreased health and poor nutrition, are less likely to obtain adequate prenatal care, and are likely to abuse other substances (CRC Health Group, 2016). Poor obstetric outcomes such as pregnancy complications, spontaneous abortions and premature labor can be up to six times higher (600% increase) if the mother is abusing opiates (CRC Health Group, 2016; studies reviewed in Holbrook & Nguyen, 2015; Keegan et al., 2010). For those using illicit intravenous heroin, risk of medical complications such as infectious diseases, abscesses and sexually transmitted diseases are increased (Winklbaur et al., 2008).

Of the opiates, heroin has been the most frequently studied substance. It crosses the placenta readily and enters fetal tissues within an hour of maternal use. According to a National Public radio report (Tribble, 2016) a baby is born with Neonatal Abstinence Syndrome in the United States every 25 minutes. Others offer a slightly higher figure of 27,000 cases in 2013 (Wilson & Shiffman, 2015).

Neonatal Abstinence Syndrome (NAS) refers to situations in which newborns experience a constellation of drug withdrawal symptoms shortly after birth due to drug exposure in utero. According to Newman (2013), it is important to note that no baby can be born “addicted” and physiologic dependence is different than addiction. Addiction is a technical term that refers to compulsive behaviors that continue in spite of adverse consequences.

NAS is not inevitable if a woman is using opiates. Studies cited in Keegan et al. (2010) and by Mactier (2013) show between 45% and 97% of infants exposed to heroin or to methadone maintenance will develop NAS. Similar estimates are cited by the National Center on Substance Abuse and Child Welfare (2012) and by Bandstra et al. (2010). NAS can also be worsened by poly-substance use or smoking cigarettes (Jansson et al., 2012; Mactier, 2013). For example,
children who were opiate-exposed (Choo et al., 2004).

NAS is diagnosable and treatable. Symptoms of NAS can begin within 1 to 3 days after birth or may take 5-10 days to appear. Babies who are born to opiate-abusing mothers can be very irritable with a high-pitched cry, sneezing, restlessness and poor sleep patterns. They have lower birth weights, diarrhea, tremors, and weight loss. Feeding can be affected with frantic sucking. A smaller number of babies can be much quieter with a reluctant feeding pattern (Mactier, 2013). They are at greater risk of sudden infant death syndrome (SIDS).

Sometimes, an infant’s withdrawal from opiates may be managed by simple measures such as swaddling, rocking, and minimizing environmental stimulation (Mactier, 2013). However, treatment for NAS, a more extreme form of withdrawal, can be expensive. According to sources cited by the National Center on Substance Abuse and Child Welfare in 2009 the mean length of stay for infants with NAS was 16.1 days at an average cost of $53,000. Some infants may need as long as 10 weeks in intensive care (Bhuvaneswar et al., 2008).

Breastfeeding can reduce the severity of NAS and shorten the hospital stay (Mactier, 2013). Mothers are encouraged to breastfeed, even though that option can be challenging due to symptoms of NAS such as uncoordinated sucking of the baby. Unless there are contraindications such as continued concomitant drug abuse, HIV positivity or use of certain psychoactive medications, the American Academy of Pediatrics recommends that mothers in Medication Assisted Treatment (MAT) be encouraged to breastfeed. The evidence suggests that only low levels of methadone or buprenorphine are transmitted to infants in breast milk (Holbrook & Nguyen, 2015).

There is limited and conflicting data about longer-term effects of prenatal exposure to opioid drugs. There appears to be no evidence of congenital malformations (Bandstra et al., 2010). Some sources indicate that infants may lag developmentally during the first year but are thought to have normal development thereafter (CRC Health Group, 2016). According to the National Center on Substance Abuse and Child Welfare, several studies that have followed infants through age 5 have found that cognitive development in NAS infants is within expected ranges. However, some analyses (studies cited in Mactier, 2013) suggested risk of cognitive and motor delay persisting at least to preschool years. For example, Hunt, Tzioumi, Collins and Jeffery (2008) found children who were opiate-exposed were more likely to have neuro-developmental impairments at 18 months and 3 years of age. The review by Holbrook & Nguyen (2015) found lower cognitive and language functioning, but no differences in execution of motor and sensory tasks.

Opioid-dependent women who are pregnant can be helped by methadone maintenance or buprenorphine treatment. It is considered safe for the baby, keeps the mother free of withdrawal and offers an opportunity for the pregnant woman to take care of herself, and is shown to reduce risk-taking and criminal behavior. Higher doses of methadone may reduce illicit opiate abuse and possibly reduce use of other substances (Ehber et al., 2007; Davie-Gray et al., 2013; Mactier, 2013).

Methadone is currently the only medication approved for the addiction treatment of pregnant women who are dependent upon opiates (CRC Health Group, 2016). Methadone is a long-lasting and stable opiate that keeps blood serum levels at a constant level throughout the day. This stability keeps the fetus from experiencing withdrawal discomfort and therefore reduces stress on the fetus (CRC Health Group, 2016). Women who participate in MAT are more likely to receive appropriate prenatal care and are more likely to maintain a healthy lifestyle (CRC Health Group, 2016). Opioid therapy is associated with longer gestation and higher infant birth weight (Bandstra et al., 2010; studies cited in Gopman, 2014) and significantly decreases the risk of spontaneous abortion (Holbrook & Nguyen, 2015).

Withdrawal from methadone is viewed as rarely appropriate during pregnancy. Withdrawal during pregnancy is associated with worse outcomes for the fetus overall (Bhuvaneswar et al., 2008; Wilder et al., 2015). Further, aggressive withdrawal could lead to intrauterine fetal death and miscarriage (CRC Health Group, 2016; studies cited in Keegan et al., 2010).

Buprenorphine (Subutex or Suboxone) treatment has also been used effectively to treat opiate addiction in pregnant women (Newman, 2013). Large double-blind placebo-controlled trials of buprenorphine in general populations of addicts have shown reductions in opiate use comparable to use of methadone but with fewer withdrawal symptoms on discontinuation (McLellan et al., 2000). In one study (Jones et al., 2010), neonates exposed to buprenorphine required significantly less morphine, had a significantly shorter duration of treatment for NAS and required a shorter hospital stay compared to neonates exposed to methadone.

Preliminary studies of buprenorphine during pregnancy have shown the medication to be safe and effective for both mother and child. However, studies are not yet at a point where the U.S. Food and Drug Administration (FDA) will recommend buprenorphine. A doctor may choose to prescribe it if methadone is not available or the woman cannot tolerate methadone, if the woman is already taking buprenorphine or if the woman refuses methadone.

Because MAT has such strong evidence for improved treatment outcomes, retaining pregnant women in MAT is perceived as critical (Wilder et al., 2015). One challenge in offering MAT is a limited number of clinics that accept Medicaid (nationwide, 35% of clinics do not). Stressors increase after the birth of a child. Coping with the needs of an infant, often with limited family support, as well as managing increased financial and time constraints all are thought to contribute to treatment drop-out for new mothers (Wilder et al., 2015).
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An additional significant risk for pregnant women who are addicted to opioid drugs is the effects of tobacco. Akerman et al. (2015) report that 88 to 95% of pregnant women receiving MAT for opioid use also smoke cigarettes. This compares to a rate of 8 to 16% reported in the general population of pregnant women (see below). The negative effects from smoking, according to Akerman et al. are potentially more severe than the effects associated with opioid use.

Pregnant women dependent on opioid drugs require careful treatment to minimize harm to the fetus and neonate and improve maternal health. Applying multi-disciplinary treatment as early as possible, allowing medication maintenance and regular monitoring all can benefit mother and child (Davie-Gray et al., 2013; Winklbaur et al., 2008).

It is believed that many cases or even the majority of cases are not reported to child protective services. Mothers who are struggling with addiction may be unable to care properly for infants (Wilson & Shiffman, 2015). The transition into parenthood can be difficult (Davie-Gray et al., 2013) and some end in tragedy. For example, Reuters identified 110 cases between 2010 and 2015 where babies of mothers addicted to opioid drugs died preventable deaths (Wilson & Shiffman).

Marijuana

Marijuana is the most commonly abused illegal substance. The psychoactive substance is derived from the cannabis plant or created synthetically. The psychoactive ingredient (THC) induces a state of euphoria and relaxation (Mactier, 2013). According to the National Institute on Drug Abuse, marijuana impairs short-term memory and learning, the ability to focus attention, and coordination. The drug also increases heart rate, can harm the lungs, and can increase the risk of psychosis in those with underlying vulnerability.

Studies indicated that 3% to 16% of all pregnant women use marijuana (studies cited in Keegan et al., 2010). More recent data from the 2007-2012 National Surveys on Drug Use and Health (NSDUH) shows 3.9% of pregnant women used marijuana within the past month and an additional 7.0% of pregnant women had used within the past year. More than 1 in 10 pregnant women reported marijuana use in the past 12 months. A considerable percentage of those who used marijuana (16.2%) reported daily use and 18.1% of users met criteria for abuse or dependence (cited in Ko et al., 2015).

It is hard to separate potential effects of marijuana as users frequently use other illicit drugs. Marijuana is not a pure substance and it varies in potency. Over 400 chemicals and substances have been found to be mixed into marijuana (Keegan et al., 2010). Women who are likely to continue to use marijuana while pregnant are younger, have higher levels of depression, and are more likely to also smoke cigarettes and use alcohol. They also continue to use marijuana when parenting children (National Institute of Drug Abuse, 2015).

According to studies reviewed by Keegan et al. (2010) there is no known increase in pregnancy complications due to marijuana and there are no known increases in the risk of congenital abnormalities, although there may be fetal growth restriction as well as withdrawal symptoms in the baby. However, Jaques et al. (2014) reviewed the literature and concluded that cannabis may adversely affect the infant’s neurodevelopment, especially during periods of critical brain growth. A review by Huizink (2014) noted inconsistent findings but concluded there were negative effects on fetal growth and there may be subtle effects on specific cognitive and behavioral outcomes as well as executive functioning in adolescence. The National Institute on Drug Abuse (2011) information notes that effects on the baby can be subtle, but include low birth weight and impaired attention, language, and learning abilities, as well as behavioral problems. Low birth weight and growth restriction (which is associated with many other problems) has been a consistent finding for fetal exposure to cannabis/marijuana (Hurd et al., 2005; Marroun et al., 2009).

According to Budney et al. (2007) seven published, randomized efficacy trials for primary adult marijuana dependence have demonstrated that outpatient treatments can reduce consumption and engender abstinence. Interventions that integrate MET (motivational enhancement therapy), CBT (cognitive-behavioral therapy) and CM (contingency management) were felt most likely to produce positive outcomes.

Benzodiazepines

Benzodiazepines are a type of medication commonly known as tranquilizers. Familiar names include Valium and Xanax. Benzodiazepines are some of the most frequently prescribed medications in the United States and are used to treat conditions such as anxiety and insomnia (Nordqvist, 2016). Abuse of benzodiazepines is becoming a serious public health issue (Nordqvist, 2016). Abusers are at risk for fatal overdose, confusion, slurred speech, seizures, severe drowsiness and weakness. Use of benzodiazepines is often complicated by use in combination with other drugs (Ogbru & Marks, 2016).

While dated, Arria et al. (2005) found that less than 1.0% of their sample of 1,632 pregnant women used benzodiazepines. However, Leppee et al. (2011) found Diazepam ranked second among twenty most frequently prescribed drugs in pregnancy. The risks for use in pregnancy include multiple anomalies including cleft lip and palate, fetal growth restriction, and intrauterine fetal death (Bhuvaneswar et al., 2008; Keegan et al., 2010; Leppee et al., 2010). There are risks for discontinuation during pregnancy including withdrawal symptoms and recurrence of depression (Leppee et al.).

Amphetamines/Methamphetamine

According to the National Institute on Drug Abuse (2011), amphetamines are powerful and addictive CNS stimulants that increase wakefulness and focus and can produce euphoria. The drug can cause high body temperature and lead to serious heart problems and seizures. Methamphetamine (or “crystal meth”) is a derivative. Its effects are particularly long-lasting and harmful to the brain. The drug produces abnormal brain chemistry in all areas of the brain and can permanently change and damage blood vessels in the brain (Otero, Boles, Young & Dennis, 2006). Adderall, a treatment for attention-deficit disorder is used frequently by women
of reproductive age. Amphetamine use is associated with risky sexual behaviors, teen pregnancy, and increased risk of sexually-transmitted infections (Keegan et al., 2010). A 2005 study (Arria et al.) found that 5.2% of their sample of 1,632 pregnant women used methamphetamine.

The effects of methamphetamine use during pregnancy have been less well-studied than the effects of opiates, alcohol or cocaine. In addition, women who use methamphetamines frequently use tobacco, alcohol and other drugs (Committee for Healthcare of Underserved Women, 2011). According to the National Institute on Drug Abuse (2011), methamphetamine exposure in utero has been associated with fetal growth restriction, decreased arousal, and poor quality of movement in infants. For example, Smith et al. (2006) found infants who had been exposed to methamphetamine were 3.5 times more likely to be small for gestational age. There are case studies suggesting an association of amphetamine use with congenital abnormalities but consistent increase above population risk has not been shown (Keegan et al., 2010). A matched case prospective study of 330 children (LaGasse et al., 2012) identified behavioral problems at age 5 associated with prenatal methamphetamine exposure.

Mothers using amphetamines should be encouraged to stop as there are no detrimental effects associated with discontinued use in pregnancy. Frequent ultrasounds are suggested to monitor fetal growth (Keegan et al., 2010). Mothers who are actively using methamphetamine should not breastfeed, as amphetamines purchased illegally often contain a mixture of substances with unpredictable harmful effects on both the woman and her infant (Committee for Healthcare of Underserved Women, 2011).

Thus far, pharmacologic treatments have not been effective in helping persons discontinue use of methamphetamines. The American College of Obstetricians and Gynecologists (2011) recommends women seek treatment voluntarily at a residential center. If outpatient treatment is used, starting with three to five visits a week and continuing treatment for 90 days is recommended. The Matrix Model which includes behavioral therapy, family education, individual counseling, 12-step support, and drug testing is recommended along with Contingency Management interventions.

Cocaine

Cocaine is a short-acting stimulant which can cause users to take the drug many times in a short time period. Cocaine use can lead to severe medical consequences related to the heart, respiratory, nervous and digestive systems (National Institute on Drug Abuse, 2011). Following cocaine use, there is a 2-hour “high” and then a characteristic “crash” with irritability, discomfort, and depression. This state leads to craving of the next “dose” which becomes the physiologic priority for the user. “Crack” cocaine delivers in one dose at least 10 times the amount of cocaine present in a “line” or a “hit.” Use of cocaine can result in migraine headaches and pulmonary problems (Bhuvaneswar et al., 2008).

Cocaine use has decreased in the last few years. Whereas there were over 2 million users between 2002 and 2007, in 2013 the numbers had dropped to 1.5 million (National Institute on Drug Abuse, 2015). VCPN staff did not find recent estimates of cocaine use during pregnancy.

Cocaine rapidly crosses the placenta and higher concentrations occur in the fetus. Maternal use of cocaine results in direct toxic effects upon the fetal heart, brain chemistry and blood vessels (Mactier, 2013). Cocaine use in pregnancy can lead to spontaneous abortion, preterm births, placental abruption, maternal seizures, and congenital abnormalities (Bhuvaneswar et al., 2008; Keegan et al., 2010). Birth weight is significantly affected by the mother’s cocaine use, as is head size (Shankaran et al., 2007). For example, Bauer et al. (2005) found on average that cocaine-exposed infants in their sample were born 1.2 weeks earlier, weighed 536g less, measured 2.6 cm shorter, and had head circumferences 1.5 cm smaller than non-exposed infants.

It should be noted that published studies in the 1980’s and 1990’s included case reports and small samples. These early studies suggested devastating conditions and congenital anomalies of the brain and other organs, hemorrhages and SIDS. Subsequent larger, better-designed studies have not confirmed these outcomes (Bandstra et al., 2010). However, later studies have begun to document modest decrements in overall neurobehavioral function rather than a specific pattern of deficits. The impact of these deficits on later functioning is unclear (Bandstra et al.).

According to reviews by Porter and Porter (2004) and by Keegan et al. (2010), cocaine-exposed babies can be lethargic, unresponsive and disorganized in their sleeping and feeding patterns, and have seizures. They are also prone to over-stimulation and irritability. Studies of babies as they mature suggest that areas of the brain that regulate attention and executive functioning may be vulnerable to effects of cocaine exposure. Regulatory functions such as arousal, sustaining attention and response inhibition may be adversely affected by prenatal cocaine exposure (Behnke et al., 2013; Sheinkopf et al., 2009; Schuetze, Eiden & Coles, 2007) as well as behavioral problems through at least age 7 (Bada et al., 2007). Studies of...
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adolescents who were exposed to cocaine prenatally have shown higher rates of tobacco, alcohol, marijuana and other drug use than non-exposed adolescents (Minnes et al., 2014).

Additionally, use of cocaine is associated with inadequate prenatal care and frequent concomitant use of tobacco and alcohol. Cocaine use may be accompanied by poverty, poor nutrition, stress, depression, lack of social support and sexually-transmitted infections (Bhuvaneswar et al., 2008; Keegan et al., 2010). Continued cocaine use following delivery has been related to insensitivity and negative parenting behaviors. Mothers may be less sensitive and stimulating and more likely to disengage and terminate feeding sessions and be impaired in play sessions. Viewing prenatal cocaine exposure through the lens of cumulative risk that includes negative impact on parenting behaviors may offer a useful conceptualization (Bandstra et al., 2010).

Studies cited in McLellan et al. (2000) show that treating pregnant women who are using cocaine resulted in higher birth weights of babies, fewer infants requiring intensive care, and considerable cost savings. Mothers should not use stimulant drugs while breastfeeding (Mactier, 2013).

Alcohol use can damage the brain and most body organs. Areas of the brain most likely affected are those controlling problem-solving and decision-making, memory and learning, and movement coordination (National Institute on Drug Abuse, 2011).

Alcohol use is one of the most widely abused substances during pregnancy. In their reproductive years, more than 50% of American women use alcohol (Keegan et al., 2010). Women may not realize a pregnancy has occurred and continue alcohol use. Between 45% and 70% of women who quit smoking during pregnancy relapse within one year after delivery (American College of Obstetricians and Gynecologists, 2011).

One study suggested that contingency management (offering incentives for quitting) was most effective for women also addicted to narcotics with 31% achieving abstinence within 12 weeks compared to 0% in a non-contingent incentive group (Akerma et al., 2015).

Much is known about who is at risk to continue smoking throughout the pregnancy. Smoking rates are higher for women with less than a high school education, who initiate prenatal care later or not at all, who receive Medicaid insurance and who receive WIC benefits (Curtin & Mathews, 2014). Women in these categories merit additional attention and support. Also, attention needs to be paid to postpartum relapse. Between 45% and 70% of women who quit smoking during pregnancy relapse within one year after delivery (American College of Obstetricians and Gynecologists, 2011).
drinking (studies reviewed in Haug et al., 2014; SAMHSA, 2014). The development of all fetal organ systems can be affected by alcohol in the early stages of pregnancy (Keegan et al., 2010). No level of alcohol use is safe (U.S. Department of Health and Human Services, 2012).

Alcohol is a teratogen and its effects include spontaneous abortion, growth restriction, birth defects, brain damage and intellectual disability. For example, mothers who consumed alcohol while pregnant were 40% more likely to experience stillbirth compared with nondrinking mothers (Aliyu et al., 2008). Persons dependent on alcohol have a relatively low intake of proteins, essential fats, vitamins and minerals. Deficiencies of nutrients may be a factor in alcohol-related effects on the fetus (Institute of Medicine Committee on Nutritional Status During Pregnancy and Lactation, 1990).

When pregnant mothers drink alcohol, the effects on children may be life-long and include physical, mental, behavioral, and learning disabilities. Babies may be born small, have problems eating and sleeping, show difficulty with seeing and hearing, and have trouble paying attention and learning. They may have facial deformities and defects of the heart, kidneys and liver. There can be dental abnormalities and skeletal defects. Children with Fetal Alcohol Syndrome (FAS) may need special teachers and schools and need additional medical care throughout their lives (Keegan et al., 2010; SAMHSA, 2014; U.S. Department of Health and Human Services, 2007; 2012).

After more than 35 years of research, there is consensus that prenatal alcohol exposure is responsible not only for FAS but also for a spectrum of disorders. Criteria for FAS include: 1) growth deficiency manifested by small overall height and small head size; 2) central nervous system disorders including intellectual deficiency, and 3) a distinct pattern of abnormal facial features. FAS can be characterized by facial malformations, growth deficits, and developmental problems. Fetal Alcohol Spectrum Disorders (FASD) describes the spectrum of physical, mental, behavioral, and cognitive disabilities that can result from prenatal alcohol exposure. Children with lesser impairments might exhibit learning disabilities, poor impulse control, memory problems, and poor attention and concentration (U. S. Department of Health and Human Services, 2009).

The prevalence of FAS is estimated at 2 to 7 cases per thousand and the prevalence of FASD may be as high as 20-50 cases per 1,000 children. Both FAS and FASD have lifelong health consequences. In many cases people with FASD or FAS need lifelong assistance. They experience co-morbid disorders at much higher rates (sometimes as much as a hundred times higher) than the

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**Resources**

**A Guide for Hospitals and Health Care Providers Perinatal Substance Use: Promoting Healthy Outcomes**

Virginia Department of Social Services  
801 E. Main Street  
Richmond, Virginia 23219  
(804) 726-7555


The Perinatal Substance Use: Promoting Healthy Outcomes pamphlet was created to explain the Code of Virginia that promotes healthy maternal and infant outcomes. The Code of Virginia established new screening and reporting requirements for health care providers and hospitals. The brochure highlights legal requirements and implications, as well as topics to educate patients on how to reduce substance use during pregnancy. Health care providers can improve maternal and infant outcomes by providing prenatal education on: regular prenatal care, nutrition, and prevention of sexually transmitted infections (STI) and human immunodeficiency viruses (HIV). Additionally, the brochure offers information on the effects of substance use on fetal development and provides substance use screening, brief intervention, referral for substance abuse evaluation/treatment. State and internet resources are also identified.

**Opioid Overdose Prevention Toolkit**

The Association of State and Territorial Health Officials, in cooperation with Public Health Research Solutions, and U.S. Department of Health and Human Services (HHS), 23 pages.

Substance Abuse and Mental Health Services Administration  
5600 Fishers Lane  
Rockville, MD 20857  
(877) 726-4727 (Publication Inquiries)

Available at: [https://store.samhsa.gov/shin/content/SMA13-4742/Overdose_Toolkit_2014_Jan.pdf](https://store.samhsa.gov/shin/content/SMA13-4742/Overdose_Toolkit_2014_Jan.pdf)

SAMHSA’s Toolkit for opioid overdose prevention addresses precautions and procedures to reduce the risk of opioid overdose in a community setting. The Toolkit begins by identifying opioids, how overdose occurs, and who is at risk for overdose, and then lists several strategies to prevent overdose-related death. A section of the Toolkit is dedicated to first responders. This section offers the steps of obtaining help, identifying the possibility of a potential opioid overdose, and immediate treatment to reduce the risk of fatality. This publication also addresses the steps that healthcare professionals should take when treating patients who may have overdosed on opioids, such as assessments, medications, and legal liability considerations. The Toolkit concludes with safety advice for patients and family members who may know someone who is at risk for overdose, and a guide to recovering from opioid overdose with networks and resources for sustained recovery.

**National Center for Substance Abuse and Child Welfare**

U.S. Department of Health and Human Services  
200 Independence Avenue, S.W.  
Washington, D.C. 20201  
(866) 493-2758  
Email: ncsacw@cffutures.org

Website: [https://www.ncsacw.samhsa.gov/](https://www.ncsacw.samhsa.gov/)

As part of the Department of Health and Human Services, the National Center for Substance Abuse and Child Welfare (NCSACW) is funded by the Substance Abuse and Mental Health Services Administration's (SAMHSA) Center for Substance Abuse Treatment (CSAT) and the Administration on Children, Youth and Families (ACYF), Children's Bureau's Office on Child Abuse and Neglect (OCAN). NCSACW focuses on families whose lives have been affected by substance abuse, mental health disorders, and child abuse/neglect. By developing a new substance abuse and trauma care system, improving family roles and relations, and approving policies and procedures that follow research-supported practices, NCSACW improves the safety and well-being of recovering parents and their families.
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general population. A review by Popova et al. (2016) found the most frequent disorders, experienced by 67 to 91% were: abnormalities in peripheral nerves; conduct problems and disruptive behaviors and impulsivity; receptive language deficits, chronic, recurrent ear infections; expressive language deficits; refractive errors; intellectual and cognitive deficits; and speech and language delay. FAS and FASD are best conceptualized as a multifaceted spectrum of disorders.

Cumulative Effects

Many researchers note that women who abuse substances during pregnancy are likely to use a combination of substances. There is some data that suggest that use of multiple substances and especially tobacco use combined with other substances exacerbates the negative effects on the developing fetus. For example, Rivkin et al. (2008) in an MRI study of children’s brains concluded that cocaine, alcohol, marijuana and tobacco may act cumulatively during gestation to exert lasting effects on brain size and volume.

Factors such as birth weight and environmental risks (both associated with substance use) may account for some risks. Substance exposure in utero is inextricably associated with environmental risks such as disruptions in care or low SES (Messinger et al., 2004).

Postpartum Concerns

All infants born to drug-misusing women must be considered highly vulnerable, even if they have not required treatment for NAS (Mactier, 2013). In substance-using pregnant women, there can be high incidence of psychosocial problems that can complicate care for a newborn. According to Oei & Lui (2007) there is a high incidence of domestic violence, poverty, child abuse, single parenthood and lack of community support among families affected by a drug-dependent mother. Mothers have a high incidence of psychiatric disorders such as depression, stress and even psychosis that impair parenting ability. During pregnancy and prior to discharge from the hospital, the mother’s ability to parent should be assessed.

Continuing substance abuse is a concern (National Center on Substance Abuse and

Child Welfare). Substance use has been regarded as a significant factor in child maltreatment. Studies from the 1990’s reported rates of child maltreatment were 10 to 15 times higher in families where parents abused substances (Hogan, 1998). More recently, the National Survey of Child and Adolescent Well-Being estimated that 61% of infants and 41% of older children in out-of-home care are from families with active alcohol or drug abuse (Wulczyn, Ernst & Fisher, 2011, cited in Child Welfare Information Gateway, 2014). According to the National Council on Child Abuse & Family Violence, substance abuse exists in 40 to 80% of families in which children are victims of abuse (2016).

Substance-exposed infants who show developmental lags can benefit from early intervention services. These include Home Visiting Programs, described in detail in Volume 98 of VCPN, as well as ‘Part C’ (federal early intervention), early childhood education, Smart Beginnings, and the Virginia Preschool Initiative (all described in detail in VCPN, volume 99).

Prevention

Public education campaigns that emphasize the potential harm of substance use during pregnancy are felt to be effective. Targeting women of childbearing age is crucial in this effort (Young and Gardner, 2007). Other cornerstones of prevention are early detection and treatment (routine screening) and education of women and their partners

(Carson et al., 2010). Readers who are interested in screening tools can check the VCPN website for details about instruments and where to obtain them. Prescription monitoring programs (described elsewhere in this issue) can also serve as early warning for misuse of prescription drugs. Intensive intervention such as a recovery coach for women who have a substance-exposed infant have had some positive impact on subsequent pregnancies (Ryan et al., 2008).

Certain populations of women appear to merit additional attention. For example, adolescent mothers are thought to have an increased prevalence of tobacco use and substance use and high likelihood of later problematic substance use. The increase in substance use after the baby’s birth emphasizes the need to incorporate substance use prevention and education efforts into their care (studies reviewed in Chapman & Wu, 2013).

Concluding Thoughts

Substance-exposed infants pose significant policy and practice challenges that impact many systems and disciplines. With comprehensive, coordinated efforts, states can promote standardized practices such as screening and reporting procedures, offering a cohesive, consistent, and equitable child welfare response, and making treatment and support services accessible.

References Available on the Website

CARING FOR SUBSTANCE-EXPOSED INFANTS

CASA of Arizona offers information about caring for substance-exposed infants. CASA notes that the process can be difficult and demanding. These infants are more sensitive to light, sound, and external stimulation and may be in physical pain.

- If the infant appears over-stimulated, the caretaker should decrease the stimuli. Signs of over-stimulation are yawns, sneezes, agitation, color changes, and eye aversions.
- Don't allow the infant to become frantic.
- Lower light levels and noise levels if the infant is over-stimulated.
- The modes of talking, touching, holding and looking should be tried individually at first. When the infant is comfortable, an additional mode can be added.
- Swaddling and pacifiers can be helpful.
- Use up and down rocking rather than side to side rocking.
- Babies may be more willing to interact after being fed. Play when the infant is ready, not when you want to play.
Trends in Substance Use

Data from SAMHSA for 2013-2014 (National Survey on Drug Use and Health) show that in Virginia, 32.31% of youth ages 18 to 25 used marijuana in the past year and 19.84% used illicit drugs within the past month. Alcohol use was frequent (over 62%). Over 37% used Tobacco products within the past month. Dependence was also high with close to 19% considered dependent on drugs or alcohol.

An increase in the number of methamphetamine lab seizure incidents in Virginia is noted in data collected by the Office of National Drug Control Policy (ONDCP), rising from 19 seizure incidents in 2008 to 201 seizure incidents in 2011.

According to the Biennial Report on Substance Abuse (Virginia Department of Behavioral Health and Developmental Services, 2015), in 2013 there were 912 deaths in Virginia from drug-related causes. Deaths due to heroin doubled from 2011 (87) to 2013 (174). Another source from VDBHDS (2014) notes 49 deaths due to heroin use in 2010 with a rise to 213 in 2013, an increase of 334%.

In Virginia, deaths from abuse of fentanyl, hydrocodone, methadone, and oxycodone (referred to as FHMO) were 23 in 1999 and increased 1,578% by 2013 with 386 deaths (REVIVE Newsletter, June 2015). Drug-related deaths happen at a higher rate than deaths due to motor vehicle accidents.

Drug-related deaths in the commonwealth were higher in the Western portion of Virginia in past years. However, currently, the prevalence of drug-related deaths is spread evenly throughout the commonwealth.

Data for the first four months of 2016 from the Virginia Department of Health indicates nearly 500 visits to hospital emergency departments for unintentional heroin overdose. That number is 2.5 times the number of ED visits for heroin overdose in the same time period in 2015 (Daily News Record, June 2, 2016).

REVIVE!

REVIVE! is the Opioid Overdose and Naloxone Education (ONE) program for the Commonwealth of Virginia, authorized in 2013 in Virginia by the General Assembly. REVIVE! provides training on how to recognize and respond to an opioid overdose emergency with the administration of naloxone. Naloxone, a prescription medication, is an opioid antagonist that reverses the effects that opioids have on the brain. When a person overdoses on opioids, the opioid overpowers specific receptors in the brain, slowly decreasing respiration and heart rate before finally stopping it altogether. Naloxone has a very high affinity for these receptors and effectively pushes the opioid off the brain receptor, allowing the body to resume respiration. One dose lasts only minutes and may need to be readministered, so the Lay Rescuer must stay with the victim and call 911. Naloxone has no dangers if accidently administered to a person. It is thought that 26,463 lives have been saved nationwide since 1996 when the first Lay Rescuers were trained.

Recently, a new Virginia state law effective July 1, 2016 allows pharmacists to dispense naloxone under more lenient rules. A pharmacist working with a prescriber can collaborate on a “standing order” that allows the pharmacist to dispense naloxone without the patient seeing a doctor first. It is similar to the arrangement that allows people to receive flu shots at drugstores without a prescription. Pharmacists can also dispense naloxone to persons not at risk of overdose themselves but who worry that a friend or relative may overdose and who want to be able to save them if an overdose occurs.

More information is available from VDBHDS, (804) 786-3906 or on the website: www.dbhds.virginia.gov/individuals-and-families/substance-abuse/revive

Pregnancy–Associated Deaths from Drug Overdose

Virginia’s Maternal Mortality Review Team reviewed nearly 400 cases of pregnancy-associated deaths to Virginia residents that occurred between 1999 and 2007. These deaths occurred during pregnancy or within one year of the end of pregnancy. Slightly more than 10% of the pregnancy-related deaths (41) were a direct result of drug overdoses, mostly accidents or suicides. Prescription medicines contributed to a majority of the deaths. View the full report at: http://www.dbhds.virginia.gov/library/substance%20abuse%20services/osas-hwc-preg-assoc-deaths-overdose-report.pdf

Treatment Trends

In Virginia, treatment data are similar to national data. Of individuals needing treatment for illicit drug dependence, only 18.8% (about 29,000 individuals) received treatment (SAMHSA, 2013). According to the ONDCP, between 1992 and 2011, use of marijuana was the most commonly cited drug among primary drug treatment admissions in the commonwealth. From 2008 to 2012, persons receiving methadone treatment rose from 3,743 to 5,140 and persons receiving buprenorphine treatment rose from 382 to 1,230 (SAMSHA, 2013).

Incidence of Substance-Exposed Babies

According to the Virginia Department of Behavioral Health and Developmental Services, more than 10% of the 104,990 babies born in Virginia in 2008 were exposed to alcohol or drugs in utero. The Virginia Department of Health’s Pregnancy Risk Assessment Monitoring System found that 8.5% of women surveyed shortly after delivery in 2007-08 reported drinking alcohol during their most recent pregnancy.

More recent data is limited. The Virginia Department of Health reports that there were 101,907 births in Virginia in 2014. Martha Kurgans, LCSW, with the Virginia Department of Behavioral Health and Developmental Services notes that Virginia’s Community Services Boards (CSBs) reported contact with 335 mothers referred postpartum by hospitals due to substance use. Mary Walter, MSW, CPS Policy Specialist with the Virginia Department of Social Services reported that in state fiscal year 2015 (July 1, 2014 through June 30, 2015) CPS received 1,099 reports of substance-exposed infants.

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Virginia’s’ Picture

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Legal Requirements in Virginia

The Code of Virginia § 54.1-2403.1 specifies that licensed practitioners should, as a routine component of prenatal care, establish and implement a medical history protocol to screen all pregnant patients for substance use and determine the need for further evaluation. Practitioners are required to counsel all pregnant women with positive screens or substance abuse evaluations on the potential for poor birth outcomes and the appropriateness of treatment. Further, the law specifies that the results of the medical history screen or substance abuse evaluation shall not be admissible in any criminal proceeding.

Since a baby can contract HIV from the mother in utero, during childbirth, or through breast-feeding, the law requires licensed practitioners, as a routine component of prenatal care, to advise all pregnant patients of the value of testing for HIV and request consent for testing. However, women have the right to refuse consent.

The Code of Virginia § 63.2-1509 requires health care providers and others to report suspected child abuse and neglect to local departments of social services or the state hotline when a child is exposed to alcohol or controlled substances not prescribed by a physician. There are four specific circumstances that are reportable: positive toxicology tests of an infant within 6 weeks of birth; a finding that a child is dependent on a controlled substance and experiencing withdrawal symptoms; a child has a diagnosed medical condition attributed to in utero exposure; and any child diagnosed with fetal alcohol spectrum disorder, which includes Fetal Alcohol Syndrome.

The Code of Virginia § 32.1-127 requires hospitals to implement protocols for written discharge plans for substance-abusing, postpartum women and their infants. Appropriate referrals must be made and documented to the extent possible, the child’s father and members of extended families shall be involved. The hospital shall notify the local community services board (CSB) to appoint a discharge plan manager.

The Code of Virginia § 32.1-134.01 requires hospitals and licensed midwives to inform maternity patients about the incidence of postpartum blues and perinatal depression as well as educate about Abusive Head Trauma and the dangers of shaking infants.

Implications for Child Protective Services (CPS)

The primary role of CPS is to protect children who may be at risk for maltreatment by parents or caretakers. When CPS is notified of a substance-exposed infant, workers can assist families in accessing early intervention services and can monitor to ensure the child’s safety.

CPS units in Virginia are affected by the increased awareness of substance-exposed pregnancy and by the changes in patterns of substances used by pregnant women and by parents. Winnie Mason, LCSW, is the Family Services Supervisor for Frederick County Department of Social Services.

She is new to the position, having formerly worked in Loudoun County Social Services.

Her predecessor, Craig T. Cline, compiled some statistics for the Frederick County DSS about substance-exposed infant reports.

The numbers of substance-exposed infants has been increasing. Frederick County had 26 reports in 2012, 45 reports in 2013, 47 reports in 2014 and 61 in 2015. Children entering foster care due to parental substance use was 4 (of 14 total or 29%) in 2012 and rose to 27 of 35 (77%) in 2015. Most of the parents were young. While the ages ranged from 16 to 52, the average age of mothers was 25 years and for fathers 27 years.

As is noted in the literature, poly-substance use accounts for about a third of cases. Opioid drugs and marijuana were the most likely substances of use. About half of mothers had a known history of mental health services and about a third had a criminal history. Only 14% had a prior substance-exposed infant, suggesting that screening methods are being successful in early identification. Most identified cases were first births, and only 20% had a prior history with CPS.

Mason laments the limited resources available for intervention. CPS contracts out drug screening. Workers do the safety plans with the identified cases. The local CSB and three private providers are available for intervention services. Mason notes that the preference is to have the baby stay with the mother. If the mother cannot abstain from drug use or if she has other challenges in caring for the child, she is encouraged to suggest friends or relatives who can parent the baby. If that effort is not successful, then foster care is available. The CPS unit works actively with probation and with the service providers. Time frames of involvement are set by policy and whenever a child is considered to be safe, the case is closed.

Readers wanting more information on a chance to see the data from Frederick County can contact Winnie Mason, LCSW, and (540) 665-5688 ext. 118 or by E-mail: W.Mason@dss.virginia.gov.
Virginia’s PMP is a secure, online system that provides licensed healthcare practitioners access to a patient’s Schedule II through IV prescription history. The system allows a practitioner to determine the patient’s treatment history concerning use of controlled substances. That information can minimize the risk of duplicating prescriptions and can eliminate potential illegal activity.

Virginia’s PMP began in September, 2003 as a fax-based system covering only Schedule II prescriptions in Virginia’s southwest region. In 2006, Virginia’s PMP was extended statewide and began using a web-based operation. In 2006, the requirement was reporting of all Schedule II, III, and IV controlled substances dispensed by both resident and non-resident pharmacies as well as dispensing physicians. The system was unavailable on evenings, nights, and weekends.

In October, 2009, Virginia’s PMP began utilizing automated software that provided access 24/7. Ease of use and greater availability prompted a huge growth in the program. By 2013, the program was processing more than a million requests for the year. In 2015, there were 4.8 million requests.

The majority of states, including Virginia, require weekly data submission. The law governing Virginia’s PMP is found in Chapter 25.2 of Title 54.1 of the Code of Virginia. Regulations governing the program are found at 18 VAC 76-20-10 et seq. Ralph A. Orr, Director of Virginia’s PMP notes that new legislation that will be effective on January 1, 2017 changes the data submission requirement to reporting within 24 hours of dispensing.

Our relates that Virginia’s PMP is interoperable with 19 of the 31 states that are currently sharing PMP information across state lines to aid in combating prescription drug abuse. States that share with Virginia include the border states of Tennessee, Kentucky, West Virginia, and Maryland.

Caroline Juran heads the Virginia Board of Pharmacy. She spoke recently to VCPN staff. Juran notes that, in Virginia, deaths due to drug overdose now outnumber motor vehicle fatalities. Virginia’s PMP is a tool to help practitioners determine that medication is being used appropriately. There is reason to be hopeful that PMP systems can be effective. Efforts to reduce the nonmedical use of prescription pain medications have shown some success, as demonstrated by declines between 2009-10 and 2010-11 in nonmedical use by those ages 25 or younger (SAMHSA, 2013).

Virginia’s PMP was selected to be part of a 2013 National Governor’s Association Center for Best Practices Initiative for combating prescription drug abuse.

For more information on Virginia’s PMP, contact Ralph Orr, Program Director by E-mail: pmp@dhp.virginia.gov or visit the website at: www.pmp.dhp.virginia.gov

and in the NICU at Winchester Medical Center several days a week. Judd arranges referrals for treatment and facilitates care coordination with treating physicians. She also assists with linking pregnant women with a myriad of community services.

Judd, a former CPS worker, is well-positioned to address high-risk parenting behaviors. “Our biggest issue,” says Judd, “is finding sufficient resources. We don’t have many options, especially if mothers-to-be want Medication Assisted Treatment. There can be delays of as long as three weeks.” Winchester has only one methadone clinic, three Suboxone providers and one Subutex provider.

Judd talks about the mothers’ emotional state. “Many of the women are struggling with guilt. They have a tremendous sense of fear and shame.” Judd notes that it is her role to listen, to build a relationship, and to let the women know that they are deeply cared about. “I let them know that there are people who want to assist in their efforts to stop using and to achieve their life goals. It is through the woman’s willingness to partner and engage with community resources that they can be successful.”

Judd educates mothers-to-be about what to expect from CPS involvement. She helps mothers-to-be prepare for their baby’s treatment in the NICU. She also facilitates bonding. Dr. Clawson explains that addiction changes the brain in ways that interfere with bonding. When separation from the baby also occurs due to the baby needing intensive care or due to the mother being discharged while the baby remains at the hospital, attachment is further disrupted. To counteract these roadblocks, at Winchester Medical Center, every baby has its own room and every mother can stay, “Providing comfort measures helps the baby with withdrawal and simultaneously stimulates bonding,” explains Dr. Clawson. If parents are unable to provide comfort to their babies, trained volunteer ‘Cuddlers’ take on the task of providing human contact to the babies.

Dr. Clawson is most concerned about what happens after discharge. “We want to ‘link arms’ and provide comprehensive services,” explains Dr. Clawson. “We have the babies for only a short time. Their long-term environment is what is most important.” The follow up is where Healthy Families can help.

Maria DeLalla, RN BSN BA is a Nurse Case Manager and Resource Specialist for Healthy Families. VCPN has reported frequently on the Healthy Families program and interested readers are referred to issues 52 and 98. Healthy Families provides a home visiting service and teaches parenting skills. She notes that the vast majority of substance-exposed babies return home with their mothers. One-third of DeLalla’s position as Perinatal Nurse Case Manager is “in kind” to Healthy Families.

DeLalla explains that WMC screens 100% of all pregnant women to determine if they are eligible for Healthy Families. “The screening is a service in and of itself even if some mothers do not qualify for in-home services. The mother may have unaddressed PTSD or other mental health issues. They may have experienced child abuse during their growing years. We may need referrals to additional services,” she explains. In addition to referrals for mental health services, Infant Toddler Connection can assess the infant’s growth and development.

Dr. Clawson and her associates are doing a remarkable job of responding to the needs of substance-exposed babies and their families. A two-page list of the accomplishments of the WMC Perinatal Substance Abuse Task Force from 2009 to present is available on the VCPN website.

Readers who are interested in further information can contact:
Maria DeLalla (540) 536-8490 or by E-mail: mdelalla@valleyleathlink.com
Amanda Judd (540) 325-4358 or by E-mail: ajudd@nwcsb.com
Teresa Clawson, MD (549) 536-7897 or by E-mail: tclawson@valleyleathlink.com

For more information on Virginia’s PMP, contact Ralph Orr, Program Director by E-mail: pmp@dhp.virginia.gov or visit the website at: www.pmp.dhp.virginia.gov
The Hampton-Newport News Community Services Board offers a wide array of services for clients with substance use disorders. Six programs operate in collaboration to meet clients’ needs. Patricia Hartigan, MSW, Division Director of Substance Abuse Services, has been with the CSB for 20 years. She describes the overall services.

**South-Eastern Family Project**

This project provides comprehensive residential and day substance abuse treatment for pregnant women. Mothers and newborns can remain together in a healthy, safe, and stable environment. Mothers receive clinical help with addiction and mental health while learning daily living and parenting skills to foster healthy child development. Services are provided by an array of professionals including physicians, nurses, case managers, and therapists. Women can stay for 60 days post-partum and typically enter the program while pregnant.

Hartigan notes that in 1999 or 2000 a woman had to be pregnant upon admission but now the Project also accepts women after birth. The facility is a large house in downtown Newport News with 8 or 9 bedrooms, 6 bathrooms and a nursery area for infants. A total of 16 women and their infants can be accommodated. In 2013, 47 women were enrolled. In 2014 that number rose slightly to 49 and in 2015, 35 women were served. Opiate dependence is the most frequent with 65% of the women in 2015 dependent upon opiates.

**Hampton Roads Clinic**

This Opioid Treatment Program offers unique and specialized services for adults with dependence on opiates such as prescription pain medications, heroin and morphine. The program offers a full range of outpatient services. The clinic offers MAT (Medication Assisted Treatment). A methadone clinic is offered at Hampton Roads. Clients who prefer Suboxone can utilize the Norfolk CSB regional clinic. “We inform clients about their choices and help them create a plan that will be effective,” explains Hartigan.

**Project LINK**

Any woman seeking services for substance abuse can be served by the Hampton-Newport News Community Service Board’s Project LINK, whether or not she is pregnant. This case management program assists women and their children who have been affected by substance abuse. “Our Project LINK is more prevention-oriented, integrating early intervention and substance abuse treatment with health care and support services,” explains Katalin Cannady, Project LINK coordinator.

Children are served up to age 8. Cannady relates that about 112 women and 70 children are seen each month. Most have co-occurring mental health diagnoses. About 70 children per month are screened with the Ages and Stages Questionnaire. Children are tested every three months and the results are shared with the child’s medical provider. If indicated, referrals can be made to specialists. “We monitor immunizations, well child visits, sick child appointments and school progress,” adds Cannady. The services are a mixture of community-based and home visiting. Each of the six full-time case managers has a caseload of about 35. Project LINK provides only case management services. Treatment services are arranged through the other CSB components.

**Partners in Recovery**

Individuals with serious psychiatric problems that co-occur with substance abuse or dependence are the target of this program. Gracie Taylor, Clinical Manager, describes a person-centered approach as the key to the trauma-informed service philosophy. A team approach to treatment integrates psychotherapy, medication management, crisis intervention, relapse prevention, and life skills training. The 12-step recovery model is utilized in conjunction with other treatment modalities to support participants in achieving their goals. “There is no wrong door when entering services,” comments Taylor. “We have great community partnerships and referring agencies.”

Other services include a Men’s Substance Abuse Case Management and Next Step, a psychosocial rehabilitation program for those with co-occurring substance abuse and mental health diagnoses. Peer Recovery models are embedded into all of the programs, according to Hartigan.

**Partnerships**

In addition to the services at the CSB, additional support is obtained from two drug courts, the Hampton Drug Treatment Court and the Newport News Adult Drug Court. Drug Courts seek to break the cycle of addiction through court-supervised treatment that combines a problem-solving orientation with techniques that promote accountability. For example, those accepted into the Hampton-Newport News Drug Court program are drug-tested every 48 hours.

Sherry Glasgow, M. Ed., CSAC is the Program Administrator. She explained that their program works mainly with felons being released from incarceration. The program is a minimum of 18 months and most individuals take two years to complete it. In order to graduate, an individual must be drug-free at least a year.

Since participants enter the program from incarceration, women entering are not pregnant. However, sometimes they become pregnant shortly after release. Glasgow said she currently has two women enrolled who are pregnant. “We immediately refer to Project LINK and to community referrals such as Healthy Families and Catholic Charities. We make certain that the mother-to-be is attending the prenatal appointments. A pregnant woman is having difficulty remaining abstinent, we can arrange for them to be in the South-Eastern Family Project for residential care,” she relates.

Glasgow continues, “Once the baby is born we help the mothers apply for services, including VIEW (Virginia Initiative for Employment Not Welfare). That program pays for child care so there are no issues with missed obligations due to caring for the baby.” The drug court program requires women to obtain jobs within 60 days. “The goal of the drug court is to have participants be productive,” states Glasgow, “and we believe that each of our participants can reach that goal.”

The comprehensive model and partnerships operating in Hampton-Newport News are impressive. For more information about the comprehensive services at Hampton-Newport News Community Services Board and partners, readers can contact: Patty Hartigan- (757) 788-0408 or E-mail: PHartiga@hnnsrcsb.org Katalin Cannady- (757) 788-0547 or E-mail: KCannady@hnnsrcsb.org Gracie Taylor- (757) 788-0400 or E-mail: GTaylor@hnnsrcsb.org Sherry Glasgow- (757) 224-2378 or E-mail: sglasgow@hnnsrcsb.org
Virginia’s Handle with C.A.R.E. Initiative (Coordinating Access, Responding Effectively to Maternal Substance Use) is an interagency effort to identify a coordinated state-level response to maternal substance use. Pregnant and parenting women who use substances often have complex, multi-faceted challenges which bring them to the attention of multiple agencies and systems. Women may be involved with health care, child welfare, behavioral health and criminal justice systems, for example. Identifying and engaging these women in substance abuse treatment can be difficult and efforts are more effective when systems work together.

Martha Kurgans, LCSW is the Women’s Services Coordinator/Regional Behavioral Health Consultant for the Department of Behavioral Health and Developmental Services, Office of Behavioral Health. She explained how Virginia became involved in the Handle with C.A.R.E. Initiative. “Virginia has been struggling with this issue for at least 16 years,” Kurgans related.

Recognition of the challenges of serving substance-exposed women led to a 1999 law that required doctors and hospitals to report substance-exposed infants to child protective services and refer their mothers to services. “Far fewer babies than expected were identified,” states Kurgans. “Furthermore, of the known babies who were substance exposed, only about a third of the babies were referred to a Community Services Board (CSB). Knowing these statistics, we struggled with how to work together.”

Kurgans explained that a child fatality report published by the Office of the Chief Medical Examiner (OCME) in 2014, Sleep Related Infant Deaths, found that approximately 20% of the children who died were substance-exposed, making substance abuse a factor in many child fatality cases. Also, a report on maternal fatality, Pregnancy-Associated Deaths from Drug Overdose in Virginia, 1999-2007: A Report from the Virginia Maternal Mortality Review Team, found that substance misuse was a contributing factor in nearly one quarter (24.2% or 96 cases) of all pregnancy-associated deaths in Virginia. Further, the report on sleep-related infant deaths found that 95% were preventable and many were related to substance use by the parent or caretaker.

In response to the concerns detailed in the reports, Kurgans explains that an interagency workgroup was formed to try to create a unified approach. Fortunately, there was technical assistance available and Virginia was invited to apply for the funding. In the fall of 2014, Virginia applied for In Depth Technical Assistance (IDTA): Responses for Substance Exposed Infants offered by the National Center for Substance Use and Child Welfare (NCSACW). Kurgans related that Virginia was awarded the grant. “We are one of six applications approved,” said Kurgans. “The others are New Jersey, West Virginia, Kentucky, Connecticut, and a group of three native tribes in Minnesota.”

In 2015 the workgroup convened and considered barriers to identification and intervention. In addition to seeking to develop a common vision and approach, The Handle with C.A.R.E. Initiative also identified opportunities for Virginia to improve response to substance-using pregnant women.

Establish Statewide Standards of Care—One opportunity is to establish clear standards for care that address screening, consistent procedures for follow up and referrals, and liability and privacy protections for health care providers and patients. Kurgans offers an example. “We are seeing a very dramatic increase in opiate use in pregnant women. This is a very new issue.” Kurgans explains that most pregnant women cease substance use. “If a woman is pregnant and still using, it is a sign of a more serious addiction, either due to entrenched use or co-occurring mental health diagnoses,” she says.

Kurgans adds, “We know there is a significant issue with the environment and care that these infants receive. They are harder to soothe and it is harder to bond. The baby is at increased risk if the mother is not stable and in treatment,” she explains. The workgroup would like to create guidance for working with opiate-dependent pregnant women and guidelines for plans of care for substance-exposed children.

Strengthen Community Collaborations—All Community Services Boards are required to provide services to pregnant women who are abusing substance and they are required to do so within 48 hours. Collaborative relationships between the local CSB, social services, health care providers, law enforcement, and community-based service providers can help identify women in need and refer them to the appropriate provider. Kurgans notes that substance-using pregnant women need more intense treatment and case management. They may need basic resources such as housing and food.

Increase Educational Opportunities for Professionals—Once best practices are determined and guidelines are written, professionals in key positions will need to be educated.

Inform the Public—The public and non-traditional referral sources need to be educated about the need. Success stories of women in recovery could inspire those who are struggling to seek care.

Strengthen Legal Reporting Requirements—Clarifying CPS expectations regarding services for substance-abusing mothers and substance-exposed infants could increase the consistency of response. Existing legislation can be reviewed to ensure that implementation is occurring and accountability is clear. Laws should meet treatment needs and timelines.

Incorporate Individual and Family Support—Services such as childcare and transportation may increase use of existing services. Service providers who are culturally competent with the populations needing services can increase service use.

Increase Treatment Options and Access—A continuum of treatment can allow referral sources to match the intensity of need to treatment options. Expanded home visitation programs can assist women in follow through with treatment options. Kurgans notes that there are six residential substance abuse treatment programs in Virginia that accept pregnant women, however, only three are approved for Medicaid reimbursement. These are Bethany Hall in Roanoke, the Southeastern Family Project in Newport News and New Generations in northern Virginia. Women who are pregnant may be reluctant to enter treatment far away from their regular providers and also leave other children behind at home. There are 30 Opiate Treatment Programs (OTP) in Virginia that provide methadone, a form of Medication Assisted Treatment (MAT). Virginia is served by 40 Community Services Boards, but only four of the OTPs are housed within a CSB. A few additional CSBs have agreements with private Opiate Treatment Providers to provide MAT.

Kurgans explains that part of the difficulty is funding. She says that the last increase in funding for treating pregnant women occurred in 1999 and costs of providing treatment keep rising. Even without funding increases, however, Kurgans believes that there are methods to be more effective with existing resources.

More information is available at:
Martha Kurgans, LCSW (804) 371-2184 or E-mail: Martha.kurgans@dbhds.virginia.gov
Project LINK provides intensive case management and home visiting services to pregnant and parenting women who are abusing substances or who are at risk to abuse substances. There are nine Virginia Project LINK sites. Each is affiliated with at least one Community Services Board (CSB) which provides mental health and substance abuse services.

- Roanoke (Blue Ridge CSB)
- Fredericksburg (Rappahannock Area CSB)
- Charlottesville (Region 10 CSB)
- Newport News (Hampton-Newport News CSB)
- Virginia Beach (Virginia Beach CSB)
- Petersburg (District 19 CSB)
- Far Southwest Virginia Collaborative (Cumberland Mountain CSB; Dickenson CSB; Frontier Health/Planning District One CSB)

Project LINK sites provide outreach case management, home visitation, support services, and referral to women and their families. Services coordinated through Project LINK include: substance abuse treatment; family planning; prenatal care; well-baby care; general health care; developmental screening, assessment and intervention for the child; parenting education; and public education.

Glenda Knight, MS, CSAC coordinates the Project LINK program in the Rappahannock area. She has spent eight years working with the program and is only the third coordinator in the program’s 22 years. She explains that the priority population is pregnant women who are diagnosed with a substance use disorder. The second priority is postpartum women who have delivered a substance-exposed newborn. The third priority are parenting women with children under age seven who are diagnosed with a substance use disorder.

Knight relates that Project LINK screens women at five public health department maternity clinics. Women are screened not only for substance use, but also for domestic violence and mental health risk factors. They use the SBIRT (Screening, Brief Intervention and Referral to Treatment) model. SBIRT is a comprehensive, integrated, public health approach to the delivery of early intervention and treatment services for persons with substance use disorders as well as those at risk for developing these disorders. Women who have risk factors are referred for services and their nurse at the clinic is notified as well.

Project LINK staff engages in prevention activities. They give each woman a Prevention folder that has information on alcohol, tobacco, and illicit drugs. The packet also contains a growth chart for the baby and an immunization schedule. A staff member individually reviews the packet with each pregnant woman. In FY 2015, 186 women from five clinics received the high-risk screening. Knight explained that Project LINK generally screens around 300 women, but staff shortages last year reduced the number that could be reached.

The direct service component includes home visiting and case management, intakes, parenting education groups and postpartum referrals. Knight is enthusiastic about the Nurturing Program for Families in Substance Abuse Treatment and Recovery. It is a 16-week evidence-based intervention. The program also uses a Hazelden product for Life Skills education and budget planning. Workers can assist with job searches and resume writing. These interventions are designed to strengthen the family unit. Knight said that 206 women received direct service during FY 2015.

The third focus is community education and outreach. Knight did not know how many women were served but said that the program completed 281 home and office visits in FY 2015. Among the workshops were several about Fetal Alcohol Syndrome presented to female inmates at Rappahannock Regional Jail. Presentations were also made to case managers and nursing staff at Spotsylvania Regional Medical Center.

Another example of a local program is the Project LINK with Virginia Beach Department of Human Services, Mental Health and Substance Abuse Division. Otelia Ponton-Reid is the Team Leader for this Project LINK. The four case managers and one parent educator are currently working with 107 active clients. They serve not only Virginia Beach, but can also work with women from Portsmouth, Chesapeake, and Norfolk.

Ponton-Reid explained that the most typical substances used by pregnant women in their program are opiates, cocaine, and a combination of alcohol and marijuana. Of the 107 women being served, about 20 are still actively using substances while involved in treatment. Pregnant women who are still using substances are referred to short-term inpatient treatment with the Mental Health and Substance Abuse Recovery Center or women may choose to detox at a local hospital. There are also longer-term treatment programs such as Boxwood available. Opiate abuse is much more frequent now than in the past and Medication Assisted Treatment (MAT)/Suboxone; Methadone; Subutex) is available. Of the 107 current women being served, 11 are receiving MAT.

In addition to referrals, Project LINK provides transportation (tickets or their transportation unit or through Logisti Care) and assists with finding community resources. They help women apply for Social Security Disability and local Social Services benefits. The majority of substance-abusing women have co-occurring mental health diagnoses, explains Ponton-Reid.

In addition to concrete, practical interventions, Project LINK also teaches parenting skills and daily living skills such as shopping. For example, they partner with Children’s Health Investment Program (CHIP) of South Hampton Roads to complete a program called ‘Sleep Tight’ to educate mothers about safe sleep for babies. Mothers who attend a 45-minute presentation receive a free ‘Pak-n-Play.’ LINK also provides a 7-week parenting class using a structured curriculum. It is free and open to the public.

“We have quite a few women with additional children who often feel overwhelmed. We perform most of our services in the home and in the community. That allows us to involve others such as fathers and grandparents. LINK also has a component called ‘Families Together’ for children ages 0-7 who have been exposed to substance use.

Ponton-Reid summarizes, “I have a passion for working with people who want to improve their life situation but may feel overwhelmed. They often have more power than they realize but need help to see the positive in difficult situations.”

Petersburg has a smaller Project LINK program, with a capacity of 15 women. When interviewed in March, Shauna Christian, CSAC, LPC, program coordinator, said they were currently serving five women. In addition to the usual services such as case management, the Petersburg Project LINK has an Intensive Outpatient Program (IOP) available through their affiliated Community Services Board (CSB). The twice-a-week program meets for 2 hours each session. They also use the Hazelden materials for the substance abuse treatment component. The IOP has two other components- Trauma Recovery and Parenting Education. Both components use evidence-based curricula. Similar to the other Project LINK programs interviewed, Christian has witnessed an increase in opioid and narcotics abuse. They can fund MAT (Medication Assisted Treatment) and can refer to the Regional Perinatal Program at Richmond Behavioral Health Authority for women who need residential care.

Patricia Spangler, LPC is new on the job as Manager of the Project LINK at Blue Ridge Behavioral Health Care in Roanoke. “I’m told that our Project LINK is different,” she says. “Others do case management. We offer case management, but we also have an Intensive Outpatient Treatment Program and Medication Assisted Treatment.”

The LINK I program is for women who do not use opiates. The IOP is a 26-week program that meets three times a week. A maximum of 12 women are in each IOP. The group uses an evidence-based curriculum that covers substance abuse and parenting topics. There are random drug screens. In
order to graduate from the program women must have consistent attendance, arrive on time to appointments, complete the therapeutic homework assignments, create a relapse prevention plan, attend treatment-oriented activities, maintain sobriety as evidenced by negative drug screens, meet with the case manager, and participate in therapy.

When a woman does an intake and requests MAT (Medication Assisted Treatment), Project LINK can help a woman with a history of opioid use by funding Suboxone or Subutex to aid in the process of recovery. Acceptance into the program is decided by the entire treatment team. LINK 2 Recovery is divided into three phases. Approximately 10 women can be served in each phase.

Spangler says that Phase I is a three times a week treatment for 26 weeks. Medication is dispensed daily. AA or NA groups are required twice a week. The program provides child care and transportation. Spangler explains that their prescriber is certified as both a psychiatrist and an OB-GYN. “She has an understanding of both fields.”

Phase II requires twice-a-week meetings for 14 weeks plus a doctor’s group. Women receive a week’s worth of medication at a time in this phase. Phase III is 12 weeks and people are followed once a month. Altogether, the IOP takes a year. In order to move from one phase to the next, women must meet criteria. If women still need MAT after a year, they can transition to a community provider.

Spangler believes the IOP and MAT is effective. Women are with others in their exact situation. The program offers child care and transportation. She notes that hospitals call them, as well as calling CPS, if a baby is born positive for illicit drugs. Project LINK has a case manager assigned to the hospital. If a woman needs residential care, that can be arranged as Project LINK has a memorandum of agreement with Bethany Hall.

In the last six months of 2015, 129 cases were opened. At any one time, they serve about 75 women. Not all are in the IOP. Project LINK at BRBH has partnered with Trish White of Choices to Recovery to engage women and train them to become peer support specialists after completion of the program. The Choices to Recovery program incorporates accountability, responsibility, and service. It promotes personal empowerment so the woman can become a functioning and contributing member of society.

“Our hope is that those who have successfully completed the program can then sponsor others in the community,” explains Spangler.

As of 2013, drug overdoses surpassed all other injuries as the leading cause of injury death in the United States, including injuries from motor vehicle collisions. That same year, Virginians died from drugs and poisons more than any other injury, with an increase of over 13% from just the prior year, 2012 (Virginia State Fatality Review Team, 2015).

With the goal of improving public safety and public health, Governor McAuliffe signed Executive Order 29 in September, 2014 establishing the Governor’s Task Force on Prescription Drug and Heroin Abuse. The Task Force was created to recommend immediate steps to address the growing and dangerous epidemic of prescription opioid and heroin abuse in Virginia.

The Task Force was a multidisciplinary team effort. It was co-chaired by the Secretary of Health and Human Resources and the Secretary of Public Safety and Homeland Security. It included representatives from the Office of the Attorney General, the legislature, judiciary, law enforcement, health and behavioral health professionals, providers, community advocates, relevant state and local agencies, and individuals with personal experience with addiction.

Five work groups met for over a year. Jodi Manz, MSW, Policy Advisor, Office of the Secretary of Health and Human Resources, provided coordination and support for the work. “We had a comprehensive approach. Combating prescription drug abuse involves coordination of many systems. Those affected are not just one population,” she emphasized. “Each task force spent considerable time and effort in arriving at the recommendations that were published in June, 2015.”

The 51-page implementation plan, Recommendations of the Governor’s Task Force on Prescription Drug and Heroin Abuse, is an impressive document. It is comprehensive and contains detailed recommendations and action steps. Interested readers can find the document at: www.dhp.virginia.gov/taskforce/minutes/20150630/TaskForceImplementationPlan.pdf

Manz notes that substance abuse by caretakers is the main reason that children enter foster care. CPS and foster care workers are in a position to recognize signs of addiction and intervene by helping parents obtain treatment. She adds, “Addictions are not simply a medical or health care problem.” Addictions affect the entire community including the crime rate, lost work time, increased pressure on community services boards to provide addiction treatment, and greater use of public health and Emergency Departments in hospitals.

Workgroups have divided the task of considering this complex problem.

Education Workgroup—Manz notes that medical school and graduate programs in social work and psychology do not necessarily offer education about the recognition and treatment of addiction. First responders, health care providers and behavioral health providers need education and training. The public also need to be alerted about the dangers of overdose or abuse of prescription drugs.

Treatment Workgroup—“A treatment structure is imperative,” states Manz. “Opioid addiction is a different sort of addiction and the workgroup learned that treatment is not easily available.” She also notes that there is a coverage gap as uninsured individuals may lack the means to access treatment. The Treatment Workgroup has made recommendations concerning treatment protocols and standards for those offering treatment. According to Manz, there are currently 37 drug treatment courts operating in Virginia and there is need for many more.

Data and Monitoring—“The importance of accurate and timely data cannot be understated,” declared Manz. Changes to the Prescription Monitoring Program have been made to enhance its effectiveness as a tool for understanding prescribing practices and for monitoring trends in opioid use.

Storage and Disposal—Storing prescription drugs in a secure manner and disposing of them properly when no longer medically needed reduces opportunities for abuse or misuse and reduces potentially harmful effects to the environment. Many communities offer ‘take back’ events to encourage citizens to relinquish unused medications to be properly destroyed. Several pharmacies collect and destroy drugs as well.

Enforcement—Law enforcement may be the first on the scene of an overdose. Ongoing training is teaching law enforcement how to use naloxone (an overdose antagonist). The workgroup explored viable options to incarceration and the provision of treatment while incarcerated. The passage of Senate Bill 892/House Bill 1500 provides a ‘safe harbor’ alternative defense for individuals calling 911 or notifying emergency personnel that someone in their presence has suffered an overdose.

The Implementation Plan is meant to be a “living document” that will change as needs and resources change. Attention is ongoing and the Task Force intends to continue research and review of emerging best practices.

Readers wanting additional information may contact Jodi Manz, MSW by e-mail: jodi.manz@governor.virginia.gov or by phone: (804) 663-7447
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More information about Project LINK is available from:
Martha Kurgans at (804) 371-2184 or E-mail: Martha.kurgans@dbhds.virginia.gov
Glenda Knight, at (540) 373-3223, Ext 3030 or E-mail: gknight@racs.state.va.us
Otelia Ponton-Reid, at (757) 385-0818, E-mail: OPonton@vbgov.com
Shauna Christian at (804) 862-6410, Extension 3191, E-mail: SChristian@d19csb.com
Patricia Spangler, at (540) 266-9200, Extension 3223, E-mail: pspangler@brbh.org

Special Thanks To…..
Robin J. Hamill-Ruth, MD
Caroline D. Jurau, RPh
Courtney Lenard, MA
Martha Kurgans, MSW
Jodi Manz, MSW
Carole Pratt, DDS
Mary Walter, MSW

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E-mail: graysojh@jmu.edu

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