METHAMPHETAMINE IN SOUTH CAROLINA: A REPORT ON TRENDS AND IMPACT

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by

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Overview

Methamphetamine in South Carolina: A Report on Trends and Impact provides an assessment of the nature and extent of the methamphetamine problem in the state. The report was prepared by collecting and analyzing available data from epidemiological, health services, and law enforcement sources. Trend and geographic analyses are performed to characterize year-to-year and county-level variations in the methamphetamine problem.[1] Methamphetamine is also compared with other drugs of abuse to assess the drug's relative impact in the state. Where possible, cost estimates are generated to assess methamphetamine's economic toll.

While this report is concerned primarily with characterizing the methamphetamine problem, several of the data sources analyzed collect information on the broader drug classifications of 'amphetamines' or 'stimulants.' These broader classifications are used when more specific data are unavailable. Throughout this report, 'meth' is used as shorthand for methamphetamine, whereas the terms '(meth)amphetamine' and 'amphetamines' are used to refer to both methamphetamine and amphetamines together without distinction. This is the case, for example, with drug test results that do not distinguish methamphetamine from its parent substance. "Stimulants' is a term that is reserved for the general class of substances that includes methamphetamine and amphetamine, but also to other "uppers" such a methylphenidate (Ritalin) and similar prescription medicines. In this report, 'stimulants' never refers to powder or crack cocaine, which are always considered separately. Finally, no distinction is made in this report between various types of methamphetamine (e.g., "ice" or illicit smokeable methamphetamine vs. pharmaceutical-grade methamphetamine such as Desoxyn).

In previewing the remainder of the report, three broad conclusions can be reached about the trends and impact of methamphetamine in South Carolina. First, evidence of significant increases in methamphetamine use and abuse over the past decade was found across a wide array of epidemiological, health services, and law enforcement indicators. However, on almost every indicator examined, recent one- to two-year (and occasionally longer) trends suggest a downturn in meth-related problems. While it is too early to tell whether these recent declines represent a true downward trend, the consistency of this finding across a diverse set of indicators suggests it is more than an anomaly. Second, despite the significant increases in methamphetamine use and abuse, methamphetamine continues to represent a relatively small slice of the overall drug problem in the state. Other drugs such as cocaine, heroin, and marijuana continue to be the major drugs of abuse in the state, as well as primary contributors to drug-related morbidity and mortality. Third, the meth problem in South Carolina is not equally distributed throughout the state. This report finds that the meth problem is overwhelmingly concentrated in the Upstate, with other prominent pockets occurring in the Midlands around Lexington and the Low Country around Charleston.

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[1] Trend analysis is performed using Daniel's test for trend, which is essentially Spearman's rho with a time index (Conover, 1999). The null hypothesis is of no trend, where rejection at the $p<.05$ level indicates an increasing or decreasing trend in the series. For the Youth Risk Behavior Survey only, trend analysis is performed using online tools available through the Centers for Disease Control and Prevention (CDC) website.

Prevalence of Methamphetamine

Trends in the prevalence of methamphetamine in South Carolina vary depending on the specific population and indicator examined. As detailed below, methamphetamine use has increased substantially since 2000 among household, workforce, and community-supervised offender populations. However, recent one- to two-year trends also suggest a leveling off and even downturn in methamphetamine use. In contrast, methamphetamine use among South Carolina high school students has been declining since 1999, with the largest drop occurring since 2003. Methamphetamine use is also relatively uncommon in South Carolina, as marijuana and cocaine continue to be the major drugs of abuse among all groups. Lastly, estimates of methamphetamine use in South Carolina were generally comparable to both regional and national estimates.

Meth Use Among the Household Population

Table 1 presents three estimates of stimulant/methamphetamine use in the South Carolina household population for the period 2000-2005. The Adult Household Population Survey conducted during 1999-2000 as part of the South Carolina Treatment Needs Assessment estimated that 0.40% of the household population 18 or older used stimulants in the past year (Institute for Public Service and Policy Research, 2002). More recently, according to the National Survey on Drug Use and Health (NSDUH), an annual average of 0.60% of the South Carolina civilian population 12 or older reported past-year methamphetamine use during the three-year period 2002-2004 (Office of Applied Studies [OAS], 2005). OAS combined the estimate for multiple years because single-year estimates would be unreliable due to NSDUH's small state-level sample sizes and the low base rate of meth use. A subsequent four-year estimate incorporating results from the 2005 NSDUH indicates that a slightly smaller annual average of 0.55% of the household population reported past-year meth use during 2002-2005 (OAS, 2006).[2] Although the state-level estimates from both household surveys are not directly comparable due to differences in drug class (i.e., general stimulants vs. methamphetamine) and target population (i.e., 18 or older vs. 12 or older), they suggest an upward trend in meth use from 2000 to 2002-2004 followed by a downward trend heading into 2005.

While neither survey allows an examination of county-level differences in meth use, the 2002-2005 NSDUH annual average estimate for South Carolina (0.55%) was slightly less than the national average of 0.60%, but more than neighboring Georgia (0.48%) and North Carolina (0.20%) (OAS, 2006). Compared to other major drugs of abuse, the rate of meth use among the South Carolina household population is relatively low. Specifically, compared to the 2002-2004 annual average of 0.6% of the population reporting past-year methamphetamine use, 9.8% used marijuana, 2.3% cocaine, 1.3% hallucinogens, 0.7% inhalants, and 0.1% heroin (OAS, 2005).

[2] Notably, NSDUH methamphetamine prevalence estimates may have been underestimated during these years by as much as 15-25% due to the survey's inclusion of meth-related questions "within a set of questions about prescription-type drugs…[despite] most methamphetamine in the United States [being] supplied through illicit manufacturing and trafficking" (OAS, 2007: 10). By this accounting, then, the "true" 2002-2005 annual average prevalence rate for methamphetamine might be somewhat higher at 0.63% to 0.69%.

Table 1. Past-Year Methamphetamine Use Among the South Carolina Household Population			
Year	**SC Treatment Needs Assessment[1]**	**NSDUH Three-Year Average[2, 3]**	**NSDUH Four-Year Average[2, 3]**
2000	0.40%	--	--
2001	--	--	--
2002	--	0.60%	0.55
2003	--	0.60%	0.55
2004	--	0.60%	0.55
2005	--	--	0.55

-- Not available

[1] Among persons aged 18 or older; this survey measured general "stimulant" use and was fielded from September 1999 to October 2000.
[2] Among persons aged 12 or older.
[3] Estimates represent a combined average for the indicated years.

Source: National Survey on Drug Use and Health, 2002-2005; South Carolina Treatment Needs Assessment: Adult Household Population Survey, 1999-2000.

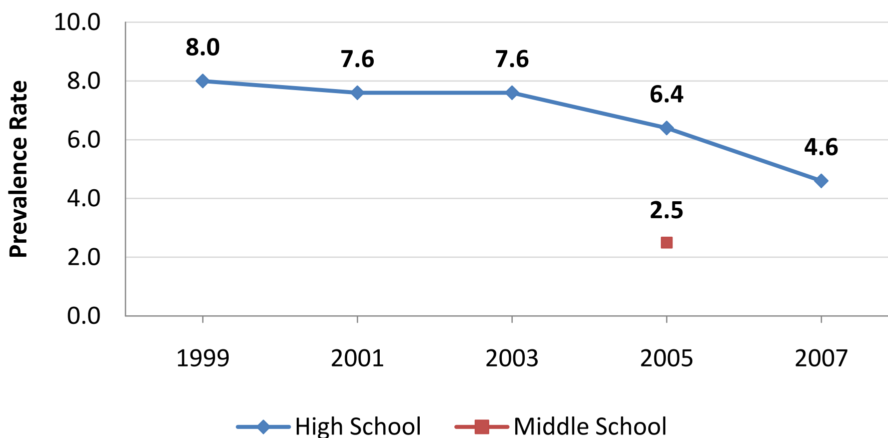
Meth Use Among the Student Population

The South Carolina Youth Risk Behavior Survey (YRBS) has collected biennial data on methamphetamine use among high school students since 1999. Similar data on meth use among middle school students were collected only during 2005.[3] Figure 1 shows that from 1999 to 2007 the lifetime rate of methamphetamine use among high school students declined significantly (p<.01) from 8.0% to 4.6% (a 42.5% decrease). In 2005, the lifetime prevalence rate among middle school students was 2.5%—more than half the 6.4% prevalence rate among high school students. In short, meth use by South Carolina high school students declined by nearly half since 1999, with most of the drop occurring since 2003. In addition, as would be expected, methamphetamine use was less prevalent among middle school students, although a nontrivial 2.5% reported lifetime use in 2005.

While it is not possible to generate substate estimates with YRBS data, the lifetime rate of methamphetamine use among South Carolina high school students is comparable to both national and regional estimates. In particular, the 2007 South Carolina lifetime meth use rate of 4.6% was close to the national average of 4.4% as well as to the neighboring states Georgia (4.9%) and North Carolina (4.7%) (Eaton et al., 2008).[4] Similar to the household population, meth use is less common than other drugs of abuse among the student population. For example, based on the 2007 South Carolina High School YRBS, the reported lifetime rate of methamphetamine use (4.6%) was less than that for marijuana (36.6%), ecstasy (7.2%), and cocaine (6.5%); only heroin was used by fewer students (2.8%).

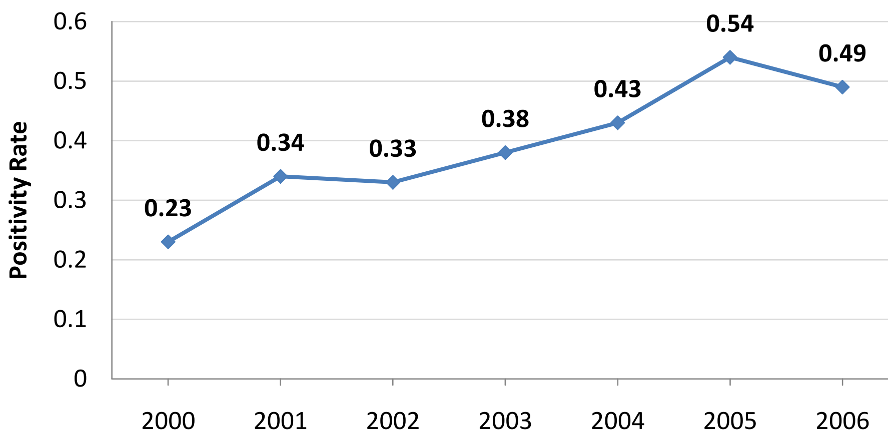
[3] It is unclear why the question on methamphetamine use was not asked in the 2007 South Carolina Middle School YRBS, especially since the question on perceptions of methamphetamine risk (see below) was asked in both 2005 and 2007.

[4] For comparison, Maine had the lowest rate (3.0%) and Arizona the highest rate (8.6%).



Source: South Carolina Youth Risk Behavior Survey, 1999, 2001, 2003, 2005, and 2007

Note: The 2001 and 2003 South Carolina YRBS response rates were less than the Centers for Disease Control and Prevention criterion of 60% and, therefore, may not be representative of the population of high school students. Any comparison with results of earlier or later years must consider this caution.



Source: Quest Diagnostics Drug Testing Index

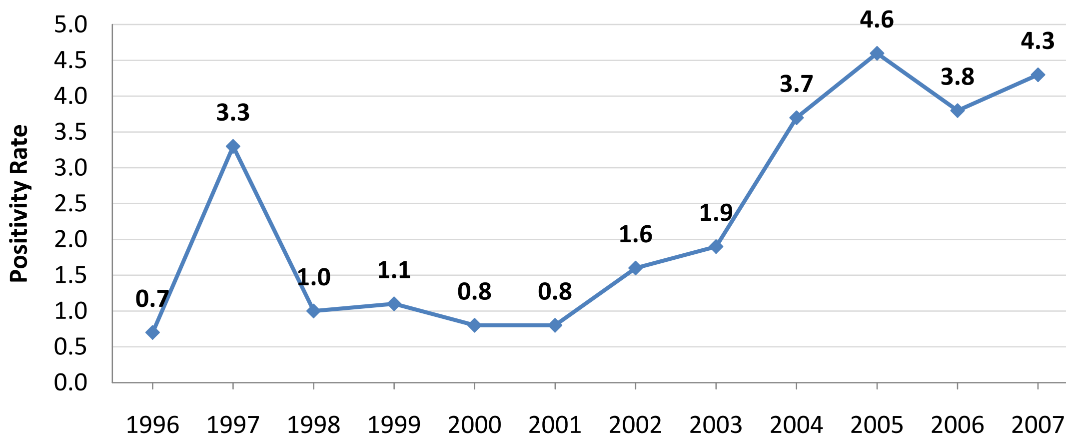
Amphetamine Use Among the Workforce

Drug test results provide another direct indicator of trends in general amphetamine use. The Quest Diagnostics Drug Testing Index is a leading source for national and subnational estimates of illicit drug use among both safety-sensitive workers and the general workforce (referred to as

the combined workforce). Figure 2 shows the amphetamine positivity rate—i.e., the proportion of positive results to all such drug tests performed—for the combined South Carolina workforce from 2000 to 2006 (Quest Diagnostics Drug Testing Index as cited in Office of National Drug Control Policy [ONDCP], 2006). From 2000 to 2006, the amphetamine positivity rate increased significantly (*rho*=0.93, $p<.05$) from 0.23 to 0.49 (a 113% increase)—despite the recent one-year downturn from the 2005 peak positivity rate of 0.54. Compared to national and regional estimates, the South Carolina amphetamine positivity rate for 2006 (0.49) was slightly larger than the national rate (0.42) and fell in between those for North Carolina (0.34) and Georgia (0.56).

Amphetamine Use Among Probationers and Parolees

Amphetamine positivity rates are also available for offenders supervised in the community by the South Carolina Department of Probation, Parole, and Pardon Services (SCDPPPS) (rates calculated from data reported in McManus, 2008). Figure 3 shows that overall from 1996 to 2007 the amphetamine positivity rate among probationers and parolees increased significantly (*rho*=0.77, $p<.01$) from 0.7 to 4.3 (a 514% increase). The bulk of this increase occurred from 2001 to 2005, as the positivity rate was relatively stable both before 2001 and after 2005 (aside from an anomalous spike in 1997).



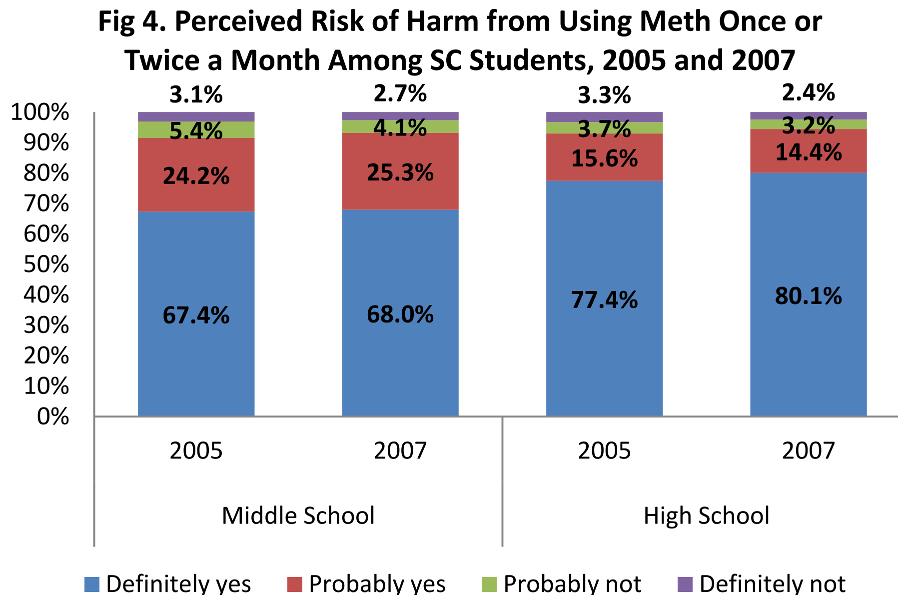
Source: Offender Information System, South Carolina Department of Probation, Parole, and Pardon Services

While amphetamine represents an increasing share of all drug positives among probationers and parolees (increasing from less than 0.1% in 1996 to 5.9% in 2007), marijuana (52.3%) was by a large margin the most commonly detected drug in 2007, followed by cocaine (37.4%) and, lastly, the opiates (4.4%).

Attitudes Toward Methamphetamine

The South Carolina YRBS asked both high school and middle school students during 2005 and 2007 about the perceived risks of harm from using methamphetamine.[5] As shown in Figure 4, across both years and grades, few students reported there was little to no risk in using methamphetamine at least monthly. In fact, the majority of students across years and grades associated regular methamphetamine use with a definite risk of harm, and more than nine in ten thought there was at least a probable risk of harm. In addition, between 2005 and 2007, there were slight increases in the percentage of both middle and high school students identifying definite-to-probable risks of regular meth use.

Perhaps the most interesting pattern in these data is the increase from the middle to high school years in the percentage of students who acknowledged a "definite" risk of harm. For example, in 2005, 67.4% of middle school students reported there were definite risks to using methamphetamine at least monthly. By 2007—when most of these students would have graduated to high school—a substantially larger 80.1% of high school students identified regular meth use with a definite risk of harm. Conversely, the percentage of students identifying little to no risk of regular meth use decreased by more than one-third (from 8.5% to 5.6%) when comparing 2005 middle school students to 2007 high school students. In short, unfavorable attitudes toward meth use among the South Carolina student population appear to be increasing both over time within grade levels and within cohorts over time.



Source: South Carolina Youth Risk Behavior Survey, 2005 and 2007

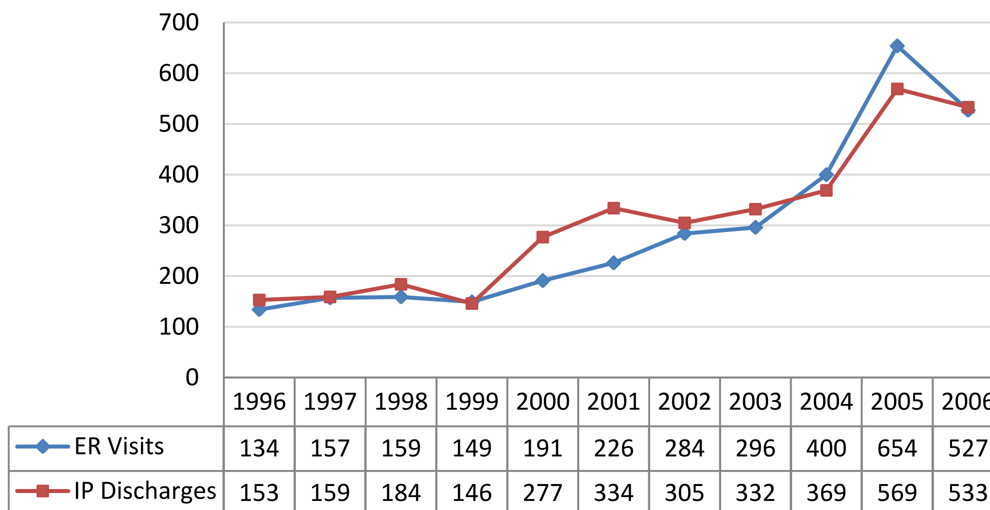
[5] Specifically, the survey asked "Do you think young people risk harming themselves if they use methamphetamines (crystal meth) one or two times a month?"

Health Consequences of Methamphetamine

Data on the health consequences of methamphetamine come from a variety of sources, including emergency room and inpatient hospitalizations, substance abuse treatment program admissions, and drug-related mortality data. All of these indicators reveal substantial, and in most cases significant, increases in meth-related problems during the early 2000s. However, with the exception of stimulant-related deaths, all indicators were headed downward in 2006/2007—too early to be a trend, but similar to the recent downturns in meth prevalence noted above. Moreover, despite the overall increases, methamphetamine continues to be a relatively minor contributor to drug-related morbidity and mortality in the state when compared other major drugs of abuse such as cocaine, opiates, sedatives, and even marijuana.

Emergency Room Visits and Inpatient Hospital Discharges

The South Carolina State Budget and Control Board collects data on emergency room (ER) visits and inpatient (IP) hospital discharges. Both indicators are mutually exclusive, so that patients who visit the emergency room and are subsequently admitted and discharged as an inpatient would be recorded only in the latter. Multiple drugs can be recorded for a single hospital admission, so these data represent drug *mentions* rather than unique drug-related admissions.[6]



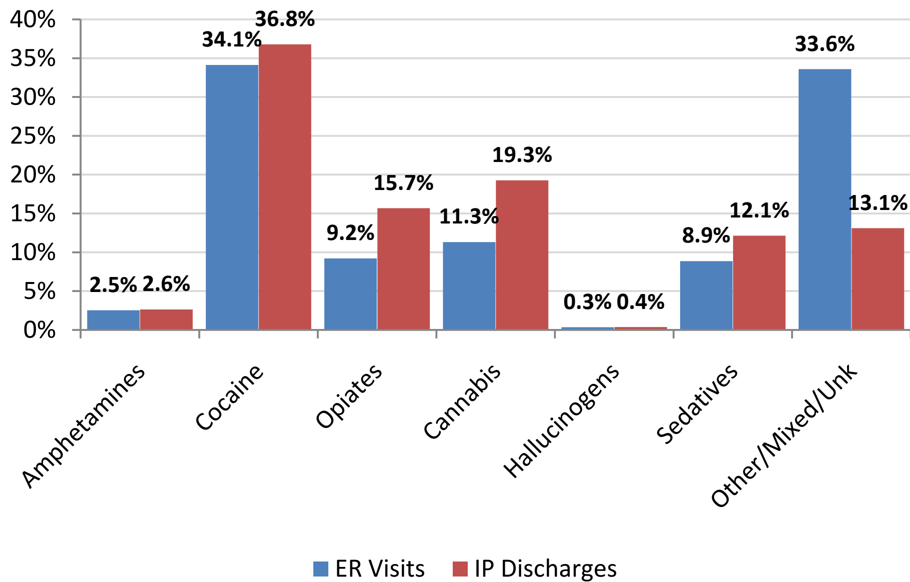
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
ER Visits	134	157	159	149	191	226	284	296	400	654	527
IP Discharges	153	159	184	146	277	334	305	332	369	569	533

Source: Office of Research and Statistics, South Carolina State Budget and Control Board

Figure 5 shows that from 1996 to 2006 amphetamine-related ER visits to South Carolina hospitals increased significantly (*rho*=0.96, $p<.001$) from 134 to 527 (a 293% increase). The

[6] For example, in 2006 there were 20,757 total ER drug mentions for 18,862 unique admissions and 20,167 total IP discharge drug mentions for 16,250 unique admissions.

trend for amphetamine-related IP discharges also increased significantly during this period (*rho*=0.91, *p*<.001). The increases were not monotonic, however, as ER visits and IP discharges were relatively stable prior to 1999 and downturned sharply in 2006. Despite the upward trends, amphetamine continues to account for a relatively small share of all drug mentions. In 2006, for example, amphetamine was mentioned in just 2.5% of drug-related ER visits and 2.6% of IP discharges. By comparison, as shown in Figure 6, cocaine was the main drug of abuse—accounting for more than one-third of all drug mentions in both ER and IP hospital settings.

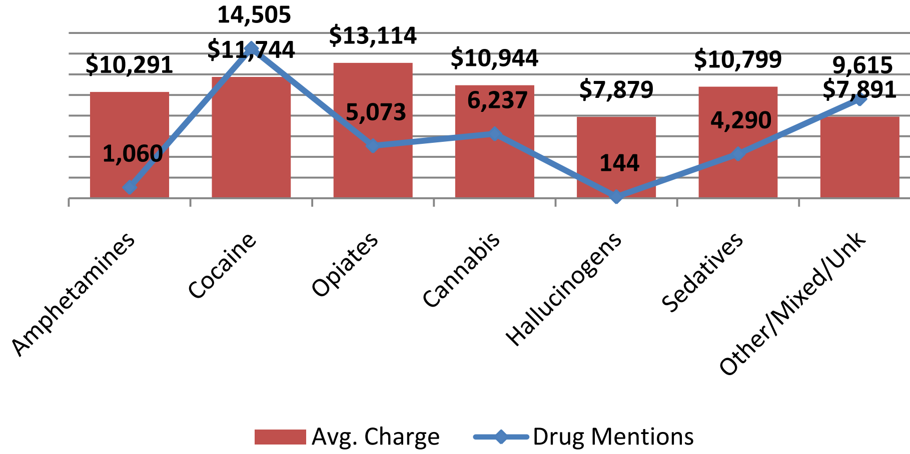


Source: Office of Research and Statistics, South Carolina State Budget and Control Board

Hospital billing data tell a similar story with respect to the relative costs of (meth)amphetamine. Figure 7 shows the average hospital charge and total number of mentions by drug for combined 2006 ER and IP hospital data. Although the average hospital charge for amphetamines is comparable to the other major drugs of abuse, the overall number of amphetamine mentions is relatively small. Thus, amphetamine-related ER and IP hospital admissions accounted for just 2.5% of the $373 million in associated hospital billing for 2006, or roughly $9.3 million.[7]

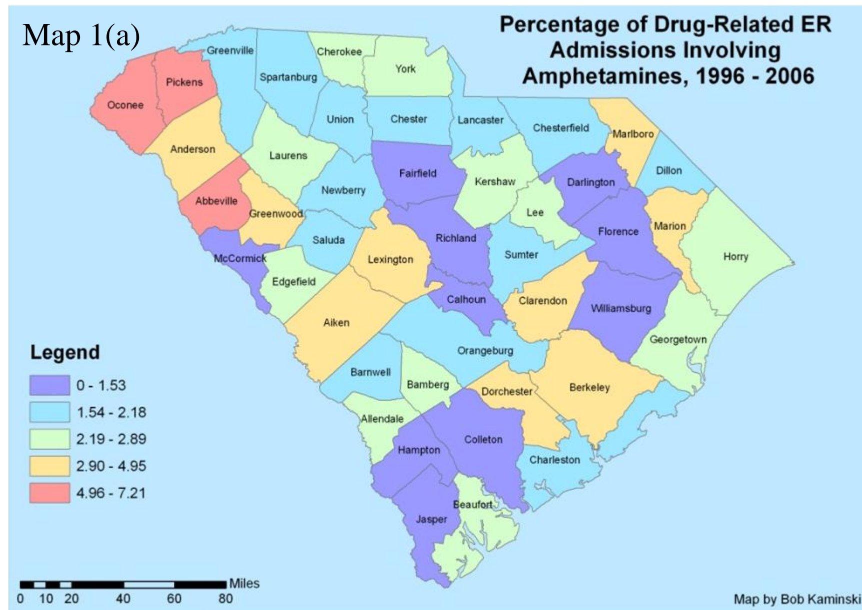
[7] The $9.3 million estimate does not equal the $10.9 million amount indicated by the data in Figure 7 (i.e., 1,060 * $10,291 = $10,908,460). Recall that multiple drugs could be recorded for one hospital record, so the $9.3 million figure adjusts for double-counting of hospital costs across drugs. In particular, it represents the share of amphetamine-related costs to total costs based on drug mentions (i.e., $10,908,076 / $439,378,617 = 2.48%) multiplied by total drug-related billing from unique admissions (i.e., 2.48% * $373,190,179 = $9,255,116).

Fig 7. Average Hospital Charge and Total Mentions by Drug (ER and IP Hospital Data Combined), 2006

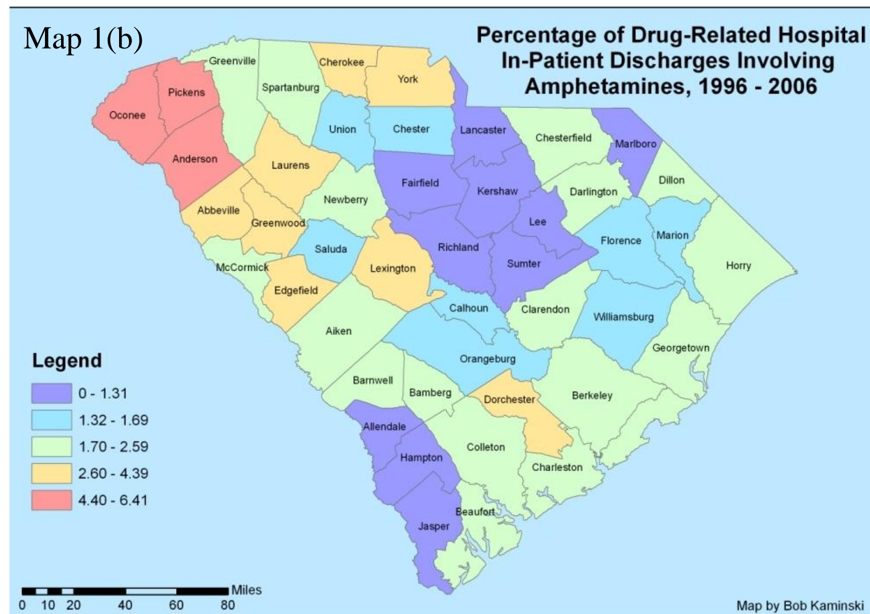


Source: Office of Research and Statistics, South Carolina State Budget and Control Board

Maps 1(a) and 1(b) show that during the period 1996-2006, both amphetamine-related ER visits and IP hospital discharges were overrepresented in parts of the Upstate, accounting for roughly 5% or more of all drug mentions in Oconee, Pickens, Anderson, and Abbeville counties. Other pockets clustered around Lexington in the Midlands and Dorchester in the Low Country, where amphetamine accounted for roughly 2.5%-5.0% of all hospital admissions across both indicators.



Source: Office of Research and Statistics, South Carolina State Budget and Control Board



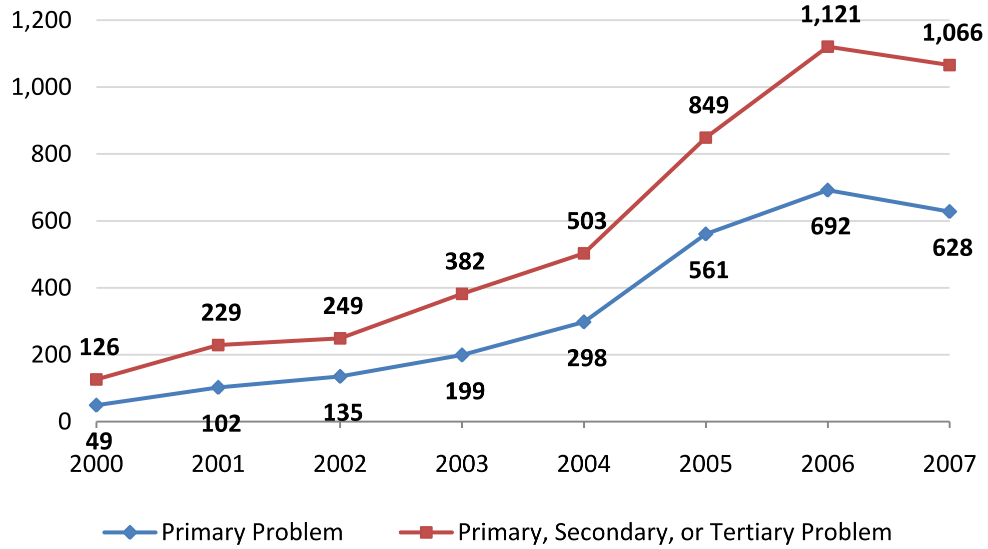
Source: Office of Research and Statistics, South Carolina State Budget and Control Board

Substance Abuse Treatment Admissions

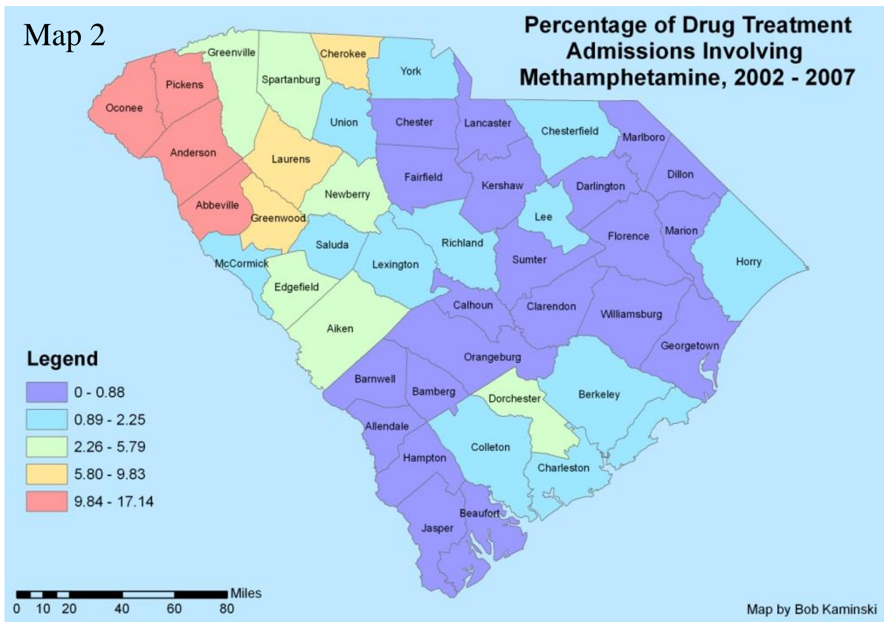
The South Carolina Department of Alcohol and Other Drug Abuse Services (DAODAS) routinely collects data from county substance abuse treatment authorities on client demographics, services, and treatment outcomes. Figure 8 presents data on the number of admissions for methamphetamine abuse to South Carolina treatment facilities for fiscal years (FY) 2000-2007. Overall, from FY2000 to FY2007, the number of primary methamphetamine admissions increased significantly (*rho*=0.98, *p*<.001) from 49 to 628 (an increase of 1,182%). The trend for treatment admissions where methamphetamine was either a primary, secondary, or tertiary problem followed a similar pattern. In both cases, the number of admissions increased steadily from 2000 to 2004, grew more sharply from 2004 to 2006, and then declined heading into 2007.

Corresponding with this overall increase, the methamphetamine share of all primary drug-related admissions to South Carolina treatment facilities grew from 0.4% to 4.8% between FY2000-FY2007. Nevertheless, in FY2007 marijuana (44.7%), cocaine (35.0%), and the opiates (11.2%) continued to be the primary problem drugs driving substance abuse treatment admissions in the state.

Map 2 shows county-level variations in methamphetamine treatment admissions as a percentage of all drug treatment admission for the most recent five-year period 2002-2007. Once again, the upstate region stands out, where upwards of 10% of all treatment admissions in the extreme northwest part of the state, in particular, were for methamphetamine. In contrast, methamphetamine treatment admissions throughout much of the rest of the state represent a negligible share of total treatment admissions.



Source: South Carolina Department of Alcohol & Other Drug Abuse Services



Source: South Carolina Department of Alcohol & Other Drug Abuse Services

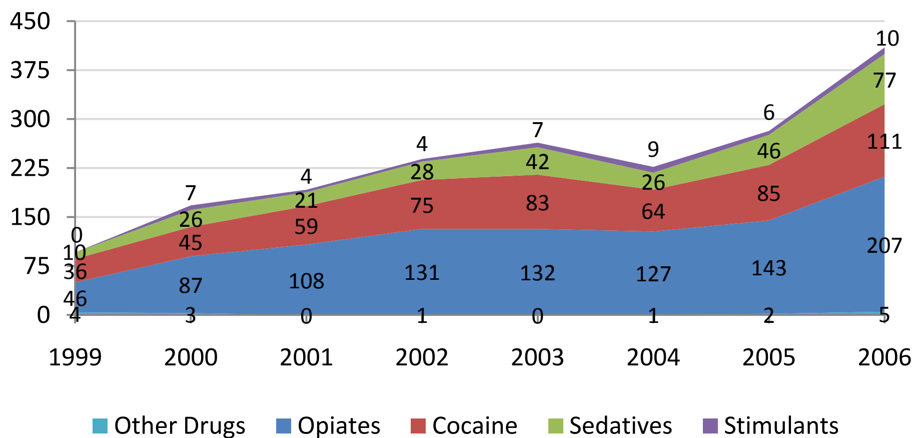
Drug Abuse and Dependence Diagnoses

Since the early 1990s, two comprehensive, statewide substance abuse treatment needs assessment studies have been conducted. The earlier of the two needs assessments, fielded between 1993-1996, did not even examine stimulant abuse/dependence (Institute for Public Service and Policy Research, 1997). The second round of needs assessment studies, fielded during 1999-2000, found that 3.2% of the South Carolina household population 18 or older met DSM-IV criteria for a lifetime diagnosis of marijuana abuse or dependence, followed by 1.1% for cocaine, 0.6% for stimulants, 0.4% for hallucinogens, 0.3% for sedatives, 0.2% for heroin, and 0.1% for inhalants (Institute for Public Service and Policy Research, 2002). Presently, more recent estimates of stimulant, and more specifically methamphetamine, drug abuse/dependence in the general population are not available.

Drug-Related Deaths

Vital statistics on drug-related deaths were obtained from the South Carolina Department of Health and Environmental Control (DHEC). Drug-related deaths include fatalities where a drug of concern was listed as a contributing, but not necessarily causal, factor on the death certificate. Figure 9 shows that from 1999 to 2006 overall drug-related deaths more than quadrupled from 96 to 410. While fatalities from stimulant use jumped from 0 to 10 over the same time period, this does not represent a statistically significant increase. Moreover, in 2006, stimulant-related deaths accounted for just 2.4% of all drug-related deaths among South Carolina residents. In comparison, opiates accounted for more than half (50.5%) of all drug-related deaths, followed by cocaine (27.1%) and sedatives (18.8%). Other drugs such as LSD and marijuana (1.2%) were rarely indicated as a contributing cause of death.

Fig 9. Drug-Related Deaths Among South Carolina Residents, 1999-2006



Source: Division of Biostatistics, Public Health Statistics and Information Services, South Carolina Department of Health and Environmental Control

Note: 2006 data are provisional.

Source: Division of Biostatistics, Public Health Statistics and Information Services, South Carolina Department of Health and Environmental Control

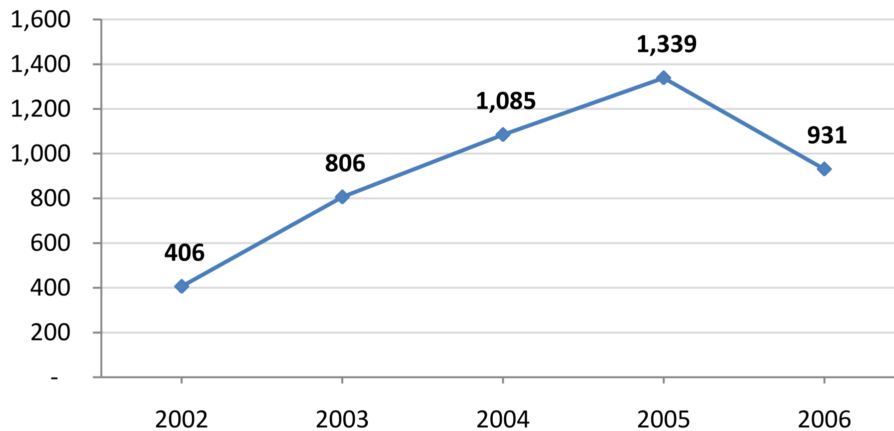
Over the entire eight-year period examined, stimulant-related deaths were centralized to two regions of the state: the Upstate around Greenville and the Low Country around Charleston (see Map 3). Greenville was unique with 19 stimulant-related deaths, Charleston was next highest with 3, and five other counties recorded multiple stimulant-related deaths. Most counties with a stimulant-related death recorded just one and, in fact, 27 of the 46 counties (59%) did not register a single stimulant-related death from 1999 to 2006.

Law Enforcement Data on Methamphetamine in South Carolina

Law enforcement data characterizing the methamphetamine problem in South Carolina include drug arrests, federal sentencing outcomes, clandestine lab incidents, forensic drug analysis reports, and information on drug prices. A periodic law enforcement census is also used to investigate perceptions of police agencies regarding the meth problem. All of these indicators show that the meth problem in the state increased significantly during certain recent periods. However, many indicators also show recent downturns, and even significant declines, in recent years (e.g., meth lab incidents and forensic lab submissions). Across all indicators, methamphetamine represents a relatively small share of the overall statewide drug problem, which is consistent with the above evidence on meth prevalence and health consequences. Nevertheless, these data also show that certain regions in South Carolina are disproportionately impacted by the methamphetamine problem—most notably the Upstate but also including pockets in the Midlands around Lexington and the Low Country around Charleston.

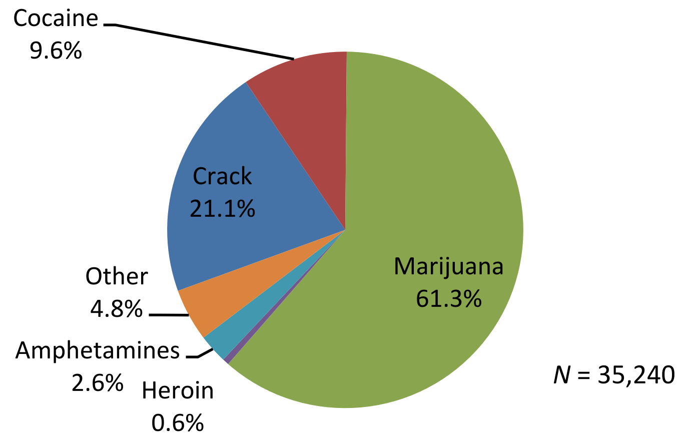
Drug Arrests

Official data on drug arrests come from the South Carolina Incident Based Reporting System (SCIBRS) operated and maintained by the South Carolina Law Enforcement Division (SLED); data for 2002-2006 were provided by the South Carolina Statistical Analysis Center. As shown in Figure 10, from 2002 to 2006 (meth)amphetamine arrests more than doubled from 406 to 931, a trend that includes a steady increase from 2002 to 2005 followed by a downturn in 2006. The overall increase however is not statistically significant, which means that we cannot be confident beyond chance that the trend in meth arrests is actually increasing.

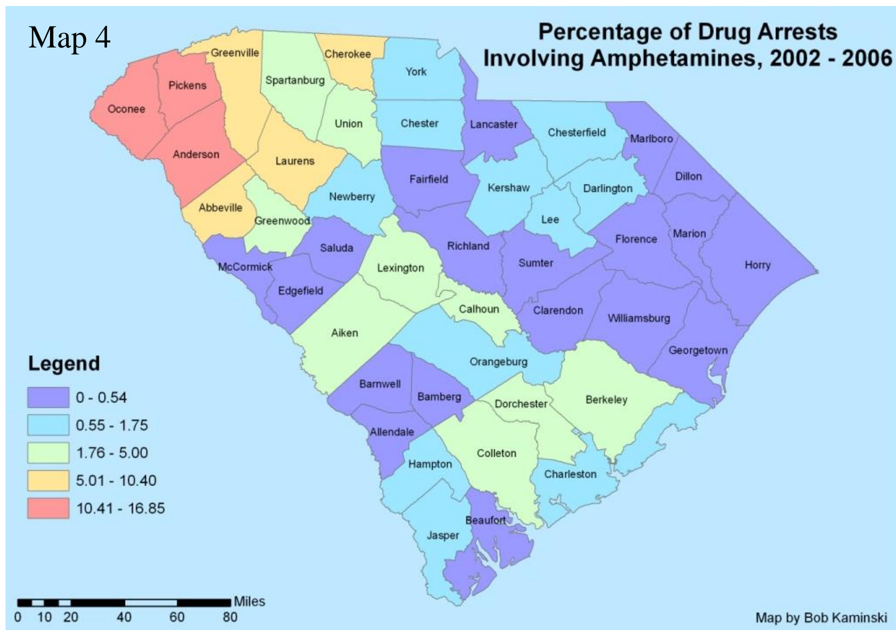


Source: South Carolina Law Enforcement Division data supplied by the South Carolina Statistical Analysis Center

(Meth)amphetamine represents a relatively small share of all drug arrests. In 2005, for example, (meth)amphetamine accounted for 4.0% of all drug arrests, and just 2.6% in 2006. As Figure 11 shows, marijuana (61%) and crack/cocaine (31%) accounted for more than nine of every ten drug arrests in the state in 2006. Geographically, meth arrests disproportionately occur in the Upstate. In particular, as shown in Map 4, from 2002 to 2006 upwards of 1 in 7 arrests in neighboring Anderson (16.8%), Oconee (14.4%), and Pickens (16.7%) counties were for meth(amphetamine). Meth arrests were relatively rare in other parts of the state, especially the Pee Dee region.



Source: South Carolina Law Enforcement Division data supplied by the South Carolina Statistical Analysis Center

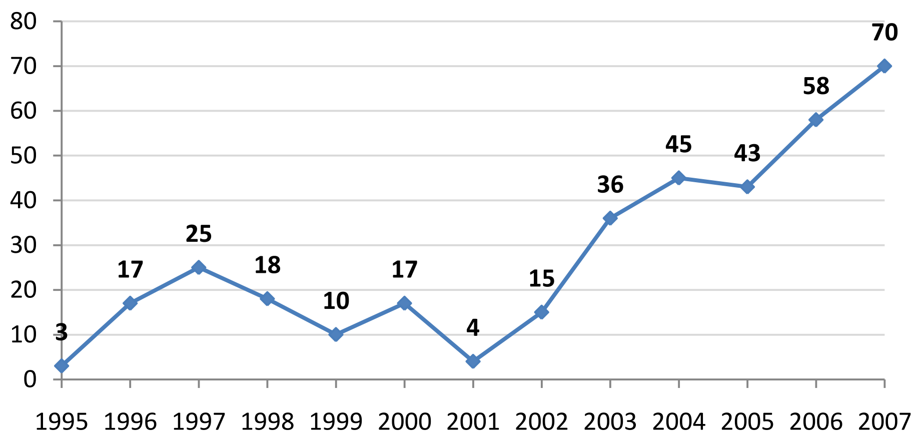


Source: South Carolina Law Enforcement Division data supplied by the South Carolina Statistical Analysis Center

Federal Drug Sentencing

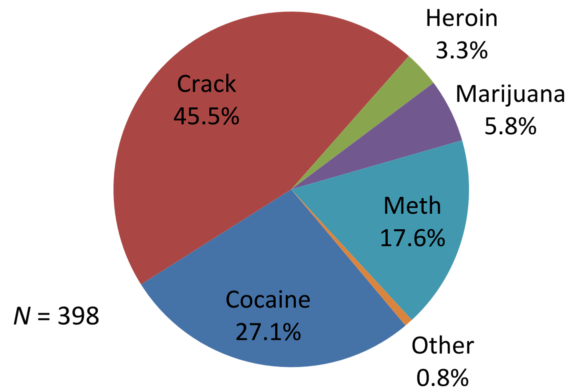
This section reports on drug sentencing outcomes within the federal District of South Carolina. Unfortunately, it is not possible to determine with any reliability methamphetamine-specific criminal court trends and outcomes at the state-level since methamphetamine is generally combined with other drugs in the relevant South Carolina Criminal Code (e.g., "possession of crack, crank, ice or methamphetamine"). Since prosecutorial constraints and considerations differ at the state and federal levels, this analysis of federal sentencing data probably does not generalize well to the state-level. Nevertheless, it provides sentencing information for South Carolina where no other suitable data exists.

Figure 12 shows that from 1995 to 2007 the number of federal defendants sentenced for methamphetamine in the District of South Carolina increased significantly (*rho*=0.74, *p*<.01) from 3 to 70. Practically all the increase occurred since 2001, as the series followed no definite trend from 1995 to 2001. While crack and powder cocaine continue to represent nearly three of every four (72.6%) federal drug cases sentenced in South Carolina, the share of methamphetamine cases grew from just 1.2% in 2001 to a sizable 17.6% in 2007 (see Figure 13). Notably, most of the relative increase in methamphetamine came at the expense of marijuana cases.



Source: United States Sentencing Commission

Fig 13. Distribution of Federal Defendants Sentenced by Drug Type, District of South Carolina, 2007



Source: United States Sentencing Commission

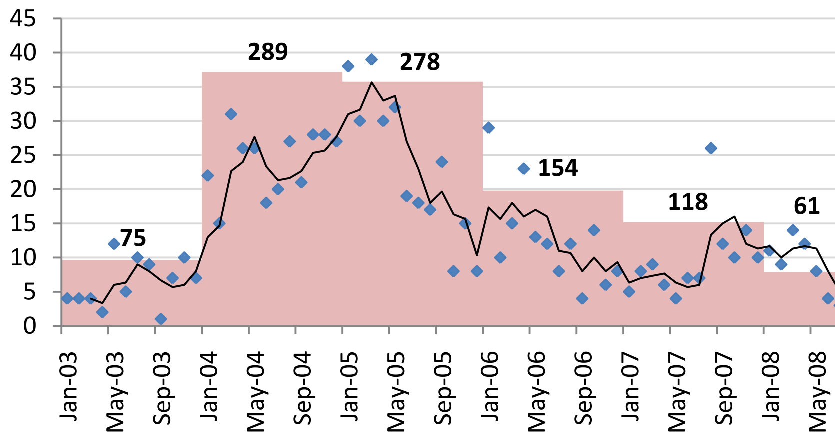
Clandestine Methamphetamine Labs

Data on clandestine meth labs were cumulated from various state and federal sources. The El Paso Intelligence Center (EPIC) serves as the national repository for the Clandestine Laboratory Seizure System (CLSS). Although EPIC does not corroborate or edit the voluntarily reported CLSS data for completeness or accuracy, discussions with EPIC officials indicate that, for unclear reasons, there is widespread underreporting of meth lab incidents by South Carolina law enforcement agencies (LEAs). To combat this problem of underreporting, the EPIC data were cumulated with meth lab incident data maintained by two other agencies: the Columbia Field Division of the Drug Enforcement Administration and the South Carolina Department of Health and Environmental Control.[8] For purposes of this report, meth lab incidents include working and abandoned laboratories, equipment and glassware seizures, and dumpsites. Also included are mobile labs and seizures from vehicles.

If examined over the entire series, the number of clandestine meth labs did not change significantly from January 2003 to July 2008. However, as shown in Figure 14, the number of monthly meth lab incidents did increase significantly (rho=0.87, p<.001) from 4 to 39 over the 15-month period from January 2004 to March 2005. Clandestine meth lab incidents in South Carolina then declined significantly (rho=-0.52, p<.001) to a recent monthly low of 3 incidents in July 2008. Based on yearly totals, meth lab incidents declined by more than half (59%) between 2004 and 2007 (the most recent year with complete data). If current trends continue, meth lab activity in 2008 will return to levels last observed in South Carolina in 2003.

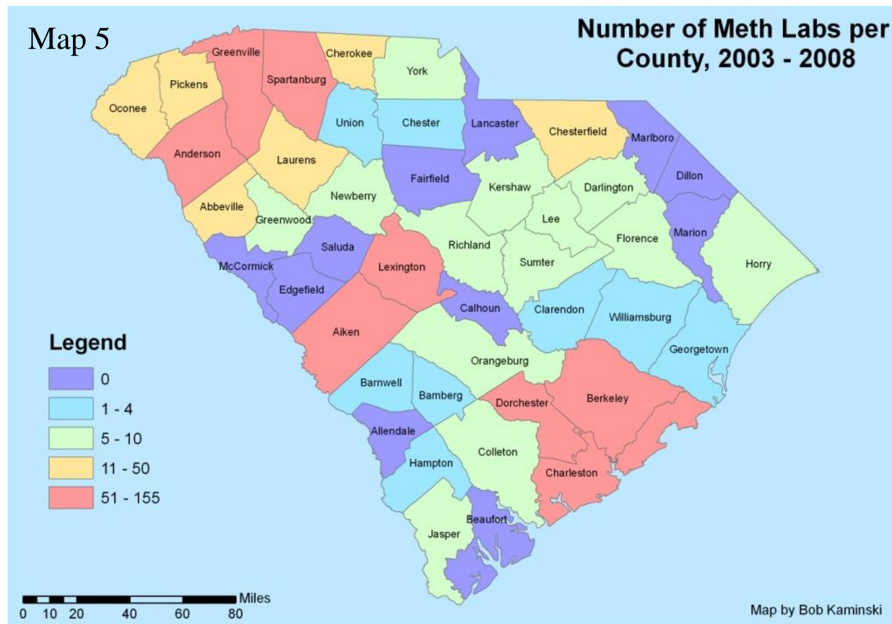
[8] In total, there were 974 unique meth lab incidents recorded from all data sources between January 2003 and July 2008, but only 54.1% were reported to EPIC.

Fig 14. Number of Clandestine Meth Labs Incidents, Monthly Data with Yearly Totals, 2003-2008



Source: Cumulated data from the El Paso Intelligence Center, the Columbia Field Office of the Drug Enforcement Administration, and the South Carolina Department of Health and Environmental Control

Note: Meth lab incidents include laboratory, equipment, and dumpsite seizures. The trend line represents a three-month (or quarterly) moving average.

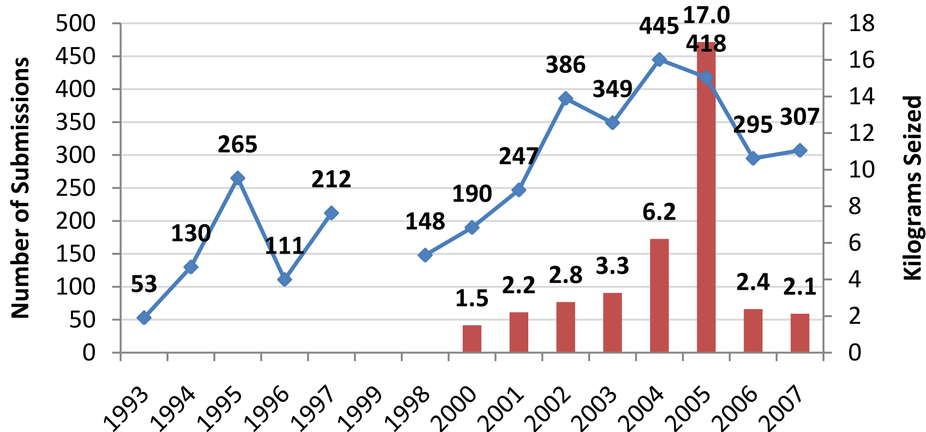


Source: Cumulated data from the El Paso Intelligence Center, the Columbia Field Office of the Drug Enforcement Administration, and the South Carolina Department of Health and Environmental Control

Combining data from January 2003 to July 2008, Map 5 shows that clandestine meth lab incidents clustered in three regions of the state—namely around the Upstate counties of Anderson (155), Greenville (151), and Spartanburg (61); the Midlands counties of Lexington (112) and Aiken (57); and the Low Country counties of Charleston (54), Berkeley (75), and Dorchester (59). Once again, however, the Upstate stands out for being particularly burdened with meth activity, as a handful of other surrounding counties reported a dozen or more lab incidents over the period examined.

South Carolina Forensic Lab Submissions

The Forensic Services Laboratory of the South Carolina Law Enforcement Division (SLED) provides forensic drug analysis services to local, state, and federal criminal justice agencies, coroners, and solicitors. The Drug Analysis Department processes drug evidence, provides laboratory reports, and furnishes testimony in court matters. While evidence from forensic drug analysis serves as an important indicator of both the prevalence and quantity of controlled substances secured by law enforcement, evidence not submitted for analysis will not be included in the system. However, that more than 150 separate entities (mostly law enforcement agencies but also coroners and solicitors) submitted evidence in 2007 alone suggests that participation in the drug analysis program is widespread among local South Carolina police departments and sheriff's offices.



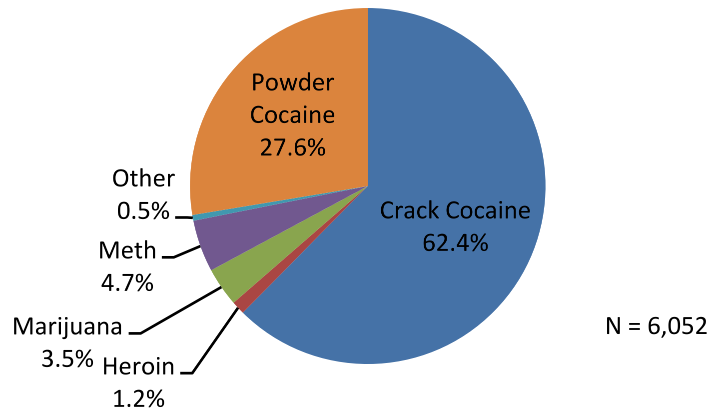
Source: Forensic Services Laboratory, South Carolina Law Enforcement Division

Note: Data for 1999 were unavailable and quantity data before 2000 were unreliably reported.

Figure 15 presents data on the number of methamphetamine submissions to the state lab from 1993 to 2007, as well as the total quantity of methamphetamine seized from 2000 to 2007 (quantity data from earlier years was not reliably reported). For the entire period, reports of

methamphetamine increased significantly (*rho*=0.80, *p*<.001) from 53 to 307 (a 479% increase). However, the peak year for methamphetamine submissions to the state forensic lab was 2004 (*n*=445), and since then reports of methamphetamine have declined significantly (*rho*=-0.86, *p*<.05).[9] The quantity of methamphetamine seized followed a similar pattern. In particular, from 2000 to 2005, the total quantity seized and submitted increased from 1.5 kg to 17.0 kg (a 1,033% increase) and then fell to 2.1 kg in 2007 (an 88% decrease).

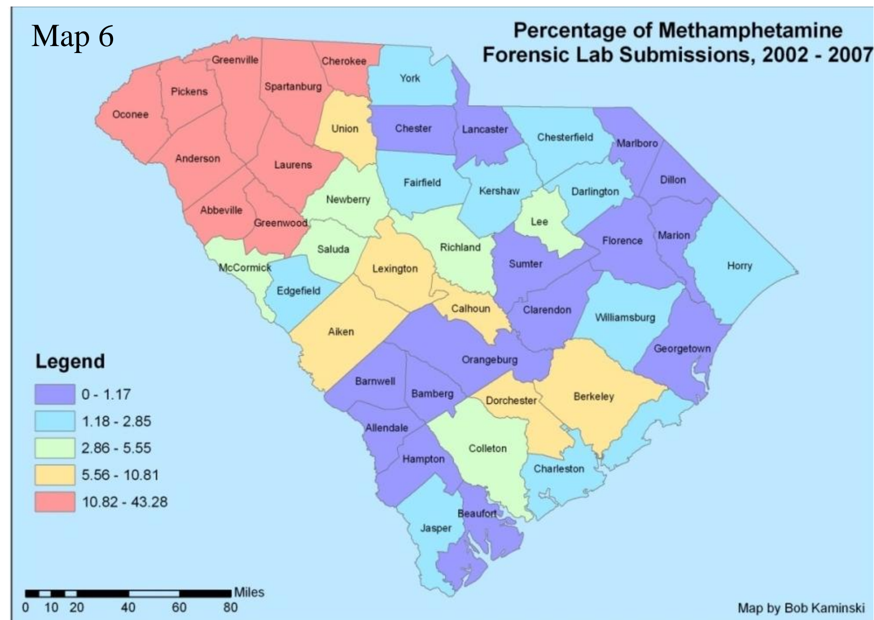
Fig 16. Distribution of State Forensic Lab Submissions by Drug, 2007



Source: Forensic Services Laboratory, South Carolina Law Enforcement Division

The percentage of methamphetamine submissions to the Forensic Services Laboratory increased from just 1.1% in 1993 to 7.7% in 2004 before falling to 4.7% in 2007. As shown in Figure 16, crack (62%) and powder cocaine (28%) account for the overwhelming majority of drug analysis submissions to the state crime lab. However, these statewide data mask substantial regional variation in methamphetamine reports, where once again the Upstate represents a disproportionate share of forensic lab submissions. Map 6 shows the geographic distribution of the percentage of all drug analysis submissions from 2002 to 2007 that were for methamphetamine. Whereas the statewide average for this period was 5.8%, methamphetamine represented one-quarter (24.5%) of all drug reports from the Upstate counties represented in red (with specific counties ranging from 18.8% in Greenwood to 43.3% in Oconee). Other counties with an above-average rate of methamphetamine submissions to the state crime lab include Aiken (7.1%), Calhoun (9.2%), and Lexington (10.8%) in the Midlands and Berkeley (6.9%) and Dorchester (8.2%) in the Low Country.

[9] The statistical test for trend was done on halfyear, rather than full year, totals in order to increase the power of the test.



Source: Forensic Services Laboratory, South Carolina Law Enforcement Division

Price of Methamphetamine

Price data provide another indicator of the availability and demand for methamphetamine in the state. The National Drug Intelligence Center (NDIC, 2007), for example, reported that from December 2006 to June 2007 the wholesale price of crystal meth (“ice”) increased significantly in Greenville, SC from $12,000-$15,000 to $25,000-$27,000 per pound. This suggests that availability was down, at least in the short-term, resulting in a sharp spike in price. Table 2 presents the range of reported methamphetamine prices at three market levels for the state as a whole for the years 2000 and 2007 (NDIC, 2001, 2007). Although there were certainly price fluctuations between these two years, especially considering that local meth lab production was at its height during interim years of 2004-2005, these data indicate a remarkable stability in methamphetamine prices from 2000 to 2007.

Table 2. Prices of Methamphetamine in South Carolina by Market Level, 2000 and 2007

	2000	2007
Wholesale (kg/lb)	$15,000-28,000	$12,000-27,000
Midlevel (oz)	$900-1,500	$800-1,400
Retail (g)	$85-100	$80-250

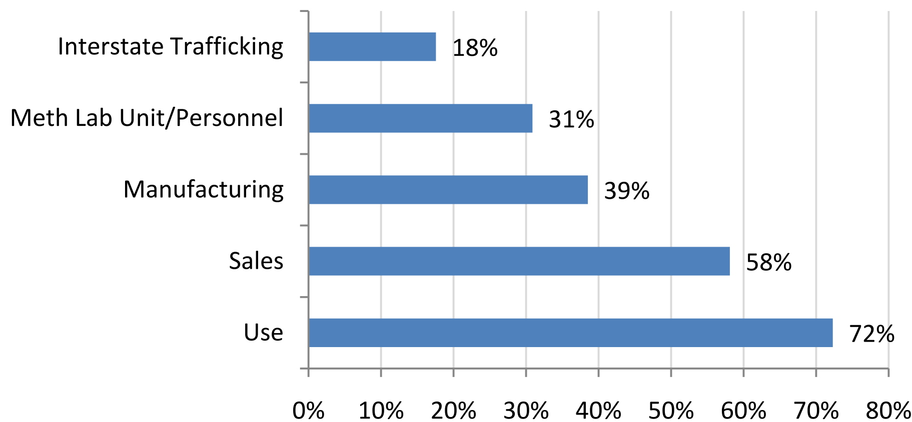
Source: National Drug Intelligence Center

Law Enforcement Perceptions of Methamphetamine Activity

The South Carolina Law Enforcement Census (SCLEC) is a periodic survey of South Carolina law enforcement agencies conducted by the Department of Criminology and Criminal Justice at the University of South Carolina. The *2007 South Carolina Law Enforcement Census* (Rojek, et al, 2008) contained a module that asked about the reporting agencies' perceptions of illicit drug activity in their jurisdictions. This section focuses on those responses regarding methamphetamine from the 149 (out of 289) responding agencies. Although the response rate of 52% does not encompass every agency in the state, it represents the most complete information available on South Carolina law enforcement practices with at least one agency from all 46 counties except one (McCormick) represented.

Figure 17 indicates the percentage of responding LEAs reporting certain types of meth activity in their jurisdictions. For example, nearly three-quarters (72%) reported meth use, more than half (58%) meth sales, and about four in ten (39%) meth manufacturing as problems in their jurisdictions. A somewhat smaller percentage of agencies (31%) reported having a specialized meth lab response unit or specifically dedicated personnel. Finally, less than one in five (18%) agencies reported interstate trafficking of methamphetamine was a problem in their jurisdiction.

Fig 17. Percentage of South Carolina Law Enforcement Agencies Reporting Meth Activity in Jurisdiction, 2007



Source: 2007 South Carolina Law Enforcement Census

A Final Note on Future Monitoring and Data Quality

This report provided an assessment of the nature and extent of the methamphetamine problem in South Carolina using existing data from epidemiological, health services, and law enforcement sources. While the findings are varied, three main conclusions can be drawn. First, methamphetamine use and abuse increased significantly since 2000. However, though it is too

early to tell whether meth has peaked in South Carolina, recent trends are down across a wide array of indicators. Second, the methamphetamine problem represents a relatively small slice of the overall drug problem in the state. Third, the meth problem is overwhelmingly concentrated in the Upstate, with other less prominent pockets occurring in the Midlands and Low Country. Future efforts should be made to continue the monitoring of these, and other, social indicators.

Following on the last point, several recommendations are given to improve data quality and monitoring of this important issue. First, future versions of both the middle and high school South Carolina YRBS should include questions on both meth prevalence and meth risk. In addition to lifetime measures of meth use, the inclusion of questions about past-year use will provide much needed information on recent use. Second, the lack of state-level data on the prosecution and sentencing of methamphetamine offenders is a glaring omission in this report. Future efforts should be made to routinely collect methamphetamine-specific court administration and adjudication information. Third, a state-level agency needs to routinely collect and disseminate data on clandestine meth labs in the state. DHEC currently performs some of this monitoring, but it is presently unclear how comprehensively DHEC and law enforcement monitoring is integrated. To go along with this recommendation, current data collection at the state-level does not reliably allow us to know how many drug endangered children (DEC) are affected by methamphetamine. This stands as an important area for future monitoring. Fourth, there are data sources not included in this report that could serve useful monitoring purposes. For example, the Palmetto Poison Control Center is one potential source of data that could be used to track trends in both emergency and informational calls about methamphetamine. Finally, improving the quality and collection of existing data, as well as continued monitoring of the methamphetamine problem, should be an ongoing priority.

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