

Methcognition: Taking the Information to the Front Lines

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ABSTRACT

Methamphetamine abuse has cost the United States billions of dollars and put the health and lives of countless children at risk. This research explores whether those professionals who work with children the most understand how methamphetamine is produced and consumed, as well as the potential risk it presents. It is hypothesized that those professionals who come into contact with children the most (criminal justice, social services, and community activists) will lack a general knowledge about methamphetamine, thereby increasing a child's exposure to primary and secondary victimization. Data was collected utilizing a convenience survey sample of statewide North Carolina juvenile service professionals on their knowledge of methamphetamine use and its production in the year 2012. The findings show a disconnect between what the respondents *think they know* about methamphetamine and what they *actually know* about the drug's production and use. The results suggest that their deficient knowledge about methamphetamine increases childrens' exposure to victimization.

The Methamphetamine Epidemic

The goal of society should be to protect its children. While drug use is not a new social phenomenon, there has been one drug, methamphetamine, which has grown in popularity over the last decade. Methamphetamine, commonly referred to as meth, is a powerful drug and a central nervous system stimulant which is part of a larger family of stimulant drugs that includes cocaine, and ecstasy. The growing popularity of this substance derives from the fact that it can be easily and inexpensively manufactured without the need for extensive knowledge or background and requires few supplies for manufacturing (Weisheit & Wells, 2010).

In recent years, the ever expanding methamphetamine epidemic has placed thousands of users as well as innocent children at risk of injury and death. Its use has been linked to brain and cognitive impairment, cardiovascular disease, dental problems, psychiatric disorders and interpersonal violence (Daniulaityte, Carlson & Kenne, 2007). Law enforcement reports that the availability of methamphetamine has increased in every region of the United States. For example, lab seizures in 2010 numbered 6,768, representing a 12% increase over the 2009 figure of 6,032. Nationally, the number of users of methamphetamine has also increased. The estimated number of people twelve or older who began using methamphetamine increased 60% between 2008 (95,000) and 2009 (154,000) (National Drug Assessment Report, 2011, p. 32-36).

According to the National Drug Intelligence Center, the total economic impact of methamphetamine in the United States was \$23.4 billion in 2009 (compared to \$215 billion for all drug use). A RAND study shows that methamphetamine has a number of tangible and intangible social costs to society. For example, 351.3 million dollars in 2005 were related to health care costs (excluding drug treatment). Loss of worker productivity was estimated to be 687 million dollars and costs associated with child endangerment tallied nearly 905 million dollars. On an already overloaded criminal justice system nearly 4.2 billion dollars were spent in 2005 on criminal justice related services (RAND, 2009). Many of these numbers may in fact be an understatement as assessing the true costs of societal victimization is imprecise.

Geographically the use of methamphetamine is inconsistent across the United States. Studies indicate that the Southeast and the Mid Atlantic Region are the highest in terms of meth

lab seizures, 2,521 and 2,015 respectively (National Drug Assessment Report, 2011, p. 34.). It is for this reason that we look at two states: Ohio and North Carolina, one in each of these problem regions.

OHIO

The first meth lab seizure in Ohio was in 1998. Since then there has been an ebb and flow to seizure rates throughout the state. For example, in 2008 the Ohio Bureau of Criminal Investigations (BCI) reported that the year 2005 had the highest lab seizures ever recorded in the state with law enforcement raiding nearly 500 labs (Akron Beacon Journal, 2008). More interesting is the surprising geographic locations of these lab seizures within the state. Methamphetamine does not appear to be a problem in the “bigger cities” in Ohio. For example, the Ohio BCI states that the problem of meth lab production is virtually nonexistent in Cleveland and yet an uncontrollable epidemic exists in Summit County, home to the smaller city of Akron. Summit County Ohio ranked as the third worst community in the United States regarding methamphetamine production, accounting for nearly one half of all sites (220) in Ohio in 2008 (Akron Beacon Journal, 2008). Victimization threats have been growing as well. Ohio had 1,429 total clandestine laboratory incidents for 2012 (United States Department of Justice, 2013). Each of these cases brings about victimization to users, children and the surrounding community.

NORTH CAROLINA

North Carolina is no stranger to meth lab assembly and exposing children to increased victimization. In fact, according to the North Carolina Department of Justice, “children have been found living in one out of every four homes where methamphetamine is created (North Carolina Department of Justice, <http://www.ncdoj.gov/>). North Carolina, like Ohio, has found production most popular in the rural areas of the state. Specifically Wilkes County North Carolina appears to be a hot spot for meth lab production. The county had raided more than twice as many meth labs as any other county in North Carolina in 2012, according to statistics from the North Carolina Bureau of Investigation. Overall the state has experienced a roller coaster effect with methamphetamine production over the years. It appears the 2006 state law restricting the purchase of many products needed to manufacture methamphetamine had contributed to a decrease in its production, only to rise again a few years later: “There were 328 clandestine labs discovered in North Carolina in 2005, but that number dropped to 197 in 2006 when stricter pharmaceutical laws were passed. The number of reported labs started climbing again and rose in 2011 to 344, up more than 100 over lab seizures in 2010” (Winston Salem Journal, 2012).

METHAMPHETAMINE: A CULTURAL PHENOMENON

Despite the dangers of drug usage, especially methamphetamine, drug abuse is still widely accepted in parts of American culture. Recent legislative enactments in Colorado demonstrate the legitimization of certain drugs such as marijuana. Surveyed users of methamphetamine in Ohio show buyers are fairly savvy as to the drug’s effect, both emotionally and physically, yet when interviewed about their habits; they suggested its continued use was because the drug made them feel good and increased their level of productivity. More alarming and central to the thesis in this research, almost all of the 26 participants interviewed admitted to being on methamphetamine while taking care of their children (Daniulaityte, Carlson & Kenne, 2007, p. 26).

The dangers of drug addiction are clear, yet the allure of illegal substance abuse continues to remain strong. The popularity of drugs is exemplified in both music and television. Songs like “Because I Got High” by Afroman or “Geek Stink Breath” by Green Day have been hits on the top 100 billboard charts. Similarly current television shows such as “Weeds” and “Breaking Bad” and the popular show “Intervention” may appear to glorify drug addiction. The message being sent is that the use of drugs is not a problem and that users have control over their habit. Most users of methamphetamine have stated that while they continue to feel the negative effects, they see no need for treatment (Seigal et. al, 2006).

PURPOSE OF THE PRESENT STUDY

Methamphetamine has been studied either from a public health or a criminal justice viewpoint, but the authors of this article conclude a multidisciplinary approach is warranted and it is the purpose of this article to introduce a new comprehensive and reliable approach to addressing the victimization of one specific population impacted by methamphetamine abuse: children. There is a plethora of literature outlining the various forms of child abuse: physical, sexual, and emotional; however these issues are all too often theoretically addressed by scholars applying only theories of victimization to one chapter of a textbook topic and not a thorough examination of the knowledge base needed by professionals who most often come into contact with children. There is a clear link between child victimization and methamphetamine production and use. Meth lab production has been positively correlated with reported cases of child abuse and neglect, truancy rates, teen births and those living in poverty (Weisheit & Fuller, 2004). In the state of Ohio for example, law enforcement officials report that seventy-one children were endangered by meth labs in 2010 (Methapedia.org). This number is of known cases by law enforcement; however there is widespread victimization to others linked solely to meth production, which is not associated with other drugs such as heroin or cocaine. For example, methamphetamine production can expose neighbors, apartment and hotel occupants and social workers to the secondary effects of meth manufacturing that is either undiscovered or lingering long after its seizure by law enforcement (Weisheit & Wells, 2010).

Because of the need to identify drug victimization early, it is the purpose of this article to discern how much knowledge those who work directly with children have regarding methamphetamine. It is our contention that those actors who work the most with children lack the important knowledge needed concerning methamphetamine as well as a comprehensive strategy for dealing with child victims as a result of its abuse. Because of our predicted hypothesis, we will therefore argue for a new approach in dealing with children victimized due to the meth epidemic. This approach begins with a new concept: methcognition. Methcognition implies and encourages a move from the realm of academic thought and theory to everyday field application. Methcognition involves thinking holistically about methamphetamine from every angle by every actor to understand the various societal affects and interacting levels of this deadly drug, particularly on child victims.

An important step to bring methcognition into reality is to provide individuals such as school social workers, teachers, counselors as well as first responders (law enforcement, child protective services) with the training and resources necessary to recognize the signs and symptoms of methamphetamine abuse and to motivate them to actively pursue knowledge on the topic and to share that knowledge with other professionals in order to provide the utmost protection to children. Service providers that work with children come from a broad spectrum of professions (e.g., education, ministry, justice, social work, etc.), and methcognition must become a part of the professional education of those who come into contact with children most often.

Millions of school personnel: teachers, social workers, nurses, resource officers, athletic coaches, support staff, community volunteers and even clergy work with children daily, often for extended periods of time. If children living in environments where methamphetamine is present are to receive the protection they need and deserve, those individuals who are working with them must become involved in the effort to protect them from drug abuse. The following is a brief summary of the importance of human service workers understanding and carrying out the concept of methcognition.

Persons with Formal, Official, Contact with Children: Classroom Teachers

Classroom teachers are the professionals most likely to have regular contact with children. More than any other school personnel they are in a position to observe meth-related signals. Over a period of 13 years, children spend almost 682 seven-hour days in school. For this reason, it is especially important that classroom teachers be familiar with the signs and symptoms that can be apparent with children who are involved in a methamphetamine situation.

Children often display certain warning signs when living with parents who are abusing methamphetamine. Teachers are in a unique position to be the first responders to assist children from meth-involved families. Physical characteristics such as the smell of a child, emotional characteristics such as a depressed mood, and behavioral characteristics such as restlessness, agitation, and exhaustion may help educators recognize the possible exposure to methamphetamine and may prompt them to seek assistance for the child.

On rare occasions, at a parent-teacher conference, classroom teachers also may confront a caregiver or other significant adult in a child's life who is under the influence of methamphetamine. Some of the more common characteristics and obvious signs associated with methamphetamine use include: mood fluctuations, violent behavior, poor impulse control, and lack of attention to basic hygiene.

Because classroom teachers will not normally make home visits, they should be familiar with the characteristics displayed in the classroom by meth-exposed children. Haight et al. (2005) observed that if children attend school smelling like cat urine, they may be involved with methamphetamine. An ethnographic study by Asanbee, Hall, and Bolden (2008) revealed that preschoolers in the meth-exposed group displayed symptoms of more aggressive behavior than did peers from homes not associated with methamphetamine use. By being trained in Methcognition and sensitized to their role, teachers can become familiar with the connection between meth and aggressive behavior.

Support Personnel: The Next Line

Support personnel such as social workers, counselors, nurses, and school resource officers can also play an important role in implementing a program of methcognition. In most situations, school social workers are one of the few school employees who routinely conduct home visits related to issues involving children. They can investigate school attendance issues, discuss behavioral issues with parents, advocate for homeless families, and provide the basic needs (e.g., food, clothing, and shelter) required for effective education. In essence, school social workers connect the home, the school, and the community. This concern for children may manifest itself in referrals for counseling, establishment of attendance contracts with the school, or the provision of school supplies for students. School social workers need to be especially cognizant of the signs indicating that they may be in a meth lab while they are on a home visit. Many social workers, especially those within schools, have been in meth labs without realizing it. When

dealing with children, professionals in the field need to watch for issues related to basic needs (i.e., food, clothing, and shelter). These professionals need to actively look for evidence that some children are being exposed to meth or meth labs. For example, poor hygiene, a consistent lack of lunch money, and the lack of appropriate clothing may be signs that children are being exposed to meth. School social workers also need to be aware of the possible connection between methamphetamine and other forms of abuse.

Support Personnel: School Counselors

School counselors tend to have a hit-and-miss relationship with some students in the school. Counselors may be involved with students through classroom activities such as character education or through individual counseling regarding issues such as conduct, attention problems, and mood disorders. These issues can be the result of living in meth-exposed families (Sroufe, Dougal, Weinfeld, & Carlson, 2000). Counselors need to be trained to identify potential methamphetamine use by parents. Interestingly, not all children growing up in meth-involved environments will develop mental health issues. Haight et al. (2005) observed that some meth-exposed children develop positive peer relationships and perform well in the school environment. This difference only solidifies the need for a solid bio-psycho-social approach that emphasizes methcognition.

Support Personnel: School Nurses

School nurses are the only school employees who may medically examine a potentially meth-exposed child. A medical referral may come to the school nurse, for example, as a breathing difficulty. Because of the drug-addicted environment and neglect often seen in methamphetamine environments, school nurses may function as the primary, and sometimes only, source of medical care. Consequently, school nurses are in the unique position of often being the first medical professionals to examine children affected by methamphetamine (Roper, 2007). School nurses need to watch for biological concerns, such as poor dental health, respiratory problems, lack of proper and current immunizations, lice, obesity, and elevated heart rate (Kansas Meth Prevention Project, 2004). One interesting development concerns the possible confusion over meth bugs and bedbug bites. Serious bedbug bites may resemble the skin abrasions associated with methamphetamine use. The training of school nurses should prepare these medical professionals to make this distinction.

Support Personnel: School Resource Officers

A policeman or deputy sheriff commonly referred to as a “school resource officer” is often stationed in many public schools. School resource officers deal with the law enforcement side of school-related issues. In many states they are trained law enforcement personnel working with either the sheriff’s department or the police department, and have full arrest authority. They deal with such behavioral issues as assault, gang behavior, and the possession of drug paraphernalia, weapons, and pornographic material. The extreme nature of the meth-abusing family causes concerns over drug involvement and pornography. While bringing pornography to school to show one’s friends is certainly not a new phenomenon, studies show that a large percentage of meth labs contain pornography (Zernike, 2005). While the presence of an adult magazine in a child’s possession does not necessarily indicate a meth lab is present, like all of the other markers, it is a possible sign. If brought to the attention of the school resource officer,

the possession of pornography may be only the first sign, or may perhaps be the tipping point, indicating a more serious problem.

Persons without Formal, Official Contact with Students: Clergy, Coaches, Big Brothers, Big Sisters, etc

Part of the value of methcognition is the realization that the community has many more resources than it may at first realize. Armed with knowledge and training these professionals can take action as additional eyes and ears in the quest to protect children from the effects of methamphetamine. They can be taught to look for the same physical characteristics and to detect the same markers as classroom teachers. Community volunteers, such as Big Brothers and Big Sisters, interact with children and are often in the child's home. Having these individuals trained in marker identification can provide important information not available from other sources.

The threat to children is especially serious when their adult caregivers are manufacturing methamphetamine. One example of children living with parents addicted to this particular drug was reported by Swetlow (2003). In his work he describes one poignant scenario describing five children, ages 1 through 7 living without electricity or heat. The children's play area was covered with dog feces as well as used hypodermic needles. The needles are likely to have been the cause of the children contracting Hepatitis C. The children had needle marks that covered their hands, feet and legs as a result of their contact with syringes. This type of environment is obviously not conducive to proper physical health or to the psychological development of a child's sense of security, both of which are crucial components in his/her environment (Maslow, 1954).

Expanding the Team: The Multidisciplinary Approach

The nature of the current methamphetamine epidemic is such that it cannot be adequately addressed using current practices. A holistic approach involving a broad range of agencies and personnel from various disciplines must be developed. This all-inclusive approach is the basis for methcognition. The concept of methcognition can become a reality, not only for social workers and criminal justice professionals, but numerous other professions who are involved with children. Human service workers have been trained to deal with drug addiction and abuse with the utmost sensitivity. However, the needs of innocent children who have been drawn into the meth vortex are special cases. Human service professionals must be knowledgeable and receptive to the concepts of dual victimization and trauma.

It is important to understand that the children of methamphetamine users are twice victimized. Their first victimization is the trauma of living in a home where the drug is produced. This situation alone carries the risk of injury, disease, and addiction. The National Jewish and Medical Research Center (2004) noted that children living in homes with meth laboratories are exposed to such toxic levels of the drug that they may as well be taking the drug directly. Individuals living in the immediate proximity of laboratories are also directly experiencing the harmful biological, psychological, and social consequences of methamphetamine.

The secondary victimization of these children is the forced, but necessary, separation from the family unit. This traumatic separation often requires that children have their bodies scrubbed, decontaminated and all of the children's clothing and toys destroyed. To a young child, a special toy or a favorite article of clothing often serves as a security blanket or comforting mechanism, in the absence of parental attachment (Stevenson-Hinde, 2007). The National Center on Addiction and Substance Abuse (1999) reported that 50 to 90 percent of children who enter the child protective services system have caregivers who have used illicit

drugs. Children in this type of situation are more likely to experience violence, physical, and/or sexual abuse. Such abusive experiences are frequent among methamphetamine exposed children (Austin & Osterling, 2006; Howard, 1994; Magura & Laundet, 1996; Wolock & Magura, 1996; Zuckerman, 1994). This dual victimization must be considered and integrated into policies and practices to protect children involved in these situations. Fortunately, the professional framework needed to accomplish this new approach is already in place. The next step is to educate key individuals with the training and resources necessary to recognize the signs and symptoms of meth abuse and to motivate them to help protect children, thus utilizing an all encompassing approach we have termed “Methcognition.”

The methamphetamine problem can be addressed on three different levels: First, through the education of human service professionals, so that they are trained to recognize the “markers”; second, through the identification, location and destruction of meth laboratories; and third, through advocacy and protection for those children who are discovered in meth laboratories. Methcognition also implies a move from the realm of academia to application in the field. Simply stated, the information regarding methamphetamine must be taken from the classroom to the field, where it can be used by individuals on the front lines. A good example of this concept is illustrated by Holley (2005):

You are the eyes and ears of your local police department. You are looking for canisters of anhydrous ammonia and discarded cans of Red Devil lye accumulating in the yard. Cooks go through thousands of packages of Sudafed or Actifed to get the ephedrine they need to make meth. They will dispose of the discarded packaging in their burn pile. You might notice large quantities of Coleman fuel, lithium batteries and books of matches in the garbage, starter fluid, muriatic acid for cleaning swimming pools, rock salt, toluene or iodine. Be alert to unusual odors. The fumes may have the overwhelming odor of cat urine, or smell like the chemistry lab when you were in high school (p. 13).

A major challenge for the criminal justice system is, more often than not, law enforcement must rely on civilians as a means of identifying the location of meth production facilities. Calls and complaints about suspected meth labs and operations made to local police or social services departments are often the first pieces of information received about meth activity. A large number of labs are found accidentally. When calls are made to law enforcement agencies or to child protective services, then standard protocols to protect meth-exposed children can be put into place.

Without the broad sources of information regarding possible meth labs, the proper authorities may never be aware of the labs that place children and the community at risk. As a result, children may never get to the protocol intercession stage and may never receive interventions.

Training for Professional Responders

Professionals capable of addressing the problem can be divided into two groups: (1) law enforcement and social services; and (2) those individuals that have regular interaction with children such as teachers, nurses, clergy, coaches, etc. Many local police departments and social service agencies are not adequately trained regarding methamphetamine. Although specialized knowledge and training often exist at the state level, such expertise may not extend to the local level where the true first responders are usually formed.

New police officers nationwide go through some form of basic law enforcement training that teaches them what they need to know to enforce the laws in their jurisdictions. This training can often last for weeks or months, depending on the state. While examining the specific curriculum taught to new police officers in North Carolina for example, there was a surprising lack of both focus and detail about the meth problem. Although the normal cautions and overviews were provided, the information centered on protecting the officers' safety. Social workers who reviewed the training were surprised to see no instruction on dealing with families, especially children, found at the scene of a meth lab (North Carolina Division of Social Services, 2008).

Like any other component of the criminal justice system, basic law enforcement training is constantly developing. Changes must be made to officer training as situations and demands concerning methamphetamine arise. This cultivation presents an opportunity for police officers to become educated on the topic and/or to receive a refresher course with current, updated information.

Similarly, local social service agencies, especially through their role in child protective services, are expected to be active participants in dealing with the methamphetamine problem when children are involved. Disturbingly, these agencies are facing an exponential growth in the number of meth-related cases. Child protective services are called on to investigate complaints and take the appropriate action under the drug-endangered child policy. Child protective agencies are understaffed across the United States. Unfortunately, this increase in cases also coincides with historic budget cuts to state and local social service providers.

One of the most challenging questions is how to effectively and delicately work with children victimized due to meth production labs. When labs are discovered, the adults operating them are often incarcerated leaving their children as orphans. Manning (1999) reported that if children were present during a lab seizure, there were rarely any standard procedures regarding their care. Police have often transported children to relatives when and if they were available. Kyle and Hansell (2005) estimated that a minimum of 40% of social service agencies across the country are reporting more children in need of placement because of conditions related to meth use and production; a number estimated to be higher in more rural areas.

Recent Legal Steps in Dealing with the Methamphetamine Epidemic

In 2005 there was federal legislation enacted to combat the meth problem. Congress passed *The Combat Methamphetamine Epidemic Act of 2005*, which was included in the amended version of the Patriot Act of 2005 (Public Law 109-177). The law changed definitions and regulates the selling of ephedrine and pseudoephedrine, precursor substances needed to make methamphetamine. In reaction to the federal legislation 35 other states followed suit by requiring limited use of these substances and mandatory photo identification before purchasing these precursor products (Weisheit & Wells, 2010)

In 2006, North Carolina followed other states by passing legislation monitoring the amount of pseudoephedrine purchased. That same year, North Carolina also began imposing harsher penalties for exposing children under the age of 18 to drugs within the home environment (NC House Bill 1536). Many states have passed such bills to toughen the standards associated with drug abuse. In 2008, the North Carolina Division of Social Services established the Drug Endangered Child Policy for dealing with methamphetamine. The protocol specifies the procedures that social workers should follow when a meth laboratory is identified. It also discusses the importance of human service professionals working with various agencies such as

law enforcement to provide a multidisciplinary perspective as well as providing information on how to protect, advocate and support children in the removal process. These are important guidelines to be followed by social workers when dealing with meth-exposed children. Similarly it outlines standards for working with other multidisciplinary team members such as law enforcement and emergency service personnel. The policy specifically notes that all reports of children being exposed to suspected or confirmed meth laboratories must be investigated by local social services. Other states have similar obligations (North Carolina Division of Social Services, 2008).

Professional Training for the Eyes and Ears of Methamphetamine Workers

It is important that all human service personnel that work with children have a basic understanding of the biological, psychological, and social facets of the problem (Engel, 1977). This information is intended to enhance awareness of those indicators and the presence of meth as well as to encourage all professionals who work with children to become involved in monitoring at-risk children. Suggested readings in the bio-psycho-social area that can serve as good references include: Halkitis (2009), Holley (2005), Reading (2009), and Weisheit and White (2009).

The overwhelming number of complaints that come to child protective services are not usually about the behavior of the children or their emotional stability, but instead involve allegations regarding the environment or possible abuse of children. Child protective services, like law enforcement, have no way to know about a meth environment until a specific drug-related complaint is made. In the case of child protective services, it is possible that information regarding a lab might have resulted from a visit to the home by a social worker or some other human services professional. Current instruction regarding methamphetamine generally prepares social workers and criminal justice officials to recognize, identify, and understand the potential physical dangers to their clients and themselves. Sadly, many child advocates have been in and around meth labs without even realizing it. Beyond the safety concerns, however, the broader social issues resulting from meth use and production, especially the traumatic experience of innocent children, are not ordinarily covered and adequate training is far from universal.

Next to the child's parents, educational professionals have more contact and influence on children than anyone else. It is important to educate, sensitize, and train those individuals to take note of the signals or markers exhibited by children who are associated with methamphetamine production. For example, the manufacturing of methamphetamine usually leaves certain odors (cat urine) that may be present on the clothing of children. Children may also have respiratory problems as a result of inhaling the toxic fumes released during the production process. One final indicator is that the child's school attendance may be poor due to the drug-exposed lifestyle of the parents.

A Status Report in the War on Methamphetamine

Research has found no state or local agency having developed a plan for the broad training necessary to meet the criteria for methcognition. The basic question of who is responsible for providing methamphetamine awareness and training has not been answered. At present, it is apparent that there is not an overriding authority or plan in any state for providing and controlling the content of education and training materials. As stated repeatedly in this article, millions of individuals across the country have the kind of contact with children which provide the opportunity to observe meth markers. Equipping these professionals with the training

and knowledge to make them aware of, as well as motivate them to accept their role, is an important challenge that must be addressed before methcognition becomes a reality.

Although it is clear that both initial and additional in-service training is needed for many professions to educate these audiences, the more important question may be, who is best at providing such training and what delivery method is best utilized?

We believe that methcognition can be disseminated in two ways. The first focuses on educational institutions (e.g., technical colleges, 4-year programs, and graduate programs) that train human service providers. A second option focuses on professionals already employed in the field. Although drug education courses or, at a minimum, components of other courses, are relatively common in criminal justice and social work curriculums, they are rare or nonexistent in nursing, teacher training, and seminary programs. These courses, when they exist, also tend to focus on the macro level of the drug problem in society and do not reach the micro level where methamphetamine is a specific community problem.

The holistic approach to methcognition does not need to present detailed information about the science or chemistry involved in the production of methamphetamine, nor with detailed methods concerning the decontamination of persons affected, nor even the cleanup of a lab or processing site. The approach needs to focus on providing everyday information to help distinguish meth-involved children from children in other problematic situations.

The first bit of information that general human service workers need is the realization that the majority of meth labs that are discovered in North Carolina, as well as across the entire country, are simply stumbled upon (North Carolina Division of Social Services, 2008). An individual who discovers a lab may be visiting the home for another reason and may not suspect methamphetamine abuse when first arriving at the home. As an important aside for personnel: in all cases when the professional in the field believes that he or she has entered a home with a meth laboratory, the worker needs to leave the residence and notify the police immediately.

Second, professionals must know what to look for in the home. They must know the warning signs that indicate potential methamphetamine exposure and abuse as well as the presence of a lab. Once the professionals are aware of the markers and know when and how to protect themselves, a major component of methcognition will have been achieved.

Observed Behavior in Methamphetamine Exposed Children

The following list includes signs and symptoms of behaviors and characteristics that are often exhibited by children who have been exposed to methamphetamine. This checklist offers characteristics that are believed to be precursors to methamphetamine use, abuse and exposure. This list may be helpful to those individuals interested in identifying potential meth-exposed children. These behaviors do not guarantee or prove the presence of the drug, but are often observed in methamphetamine exposed children.

Potential Check List Signs of Methamphetamine Use, Abuse, or Exposure

- Respiratory problems
- Delayed speech and language skills
- Elevated risk for kidney problems and leukemia
- Lack of immunizations and medical care
- Malnourishment
- Developmental problems
- Poor dental health

- Hygiene issues
- Strange odors resembling cat urine
- Lice
- Obesity
- Chemical burns
- Severe neglect
- Physical abuse
- Sexual abuse
- Teen pregnancy
- Pornographic materials
- Advanced sexual knowledge
- Behavioral issues
- Cognitive issues
- Emotional issues
- Mental health issues
- Alcohol and drug abuse
- Isolation
- Lack of sleep
- Low self esteem
- Poor social skills
- Poor peer relations
- Drug use
- Lack of boundaries
- Delinquency
- Inappropriate conduct
- Violent behavior
- Poor school performance/attendance problems
- Easy attachment to strangers
- Unusual care of younger siblings
- Caring for an incapacitated parent or sibling
- References to dangerous animals
- References to booby traps in and around the home
- Ingesting large amounts of cold medicine containing ephedrine
- Participation in after school activities (lack of wanting to go home)

Is it Methamphetamine or Something Else?

At this point, it must be stated emphatically that even if a child exhibits one, two, or perhaps several symptoms on the checklist, this evidence does not prove or guarantee that the child is being exposed to a meth environment. So what exactly might it mean? There are several possible answers. First, it may not mean anything at all. Depending upon which characteristics are in question, the child may simply be from a poor socioeconomic background or may simply be lacking in basic hygiene skills. Second, a child displaying such characteristics might be from a home where a different kind of drug is being abused. If markers are detected or suspected, the responsibility of the human service professional is to convey that information to the appropriate law enforcement agency to determine if a child is being exposed to a meth lab environment. What happens then? As has been noted, training is sparse even for professionals in the criminal

justice system. The safety of the school worker, volunteers, criminal justice professionals, and of course the children exposed to the environment is critical. Bearing that in mind, no one but a trained expert should ever knowingly enter an active meth lab. There is no reliable way for the average school worker or community volunteer to know if the lab in question is currently active. Again, safety for all involved is paramount. When an active lab is suspected or confirmed, the police must be notified immediately. After that notification is made, the proper chain of command must be followed in the school, social service agency or community organization by which one is employed. If the children are still in the home, plans must be coordinated with the police and the appropriate social service agency to have them removed to ensure that they receive proper medical attention. Methcognition alone does not shut the lab down nor undo the damage children have already faced. It seeks to prevent further damage and provide children with the highest level of coordinated care and treatment possible.

It is worth noting again that the majority of meth labs are discovered accidentally. Whoever exposed a lab was not expecting it when they arrived on the premises. Methcognition seeks to tip the balance, to allow for the unearthing of more meth labs, and to provide for the protection of more children.

Regardless of the final outcome, methcognition can be an aid in providing services to the family. If there are drug issues in a household, the same team of school leaders and community volunteers can offer a supportive network for the family in need, providing valuable referrals to community resources. If it turns out to be a neglect or abuse situation, again, those in a school setting or active in the life of the child may be the first to pick up on the signs and symptoms. There are many more families in need of a helping hand than there are families running clandestine meth labs. Nevertheless, the principles of methcognition can still aid in the healing and recovery of the family unit.

HYPOTHESIS

Based on the limited literature to date with respect to the idea of methcognition and child care professionals, we hypothesize that those professionals who come into contact with children most often (criminal justice, social services, and community activists) will lack a general knowledge about methamphetamine, thereby failing to decrease a child's exposure to potential primary and secondary victimization.

METHODOLOGY

In March of 2012, a convenience survey was conducted during a meeting of a state-wide organization in North Carolina dedicated to developing and extending services to children and youth in that state. Active members of the group include school social workers, case managers, volunteer organizations, children and youth workers, police, probation, and parole officers, substance abuse counselors, as well as others involved in providing services to children.

The survey was designed to determine the level of understanding and awareness these professionals had concerning methamphetamine. Only by gauging the current awareness levels of those actors who work most often with children, can we gain a sense of the possible need for a methcognition approach to dealing with child victims. Topics on the survey included general methamphetamine awareness and knowledge, as well as ingredients in the drug, and the ways in which it can be ingested. Approximately 125 individuals attended the conference, and 115 completed surveys were returned. Out of those returned, 15 had to be discarded due to missing data. The final sample contained 100 surveys. Results are discussed below.

RESULTS

Respondents were first asked to read a statement, and then select the answer that best matched their view. The choices were as follows: SA=strongly agree, A= agree, NO=no opinion, D=disagree, and SD=strongly disagree.

Question. I understand how methamphetamine is manufactured.

SA = 8	A = 49	NO = 10	D = 23	SD = 10	N=100
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The response to this question indicates that the majority of respondents felt that they understood how methamphetamine is produced. In a similar fashion, the majority of respondents also felt that they knew the common ingredients used to manufacture methamphetamine.

Question. I know the common ingredients used to manufacture methamphetamine.

SA = 7	A = 44	NO = 16	D = 18	SD = 15	N=100
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For methcognition to become a reality, those who work directly with children, or are in the position of planning drug prevention programs for children need to understand how methamphetamine is manufactured, and the common ingredients. This is critical because those professionals who are in the home environment of the children need to be aware of the warning signs of methamphetamine production. Having more than half of the respondents familiar with the ingredients, and having an understanding of the process seemed to indicate a positive step in the right direction.

Is it accurate however? Do the professionals working with children really understand methamphetamine? Do they really understand how it is made, and how it can be taken? Professionals must know what to look for in the warning signs that indicate potential methamphetamine exposure and abuse as well as the presence of a clandestine lab. For example, do they know any of the hundreds of street names methamphetamine goes by? This is important because in dealing with children (and adults) who speak in “code,” professionals must be familiar with the terminology associated with this drug on the streets. Additional questions on the survey were designed to ascertain this information, and the results were not encouraging.

Question. List three common ingredients used to manufacture methamphetamine.

Question. In what ways can methamphetamine be taken?

Question. List three common or street names for methamphetamine.

These three questions were asked to determine if the respondents could actually list the ingredients in meth, or could actually list the various ways it could be taken. Methamphetamine can be taken in a number of ways—it can be smoked, snorted, taken in pill form, injected, or taken orally. It can also be inserted vaginally or anally. Understanding the variety of chemicals used to manufacture methamphetamine and the ways in which it can be ingested, suggest professionals would be able to discover abuse more readily than those unfamiliar with such methods, thus rescuing children more quickly. It was determined by the researchers that naming three ways in which methamphetamine could be taken could count as a correct answer. In a similar manner, if the respondent could name three ingredients in methamphetamine, or three common street names, the answer would be counted as correct. The following chart summarizes the correct and incorrect answers.

Question	Percentage Correct	Percentage Incorrect	N
List 3 Ingredients	26%	74%	100
List 3 Ways to Take Meth	26%	74%	100
Three Common Names	16%	84%	100

It is apparent that there is a disconnection between what the respondents *think they know* about methamphetamine, and what they were able to convey on the survey. If this is correct, then what accounts for this disparity? The most likely explanation is their limited training or perhaps their inability to retain their training. Regardless, the result is that their deficient knowledge about meth increases children's exposure to victimization. If those in the field are not properly trained, then they cannot be expected to be knowledgeable on the topic. In addition, if their agencies are not providing the training, or sending their employees for such training, then the bureaus themselves most likely lack concrete policies and procedures on the topic.

The respondents were asked a series of questions to determine the level of training the professionals in the survey had received. In addition, they were asked about the specific policies and procedures currently in place at their agency. The majority of the respondents had a four year degree. Perhaps they had learned about methamphetamine as part of their academic degree programs.

Question. I received adequate training in my undergraduate program in preparation for working with methamphetamine exposed families.

SA = 4%	A = 9%	NO = 19%	D = 19%	SD = 49%	N=100
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It is clear in looking at the responses above, that this was not the case. Combining the disagree and strongly disagree category, a full 63% of the respondents disagreed with this statement, while combining agree and strongly agree yields only 13%.

Question. I received adequate training in my undergraduate program in preparation for working with methamphetamine exposed families.

Categories collapsed to Agree, No opinion, and Disagree

A=13%	N=19%	D=68%	N=100
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To further complicate the issue, a deeper look into the responses reveals some troubling information. When looking only at the thirteen people who agreed that their undergraduate work prepared them for dealing with methamphetamine exposed families, their success rate in identifying common ingredients, ways in which methamphetamine can be ingested, and common street names of methamphetamine, the results were disconcerting. Only eight of the 13 people could list three common ingredients in meth. This unfortunately was the high water mark. Only seven of the respondents could correctly list three ways in which methamphetamine could be taken, and only three respondents could list three common street names for methamphetamine. It is clear that in this sample of respondents, the college curriculum is either inefficient or the professionals did not retain the information presented. Regardless, the harmful effect of their lack of knowledge appears discouraging for children's safety.

Two questions were asked to assess whether or not their employment agency supported training and safety when dealing with methamphetamine.

Question. Have you received formal training on methamphetamine from your agency?

Question. Does your agency clearly define what is expected of you if you find yourself in a home that is serving as an active methamphetamine lab?

Received training	Yes 14%	No 86%	N=100
Clear Expectations	Yes 19%	No 81%	N=100

Results indicated that a significant majority of these professionals have received no formal methamphetamine training from their employer, and that for most of the respondents, no specific policies are in place in the event that an active meth lab is discovered.

Finally, we queried respondents to determine if they felt that they needed additional training on methamphetamine.

Question. I need more training on the dangers of methamphetamine.

SA = 44%	A = 43%	NO = 9%	D = 1%	SD = 3%	N=100

As noted by the above response, 87 out of 100 people surveyed felt the need for additional training. The results of this survey indicate a need to increase the level of methcognition among the respondents. Each home that functions as a meth lab is a hazard. The risk of explosion or exposure to deadly chemicals is ever present. No one should know better than the professionals who responded to this survey the potential dangers of that environment, as well as the vast array of services children growing up in that environment may require. Out of the one hundred professionals surveyed, seven had been in a home that was later confirmed to have been a meth lab, and twenty six had worked with children who were confirmed to have been exposed to methamphetamine.

LIMITATIONS TO THE STUDY

This study was small and only focused on 100 professionals working with children in North Carolina. While it cannot be generalized to the entire population of professionals in North Carolina, it demonstrates the need for methcognition among professionals. The general population cannot be expected to understand the dangers of the methamphetamine epidemic if the professionals working in the field do not. The general public cannot be expected to understand the production process, the ingredients, or the slang terms for meth when the professionals in the field do not. The principles of methcognition must be established and put into place.

CONCLUSIONS AND FUTURE RECOMMENDATIONS

The purpose of methcognition is to provide broader community awareness, understanding and support of child victims exposed to methamphetamine. Children displaying the

characteristics mentioned in this article are most likely in need of some type of intervention. Whether a child's specific situation requires simple assistance, a helping hand, or removal from the home, such intervention can only be determined through professional investigation. The purpose and focus on methcognition is to make as many individuals as possible aware of the potential signs of methamphetamine abuse in order to provide the best chance for early intervention.

The authors are recommending the formation of school action resource teams, recognizing of course that schools vary as to funding and staff levels, and not all schools will have all of the listed personnel. The idea of the team is to bring together school officials who have varying levels of involvement with the child. Recommended members of a school action resource team are as follows: teachers, resource officers, school social workers, school nurse, counselors, coaches or club coordinators. All of the above mentioned professionals interact with the child on different levels. As a result, they are likely to see different signs and symptoms as listed in the previously-provided checklist. Given the hectic environment of most schools, it is understandable that a teacher, for example, may see one or two warning signs displayed, yet not see the underlying problem. The existence of a school action resource team would allow the teacher to share the possible warning signs he or she has witnessed. A school nurse, resource officer, or social worker may have additional information to share, and a more detailed picture of the problems facing the child in question will begin to develop.

Dobkin and Nicosia (2009) identified three effective methods used to decrease drug use: enforcement, treatment, and prevention. While we certainly support these methods we believe a fourth component is needed: broad societal education and participation. For methcognition to become a reality, an education and training component for front line workers such as school officials and community volunteers is necessary. Social workers and law enforcement officers need to advocate for prevention efforts that can reduce the impact of the recent methamphetamine epidemic and additional education and training is essential. While this type of training is not yet widely available, works such as the current project can fill in the gaps for school officials, and as previously mentioned, basic law enforcement training can be expanded and refined to include a more comprehensive examination of the methamphetamine problem.

It is recommended that either the school resource officer (in many cases a certified law enforcement officer), or the school social worker lead the teams. These individuals are most likely to have received up to date methamphetamine training. Moreover, the authors suggest expanding or creating these teams with an increased emphasis on methcognition. The inclusion of school nurses, for example, is critical. The action resource teams would simply discuss observations about a child in their care, and attempt to determine if a closer look is needed. The action resource team may determine that there is a need for follow up, that a potential abuse or neglect problem exists, that methamphetamine exposure is a possible problem, or that no further action is needed. Yet we will never know which action to take if we are unaware of the actions that are possible.

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APPENDIX 1. SURVEY INSTRUMENT

You are being asked to complete this survey to help the researchers understand the state of methamphetamine awareness and training in North Carolina. Your participation is completely voluntary. You may complete some, all, or none of the survey. There will be no penalty for not completing the survey. All information gained will be held confidential, and no attempt will be made to identify any specific individual. Only group data will be reported.

Job Title _____ Years at Current Job _____

Total Years working in the field _____

Education _____

Gender _____ Organization _____

The first set of questions is asked on a Likert scale. Please read each question and circle the most appropriate response. SA= Strongly Agree, A= Agree, NO= No Opinion, D= Disagree, and SD = Strongly Disagree.

1. I understand how Methamphetamine is manufactured.
SA A NO D SD
2. I know the common ingredients used to manufacture methamphetamine.
SA A NO D SD
3. I have been in a home that I *suspected* was involved in the manufacture of methamphetamine.
SA A NO D SD
4. I have worked with children that I *suspect* were exposed to methamphetamine.
SA A NO D SD
5. My agency has provided adequate training on the effects and dangers of methamphetamine exposure, both to the children involved, and the case worker.
SA A NO D SD
6. I need more training on the dangers of methamphetamine.
SA A NO D SD
7. I received adequate training in my undergraduate program in preparation for working with methamphetamine exposed families.
SA A NO D SD

Please read the following questions, and provide the appropriate information, or circle your response.

8. List three common ingredients used to manufacture methamphetamine _____
9. In what ways can methamphetamine be taken _____
10. List three common or street names for methamphetamine _____
11. Does your agency clearly define what is expected of you if you find yourself in a home that is serving as an active methamphetamine lab? Yes No
12. I have been in a home that was later confirmed to be a place where methamphetamine was manufactured. Yes No
13. I have worked with children where there was confirmed exposure to methamphetamine. Yes No
14. Have you receive formal training on methamphetamine from your agency? Yes No