REPORT

The Economic Cost

of Methamphetamine Use in Montana

February 2009

A Report Prepared for the
Office of the Attorney General

MONTANA DEPARTMENT
OF JUSTICE

Contents

"The Economic Cost of Methamphetamine Use in Montana" was prepared by the Montana Department of Justice and the Montana Meth Project.

The report is based on an analysis of a wide range of information from state and local government agencies. It relies heavily on the methods and findings of the RAND Drug Policy Research Center report, "The Economic Cost of Methamphetamine Use in the United States, 2005." The research for the latter was funded by the Meth Project Foundation and the National Institute on Drug Abuse. The RAND Drug Policy Research Center's work is supported by the Ford Foundation, other foundations, government agencies, corporations and individuals.

Introduction

Methamphetamine Addiction and Availability

Methamphetamine use is associated with a host of negative physical and psychological consequences contributing to societal problems, fracturing family units and overburdening law enforcement and social services.

Methamphetamine is a powerfully addictive stimulant that dramatically affects the central nervous system. It is a white or off-white, odorless, bitter-tasting powder or a hard, crystal-like substance. It is either taken orally, intra-nasally (snorting the powder), by needle injection or smoking. Methamphetamine releases high levels of the neurotransmitter dopamine, which stimulates brain cells, enhancing mood and body movement and greatly increasing the experience of pleasure. It also appears to have a neurotoxic effect, damaging the area of the brain associated with emotion and memory.

Users may become addicted quickly and use it with increasing frequency and in increasing dosages. With chronic use, tolerance for methamphetamine can develop. Long-term users may experience extreme weight loss, severe dental problems, anxiety, confusion, insomnia, mood disturbances and aggression. Chronic abuse can lead to psychotic behavior, characterized by intense paranoia, visual and auditory hallucinations, and out-of-control rages that can be coupled with extremely violent behavior.

According to the 2008 National Drug Threat Assessment, the domestic production of methamphetamine has decreased dramatically since 2004. That decrease is offset by the increasing availability of high-purity crystal ice methamphetamine trafficked by Mexican and Asian networks, and by large-scale production in Canada.[1] Ice methamphetamine is a more pure form of meth that is usually smoked. Smoking meth results in a more rapid onset of addiction to the drug than does snorting or ingesting.

National RAND Cost Study

In February 2009, the RAND Drug Policy Research Center published "The Economic Cost of Methamphetamine Use in the United States, 2005." The research was funded by the Meth Project Foundation and the National Institute on Drug Abuse. The RAND Drug Policy Research Center's work is supported by the Ford Foundation, other foundations, government agencies, corporations and individuals.

The RAND study aimed to estimate the annual economic burden of methamphetamine in the United States. The report estimated that the quantifiable cost in 2005 was roughly $23.4 billion. While there is a substantial range of uncertainty in that estimate, it is based on an analysis of the costs of drug treatment, other health care costs, lost productivity, crime, child endangerment and meth production. While these areas do not cover all of the costs associated with meth addiction, the RAND Report

[1] National Drug Intelligence Center. (2008). *National Drug Threat Assessment* (2007-Q0317-003). Washington, DC: U.S. Government Printing Office.

believed they represent the components for which “reasonably good data are available and for which a preliminary national estimate could be built.”

Meth Costs in Montana

Like the national cost report, this Montana report attempts to place a dollar value on the economic burden methamphetamine places on the state. Given the broad scope of this undertaking and the availability of reliable information, the Montana report focused on estimating the costs in five areas used by the RAND report:

1. crimes attributable to meth use as well as criminal justice costs associated with enforcing meth laws;
2. meth treatment that is delivered in general, short-stay hospitals and the specialty treatment sector;
3. meth-related child endangerment;
4. health services used in the treatment of medical conditions attributed to meth use; and
5. lost productivity due to absenteeism, unemployment and premature death.

Where specific costs were known, such as the actual cost of meth addiction treatment and lab cleanup, it was possible to calculate exact dollar amounts. In other areas, such as the costs of investigating and prosecuting meth crimes or the cost of lost productivity to Montana businesses that employ meth addicts, estimates were based on the 2005 National Study on Drug Use and Health (NSDUH) issued by the U.S. Public Health Service. This survey provides yearly national and state-level estimates of drug usage, including the prevalence of meth abuse in the general population.

The Montana report includes data from a number of years. Where possible, 2005 and 2007 data were used to indicate trends. In some instances, such as estimating the cost of placing children in out-of-home care because of their parents' drug addiction, more recent data was used. In September 2006, the Child and Family Services Division began collecting statistics on the type of drug involved in drug-related out-of-home placements, information that allowed more accurate cost estimates for subsequent years.

Acknowledgments

A number of agencies provided the program and financial information on which this report is based, especially:

- Montana Board of Crime Control
- Department of Public Health and Human Services, Addictive & Mental Disorders Division, Chemical Dependency Bureau
- Department of Public Health and Human Services, Child and Family Services Division
- Department of Corrections
- Department of Justice, Division of Criminal Investigation, Narcotics Bureau

Executive Summary

Costs associated with the methamphetamine problem in Montana, which peaked at more than $300 million in 2005, have been decreasing steadily over the past three years. However, at an estimated cost of slightly more than $200 million in 2008, meth continues to place a significant economic burden on our state.

Methamphetamine-related crime cost the state of Montana an estimated $80 million in 2008. While the expense of putting a meth addict in prison can be readily calculated, it is much more difficult to determine the costs incurred at every level of our criminal justice system. Even so, meth-related crime has a budget impact on a wide range of government agencies and the public costs considered in this report fall into five categories:

- all drug offenses reported by local law enforcement agencies where methamphetamine was seized in 2005 and 2007;
- county jails and sheriffs' departments in 2007;
- state criminal investigations and forensic science divisions;
- state and local drug task forces; and
- correctional cost for offenders with meth-related crimes.

It's important to note that these components do not encompass all potential costs. This report does not consider the effect of methamphetamine use on every type of offense or community corrections violation. Nor does it consider all the costs associated with meth-related convictions and re-arrests.

Even Montana's economy is not immune to meth's negative impacts. Each year, work-related productivity losses associated with meth use costs Montana nearly $65 million. To estimate the cost of meth use on work productivity in Montana, the report utilizes an approach that focuses on four areas:

- lost earnings associated with reduced employment;
- absenteeism from work;
- lost productivity associated with incarceration; and
- other employer expenses such as the costs of drug testing and the number of sick days meth users take.

Montana's methamphetamine problem is also taking a major toll on our healthcare system. Meth addiction is a chronic, relapsing disease, characterized by compulsive drug-seeking and drug use, which is accompanied by functional and molecular changes in the brain and numerous health and behavioral problems.

The cumulative effect of these meth-related health problems has proven costly to our state. The health- related expenses associated with methamphetamine use and addiction cost Montana an estimated $48.8 million in 2008 alone. These costs include meth-involved inpatient stays, suicide attempts, emergency room visits and health administration. This report also uses the RAND Report's model to measure the intangible costs associated with methamphetamine addiction in Montana, namely, reduced quality of life.

In addition to the expenses it places upon our economy, criminal justice system, and health care systems, Montana spends significant resources on meth-related chemical dependency treatment. The unique problems surrounding meth addiction often result in difficulty completing treatment and an increase in the length of stay for individuals in treatment.

Consequently, it cost the state of Montana nearly $6 million in 2008 to care for methamphetamine addicts and their unique and challenging treatment needs. This figure does not include the costs of drug treatment programs on the seven reservations, specialized drug treatment services for veterans, care received in the general medical sector, or services rendered by private physicians, psychologists, social workers or licensed addiction counselors. Finally, it does not contain the cost of clinical services offered in adolescent group homes, mental health centers or private facilities.

The unique nature of methamphetamine addiction poses an even greater threat to the well-being of children living in home environments with meth-addicted caregivers. In 2008 it cost Montana roughly $11.9 million to care for children removed from their homes and placed into the foster care system due to abuse and neglect attributable to methamphetamine. These costs include foster care expenses as well as medical, mental health and quality of life costs for these abused and neglected children. This figure should be considered a conservative estimate as it does not include any of the costs to the state and local governments of administering the foster care program nor does it include the costs of children who suffer meth-induced maltreatment and neglect but who remain with their families.

Finally, the report examines the cost of cleaning up toxic meth labs. The enactment of laws in 2005 putting better controls on the ingredients needed to make meth contributed to a steady decline in the number of clandestine meth labs in Montana requiring the removal of hazardous materials by a specialized contractor. For example, in federal fiscal year (FFY) 2002 there were 122 such labs compared to 6 in FFY 2007 and 7 in FFY 2008. Even with this drop, meth lab cleanup in Montana still cost the state $54,140.91 in FFY 2007 and 2008, with site-specific costs ranging from a low of $1,739 to cleanup an apartment in Great Falls to $16,166.25 for a house in Bozeman.

At roughly $208.3 million in 2008 alone, the costs attributable to meth use and abuse in Montana are tremendous. From crime and cleanup to healthcare and treatment to families, meth is having a very real economic impact on our state and it continues to consume significant public resources.

Section I. Crime and Criminal Justice

There is a general recognition that the expansion of the meth market in the United States has increased crime in communities[2] and even contributed to the rise of new crimes, such as identity theft[3]. The academic literature supports an association between meth use and a variety of property and violent crimes.

A 2006 survey of meth users in Australia[4] found that offenders were substantially involved in criminal behavior, including drug use and selling, nonviolent (economic) crime and violent crime. Another study of offenders in California found that 20 percent of parolees reported meth use in the 30 days prior to the interview. These users were younger and also significantly more likely than nonusers to have been returned to custody or to self-report a violent act (including robbery) in the preceding 30 days[5].

Based on RAND's analysis of 2003 Arrestee Drug Abuse Monitoring (ADAM) data, positive drug tests among arrestees showed that meth use is significantly higher among those arrested for property crimes and violent crimes than in the general population.

While we can readily calculate the cost of putting a meth addict in prison, it is much more difficult to determine the costs at every level of our criminal justice system. Even so, we know that meth-related crime has a budget impact on a wide range of government agencies, including:

- local police departments and sheriffs' offices
- state and federal drug investigative agencies
- state highway patrols
- county attorney offices, public defender offices and the courts
- state and federal crime labs

The costs of a meth user to the criminal justice system start well before he or she is ever incarcerated in a state or federal prison.

[2] Baskin-Sommers, Arielle, and Sommers, Ira (May 2006).The Co-Occurrence of Substance Use and High-Risk behaviors. *Journal of Adolescent Health*. *38, No. 5*, 609-611.
[3] Sullivan, Bob. (March 10, 2004). The Meth Connection to Identity Theft. *MSNBC.* Retrieved May 8, 2008 from http://www.msnbc.msn.com/id/4460349/
[4] Lynch, Mark, Robert Kemp, Leigh Krenske, Andrew Conroy, and Julianne Webster (2003) *Patterns of Amphetamine Use: Initial Finding from the Amphetamines in Queensland Research Project*, Brisbane, Australia: Crime and Misconduct Commission, 2003.
[5] Cartier, Jerome, Farabee, David, and Prendergast, Michael (April 2006). Methamphetamine Use, Self-Reported Violent Crime, and Recidivism Among Offenders in California Who Abuse Substances. *Journal of Interpersonal Violence*. *Volume 24, No. 4*, 435-445.

1.1 Methamphetamine and Crime in Montana

In Montana, meth-related crime places demands on law enforcement and other criminal justice agency budgets at all levels – local, state and federal.

In 2005, the National Association of Counties released survey results of law enforcement officials from 500 counties in 45 states suggesting that meth-induced crime was increasing, and more than half reported that methamphetamine was their greatest drug problem. Montana reported a 90 percent increase in meth-related arrests in the five years previous to the report.[6]

The Department of Justice 2007 and 2008 *Methamphetamine in Montana* reports detailed the connection between meth and crime. Based on meth-specific data from the Montana Board of Crime Control, the state's Forensic Science Laboratory and the Division of Criminal Investigation, the reports indicated the trends in the number of crime incidents in which meth was involved. While overall crime rates have remained relatively constant in recent years, meth-related crime:

- increased by 17 percent between 2004 and 2005, but
- declined by 62 percent between 2005 and 2007.[7]

Since 2002, five Montana counties have been members of the Rocky Mountain High-Intensity Drug Trafficking Area (HIDTA), largely because of the surge in methamphetamine abuse in Montana. This federally funded multi-state drug enforcement task force also includes Utah, Colorado and Wyoming. The HIDTA designation qualifies Montana for additional federal funding and support to address drug-related problems.

In a similar multi-state, cooperative effort, the Montana Highway Patrol became part of the Rocky Mountain Highway Patrol Network (RMHPN) in 2005. The network also includes the Utah Highway Patrol, Colorado State Patrol and Wyoming Highway Patrol.

RMHPN aims to disrupt drug trafficking and to tie individual seizures to ongoing investigations. After each seizure, officers in the network report to an investigative support center. Information is shared with other state and federal agencies in an effort to tie a courier and a drug shipment to investigations around the nation. RMHPN also creates a weekly bulletin that is available to highway patrol officers and drug task force members and is distributed nationwide and in Canada.

It would be extremely difficult to attach a specific dollar amount to the meth-related efforts of the Rocky Mountain High Intensity Drug Trafficking Area or the Rocky Mountain Highway Patrol Network in Montana. Even so, both of these organizations are examples of the extraordinary efforts – and costs – drug trafficking, particularly the surge in meth, have imposed on the state.

[6] National Association of Counties. (2005). *The Meth Epidemic in America*. Washington, D.C.
[7] MT Department of Justice. (2007). *Methamphetamine in Montana: A Follow-up Report on Trends and Progress* Helena, MT.

Table 1.1: RMHPM and Montana Highway Patrol Drug Interdiction Seizures[8]

	RMHPN 2006	RMHPN 2007	MHP 2006	MHP 2007
FELONY SEIZURES	501	311	27	44
METHAMPHETAMINE	200 lbs.	80 lbs.	623.7 grams	994.8 grams
METH (ICE)	—	—	1,174.8 grams	5,896.7 grams
PORTABLE METH LABS	—	1	—	—
VEHICLES	145	107	—	—
WEAPONS	29 (*18 submachine guns; 11 handguns shotguns/rifles*)	29 (*17 handguns; 12 shotguns /rifles*)	12	6
U.S. CURRENCY	$1.7 million	$5.4 million	$462,977	$57,841

1.2 Economic Costs of Methamphetamine Offenses

This section presents the economic costs associated with methamphetamine offenses that occurred in 2005 and 2007. However, depending on data availability, the costs discussed come from multiple years. Where possible, this report attempts to highlight the shifts in meth-related costs between the years 2005 to 2007, but it also includes some data from 2006, 2008 and 2009. To estimate the cost to the courts and in police time, the report relies on the estimates used by the RAND Report – estimates believed to be conservative, but credible.

The costs we consider for Montana fall into five categories, specifically those associated with:

- state and local drug task forces
- all drug offenses reported by local law enforcement agencies where methamphetamine was seized
- correctional expenditures for offenders with meth-related crimes
- county jails and sheriffs' departments
- state criminal investigation division

These components do not encompass all potential costs. We do not consider the effect of methamphetamine use on every type of offense or community corrections violation. Nor do we consider all the costs associated with meth-related convictions and re-arrests. The following table summarizes the estimated costs in each category for fiscal year 2005 and 2007.

[8] Montana Highway Patrol. *Rocky Mountain Highway Patrol Network interdiction seizures* [data file].

Table 1.2: Summary of Meth Associated Crime and Criminal Justice Costs

COST CATEGORY	2005 ESTIMATE	2007 ESTIMATE
DRUG TASK FORCES	$94,695	$90,514
DRUG OFFENSES	$95,460,988	$10,422,463
CORRECTIONAL FACILITIES	$60,003,890	$60,003,890
SHERIFFS AND LOCAL JAIL	$11,472,921	$6,029,038
CRIMINAL INVESTIGATION NARCOTIC BUREAU	$165,876	$142,318
TOTAL:	$167,198,370	$76,688,223

1.3 Drug Arrests Associated with Methamphetamine Use; Drug Task Forces

Montana has seven drug task forces that address the manufacture, distribution and sale of illegal drugs, including methamphetamine. The multi-jurisdictional drug task forces foster institutional collaboration, information sharing and state, local and federal partnerships in the fight against illegal drug traffickers.

The drug task forces (DTF) play a major role in identifying drug arrests and drug removal in Montana communities. Drug task forces are made up of specially trained officers who respond to reports of potentially drug-related crime scenes. DTF officers interview suspects, identify suppliers and follow up on the testing of drug evidence. These secondary investigations often lead to additional arrests and the recovery of even larger quantities of illegal drugs. The following tables present the data used to calculate the meth-associated costs.

Funding for the drug task forces involves a mix of local match and federal grant funding through the Montana Board of Crime Control and, starting in FY 2008, state forfeiture funds. The funding for the task forces has changed significantly over the past several years due to major reductions in federal support. To continue the drug task forces, local match and state forfeiture funding have been tapped to make up some of the shortfall. For instance, in 2007 (see Table 1.3) the federal proportion of the total costs was 53 percent. In FY 2009 it has dropped to 16 percent. In 2009 the total cost to the state to support the seven task forces is $2,406,231 (state forfeiture and local match). The Table 1.3 shows the funding for FY 2007, which is used in estimating the annual cost of methamphetamine in the state.

Table 1.3.1: Funding Sources for Montana Drug Task Forces[9]

	2005	2007	2009
FEDERAL (BOARD OF CRIME CONTROL)	$1,448,071	$1,160,177	$482,877
STATE FORFEITURE	$0	$0	$550,097
LOCAL MATCH	$526,085	$1,017,014	$1,856,134
TOTAL	$1,974,156	$2,177,191	$2,889,108
MT COSTS	$ 526,085	$1,017,014	$2,406,231

The Montana Board of Crime Control collects data from local jurisdictions and drug task forces, using the Montana Incident Based Report. The following data is from the combined Task Forces Incident Based Reports collected in fiscal years 2006 and 2007.

Table 1.3.2: Drug Task Force Meth-related Drug Arrests[10]

ARREST TYPE	FY 2006	% OF TOTAL	FY 2007	% OF TOTAL
MARIJUANA	1,889	67%	2,091	74%
METHAMPHETAMINE	413	14.8%	251	8.9%
NARCOTICS	164	5%	138	4.8%
COCAINE	75	3.7%	71	2.5%
OTHER	246	8.8%	268	9.5%
ALL ARRESTS	2,789	—	2,819	—

To determine what percentage of Drug Task Force funding can be attributed to meth, this report uses the percentages of arrests reported by the task forces that were related to meth. Methamphetamine arrests reported by Montana's drug task forces represent 14.8 percent in FY 2006 and 8.9 percent in FY 2007.

[9] Montana Board of Crime Control
[10] Montana Board of Crime Control. *Drug Task Force drug arrests* [data file].

Table 1.3.3 applies these representative percentages to the total of local and state dollars spent to fund the drug task forces in FY 2009.

Table 1.3.3: Non-federal Costs of Drug Task Forces Associated with Meth Arrests

	2005	2007	2009
MT COSTS TO SUPPORT ALL SEVEN DTF	$526,085	$1,017,014	$2,406,231
PERCENTAGE OF METH-RELATED ARRESTS	18%	8.9%	8.9% (estimated)
COST OF DTF ASSOCIATED WITH METH	$94,695	$90,514	$214,155

1.4 Drug Arrests Associated with Methamphetamine Use; Court and Jail Costs

The RAND Report estimates the court and jail costs of drug-related arrests based on a variety of sources and makes some general assumptions. As Montana does not have specific information, this report uses the RAND figures to calculate the costs of meth-involved drug offenses. We do not differentiate among the types of arrests, such as possession and intent to sell. The RAND Report differentiates between the state-level cost per arrest and a federal-level cost per arrest. This Montana report considers only the state-level cost per arrest.

As previously mentioned, the Montana Board of Crime Control collects arrest data using the Montana Incident Based Report (MTIBR). In 2007, 91 of Montana's 111 sheriffs' and police departments contributed 12 months of incident-based crime data. Two agencies reported less than 12 months of crime data, and 14 agencies reported their data in a yearly summary report form.

The Incident Based Crime Report (IBC) is compiled by the Montana Board of Crime Control. The arresting officer determines related factors, including whether a crime is associated with drugs, the type of drugs involved and whether the criminal is under the influence. To avoid possible duplication, this report uses only the arrests made by Drug Task Forces in compiling meth-involved arrests across all offense categories, which are then used to calculate the cost of these incidents in Montana for 2005 and 2007.

Table 1.4 is a gross estimate of a state-level court and police cost per meth-related arrest using RAND's estimation of 2005 costs multiplied per arrest.

Table 1.4: Cost of Courts and Police per Meth-Involved Arrest[11]

METH-INVOLVED DRUG OFFENSES IN MONTANA	RAND BEST ESTIMATE PER CASE	NUMBER OF ARRESTS 2005	NUMBER OF ARRESTS 2007
COST PER ARREST—COURT	$1,287	891	347
COST PER ARREST—POLICE	$1,085	891	347
TOTAL COST	—	$2,113,452	$823,084

1.5 Methamphetamine-induced Crimes

There is an association between meth use and a variety of property and violent crimes. National studies[12] surveying methamphetamine inmates reported those criminals engaged in property and violent crime to pay for the drug and that methamphetamine "caused" them to be violent towards partners, family, friends and strangers. The Bureau of Justice Statistics likewise surveys state and federal inmates and gathers information about the inmate to further understanding of the role between drug use and crime. The survey includes questions about the type of crimes, the use of drugs at the time offense, and if the inmate was in need of money for drugs.

Based on these findings, this report collected Montana-specific methamphetamine induced crimes—other than drug offenses already discussed—and specific costs associated with each of the seven index crimes using the formula developed by French et al[13] and utilized in the RAND Drug Policy Research Center report. The tangible costs included are:

- the victim's direct economic losses, including medical care costs, lost earnings and property loss or damage
- the costs to the criminal of choosing to engage in crime rather than a legitimate career

In addition, this estimate includes the intangible costs to crime victims,[14] including:

- pain and suffering
- decreased quality of life
- psychological distress

Table 1.5 represents the tangible and intangible cost associated with seven major crimes categories.

[11] RAND Drug Policy Research Center (2009). *Economic Cost of Methamphetamine Use in the United States, 2005*. Santa Monica, CA: Nicosia, N., Liccardo Pacula, R., Kilmer, B., Lundberg, R, Chiesa, J.
[12] Lynch et al. and Sommers et al.
[13] French, Michael, McCollister, Kathryn, Reznik, David. (2009) The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation. *Working paper in review. Health Economics Research Group, Sociology Research Center, University of Miami.*
[14] French, et al.

Table 1.5: Costs by Offense Category (2005)[15]

Type of Offense	Tangible Cost	Intangible Cost	Total Cost
Murder	$1,128,082	$7,437,000	$7,927,088
Rape/Sexual Assault	$36,884	$174,162	$210,901
Aggravated Assault	$19,179	$100,216	$111,431
Robbery	$23,227	$26,947	$48,095
Motor Vehicle Theft	$8,521	$431	$8,913
Household Burglary	$3,812	$255	$4,044
Larceny/Theft	$1,573	$11	$1,583

In addition to the Board of Crime Control (BOC) arrest data, the Forensic Science Toxicology Division in Missoula provides scientific and technical support to Montana's law enforcement community. Toxicology staff analyze biological samples for the presence of drugs, poisons and other toxins. Scientists often assist coroners in determining the cause of death. They also check for evidence of drug abuse by people on parole or probation. The lab collects data on traffic fatalities, unattended deaths, suicide, and homicide that the BOCC does not include in its incident report.

Table 1.5.1: Montana Crime Lab's Toxicology Data 2005 and 2007[16]

Type of Offense	2005 Total	2005 Meth Present	2007 Total	2007 Meth Present
Murder (homicide)	40	11	22	1
Sex Offenses	45	6	0	0
Suicide	136	8	106	0
Traffic Fatality	263	9	286	7
Total Cases	1213	54	1100	15
Percent with Meth	—	4.5%	—	1.4%

Finally, to calculate the economic cost of the crime, these counts are multiplied by the crime-specific social costs per incident identified in the RAND report.

[15] RAND Drug Policy Research Center. (2009). *Economic Cost of Methamphetamine Use in the United States, 2005*. Santa Monica, CA: Nicosia, N., Liccardo Pacula, R., Kilmer, B., Lundberg, R, Chiesa, J.
[16] Montana Department of Justice, Forensic Science Division

Table 1.5.2: Cost of Meth-related Offenses Committed in 2005 and 2007

TYPE OF OFFENSE	COSTS PER INCIDENT[17]	2005	2005 COST	2007	2007 COST
ASSAULT[18]	$106,961	40	$4,278,440	14	$1,497,454
BURGLARY/ROBBERY	$45,895	8	$367,160	1	$45,895
LARCENY-ALL TYPES[19]	$485	14	$6,790	7	$3,395
MURDER (HOMICIDE)	$7,560,142	11	$83,161,562	1	$7,560,142
SEX OFFENSES	$188,123	6	$1,128,738	0	$0
TOTAL	—	—	$88,942,690	—	$9,106,886

This cost analysis does not include all of the meth-related crime outlined in Table 1.5.2 (collected by the BOCC) and Table 1.5.1 (collected by the Crime Lab). Even without the costs associated with the other seven offenses (non-violent family offenses, counterfeiting/forgery, disorderly conduct, vandalism, weapons law violations, suicide and traffic fatalities), there was an $83.8 million cost reduction between 2005 and 2007.

1.6 Annual Correctional Costs of Offenders with Methamphetamine-related Crime

According to the Department of Corrections (DOC) 2009 Biennial Report, the agency is responsible for approximately 13,000 offenders. The Department's mission is to enhance public safety, promote positive change in offenders' behavior, re-integrate offenders into the community, and support victims of crime. The report states that in 2007, "Montana led the nation by *reducing* the number of inmates by almost 5 percent. At the same time, the state has seen a two-year decline in the rate at which offenders enter or return to correctional institutions. Prison is being used less for nonviolent and nonsexual offenders than five years ago and the expansion of alternatives to prison have helped the department manage about 80 percent of all offenders outside of prison…"[20] This trend toward community corrections is an attempt to control the escalating costs associated with incarceration.

DOC seeks to accomplish its mission by managing separate male, female and juvenile prisons along with three regional secure care facilities; one private prison, three programs serving as treatment alternates to prisons; six prerelease programs; and six regional probation and parole offices. According to the 2009 report, since 2000 drug possession has remained the most common crime committed by the offenders DOC manages. With the support of the governor's office and the legislature, DOC developed a pair of methamphetamine treatment programs – believed to be the first of their kind in the nation – as a proactive response to contend with the high number of inmates entering the correctional system addicted to this drug.

[17] RAND Drug Policy Research Center. (2009). *Economic Cost of Methamphetamine Use in the United States, 2005*. Santa Monica, CA: Nicosia, N., Liccardo Pacula, R., Kilmer, B., Lundberg, R, Chiesa, J.
[18] Includes aggravated and simple assaults data
[19] Includes larceny and stolen property
[20] Montana Department of Corrections. (2009). *2009 Biennial Report* Helena, MT.

The following table presents the estimated cost for meth-involved offenders who are either incarcerated or supervised by the Department of Corrections in 2008.

Table 1.6: Department of Corrections 2008 Costs for Offenders with Meth-related Crime

FACILITY/PROGRAM	AVERAGE DAILY POPULATION	AVERAGE DAILY COST	ANNUAL COST	METH-RELATED POPULATION	ANNUAL METH-RELATED CORRECTIONAL COST
CROSSROADS – SHELBY	779	$ 70	$25,641	351	$ 8,988,540
ELKHORN TREATMENT	40	$125	$45,625	40	$ 1,825,000
MISSOULA ASSESSMENT AND SANCTION CENTER	137	$ 74	$27,127	62	$ 1,672,367
MONTANA STATE PRISON	1,391	$ 92	$33,569	626	$21,012,547
MONTANA WOMEN'S PRISON	147	$122	$44,348	66	$ 2,933,587
NEXUS TREATMENT	80	$118	$43,070	80	$ 3,445,600
PASSAGES ADT	40	$ 72	$26,098	18	$ 469,755
PRERELEASE	848	$ 95	$34,675	382	$13,231,980
PROBATION/PAROLE	8,448	$ 5	$ 1,690	3,802	$ 6,424,514
TOTAL	11,910	$772	$281,842	5,426	$60,003,890

1.7 Annual Cost of County Jails, Juvenile Detention Centers and Sheriffs

According to anecdotal evidence from correctional and court officials in Montana, adult offenders who are charged with a felony – which includes the majority charged with meth possession or sales – are frequently unable to make bail following arrest. Consequently, these offenders are held in county jails at the counties' expense. In Montana, felony offenses take an average of 200 days before a trial is set or a plea agreement is reached. The State is not responsible for any costs of incarceration until a guilty plea is accepted or pronounced by the court.

In addition, juvenile offenders are often held in juvenile detention centers pending the formal filing of charges, especially if they have no responsible family members to whom they can be released. The counties bear the cost of these juvenile detention facilities, which may charge $300-$400 a day, as well as any health care costs and 100 percent of detention and transportation costs. Juveniles are often held in detention for weeks before a hearing is scheduled and most are ordered to undergo an evaluation by a mental health professional. This cost of these evaluations is also the counties' responsibility.

Counties in Montana do not track their jail and sheriff department costs based on the type of crime committed by inmates. To estimate the cost of meth-related crime to counties statewide, this report focused on the 2007 law enforcement budgets of the seven counties with the largest populations. According to the July 2007 census, Montana's seven largest counties serve 62 percent of the state's population. The aggregate cost of the sheriffs' departments and jails for these seven counties was $41,491,370. The annual total cost for Montana's county sheriffs' departments and jails is estimated by applying the pro rata, reported costs of the seven largest counties in Montana as a basis of the cost for all 56 counties. The estimated cost to serve the remaining 38 percent of the state's counties is $25,250,630. Using this estimate, the extrapolated total cost for all 56 Montana counties is $67,742,000.

Table 1.7: Annual Costs for County Sheriff Departments & Jails[21]

COUNTY	2007 ANNUAL COSTS
BUTTE - SILVER BOW	$7,338,303
CASCADE	$9,100,000
FLATHEAD	$10,297,688
GALLATIN	$8,210,686
LEWIS & CLARK	$7,536,538
MISSOULA	$19,625,005
YELLOWSTONE	$14,329,827
TOTAL:	$41,491,370
APPROXIMATE TOTAL FOR ALL 56 COUNTIES	$67,742,000

To calculate the approximate annual cost for all 56 counties for the year 2005, the 2007 total was adjusted down for inflation. Using the Drug Task Force meth-related arrest rates for 2005 and 2007 the estimated costs associated with methamphetamine use to counties are shown in table 1.7.1

Table 1.7.1 Estimated Annual cost of Meth for all Montana Counties

YEAR	METH SPECIFIC ARREST RATE	EST. TOTAL COSTS	METH-RELATED COSTS
2005	18%	$63,738,448	$11,472,921
2007	8.9%	$67,742,000	$6,029,038

[21] Phone survey of seven Sheriff's Departments

1.8 Division of Criminal Investigation (DCI) Narcotics Bureau

DCI narcotics investigators assist local and federal law enforcement agencies throughout Montana. These narcotics agents:

- act in an undercover capacity, supporting local law enforcement agencies in areas where local police are known to the public and cannot act in as undercover agents,
- are certified in responding to meth labs and initiate the clean-up process, and
- provide drug enforcement training to local law enforcement personnel statewide.

In FY 2008, the Division of Criminal Investigation (DCI) provided training specific to meth and meth labs, including identification, awareness, health and safety concerns, handling and reporting, property remediation and indicators, on 49 occasions in various locations throughout the state. The cost to DCI to provide this training was approximately $12,250, primarily wages, travel, and per diem for the agents/instructors. This amount does not include the cost to participating agencies for staff time and travel.

The Narcotics Bureau is funded solely by the state of Montana general fund:

- FY 2005 budget – $921,531
- FY 2007 budget – $1,599,068

To configure the meth-related costs for the Narcotics Bureau, the meth-specific arrests rates reported by the Drug Task Force for 2005 (18 percent) and for 2007 (8.9 percent) are used.

Table 1.8. Narcotics Bureau Estimated Meth-Related Costs

YEAR	METH SPECIFIC ARREST RATE	TOTAL BUDGET	METH SPECIFIC COSTS
2005	18%	$921,531	$165,876
2007	8.9%	$1,599,068	$142,318

Limitations

The 2007 Legislature appropriated $1,345,000 in state general fund money for drug courts for the 2009 biennium (FY 2008 and FY 2009). In addition, $250,000 dollars of local funds are also allocated to support these specialty courts. Across all of Montana's drug courts, alcohol was the most prevalent primary drug of choice (40 percent of participants), with marijuana (29 percent) and methamphetamine (20 percent) in second and third place.

However, since funding for Montana's drug courts falls out of the time frame considered in this report, it is not included in the total cost estimated in this Crime and Criminal Justice section.

Section II. Treatment Costs

According to the Substance Abuse Mental Health Service Administration publication *Treatment for Stimulant Use Disorders,*[22] individuals who are addicted to methamphetamine have unique and challenging treatment needs. For instance, meth addicts often enter treatment malnourished, irritable, paranoid, depressed, sleep deprived, confused, medically ill and psychotic. In addition, their ability to process and retain information, regulate their emotions, experience pleasure and use their short-term memory is seriously compromised. During the initial phase of treatment, meth addicts often experience intense cravings along with significant emotional and physical discomfort – sleep disturbance, anxiety, and cycles of depression and euphoria. These problems may result in difficulty completing treatment and an increase in the length of stay for individuals in methamphetamine treatment. In response to these issues, the state has developed specialized meth treatment facilities and expanded residential programs offered in the community for methamphetamine addicts.

This section includes a summary of the cost of care for methamphetamine addicts from 24 community-based drug treatment programs, and three inpatient facilities – two private and one public.

These categories do not encompass all potential costs. For instance, in the 2007 legislative session, Montana appropriated $2,055,637 for specialized residential programs in the 2008-2009 biennium. The report also does not include the costs of drug treatment programs on the seven reservations, specialized drug treatment services for veterans, care received in the general medical sector, or services rendered by private physicians, psychologists, social workers or licensed addiction counselors. Finally, it does not contain the cost of clinical services offered in adolescent group homes, mental health centers or private facilities.

Table 2.0 Summary of Drug Treatment

COST CATEGORY	2005 ESTIMATE	2007 ESTIMATE
OUTPATIENT	$3,731,042	$3,279,855
INPATIENT	$3,054,185	$2,656,080
TOTAL	$6,785,227	$5,935,935

[22] Substance Abuse and Mental Health Services Administration. (1999). *Treatment Improvement Protocol (TIP) Series 33* ((SMA) 99-3296). Rockville, MD: National Clearinghouse for Alcohol and Drug Information.

2.1 Care Received in Treatment Programs in Montana

The Addictive and Mental Disorders Division (AMDD) of the Montana Department of Public Health and Human Services is responsible for the statewide data management system that provides data on the characteristics and number of clients entering substance abuse treatment programs in Montana. Data derived from the Alcohol and Drug Information System (ADIS) Client Admission Form indicates whether treatment providers consider methamphetamine as the primary, secondary or tertiary problem for the client. At this time, however, there is no standardized definition that providers reliably use during the intake process to identify the "primary" drug of abuse. Consequently it is important to consider all admissions data in order to get a clear picture of treatment provided in Montana.

The following table shows the admission rates to drug treatment programs in 2005 and 2007. As the data show, in 2005 meth was identified as the primary drug of choice in 1,011 cases compared with 771 cases in 2007, a 23.7 percent reduction. However, the number of cases in which meth was the secondary or tertiary drug of choice increased by 10 percent and 51 percent respectively from 2005 to 2007. It should also be noted that, in general, the number of admissions for drug treatment also rose slightly during this period.

Table 2.1 Number of Unduplicated Admissions to Drug Treatment Programs for Meth[23]

ADMISSION BY DRUG OF CHOICE	# OF METH ADMISSIONS	ADMISSIONS FOR OTHER TYPES OF DRUGS	% OF TOTAL ADMISSIONS
PRIMARY 2005	1011	6712	15.1%
SECONDARY 2005	547	4145	13.2%
TERTIARY 2005	426	2153	19.8%
PRIMARY 2007	771	6785	11.4%
SECONDARY 2007	600	4929	12.2%
TERTIARY 2007	644	3058	21.1%

The ADIS data also shows the type of care meth clients received in 2005 and 2007. Table 2.1.1 indicates that the majority of clients received outpatient care followed by inpatient, day treatment and transitional care. Detoxification care can occur either in isolation or related to an admission to inpatient care. Therefore, detox admissions numbers are considered in isolation. In 2005, 772 clients were in outpatient care compared with 605 in 2007; 191 clients received hospital care in 2005 compared with 126 clients in 2007. Similarly, 35 clients were in detox in 2005 compared to 25 clients in 2007.

[23] ADIS Unduplicated Admission Report [data file].

Table 2.1.1 Number of Unduplicated Admissions of Meth Clients by Type of Care[24]

	PRIMARY		SECONDARY		TERTIARY	
TYPE OF CARE	2005	2007	2005	2007	2005	2007
OUTPATIENT (STANDARD & INTENSIVE)	772	605	416	409	348	501
DAY TREATMENT	6	12	0	5	1	6
TRANSITIONAL	7	3	3	1	2	8
INPATIENT (HOSPITAL & FREE STANDING)	191	126	104	121	65	90
DETOXIFICATION	35	25	24	64	10	39
TOTALS	1011	771	547	600	426	644

The cost of treatment based on the type of care is difficult to determine as the ADIS system does not collect this data. This is not unusual; the RAND Report also noted that the data management systems on which it relied did not contain any information on the cost of care received.[25] In addition, there are no current national data systems providing information on the cost of treatment by drug and service setting. Several national studies have attempted to provide estimates of drug treatment based on type of care (e.g. inpatient, intensive outpatient and outpatient). These estimates do not include cost of care based on the type of drug abused upon admission. To determine the cost of methamphetamine treatment in Montana:

- The Drug Abuse Treatment Cost Analysis Program (DATCAP) was used for outpatient and short-term residential care.
- As in the RAND Report, the cost estimate per detox episode was based on the Substance Abuse Treatment Cost Analysis Allocation Template (SATCAA).
- Finally, the cost of inpatient care was based on reports provided by the three inpatient treatment facilities in Montana.

Thus, information on the cost of each treatment episode was inferred based on information on the number of treatment episodes (as indicated by admissions into each service setting) and the typical cost per episode from the sources mentioned above.

The following table shows the range of costs for treating methamphetamine under the various types of care, with the most costly being transitional care and the least costly being standard outpatient care. A cost estimate for day treatment was not available in the RAND Report and could not be included in this report. It should again be noted that, while the ADIS data on the number of treatment episodes are considered reliable because of the systematic data collection methods used in Montana, there is no standardized means of collecting costs of treatment data. Therefore, these costs should be considered an "average" estimate based on the DATCAP method.

[24] ADIS 2005 and 2007 Type of Care Meth Admission Report [data file]

[25] RAND Drug Policy Research Center. (2009). *Economic Cost of Methamphetamine Use in the United States, 2005*. Santa Monica, CA: Nicosia, N., Liccardo Pacula, R., Kilmer, B., Lundberg, R, Chiesa, J.

Table 2.1.2 Cost of Outpatient Treatment Services

Type of Care[26]	Cost per Episode[27]	Primary		Secondary		Tertiary	
		2005	2007	2005	2007	2005	2007
Outpatient: standard	$2,339	$1,419,733	$1,087,635	$736,785	$734,446	$668,954	$961,329
Outpatient: Intensive	$5,178	$854,370	$724,920	$522,978	$491,910	$321,036	$466,020
Transitional	$21,904	$153,328	$64,712	$43,808	$175,232	$21,904	$65,712
Total Costs		**$2,427,471**	**$1,878,267**	**$1,303,571**	**$1,401,588**	**$1,011,894**	**$1,493,061**

Based on the information in Table 2.1.2, by adding the primary and secondary admission numbers, the cost of outpatient treatment for methamphetamine was:

- $3,731,042 for 2005
- $3,279,855 for 2007

2.2 Hospital-based Drug Treatment in Montana

Hospital-based costs were calculated using information collected from three Montana inpatient treatment facilities (free-standing and hospital). As stated previously, in Montana, all licensed facilities (hospitals and specialty facilities) complete the ADIS admission form indicating the patient's primary, secondary and tertiary diagnosis. This report uses both primary and secondary meth admissions, and a combined average length of stay and per diem rate reported by the three inpatient programs to calculate an average cost of inpatient care.

The Montana Chemical Dependency Center (MCDC) located in Butte is the only publicly funded inpatient drug treatment facility in the state. MCDC provides treatment to people with alcohol and drug problems and for co-occurring addictions and psychiatric disorders. The facility is licensed as a health care facility and a chemical dependency treatment facility. The average length of stay is 38.3 days and MCDC's cost per day is $200.95.

Private specialty treatment centers in Montana include Rimrock Foundation Treatment Center located in Billings and Pathways Treatment Program, owned and operated by the Kalispell Regional Hospital in Kalispell.

- Rimrock's per diem rate is $355. The reported average length of stay for adult addicts is 40 days and the completion rate is over 95 percent.
- Pathway's reported cost of care is $716 per day. This amount does not include physician, labs or medication charges. Conservatively, the estimated total cost is $866 a day. The average length

[26] No estimate was available for the cost of day treatment so those admissions were not included.
[27] DATCAP rates are weekly, not daily. These estimates are in 2005 dollar values.

of stay is 13 days and completion rate is 85 percent. Pathway's per diem rate is significantly higher than others because of its level of care and facility type.

Adding the per diem rate of Rimrock, Pathways and MCDC[28] and dividing by four, gives an average per diem rate for inpatient care in Montana of $408. The same steps were taken to arrive at an average length of stay for inpatient treatment, which is 31 days. The report used the average rate of completion reported from all three facilities, again weighted accordingly. This was 85 percent. To calculate the estimated cost for inpatient care, the 2005 and 2007 admissions were multiplied by 85 percent (completion rate).

Table 2.2 Costs of Hospital-based Treatment for Primary and Secondary Admissions

TYPE OF CARE	ESTIMATE PER DIEM	2005 ADMITS	ESTIMATED COMPLETION	LENGTH OF STAY	2005 COST	2007 ADMITS	ESTIMATED COMPLETION	2007 COST
INPATIENT HOSPITAL & FREE-STANDING	$408	295	250	31 days	$3,162,000	247	210	$2,656,080
DETOX	$3,715	59	-	-	$219,185	89	-	$330,635
TOTAL	-	-	-	-	$3,381,185	-	-	$2,986,715

As Table 2.2 shows, methamphetamine abuse was considered the primary and secondary diagnosis for 295 admissions in 2005 and 247 admissions in 2007. The annual cost for care in 2005 was $3.054 million and in 2007 it was $2.565 million.

2.3 Residential Specialty Facilities

There are two different types of specialty residential facilities serving adult methamphetamine addicts in Montana.[29] The first is comprised of three group homes that serve drug-addicted women and their children. The three group homes, which began early this decade, are located in Great Falls (Grace Home), Missoula (Graham Home) and Billings (Michele House). Approximately 85 percent of residents have a primary addiction to methamphetamine. The facilities are supported by a mix of local, state and federal funding.

[28] As a public facility it is estimated that MCDC is utilized twice as frequently as the private facilities, so MCDC's rate was weighted as such.

[29] Admitted residents do not necessarily have to be only addicted to methamphetamine.

The second is the consortium of seven different programs that provide multi-level residential treatment for drug addicts, primarily meth addicts. Since the 2005 Legislative Session, the Residential Treatment Expansion Consortium (RTEC) has received state general fund revenue. RTEC provides an avenue to bridge the treatment gap between the Department of Health and Human Services (DPHHS) and the Department of Corrections (DOC) by providing a continuum of care for meth-addicted adults who are served by both departments. Because these programs are in their infancy, admission profiles were not available at the time of this report. This report assumes that 85 percent of the state funds supporting these facilities is a methamphetamine-related cost.

Table 2.3 State and Local Costs for Specialty Facilities

	FY-2008
WOMEN AND CHILDREN HOMES	$750,000
RESIDENTIAL TREATMENT	$1,813,797
TOTAL	$2,418,396
TOTAL (MULTIPLIED BY 85%)	$2,055,637

Limitations

As noted previously, this report does not include costs from several significant and relevant sectors, including:

- people receiving care in the general medical sector
- those being treated for a mental health diagnoses and who suffer from methamphetamine co-morbidities
- those receiving care at private specialty institutions not captured by public data systems

The report also does not include Montanans' contribution to federal treatment programs such as the Department of Defense, Indian Health Services, Bureau of Prisons or Department of Veteran Affairs. The best estimate of those costs on a national level is almost $40 million.[30]

[30] RAND Drug Policy Research Center. (2009). *Economic Cost of Methamphetamine Use in the United States, 2005*. Santa Monica, CA: Nicosia, N., Liccardo Pacula, R., Kilmer, B., Lundberg, R, Chiesa, J.

Section III. Child and Family Services

According to the Child Welfare League of America, children whose parents use drugs or alcohol are three times more likely to be abused, and four times more likely to suffer from neglect. These children show greater adjustment problems, behavioral conduct disorders and attention-deficit disorders than children without substance-abusing parents. Multiple recent studies have indicated high rates of lifetime substance abuse disorders for youth in the foster care system.

The unique nature of methamphetamine addiction poses an even greater threat to the well-being of children living in home environments with meth-addicted caregivers. A person addicted to meth is often sleep deprived and agitated, and experiences short-term memory loss. During active meth use, addicts do not eat properly or take care of their personal hygiene, let alone consider their children's needs. Under these conditions, the risk for abuse and neglect is extremely high. Although we are not aware of any published studies comparing the rate of abuse and neglect among the different types of drugs parents may abuse, the high percentage of children removed from their homes associated with methamphetamine indicates the tremendous negative impact meth has on the welfare of children.

It has been well established in Montana that methamphetamine use by primary caregivers can be detrimental to the developmental needs of children in the home. According to a 2006 study by Dr. Brenda Roche of 102 children entering care at Michele's House,[31] the group exhibited significant neuropsychological delays:

- 89 percent suffered from behavioral and emotional problems
- 77 percent had some form of learning disability and exhibited delayed school readiness
- 69 percent had language development problems
- 74 percent had executive dysfunction problems (difficulties with cognitive decision making processes)
- 57 percent had motor delays
- 37 percent had delayed and/or impaired intellectual abilities
- 15 percent had memory difficulties

The good news is that these same children showed improvement over time as they and their recovering mothers were afforded a drug-free, nurturing living environment.[32]

In the state of Montana, the Child and Family Services Division (CFSD) of the Department of Public Health and Human Services administers child protective services, child abuse and neglect services, prevention services, domestic violence grants, and other programs designed to keep children safe and families strong.

[31] Michele's House is a group home run by Rimrock Foundation in Billings, Montana serving meth-addicted women and their children under the age of 13.

[32] Dr. Brenda Roche (2006, July) Eliminating Methamphetamine Using a Multi-Pronged Approach. Presented at the National Forum on Criminal Justice and Public Safety, Baltimore, Maryland.

CFSD is composed of three bureaus and five regional offices that administer programs and are advised by Local Family Services Advisory Councils. The councils serve as the link between local communities and the Department of Public Health and Human Services. CFSD is the primary user of the statewide Child and Adult Protective Services (CAPS) computer system. The Montana foster care statistics and cost information in the following section were taken from the CAPS reporting system.

According to CFSD, in 2007 the division received 14,253 reports of child abuse and neglect, 9,152 of which were investigated and 1,099 of which were subsequently substantiated. According to a point-in-time report for October 10, 2007, on that date there were 1,509 children in Montana's foster care placement system:

- 973 (64 percent) Montana children were removed from their homes due to alcohol and drugs.
- Of those 973 cases, 429 children (44 percent) were removed because of meth.

To attempt to measure the costs in this area, we need to include not only the out-of-home placement costs but also the social costs of abused and neglected children.

The costs presented in Table 3.0 include foster care and an estimate of medical, mental health and quality-of-life costs for the abused and neglected children (based on a formula of cost recently calculated in the RAND Report). This is a conservative estimate since it does not include any of the costs to the state and local governments of administering the foster care program.

This approach produces an estimate of $16.5 million in 2007 and $11.9 million in 2008. The largest cost is attributable to the medical, mental health and quality of life cost assumptions associated with children who are placed in out-of-home care attributed to methamphetamine.

Table 3.0: Summary of Meth-related Costs in Child and Family Area

COST CATEGORY	2007 ESTIMATES	2008 ESTIMATES
FOSTER CARE PLACEMENTS	$4,859,497	$3,522,852
MEDICAL, MENTAL HEALTH AND QUALITY OF LIFE	$11,608,740	$8,415,660
TOTAL	$16,468,237	$11,938,512

3.1. Cost of Methamphetamine to the Foster Care System

According to the Child and Family Services Division, in 2007 approximately 1,500 children were placed in foster care. Foster care is defined as "24-hour substitute care for children outside their own homes . . . which include non-relative foster family homes, relative foster homes (whether payments are being made or not), group homes, emergency shelters, residential facilities, and pre-adoptive homes" (Child Welfare Information Gateway). Montana has five types of out-of-home care options, each with its own reimbursement rate. According to CFSD officials, the average rate is $20.50 per day. This does not include medical, dental or psychological care, Medicaid costs, special educational services, or any other child-specific costs.

Table 3.1 Cost of Foster Care Types[33]

DESCRIPTION	DAILY RATE 7/1/08 - 6/30/09
FAMILY FOSTER CARE RATE-UNDER 12	$16.22
FAMILY FOSTER CARE RATE-OVER 12	$19.52
THERAPEUTIC GROUP HOME, MODERATE 8 BED - SUPERVISION MATRIX, LEVEL VI	$34.21
THERAPEUTIC GROUP HOME, CAMPUS BASED - SUPERVISION MATRIX, LEVEL VI	$39.82
THERAPEUTIC GROUP HOME, INTENSIVE 4 BED - SUPERVISION MATRIX, LEVEL VI	$44.61

Beginning in September 2006, the Child and Family Services Division had the forethought to begin collecting statistics on drug-related out-of-home placements that identified the type of drug involved (listed in Table 3.1.1). A drug-related out-of-home placement often involves more than one drug. Case workers fill out a child placement form indicating if the removal is drug related and further identifying which type of drugs are involved in the case. There are very few states collecting such data and no national entity or clearinghouses are tracking such valuable information.

Based on the October 10, 2007, drug-tracking point-in-time report, of the 1,509 total cases, the case workers found 973 cases were drug involved or 64.4 percent. On October 10, 2008, that number was reduced to 858 of 1,379 cases, or 62 percent of all foster care placements.

[33] Montana Child and Family Services Division Matrix Rate Report [data file]

Table 3.1.1 shows that alcohol was the primary substance in almost 37 percent of all cases, methamphetamine was implicated in 29 percent, and marijuana in 13 percent of the total drug-related cases.

Table 3.1.1 Child & Family Services Drug Tracking Placement Report[34]

	10/10/2007	PERCENTAGE OF DRUG CASES	10/10/2008	PERCENTAGE OF DRUG CASES
Total Cases	1,509	—	1,379	—
Placement with Drug Indicator	973	64.4	858	62.2
Alcohol	543	55	469	39
Methamphetamine	429	44	311	25.8
Marijuana	263	17.8	220	18.3
Cocaine/Crack	26	1.7	18	1.4
Heroin	5	0.3	5	0.4
Other	209	13.9	179	14.7
Total*	1,475	100	1,202	100

**Note: the above only includes Fort Peck and not any other reservation.*

According to national experts[35], there is very little information on the precise costs of removing children from the home and placing them into foster care. To estimate the annual cost associated with methamphetamine in the foster care system, this report multiplies the number of meth-related cases by the estimated average daily cost, and then by the number of days in care (Row 1 x Row 2 x Row 3 = Row 4).

To calculate the court and administration costs associated with placing a child into the foster care system, this report relies upon national estimates. Based on figures from a variety of sources, in 2005 the share of court and administration costs related to child removal because of meth was estimated to be $3,845 per child per year.

[34] Child & Family Services Open Placements: 10/10/07 and 10/10/08

[35] Barth, Richard, Lee, Chung Kwon, Wildfire, Judith, and Guo, Shenyang (2006).A Comparison of the Governmental Costs of Long-Term Foster Care and Adoption. *Social Service Review*. *Vol. 80, No. 1*, 127-158.

Table 3.1.2 Cost of Methamphetamine-induced Foster Care Admissions[36]

	2007	2008
1. CHILDREN ENTERING FOSTER CARE DUE TO METH	429	311
2. DAILY CHARGE	$20.50	$20.50
3. DAYS IN CARE PER YEAR	365	365
4. TOTAL CARE COSTS	$3,209,992	$2,327,057
5. ANNUAL ADMIN AND COURT COSTS PER CASE	$3,845	$3,845
6. TOTAL ADMIN AND COURT COSTS (#1 X #5)	$1,649,505	$1,195,795
7. TOTAL COSTS (#4 + #6))	$4,859,497	$3,522,852

Adding the total cost of foster care to the total estimated administrative and courts generates a best estimate of the total cost of meth-related foster care of $4.9 million in 2007 and $3.5 million in 2008.

Although this report assesses only the annual costs of the impact of methamphetamine abuse, it is useful to know that the length of stay in care for children whose removal was meth related was approximately 30 percent longer than for those children in care without meth involvement.[37]

3.2 Administrative Costs of Abused and Neglected Children

There are many social costs associated with drug-involved abused and neglected children that are nearly impossible to account for in a cost study. For instance, there are medical costs for those children who are born prematurely or have substance-related medical complications. Costs to treat the physical and psychological outcomes of neglect and violence, along with the expenses associated with abuse-related fatalities, are high. Abused and neglected children suffer from a variety of educational problems and poor school performance, which undermine these children's future productivity. Accused caregivers often lose work time and/or their jobs because of the time required to attend court and counseling, and in some cases, because of incarceration.

Simply focusing on the costs associated with foster care, as done in this study, thus presents a very conservative estimate. The following table summarizes the number of reports, investigations and substantiations of child abuse and neglect cases for the past four fiscal years in Montana. It is unknown what percentage of the reports, investigations and substantiations of abuse and neglect are attributable to methamphetamine. Using the out-of-home care, meth-related percentages shown in table 3.2 and applying it to abuse and neglect findings, there were approximately 484 (44 percent) meth-related substantiated abuse and neglect cases in 2007 and 243 (26 percent) similar cases in 2008.

[36] Barth, et al.
[37] CFS report on unduplicated 658 Meth compared to 2701 non-meth from 6/30/08 to 07/01/08 [data file]

Table 3.2 Child Abuse and Neglect Cases in Montana

	2005	2006	2007	2008
CALL OF REPORTS OF CHILD ABUSE AND NEGLECT	15,137	15,161	14,253	14,970
CPS INVESTIGATIONS OF ALL ABUSE AND NEGLECT	8,678	9,403	9,152	8,567
SUBSTANTIATIONS OF ALL ABUSE AND NEGLECT	1,238	1,154	1,099	935

State and local governments incur substantial costs for social workers to investigate the cases, make a decision, admit a child to foster care or another out-of-home placement, and develop the plans that help parents reunite with their children. In addition, there are the general administrative costs of operating the Child and Family Services Division, and the costs of conducting drug testing of parents, to name a few. While the Montana Department of Health and Human Services has very definitely felt the impact of meth abuse on its budget, it was not able to accurately specify a dollar amount for the administrative costs it could attribute to methamphetamine.

3.3 Medical, Mental and Quality of Life Costs for Victims of Abuse and Neglect

In addition to the direct cost of providing foster care, victims of abuse and neglect are also likely to face significant and potentially lifelong medical, mental health and quality of life costs. The RAND Report assigned a cost to these conditions based on research that used a jury compensation method to account for the pain, suffering, fear and lost quality of life.

The RAND Report cites past national studies that found that approximately 80 percent of the children who enter the foster care system due to their caretakers' substance abuse, are severely neglected. Based on this, the report's best estimate of the average cost of medical, mental health and quality of life costs of child maltreatment is $27,059.76 per case.

Table 3.3 Medical, Mental Health and Quality of Life Costs Attributable to Meth for Children in Foster Care in Montana[38]

	2007	2008
MEDICAL, MENTAL HEALTH, AND QUALITY OF LIFE COSTS[39]	$27,059.76	$27,059.76
CHILDREN IN FOSTER CARE BECAUSE OF METH	429	311
TOTAL	$11,608,740	$8,415,660

[38] RAND Drug Policy Research Center (2009). *Economic Cost of Methamphetamine Use in the United States, 2005*. Santa Monica, CA: Nicosia, N., Liccardo Pacula, R., Kilmer, B., Lundberg, R, Chiesa, J.

[39] Estimated amount of quality of life costs is derived from the RAND Report that presents the medical, mental health, and quality of life costs for victims of abuse and neglect for each type of abuse in 2005.

Limitations

This report does not address the costs of children who suffer meth-induced maltreatment and neglect but who remain with their families, primarily because there is no information available in this area. It is therefore highly likely that our results underestimate the total financial cost of meth-induced child abuse and neglect.

Section IV. Healthcare

Methamphetamine addiction is a chronic, relapsing disease, characterized by compulsive drug-seeking and drug use, which is accompanied by functional and molecular changes in the brain and numerous health and behavioral problems. In addition to being addicted to methamphetamine, chronic methamphetamine abusers exhibit symptoms that can include violent behavior, anxiety, confusion and insomnia. They also can display a number of psychotic features, including paranoia, auditory hallucinations, mood disturbances and delusions (for example, formication; the sensation of insects creeping on the skin). The paranoia can result in homicidal as well as suicidal thoughts. Meth use is also associated with skin-picking behaviors—known as tweaking—occasionally leading to abscesses and extreme weight-loss, possibly leading to malnutrition.[40]

Moreover, the user may experience negative physical effects primarily in the cardiovascular and pulmonary systems. It has been well documented that meth use increases heart rate and blood pressure, and has been linked to chest pains, palpitations, hypertension, stroke, myocardial infarction and, in extreme cases, cardiovascular collapse and arrhythmic sudden death.[41] Meth use also encourages high-risk behaviors (i.e., unprotected sex, multiple sex partners, needle-sharing) adding to the potential additional negative medical consequences, such as lowered immune response, STDs, and co-morbidity with HIV infections.[42] Its use is also associated with injuries due to thrill-seeking behavior leading to motor vehicle accidents and increased aggression leading to interpersonal trauma (i.e., gunshot wounds, stabbing and other assaults).

Long-term meth use has also been linked to severe oral damage known as "meth mouth." The teeth become blackened or stained and may begin to rot and fall apart. Most likely these conditions arise from several situations, such as a reduction in saliva minimizing its protective function, the high acidity of the chemicals in meth damaging teeth, bruxism (grinding of teeth common with stimulant use), poor hygiene and/or diet.

[40] Tweaking is the "most dangerous stage of methamphetamine abuse" and "occurs when an abuser has not slept in 3-15 days and is irritable and paranoid." http://www.cesar.umd.edu/cesar/drugs/meth.asp (accessed 9/25/08).
[41] Wermuth, Laurie (2000).Methamphetamine Use: Hazards and Social Influences. *Journal of Drug Education*. *Vol. 30, No. 4*, 423-433.
[42] Yu, Qianli, Larson, Douglas, and Watson, Ronald (2003).Heart Disease, Methamphetamine and AIDS. *Life Sciences*. *Vol. 73, No. 2*, 129-140.

Adverse health effects associated with meth use are not limited to the user; in pregnant women, they can affect fetal development as well. Numerous studies suggest these negative effects include premature delivery, smaller size newborns and neurodevelopmental outcomes, such as hyperactivity, short attention span and learning disabilities.[43]

These drug-induced health issues are another cost associated with meth abuse. The RAND Report collected information on the cost of meth-associated illnesses for inpatient hospital care from the Healthcare Cost and Utilization Project's Nationwide Inpatient Sample (NIS) and suicide and emergency room costs from the Drug Abuse Warning Network (DAWN). RAND also gathered information on health administration costs from the Office of National Drug Control Policy and the Substance Abuse and Mental Health Services Administration to calculate the percentage related to meth costs. The RAND Report also developed a model with which to measure intangible costs associated with the subjective value a person places on their health related to addiction and included it in the total health-related cost of methamphetamine.

Based on data collected from the Healthcare Cost and Utilization Project (HCUP), 39 states currently participate in the State Inpatient Databases (SID) and another 25 states participate in the State Emergency Department Database on-line systems. These databases enable research on a range of health policy issues including admission patterns and costs. Unfortunately, Montana is not one of these states.

MHA, an Association of Montana Health Care Providers, currently collects inpatient hospital discharge data and outpatient hospital surgical data. MHA holds about 90 percent of all inpatient data since some federal, state and very small rural hospitals do not participate in the project. (Federal hospitals include IHS hospitals and the VA hospital in Helena, State hospitals means the Montana State Hospital at Warm Springs.) MHA is currently expanding its collection to include emergency department, observation services and some high technology radiology procedures. MHA's database is a proprietary database and is not generally available to the public.

Therefore, this study is only able to present Montana-specific information on the impact of state Medicaid funding and intangible costs of quality of life years.

Table 4: Summary of Tangible and Intangible Health Costs

COST CATEGORY	ESTIMATE
COMBINED TANGIBLE COSTS PRORATED FOR MONTANA	$1,347,000
IMPACT ON STATE MEDICAID FUNDING	$9,150,000
INTANGIBLE COSTS QUALITY OF LIFE YEARS	$38,292,920
TOTAL	$48,789,920

[43] Plessinger, Mark A. (1998).Prenatal Exposure to Amphetamines: Risks and Adverse Outcomes in Pregnancy. *Obstetrics and Gynecology Clinics of North America*. *Vol. 25, No. 1*, 119-138.

4.1 Tangible Costs

The RAND Report's best estimate for the national tangible health-related costs of meth addiction in 2005 is approximately $165.5 million. According to the U.S. Census Bureau, there were approximately 164 million people in the United States between the ages of 20 to 60 years old in 2005. This gives an estimated of the tangible costs of meth addiction outlined of approximately $1 million per million Americans.

The specific costs include:

- $41.4 million for meth-involved inpatient stays
- $14.2 million for suicide attempts
- $45.9 million in emergency rooms visits
- $63.95 million for health administration

According to the 2005 National Study on Drug Use and Health (NSDUH), the number of methamphetamine users in Montana is at least three times higher than the national prevalence use rate (Montana's rate is 1.5 percent; the national rate is 0.03-0.05 percent). Because Montana does not have specific information for meth-involved inpatient stays, suicide attempts and emergency room visits, this report uses triples the national average per million.

According to the 2007 U.S. Census Bureau, there were approximately 485,861 people 20 years old or older in Montana. Thus, the health care costs of meth addiction for Montana are estimated at $1,457,583.

4.2 Impact on State Medicaid Funds

A recent study by the Substance Abuse Policy Research Program of the Robert Wood Johnson Foundation looked at the medical records of about 150,000 Medicaid recipients in six states. The study found that an average of 29 percent of patients diagnosed with chemical dependency cost these six states an additional $104 million for medical care and $105.5 million for mental health care. Addiction rates among Medicaid recipients ranged from a low of 16.1 percent in Arkansas to a high of 39.6 percent in Washington state.[44]

In 2005 and 2007 respectively, Montana's state contributions to its Medicaid pool was $209 million[45] and $182 million.[46] Assuming the 29 percent average addiction rate applies in this scenario, and applying the respective 15.1 percent and 11.4 percent primary treatment admissions rates for meth in 2005 and 2007, it can be safely assumed that meth likely cost the state Medicaid pool, at a minimum, $9.15 million in 2005 and $6.02 million in 2007.

[44] Substance Abuse Policy Research Program. (2009). *The Impact of Substance Use Disorders on Medical Expenditures for Medicaid Beneficiaries with Behavioral Health Disorders* Washington, DC: Robert Johnson Wood Foundation.
[45] National Association of State Budget Officers. (2006). *State Expenditure Report 2005* Washington, DC.
[46] National Association of State Budget Officers. (2008). *State Expenditure Report 2007* Washington, DC.

Table 4.2 Impact of Methamphetamine Addiction on State Medicaid Funds

YEAR	RECIPIENT ADDICTION RATE	% OF PRIMARY METH ADMISSIONS[47]	TOTAL STATE MEDICAID FUNDING	ESTIMATED METH RELATED COSTS
2005	29%	15.1%	$209 million	$9.15 million
2007	29%	11.4%	$182 million	$6.02 million

4.3 Intangible Costs

Few cost analyses of illnesses have included data that measure the subjective value of meth addiction because of the perceived lack of standardized data to estimate the costs. The RAND Report is one of the few studies that identifies a useful model with which to measure the subjective values, based on the "subjective value" people place on their health and on consuming illegal and harmful drugs.

This report uses RAND's model to measure the intangible costs associated with methamphetamine addiction in Montana. As the basis for the calculation, this report begins with the actual number of unduplicated admissions to treatment programs across the state related to methamphetamine. The following table summarizes the primary, secondary and tertiary admissions for methamphetamine in 2005 and 2007.

Table 4.3 Admissions to Drug Treatment Programs for Meth in Montana[48]

METHAMPHETAMINE ADMISSIONS BY TYPE	2005 METH ADMISSIONS	2007 METH ADMISSIONS
PRIMARY 2005	1,011	771
SECONDARY 2005	547	600
TERTIARY 2005	426	644
TOTAL OF ALL TYPES IN 2005	1,984	2,015

Based on the 2005 National Study on Drug Use and Health (NSDUH), the estimated methamphetamine use rate in Montana is 1.5 percent. As mentioned previously, there are approximately 449,000 individuals 20 years old or older in Montana. Therefore, an estimated 6,735 individuals are in need of treatment for meth abuse in Montana. These figures are used in the model explained below.

[47] ADIS 2005 and 2007 Type of Care Meth Admission Report [data file].

[48] ADIS 2005 and 2007 Type of Care Meth Admission Report [data file].

The basic premise of the model is that "addiction and drug dependence reduces the quality of life of those suffering from the condition."[49] The RAND model estimates the economic burden using quality-adjusted life-years (QALYs). This model presumes "that the impact of health problems on the overall quality of life can be quantified through trade-offs that people would be willing to make between alternative health states, given variations in the length of time they would live with each." For example, one measure involves a time trade-off calculation whereby individuals indicate how many years of quality life they would trade for relief from their illness. "Quality of life (QoL) measures are then constructed using weights obtained from these questions and believed to measure a person's own valuation of his current or alternative health states."

The weighted score of 0.141 is used in this report to indicate the reduction in well-being experienced by those dependent on meth. The RAND Report identified this as the "best estimate" of reduced quality of life based on the work of Pyne et al, 2008.[50] This reduction estimate is used in calculating the intangible costs of addiction.

The following table shows the steps taken to quantify the dollar value of the intangible health burden of methamphetamine use in Montana. These steps follow those used in the RAND Report. Steps 2 and 4 determine the total number of people in Montana suffering from meth addiction in 2005. These include those in treatment derived from the ADIS data (Step 2); those dependent, but not in treatment reported by NSDUH (Step 3); and the number of users who meet DSM-IV criteria for abuse/dependence, but have not been in treatment in the last year (Step 4).

In calculating Step 4 data, care is taken to avoid duplicating the number of users reported in ADIS and the NSDUH data. This involves subtracting the number of people who received treatment in the previous year as reported in the ADIS data from the number of people identified as dependent or abusing in the NSDUH dependent data, in order to determine the true number of users not being treated (Step 4).

The percentage of these non-treated users is shown in Step 5 to indicate what proportion of the overall population is not receiving treatment. Finally, Step 6 is the combined total of the untreated population in Step 4 and the treated population in Step 2 to determine the total estimated number of meth-dependent users in 2005.

As the RAND Report notes, the possibility exists that the total number of users calculated by this formula underestimates the actual number because of limitations with data collection and reporting. However, these are a "best estimate" of the number of meth-dependent users in Montana.

[49] RAND Drug Policy Research Center. (2009). *Economic Cost of Methamphetamine Use in the United States, 2005*. Santa Monica, CA: Nicosia, N., Liccardo Pacula, R., Kilmer, B., Lundberg, R, Chiesa, J.

[50] Pyne, J.M., French, M., McCollister, K., Tripathi, S., Rapp, R., Booth, B. (2008).Preference-Weighted Health-Related Quality of Life Measure and Substance Use Disorder Severity. *Addiction*. *Vol. 103, No. 8*, 1320-1329.

Step 7 in the table shows the number of Quality Adjusted Life-Years lost to Montana meth users. The RAND model uses a dollar value of $283,283 for the Quality Adjusted Life-Years calculated over a lifetime shown in Step 8. Their monetary value is based on assumptions about the general characteristics of someone in treatment, typical life expectancy, and a monetary estimate of the value placed on life. This report is estimating the annual cost of methamphetamine use. Therefore, to arrive at an annual cost based on RAND's lifetime figure of $283,283 it will be divided into 50 years (estimated life span of 70 years for a meth addict starting at age 20). As the table below shows, the best estimate for 2005 is $38,292,920.

Table 4.3.1: Estimating Health Burden of Methamphetamine in Montana

STEP		BEST ESTIMATE 2005
1	Reduction in QALY due to Meth Dependence	0.141
2	Number of Dependent Users in treatment (primary, secondary and tertiary admissions)	1,984
3	Number of Dependent Users in NSDUH (in need of treatment)	6735
4	Number of Non-treated Meth Dependent Users in NSDUH	4751
5	Percentage of Meth Dependent Users based on NSDUH not in treatment in the past year: (Step 3/Step 4)*100	14%
6	Estimated Total Number of Dependent Users (step 2+ step 4)	6735
7	Total QALYs lost due to Meth Dependence (in Quality-Adjusted Life Years): (0.141 multiplied by number of dependent users)	950
8	Dollar value in Quality-Adjusted Life Year ($QALY)	$284,283
9	Dollar value in Quality-Adjusted Life Year per years (divided 8 by 50 years – 20 to 70 years old)	$5,686
10	Total Dollar Value of the Intangible Health Burden per Year (Step 7x Step 9)	$38,292,920

As the RAND Report notes, estimating subjective and monetary values for "quality of life requires speculation to reach the assumptions made in estimating these values." However, this Montana report adopts with the assumptions made in the RAND Report and considers the total dollar value generated using their model a "best estimate" of the intangible health burden costs of meth addiction in Montana.

Section V. Productivity

Although it is generally believed that drug use reduces employee productivity, researchers have found it difficult to determine a clear relationship between drug use and productivity.

To estimate the cost of meth use on productivity in Montana, this report relies exclusively on the approach used by the RAND Report, which focuses on four areas:

- lost earnings associated with reduced employment
- absenteeism from work
- lost productivity associated with incarceration other employer costs, which represent costs to employers caused by meth-using employees not directly related to lost productivity[51]

Table 5.0 Summary of Productivity Losses Associated with Meth Use

LOST PRODUCTIVITY	ESTIMATE
LOST EARNINGS	$50,893,703
ABSENTEEISM	$777,920
LOST PRODUCTIVITY DUE TO INCARCERATION	$13,304,304
TOTAL	$64,975,927

Table 5.0 estimates the costs associated with lost productivity. The largest cost is $50.9 million in lost earnings caused by meth-related unemployment.

5.1 Lost Earnings Due to Unemployment

The RAND Report determined that people between the ages of 21 and 50 who used meth were:

- 97 percent more likely to be unemployed than their peers, and
- unemployed for an average of 12.75 weeks.

[51] This includes factors such as the costs of drug testing and the number of sick days meth users take. Because no Montana-specific information is available for these factors, this category of costs is only briefly discussed in Section 5.

The RAND Report's estimates of the impact of meth use on the probability of being unemployed "reflect the percentage point increase in the probability of being unemployed conditional upon methamphetamine use in the past year." The RAND Report states that self-reported methamphetamine use in the past year has a "positive and statistically significant association with unemployment in the past year," even when the use of other substances is accounted for. RAND calculates that the probability of a methamphetamine user being unemployed in the past year is 0.97 percentage points.

RAND determined this based on the 2005 National Study on Drug Use and Health (NSDUH). The Substance Abuse and Mental Health Services Administration (SAMHSA), an agency of the U.S. Public Health Service and a part of the Department of Health and Human Services (DHHS), sponsors the NSDUH. The survey provides yearly national and state-level estimates of alcohol, tobacco, illicit drug and non-medical prescription drug use along with other health-related questions. Methamphetamine data are collected as part of the NSDUH module on nonmedical use of prescription-type stimulants. The survey asked respondents whether, in the past 12 months, there was ever a period when they did not have at least one job or business. Respondents who reported a period of unemployment during the past year, and did not previously state that they were a full-time student or out of the labor force, were then asked how many weeks in the past year they were without a job. These two questions provided the information for RAND's main assessment of the impact of methamphetamine use on employment.

Because of small sample sizes and the low prevalence rate on meth use, NSDUH's estimate of methamphetamine use by state needs to be analyzed with pooled data – data combined from several years in order to get a reliable estimate. According to NSDUH's estimation, the methamphetamine use rate in Montana is 1.5% based on the annual averages for 2002, 2003, 2004 and 2005.[52]

The productivity models RAND used included as additional controls the individual's gender, race/ethnicity, educational attainment, age bracket, marital status, general health status, number of children in the household under the age of 18, number of prior jobs, and population density.

Average Income in Montana – According to the U.S. Census Bureau, the average income in Montana for the past three years was:

- 2005 – $39,301
- 2006 – $40,627
- 2007 – $43,531

[52] Substance Abuse and Mental Health Services Administration. (2008). *2006 National Survey on Drug Use and Health: National Findings* Rockville, MD.

Table 5.1: Impact of Meth Use on Income due to Unemployment, Population Age 21 to 50

	BEST ESTIMATE
1. INCREASED LIKELIHOOD OF UNEMPLOYMENT	97%
2. NUMBER OF PEOPLE USING METH IN PAST YEAR (NSDUH) FOR MONTANA (EMPLOYMENT 2007 = 449,000 INDIVIDUALS X 1.5% 26 OR OLDER = 6735)[53]	6735
3. TOTAL NUMBER OF METH-INDUCED UNEMPLOYED (ROW 2 MULTIPLIED BY ROW 1)	6533
4. AVERAGE NUMBER OF WEEKS UNEMPLOYED	12.75 weeks
5. MEDIAN WEEKLY WAGE (2007)	$611
6. LOST INCOME PER UNEMPLOYED PERSON (ROW 4 MULTIPLIED BY ROW 5)	$7,790.25
TOTAL LOST INCOME DUE TO METH-RELATED UNEMPLOYMENT (ROW 3 MULTIPLIED BY ROW 6)	$50,893,703

5.2 Absenteeism

In an attempt to attach a cost estimate to increased absenteeism on the part of employees who use meth, the RAND Report identified two potential sources of absenteeism: missed work due to time in treatment and missed work due to other reasons. Individuals participating in residential and intensive outpatient therapy usually miss work. The time spent in treatment due to methamphetamine abuse represents a real cost to the employer in terms of lost productivity.

The estimate of lost productivity associated with time spent in drug treatment in Montana is based on 2005 and 2007 Alcohol and Drug Information System (ADIS) data.

In 2005, there were 397 individuals in treatment with a primary diagnosis of meth abuse who worked full time at the time of their admission. Another 172 clients reported being employed part time at the time of admission.

In 2007, there were 358 individuals in treatment with a primary diagnosis of meth abuse who worked full time at the time of their admission. Another 193 clients reported being employed part time at the time of admission.

[53] Row 2 reflects the population weighted number of people between the ages of 21 and 50 who reported methamphetamine use in the past year (the middle estimate) in the 2005 National Study on Drug Use and Health.

To determine the average time spent away from work due to participation in either inpatient or intensive outpatient drug treatment, RAND used information on the average length of stay (LOS) by type of service. RAND's calculations assumed that only those individuals in residential treatment (hospital-based or free-standing) and those receiving intensive outpatient therapy and day treatment were are unable to work during their time in treatment. Applying that formula to Montana, that suggests:

- In 2005, there were 144 clients with a primary diagnosis of meth who were full-time employees who missed work because of drug treatment and, in 2007, there were 108 such clients.
- In 2005, there were 59 part-time employees who missed work because of meth drug treatment and, in 2007, 51 such clients.

Since the length of the typical course of treatment varies substantially, even among the more intensive forms of drug treatment, RAND calculated the length of stay by service modality and constructed a weighted average number of days of missed work. This allowed for some variation in the number of days missed by full-time and part-time employees.

Table 5.2, shows the breakdown of full-time and part-time primary and secondary methamphetamine clients admitted to ADIS and receiving care in a residential treatment facility or intensive outpatient treatment facility. The median length of stay (LOS) for each modality, from the 2005 and 2007 ADIS Report, is shown in the final column.

Table 5.2 Full-Time and Part-Time Employed Meth Patients in Treatment (unduplicated count)

Service Setting	Full-time 2005	Part-time 2005	Median LOS in days	Full-time 2007	Part-time 2007	Median LOS in days
Rehab/Residential hospital (non-detox)	19	8	3	23	8	3
Inpatient Hospital/Free Standing	74	32	46	64	35	46
Intensive outpatient/Day Treatment	67	29	42	61	33	42
Total	160	69	—	148	76	—

Multiplying the number of employees in each type of treatment by the median length of stay provides an estimate of the total number of days missed by full-time and part-time employees while they attended drug treatment. For 2005 and 2007 respectively:

- full-time employees missed 5,612 and 4,438 days of employment
- part-time employees missed 2,436 and 2,053 days of employment

The total days in treatment are then converted into work weeks. The number of work weeks is then multiplied by the median weekly wage for full-time and part-time employees to generate an estimate of lost productivity in dollars.

Table 5.2.1: The Value of Lost Work Time Spent in Treatment for Meth, 2005 & 2007

	FULL-TIME 2005	PART-TIME 2005	TOTALS ALL EMPLOYED 2005	FULL-TIME 2007	PART-TIME 2007	TOTALS ALL EMPLOYED 2007
TOTAL NUMBER OF DAYS ABSENT DUE TO TREATMENT	6275	2714	—	5575	3020	—
WEEKS ABSENT DUE TO TREATMENT (DAYS ABSENT / 7)	896	388	—	796	431	—
MEDIAN WEEKLY SALARY (BLS)	$756	$226	—	$837	$258	—
ECONOMIC COST OF TIME SPENT IN TREATMENT	$677,700	$87,623	$765,323	$666,611	$111,309	$777,920

Assumptions and Limitations

RAND's estimate of absenteeism is based on two major assumptions that may lead to overstating lost productivity for those in treatment:

- Assumption 1: the earnings of meth users are similar to those of the average person. RAND uses the median wage of all employees, which includes meth users and non-meth users. If meth users have generally lower earnings, then using the median weekly wage would overstate the actual value of lost productivity. However, no data is available to determine which possibility is true.
- Assumption 2: everyone entering treatment retains his or her job and cannot work when in intensive or residential therapy. If this assumption is not true, then we may be overstating the productivity losses of those in treatment.

However, RAND's lost productivity estimate could also be understated because it does not include individuals who lose their jobs because of treatment – either because they miss too much work or are fired for being drug users. Again, there is no information on which to judge this possibility.

5.3 Lost Work due to Incarceration

Adults incarcerated for meth-related crimes add to the cost of lost productivity in Montana. This report uses Montana's minimum wage in the following calculations rather than the average annual income used in section 5.1 since it is well-known that people with criminal records have a harder time finding jobs, and so typically can only get entry-level jobs that pay the minimum wage.

In Montana, when an offender is placed in prison, the average length of incarceration is 24 months. According to the 2002 National Corrections Reporting System (the most recent year of data available), typical meth sales offenders served 1.74 years of their prison sentence. This report calculates an annual cost based on the assumption that an offender will spend at least a full year incarcerated and out of the work force. Based on the 2005 federal minimum wage, the estimated annual salary for a full-time worker receiving the minimum wage was $10,712. (At $5.15 an hour, a person working a minimum-wage job 40 hours a week for 52 weeks a year would have earned an annual income of $10,712.)

In Table 5.3, this estimate of the value of lost employment time is then multiplied by the number of people convicted to prison to generate the total loss in productivity due to imprisonment. This $13.3 million represents the total cost of incarceration in terms of lost productivity.

Table 5.3: The Value of Lost Work Time Due to Meth-Related Incarceration

	2008
TOTAL NUMBER OF METH-RELATED INMATES NOT ABLE TO WORK	1,242
AVERAGE ANNUAL INCOME (BASED ON MINIMUM WAGE)	$10,712
TOTAL LOST PRODUCTIVITY CAUSED BY IMPRISONMENT (ROW 1X ROW 2)	$13,304,304

5.4 Employer Costs of Drug Testing

To avoid the pitfalls of hiring a meth addict, employers may also incur the costs of drug-testing job applicants. While this report does not attempt to calculate a dollar amount for the portion of this specifically related to meth in Montana, the cost to employers can be significant. This is especially true for businesses that are also required to conduct mandatory drug testing of employees. The cost of a drug test typically ranges from $10 to $50, depending on the type of test used (e.g., urine, hair, fluids, sweat patch).

According to the RAND Report[54] more than 12 million employees in safety-sensitive positions such as truck drivers and airline pilots are subject to mandatory drug testing under the U.S. Department of Transportation guidelines. Nationwide, the RAND Report believes "the total number of drug tests conducted by and financed by employers could easily exceed 30 million (assuming that companies do not test everyone in the company every single year but that they do test potential new hires)."

[54] According to Quest Diagnostics (2006), a company that provides diagnostic testing, information and services.

Section VI. Meth Lab Cleanup Costs

In July 2005, Montana enacted strict precursor control laws that put cold medicines containing pseudoephedrine behind pharmacy counters. Better controls on the ingredients needed to make meth have contributed to the steady decline in the number of clandestine meth labs in Montana. In federal fiscal year 2002, the number of meth labs that required the removal of hazardous materials by a specialized contractor peaked at 122.

For the three federal fiscal years beginning October 2005, Montana's drug task forces have reported 21 meth labs, an average of 7 each year.

Table 6.1 Meth Lab Trends Reported by Drug Task Forces, 2001-2008

YEAR	TOTAL LABS	% CHANGE
2001	86	—
2002	122	41.9%
2003	89	-27.0%
2004	64	-28.1%
2005	25	-60.9%
2006	8	-68.0%
2007	6	-25.0%
2008	7	+16.7%

The RAND Report uses an estimate of $1,900 for cleaning up a typical small lab (based on 2005 data from the Joint Federal Task Force of the DEA, EPA and USCG). However, actual costs in Montana average considerably more:

- In FFY 2007, 6 labs were seized in Montana. Actual cleanup costs totaled $17,684.12. The cost of cleanup ranged from a high of $5,217 for a lab in a Billings house to $1,739 for an apartment in Great Falls. The average cost for FFY 2007 was $2,947.
- In FFY 2008, 7 labs were seized. The actual cost of cleaning up these sites totaled $36,456.79, and ranged from a low of $2,287 for a house in Missoula to $16,166.25 for a Bozeman house. The average cost for FFY 2008 was $5,208.

Table 6.1.1 Meth Lab Cleanup Costs for Removal of Hazardous Materials by a Specialized Contractor, as Reported by the Drug Enforcement Agency (DEA)[55]

FEDERAL FISCAL YEAR	TOTAL LABS	TOTAL CLEANUP COSTS	AV. COST PER LAB
2007	6	$17,684.12	$2,947
2008	7	$36,456.79	$5,208

[55] Division of Criminal Investigation, Montana Department of Justice [data file].